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Stillbirth: Medicalisation and Social Change, 1901-1992, with special reference to Scotland

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Submitted in fulfilment of the requirements for the Degree of Doctor
of Philosophy

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Abstract:

In Scotland, medical understanding of, medical practice in relation to, and medical attitudes towards stillbirth, its prevention and management underwent significant changes throughout the twentieth century. This thesis argues that these changes were shaped by technological and scientific advances in medicine, greater specialisation, and changes in public health practices. It also argues, however, that medical developments were closely linked to broader social, legal and religious concerns around the meanings given to stillbirth. This thesis focuses particularly on the ways in which these developments were evident in Glasgow, and locates change more broadly within Scotland, and indeed, Britain as a whole.

This thesis underlines the reasons behind the medical attention towards stillbirths and the prevention of stillbirths from the early twentieth century onwards. It also shows how the legislations in regards to stillbirths as well as the societal perspective on stillbirth influenced and were influenced by the changing medical attention. Medical articles and reports on stillbirths in Glasgow, Scotland and the rest of Britain were analysed to investigate the progress and increase knowledge in understanding the causes of stillbirths and how to prevent those stillbirths. It is highlighted how the medical community focused first on purely obstetric causes of stillbirths to then extend their gaze towards broader causes such as social class and nutrition. The thesis also emphasises how the attention towards stillbirth by the medical profession encouraged always greater medicalisation and hospitalisation of childbearing and childbirth, and this trend was accelerated after the establishment of the National Health Service. The welfare system was a promise of a healthy population, in regards to pregnancy and childbirth, of live births. This meant a medical responsibility was felt to offer the best care, skills and technologies available in order to deliver healthy live babies, hence averting any preventable stillbirths. A lower fertility rate, the promise of live birth through highly skilled medical care and the increased use of obstetric ultrasound changed the societal view of fetuses towards them being regarded as babies even during pregnancy, and thus changed societal perceptions of stillbirth.

From the late 1970s, the evolution in society's views towards stillbirth influenced the medical perspective by demanding a change in the management of stillbirth alongside the provision of support to mothers and, where applicable, their families. Medical professionals, for example, stopped telling women to just start planning for a new pregnancy, but emphasis on the loss that was a stillbirth and the need to grieve became central. This is one of the numerous transformations around the management and support to mothers/families that will be highlighted. This thesis also argues that the evolution in the understanding and prevention of stillbirths by the medical profession as well as the changes of the societal view on stillbirth resulted in developments towards the religious perspective on stillbirth in the late twentieth century, with regards to theology and pastoral care.

The changes in medical perspectives towards stillbirths are highlighted, and also how they influenced legalisations, and societal and religious views. The evolution throughout the twentieth century, and especially in the late twentieth century, of those different perspectives are the reasons behind our current understanding of stillbirths and the way we respond to stillbirth. This thesis contributes to increase our understanding of the medical developments around stillbirth as well as the inter-relationship between these different aspects influencing stillbirths in twentieth century Scotland and Britain. An example of this would be that the medical advances helped prevent stillbirth as well as increase the fetal viability earlier in pregnancy, explaining the change of the legal definition of stillbirth in 1992 in Scotland, England and Wales.

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Abbreviations:

- ARMH – Aberdeen Royal Maternity Hospital
- BA – British Association
- BMA – British Medical Association
- BMJ – *British Medical Journal*
- BPMS – British Perinatal Mortality Survey
- CMB (E&W) – Central Midwives’ Board (England & Wales)
- CMB (S) – Central Midwives Board (Scotland)
- CoHb – Carboxyhaemoglobin
- DHSS – Department of Health and Social Security
- DHS – Department of Health for Scotland
- EDJ – *Edinburgh Medical Journal*
- EOS – Edinburgh Obstetrical Society
- ERMH – Edinburgh Royal Maternity Hospital
- GMJ – *Glasgow Medical Journal*
- GOGS – Glasgow Obstetrical & Gynaecological Society
- GRMH – Glasgow Royal Maternity and Women’s Hospital/Glasgow Royal Maternity Hospital
- MOH – Medical Officer of Health
- MRWPPM – Mersey Region Working Party of Perinatal Mortality
- NAS – National Archive for Scotland
- NHI – National Health Insurance
- NHS – National Health Service
- NHSGGCA – NHS Greater Glasgow and Clyde Archive
- NRHACG – Northern Regional Health Authority Coordinating Group
- QMH – Queen Mother’s Hospital
- RCM – Royal College of Midwifery
- RCOG – Royal College of Obstetricians and Gynaecologists
- RCPSG – Royal College of Physicians and Surgeons Glasgow
- SANDS – Stillbirth and Neonatal Death Society
- SIDS – Sudden Infant Death Syndrome

- SMJ – *Scottish Medical Journal*
- SMMP – Simpson Memorial Maternity Pavilion / SMP – Simpson Memorial Pavilion
- VLBW – very low birth weight
- WHO – World Health Organisation

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List of Acts:

- New Registration Act, 1874
- Cremation Act, 1902
- Midwives Act, 1902 (England & Wales)
- Education (Administrative Provisions) Act, 1907 (England & Wales) & 1908 (Scotland)
- Notification of Births Act, 1907 (England & Wales)
- Midwives (Scotland) Act, 1915
- Notification of Births (Extension) Act, 1915 (Scotland)
- Public Health (Venereal Disease) Regulations (Scotland), 1916
- Maternity and Child Welfare Act, 1918
- Midwives Act, 1918 (England & Wales)
- Births and Deaths Registration Act, 1926 (England & Wales)
- Midwives and Maternity Homes (Scotland) Act, 1927
- Infant Life Preservation Act, 1929 (England & Wales)
- Maternity Services Act, 1937 (Scotland)
- Registration of Still-birth (Scotland) Act, 1938
- National Health Service (Scotland) Act, 1947
- Cremation Act, 1952
- Population (Statistics) Act, 1960
- Registration of Births, Deaths and Marriages (Scotland) Act, 1965
- Abortion Act, 1967
- Human Fertilisation and Embryology Act, 1990
- Still-birth (Definition) Act, 1992

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Declaration:

I declare that this thesis is the result of my own work, except where explicit reference is made to the contribution of others, and has not been submitted for any other degree at the University of Glasgow or any other institutions.

Maëlle Jessica Duchemin-Pelletier

Introduction

I) Introduction

Stillbirth is ... a valuable health status indicator. A high stillbirth rate implicates maternal health and physique as a primary factor in mortality ... This is its utility for historical research on procreation. Where death occurs *in utero* the external environment is mediated by the mother's body, which is the instrument of human procreation, and stillbirth is a good indicator of its capacity, its vitality. Since female physique reflects material conditions and the distribution of subsistence between the sexes, stillbirth is also an important potential indicator of inequality between them.¹

This quotation from Nicky Hart, Professor Emeritus at UCLA Social Sciences Division, in 1998, emphasises the importance of stillbirth for the medical community as a health indicator for a given population at any given time. During the twentieth century, in Britain and throughout the Western world, stillbirth had been a major focus of the medical profession, as well as of health policy makers. Their aim was to prevent stillbirth as part of a drive to improve the health level of the population. Before the twentieth century, stillbirth was an event which either occurred during pregnancy and was discovered after delivering or occurred during childbirth. As long as the woman was healthy, doctors were not concerned over the fetus and the reason of the death. In Britain, in the early twentieth century, this attitude changed because of a wish to reduce the high infant mortality rate, in the context of the investigation done during the Boer Wars about the population's poor health and the fear of 'Racial Degeneration'. As Rowena Hammal underlines 'A government report published shortly after the war found that 40-60 per cent of volunteers for the army had been rejected because they were physically unfit for service'.² This meant that there was a perceived necessity to improve the population's health in order to prevent the decay of the 'race' and hence perceived imperial decline. Dwork argues that 'In order to avoid a military decline ... a strong emphasis was placed on improving the health of young men. Common health problems ... were traced back to infancy. Thus the need for men to

¹ Nicky Hart, 'Beyond infant mortality: gender and stillbirth in reproductive mortality before the twentieth century', *Population Studies*, 52 (1998), 215.

² Rowena Hammal, 'How Long Before the Sunset? British attitudes to war, 1871-1914', *History today*, <<http://www.historytoday.com/rowena-hammal/how-long-sunset-british-attitudes-war-1871-1914>>, [Accessed 25 August 2013].

defend the country led to the serious consideration of the health of the nation's infants.'³ However, as Vanessa Heggie highlights, it was not so much the recruiting figures that were important but the outcome of the Boer Wars themselves. Indeed, she argues that

What was significant was the course of the Boer War itself; filled with disappointments and defeats, it could not help but provoke an internal questioning about the "state of the nation". Had the experience in South Africa been brief and satisfactory (in military terms), it seems likely that the recruiting figures would have remained on a back page of a provincial newspaper, rather than becoming a cliché chant for reformers...⁴

To prevent infant mortality and morbidity, and to enable women to give birth to healthy babies hence became a priority for the Government and the medical community. Indeed, in the Report of Societies of 1922, the medical professionals present at the annual meeting of the British Medical Association stressed that 'The contrast between [1888] and now was striking, especially in the absence [in 1888] of the idea of supervising all pregnant women in the interest of the few who were in danger of having stillbirths; preventive medicine has made great advances since then.'⁵ This highlighted the beginning of the change towards high medical attention regarding stillbirth and its prevention, which was reinforced after the First and Second World Wars. This heightened focus towards the prevention of stillbirths was accompanied with obstetrical developments both to help earlier diagnosis of abnormality (obstetrical use of X-ray from the interwar period onwards, obstetric ultrasound from the mid-1950s in Glasgow, fetal monitoring technologies) and in the methods to prevent stillbirth after diagnosis or at the onset of labour (Caesarean section and induction of {premature} labour), as this thesis will highlight.

While the medical attention towards stillbirth was important, and is the core component of this thesis, other issues developed around the management and care of stillbirths in the late twentieth century, particularly in relation to the medical and pastoral care of bereaved parents. In 2015, Rev Blair Robertson, chaplain of the formerly named Southern General Hospital in Glasgow, explained

³ Cathleen Erin McGreal, 'Healthy Babies: The Soldiers of tomorrow, Book review on Dwork's *War is good for babies and other young children: a history of the infant and child welfare movement in England 1898-1918*', *Infant Mental Health Journal*, 9 (1988), 245; Deborah Dwork, *War is Good for Babies and Other Young Children, A History of the Infant and Child Welfare Movement in England 1898-1918* (London: Tavistock Publications, 1987).

⁴ Vanessa Heggie, 'Lies, Damn Lies, and Manchester's Recruiting Statistics: Degeneration as an "Urban Legend" in Victorian and Edwardian Britain', *Journal of the History of Medicine and Allied Sciences*, 63 (2008), 187.

⁵ [Anon.], 'The prevention of stillbirths and neo-natal death', *BMJ*, 2 (1922), 605.

We've got [the Stillbirth and Neonatal Death Charity, SANDS], and through them the mums in SANDS to thank for helping the NHS and the medical and nursing profession to understand that there has been a loss here, not just a medical procedure, but a loss: a loss of hope, of dream, of plans, the loss of an intended relationship or a reframing of a relationship, the loss of a person, a person who was going to be.⁶

These words indicate developments in relation to stillbirth in the late twentieth century in Britain, which this thesis will demonstrate and explain. Stillbirths went from being addressed as an entirely medical, and to some extent unemotional, event, to be understood and prevented medically, to one which was seen as a social, tragic and emotional event to be incorporated in the medical and legislative discourse. This quotation emphasises that stillbirth is still a death, bringing together complex emotions and implications, not just a matter of medical procedure. While the state recognised stillbirth legally with the registration of stillbirths since 1938 in Scotland, this Act developed primarily for public health and administrative reasons, as will be explained in detail in this thesis. Rev Robertson's words underlined the role of religion in mediating the experiences and the part which religious leaders played in ministering to the bereaved parents through developments in theology and pastoral care. Finally, Rev Robertson stressed how crucial and influential SANDS, a charity created by bereaved parents, was to the medical profession with regard to advocating for and changing attitudes towards stillbirth and its better management, as this thesis will demonstrate.

Nonetheless, at the time of writing, there is still a wider social and cultural silence about stillbirth. In the 2010s, SANDS collaborated with the media to bring stillbirth to the forefront. Popular television shows such as *Call the Midwife* and *EastEnders* have developed storylines around stillbirth to raise awareness of this concealed reality. Furthermore, with regard to burial practices, what have now been considered scandalous practices since the late twentieth century are still being uncovered in the twenty-first century. In December 2012, it was revealed at the Mortonhall Crematorium, Edinburgh, that staff had hidden the fact that there were indeed ashes from the cremation of stillborn babies from bereaved families for decades; provoking unimaginable trauma, and thus opening up a national investigation of crematoria and their policies towards remains for

⁶ Interview with Rev. Blair Robertson, 20 March 2015.

stillbirths, neonatal deaths and abortuses.⁷ We can see the sensitivity around improper burial of remains for stillbirths, neonatal deaths and abortuses, and the wish of raising awareness around improper cremation practices by investigating those practices on a national level.

England and Wales, Scotland, and Northern Ireland (after 1917) have had, and still have, different legal systems; hence, in the twentieth century most Acts were passed respective to one of the three legal systems. On the legal aspect, as regards to stillbirth, there had been an interaction of medicine and the law, as it will be explained throughout this thesis. Furthermore, the legal system provided the frame and rules concerning burial practices and cremation as well as the release of bodies for burial or cremation. Therefore, whilst this thesis is set within Britain as a whole, it focuses primarily on Scotland. The Scottish obstetric, and more broadly medical, community has been at the centre of many innovations in regards to neonatal and infant care. Antenatal care, for example, was founded by Ballantyne in Edinburgh as it will be explained in this thesis. Also, one key obstetrician in the twentieth century regarding social obstetrics was Prof Dugald Baird, trained in Glasgow and Regius Professor of Midwifery in Aberdeen for most of his career. As we can see with Baird's title obstetrics in Scotland was still referred to as midwifery, even in the second half of the twentieth century, which implies a demarcation with obstetrics in England and Wales. Finally, many of the Scottish Acts with a relation to public health were passed some years after similar Acts were passed in England and Wales. The Scottish Acts, nevertheless, were not identical to their English and Welsh counterparts but learnt from the limits of the English and Welsh Acts in order to improve on those areas, as it will be emphasised in this thesis. This highlights a distinction between Scotland and the rest of Britain.

Within Scotland, my principal focus is the city of Glasgow. In the twentieth century, Glasgow was quite unique in Britain, and indeed Scotland, in many features. Firstly, 'As late as 1982, before Glasgow's recent re-emergence as a city of culture, it was said of the city with particular reference to health that "Experts have come to Glasgow to be shocked.

⁷ 'Mortonhall Crematorium in Edinburgh "buried baby ashes"', *BBC News*, <<http://www.bbc.co.uk/news/uk-scotland-edinburgh-east-fife-20609910>>, [Accessed 03 October 2016]. This was the first article but many have followed for the next couple of years.

They have rarely been disappointed””.⁸ This comment underlines that Glasgow has historically had and still has worse health records than what was expected with regards to its social and economic circumstances when compared to cities with the same background. This has been called ‘the Glasgow effect’. Many obstetric innovations, furthermore, were perfected there, such as the Caesarean section in the Glasgow Royal Maternity Hospital (GRMH) after 1888, and the development of obstetric ultrasound by Ian Donald from the late 1950s.⁹ Furthermore, because of the uniqueness of Glasgow, in this thesis I have frequently looked at articles from throughout Britain in order to compare the case of Glasgow with the rest of Britain, and highlight where Glasgow was representative of, or differed from, the rest of the United Kingdom. Finally, the last reason behind my focus on this particular city is the richness of the archival material, both at the level of the city and at the level of its maternity hospitals, which has been under-used for research purposes, but more importantly has never been analysed in regards to stillbirth.

II) Literature Review

Many historians have written about the history of childbirth, the history of pregnancy and its medicalisation, as well as the rise of the public health movement concerning pregnancy and childbirth. This literature review will highlight the different themes of pregnancy and childbirth and will also focus on stillbirth. This will underline the key historians and academics in this area. The first part will show the development of the public health movement into a welfare state, 1900-1950 and its relation to maternal, infant and fetal mortality in Britain. The second part will deal with childbearing, technology and obstetrics in Britain. Finally, the third part will focus on the registration and definition of stillbirth in the Western World. This literature review will highlight the importance historians have given to infant and maternal mortality and the medicalisation of pregnancy and childbirth. It will also underline the gap concerning the history of stillbirth apart from its definition and registration. The stillbirth rate is calculated based on registration of stillbirth, and in order to register one must define what a stillbirth is. Showing the historical

⁸ Rory Williams, ‘Medical, economic and population factors in areas of high mortality: the case of Glasgow’, *Sociology of Health and Illness*, 16 (1994), 144.

⁹ See Derek Dow, *The Rottenrow, The History of the Glasgow Royal Maternity Hospital 1834-1984* (Lancaster: The Parthenon Press, 1984); M. Nicolson, J. Fleming, *Imaging and Imagining the Fetus: the Development of Obstetric Ultrasound* (Baltimore: John Hopkins University Press, 2013).

debates around those two aspects worldwide emphasised the difficulties of establishing international trend and comparison regarding stillbirth and its limits, and hence are important issues. Definition and registration, however, are not the only aspects in regards to stillbirths, and this thesis will investigate some of those other areas.

A) The Public Health Movement to the Welfare State, 1900-1950

The medical community was concerned with preventive medicine in the twentieth century as written above; the notion of antenatal care being one of the most important aspects of this prevention hand in hand with improving the management of labour. The key figure of the antenatal movement was Dr John William Ballantyne (1861-1923), practitioner in Edinburgh and lead researcher in antenatal pathology. Salim Al-Gailani, in his works on Ballantyne, and Robert Woods, in his book *Death before Birth* (which is a key reference for my research but with a different approach than mine as looking at all antenatal deaths from an international perspective), underline that despite antenatal care being fully developed during and after the First World War as my thesis will demonstrate, Ballantyne was its founder.¹⁰ Woods, however, underlines that '[Ballantyne] was not fashionable and he went largely unrecognized', which might explain the lack of academic reference to Ballantyne in the twentieth century.¹¹ Ballantyne wished for a hospital antenatal ward and the idea behind this was that, thanks to hospital antenatal wards and good medical supervision and intervention, in the future, pregnant women, regardless of their social and economic status, could safely deliver healthy babies, as will be highlighted in the first chapter.¹² When the antenatal ward opened, those women were mostly pregnant women in search of rest and privacy outside their homes as Al-Gailani, Ann Oakley and Alison Nuttall underline in their respective works.¹³

¹⁰ Salim Al-Gailani, 'Teratology and the clinic: John William Ballantyne and the making of antenatal life', *Wellcome History*, 42 (2009), 2; Salim Al-Gailani, 'Pregnancy, pathology and public morals: making antenatal care in early twentieth-century Edinburgh', in *Western Maternity and Medicine, 1880-1990*, eds. Greenlees and Bryder (London: Pickering and Chatto, 2013), p. 1; Robert Woods, *Death before Birth: fetal health and mortality in historical perspective* (Oxford: Oxford University Press, 2009), 153.

¹¹ Woods, *Death before Birth*, 152.

¹² Al-Gailani, 'Pregnancy, pathology and public morals', 11-15; Ann Oakley, *The Captured Womb, A History of the Medical Care of Pregnant Women* (Oxford: Blackwell, 1984), 48.

¹³ Al-Gailani, 'Pregnancy, pathology and public morals', 17; Oakley, *Captured Womb*, 47; Alison Nuttall, 'Maternity Charities, the Edinburgh Maternity Scheme and the Medicalization of Childbirth, 1900-1925', *Social History of Medicine*, 24 (2011), 376.

As David Armstrong argues, ‘By the early twentieth century therefore, infant mortality ... had become the point on which was articulated the conceptualisation of the social, the surveillance of the new welfare schemes, the analysis of home life and hygiene and the evaluation of motherhood’.¹⁴ Indeed the military defeats of the Boer Wars, ‘and its accompanying disappointments and embarrassment’, pushed the Government to launch a survey on the population’s health through the creation of the Interdepartmental Committee on the Physical Deterioration of the Population which published its report in 1904.¹⁵ The report expressed the need for better nutrition and health in childhood to breed a strong generation of men, and the report believed school should be at the centre of those reforms.¹⁶ That was why the Government passed the Relief (School Children) Order in 1905 and the Education (Administrative Provisions) Act in 1907 (which was been extended to Scotland in 1908).¹⁷ The former raised the number of meals provided by schools to children, while the latter developed medical services within schools. Concerning infant nutrition, the early twentieth century came to witness the development of milk depots opened by local authorities. On the one hand, as Ann Oakley emphasises ‘The main principle of the milk depot was municipal control over the quality of milk from before it left the cow until the mother opened the municipally-supplied bottle to feed it to her infant.’¹⁸ Milk depots seemed then to have helped decrease the infant mortality rate, which was partly due to unsuitable and low-quality nutrition.¹⁹ On the other hand, as Ferguson, Weaver and Nicolson argue, milk depots were mainly designed by the medical profession to engage with women and to bring them to local authority clinics.²⁰ As Ferguson argues, ‘paediatrics became established as a distinct specialism during the early decades of the twentieth century’ and this was due to the higher attention paid to infant mortality, from birth to postneonatal age, and milk depot was one way paediatrics was able to become an established specialisation.²¹ The report also declared the necessity for mothers and girls to be educated in relation to childbearing and motherhood.²² Indeed, Heggie emphasises that ‘despite the fact that the *1904 Report* was essentially investigating an issue of Public Health,

¹⁴ David Armstrong, ‘The Invention of Infant Mortality’, *Sociology of Health & Illness*, 8 (1986), 213-14.

¹⁵ Heggie, ‘Lies, Damn Lies, and Manchester’s Recruiting Statistics’, 188.

¹⁶ *Ibid.*, 191.

¹⁷ Oakley, *Captured Womb*, 35, 37.

¹⁸ *Ibid.*, 39.

¹⁹ Helen Jones, *Health and Society in twentieth-century Britain* (London, New York: Longman, 1994), 22-23.

²⁰ A. Ferguson, L. Weaver, M. Nicolson, ‘The Glasgow Corporation Milk Depot 1904-1910 and its role in infant welfare: An end or a means?’, *Social History of Medicine*, 19 (2006), 443-60.

²¹ Angus H. Ferguson, ‘Ignored Disease or Diagnostic Dustbin? Sudden Infant Death Syndrome in the British Context’, *Social History of Medicine*, 28 (2015), 491.

²² Oakley, *Captured Womb*, 36; Jones, *Health and Society*, 24.

the committee was set up with a prejudice towards social, and specifically educational, interventions'.²³ The First School of Mothers opened in 1907 in Saint Pancras, London, and many opened thereafter across Britain, but teaching mothers took place both in those schools and through home visits.²⁴ In 1915, the Board of Education defined the School for Mothers as 'primarily an educational institution providing training and instruction for the mothers in the care and management of infants and little children'.²⁵ All the interventions resulting from the Interdepartmental Committee report aimed only to reduce infant and child mortality and morbidity.²⁶

In 1911, David Lloyd George, Chancellor of the Exchequer at the time, put in place National Health Insurance (NHI), which allowed each worker above 16 and receiving an annual wage below £160 to be covered 'for medical, sickness, disablement, maternity and sanatorium benefits'.²⁷ Each married woman whose husband was under the NHI was entitled to a maternity benefit of 30 shillings, and 60 shillings for the few women entitled to the NHI by themselves.²⁸ In 1911, however, this benefit was not given directly to the woman but her husband. The Women's Co-operative Guild campaigned for women to receive the benefit, a campaign which succeeded in 1913.²⁹ Oakley stresses that the NHI 'was the first legislative codification of the new principle that personal health was the concern of central government, and was the logical forebear of the National Health Service itself'.³⁰

The First World War 'acted as a spur to existing plans for a larger and healthier nation', as so many men died in combat and eugenics fears of the depopulation of the race increased.³¹ That was why, as a token of its willingness to contribute to the nation's health,

²³ Heggie, 'Lies, Damn Lies, and Manchester's Recruiting Statistics', 189, 191.

²⁴ Jones, *Health and Society*, 24; Oakley, *Captured Womb*, 43.

²⁵ Oakley, *Captured Womb*, 43.

²⁶ Seth Koven, Sonya Michel, 'Introduction: "Mother Worlds"', in *Mothers of a New World: maternalist politics and the origins of welfare states*, eds Koven and Michel (New York, London: Routledge, 1993), 18-19; Carol Dyhouse, 'Working-class Mothers and Infant Mortality in England, 1895-1914', *Journal of Social History*, 12 (1978), 249.

²⁷ Jones, *Health and Society*, 26; Oakley, *Captured Womb*, 36.

²⁸ Oakley, *Captured Womb*, 36; Anne Digby, 'Poverty, Health and the Politics of Gender in Britain, 1870-1948', in *Gender, Health and Welfare*, eds Digby and Stewart (London: Routledge, 1996), 75.

²⁹ Oakley, *Captured Womb*, 44; Jane Lewis, 'Gender, the family and women's agency in the Building of State: the British Case', *Social History*, 19 (1994), 42.

³⁰ Oakley, *Captured Womb*, 36.

³¹ Jones, *Health and Society*, 41; Irvine Loudon, *Death in Childbirth: An International Study of Maternal Care and Maternal Mortality 1800-1950* (Oxford: Clarendon, 1992), 90, 207; Digby, 'Poverty, Health and the

the Government passed the Maternity and Child Welfare Act in 1918, and the Ministry of Health was created in 1919.³² Oakley, a leading second-wave-feminist sociologist, wrote *The Captured Womb* in 1984, which, in Al-Gailani and Angela Davis's words, is 'Still one of the only historical studies to look beyond childbirth to consider the management of pregnancy in all its aspects'.³³ Whilst her book refers to stillbirth from time to time, her research does not focus in depth on the medical understandings of stillbirth, which my research does. It also needs to be highlighted that Oakley's perspective, being a second-wave-feminist academic, is highly influenced by second wave feminism's beliefs and ideologies, and hence explains why her view differs frequently from other academics' perspectives. She argues that obstetricians had pushed pregnant women in hospitals under their care in the twentieth century and even more since the establishment of the National Health Service (NHS), taking the women's agency about their own pregnancy away from them, and thus had established obstetricians as the undeniable expert in all aspects of pregnancy and childbirth in the late twentieth century. Obstetricians believed themselves to know better than midwives and women what was best for the women, a belief she condemns. In *The Captured Womb*, she declares that

The Ministry of Health was ... an administrative answer to the maternal and child welfare problem. It was also seen by women's organisations as the great hope for women's health, since it could finally resolve the conflict between a health service for women based on the insurance principle and one based on freely provided municipal service... Pressure from women's groups was instrumental in getting the bill for the new Ministry through Parliament on the eve of the 1918 Election...³⁴

Some local authorities had already installed Maternity and Child Schemes as in Edinburgh since 1915. The 1918 Act, however, developed it throughout the United Kingdom.³⁵ Thanks to this Act, antenatal clinics developed throughout Britain. Despite this development, many women in comparison to the entire population of women of childbearing age did not use antenatal clinics throughout the 1920s and early 1930s, as will be further explained in Chapter 1.³⁶

Politics of Gender', 81; Miriam Cohen, Micheal Hanagen, 'The Politics of Gender and the Making of the Welfare State, 1900-1940: A Comparative perspective', *Journal of Social History*, 24 (1991), 474.

³² Loudon, *Death in Childbirth*, 207.

³³ Salim Al-Gailani, Angela Davis, 'Introduction to "Transforming pregnancy since 1900"', *Studies in Histories and Philosophy of Biological and Biochemincal Sciences*, 47 (2014), 230.

³⁴ Oakley, *Captured Womb*, 68-71.

³⁵ Nuttall, 'Maternity Charities', 376; Loudon, *Death in Childbirth*, 90.

³⁶ Oakley, *Captured Womb*, 59, 64; Susan Storrier, *Scotland's Domestic Life* (Edinburgh: John Donald in association with the European Ethnological Research Centre and the National Museums of Scotland, 2006), 443.

In the 1920s, the infant mortality rate had declined due to the state and local authorities' interventions regarding health and nutrition and general improvement of social and economic conditions; nevertheless, from the 1910s onwards, the maternal mortality rate had risen throughout Britain.³⁷ The newly created Ministry of Health decided to launch a survey on the question of maternal deaths through the Department on Maternity and Child Welfare. According to the report the Department published in 1924, the main reasons were

(1) the quality of professional attendance in pregnancy, at delivery and postnatally; (2) abortion and miscarriage (the former especially leading to maternal deaths from sepsis); (3) rickets (as cause of contracted pelvis producing difficult or obstructed labour); (4) the employment of women; (5) general sanitation and housing.³⁸

Irvine Loudon's work is a key reference on maternal mortality in the twentieth century; nonetheless, he has not researched stillbirth. In his book *Death in Childbirth*, Loudon highlights the role of general practitioners and their lack of obstetric education training (unskilled in the use of forceps and the extraction of placenta) in the interwar period, especially among upper-middle- and upper-class women as they were the ones who commonly booked GPs for their deliveries. Loudon underlines that whereas English and Welsh practitioners received little training in midwifery in their curriculum in the 1920s and 1930s, they used forceps in up to 50 per cent of deliveries they supervised when they reckoned the second stage of labour lasted too long.³⁹ I specified English and Welsh as Susan Storrier stresses that Scottish practitioners 'received a wider training than their English counterparts and this affected their attitude to the field of maternity care', nonetheless, their training could still be enhanced.⁴⁰ From 1923 onwards, thus, English and Welsh universities added to the medical curriculum a course on midwifery, which was still quite superficial. To assure obstetrics and gynaecology's future as a specialty of first choice, obstetricians and gynaecologists founded the British College of Obstetricians and Gynaecologists in 1929. A Royal Charter was given to the College in 1947. Oakley affirms that the creation of the College of Obstetricians and Gynaecologists was 'a most significant move in the medicalization of childbirth.'⁴¹

³⁷ Loudon, *Death in Childbirth*, 246; Oakley, *Captured Womb*, 62.

³⁸ Oakley, *Captured Womb*, 64.

³⁹ Oakley, *Captured Womb*, 111; Loudon, *Death in childbirth*, 221, 496.

⁴⁰ Storrier, *Scotland's Domestic Life*, 442.

⁴¹ Loudon, *Death in childbirth*, 111-12.

In regards to the second cause of maternal mortality: abortions and miscarriages, Rosemary Elliot has written on the medical understanding of abortion and miscarriages in the first half of the twentieth century in Britain. In her research, she suggests that ‘discourses around pregnancy loss were class-based, distrustful of female patients, and shaped by the wider context of fertility decline and concerns about infant mortality’.⁴² Abortions and miscarriages, then, became an important focus for the medical community, and especially recurrent miscarriages, in order to be understood and prevented. Elliot, nevertheless, did not look at the medical understanding of stillbirth in this period, which this thesis covers.

Infant mortality in general declined in the early twentieth century, but did not disappear, as, for example, sudden infant death syndrome (SIDS) remained a large category of postneonatal infant mortality death, and this throughout the century.⁴³ Nevertheless, both the Government and the medical profession recognised that fetal mortality (both early and late) was also high, thus explaining in part the new importance of miscarriages in medical research, underlined just previously. Indeed, even though registration of stillbirths did not begin before the late 1920s in certain parts of Britain (as the last part of this literature review will show), David Armstrong argues that since the early twentieth century the vast majority of Medical Officers of Health reported the stillbirths they came to witness, as will be demonstrated in Chapter 1.⁴⁴ Sir Eardley Lancelot Holland (1879-1967) was an obstetrician in the City of London Maternity Hospital and the London Hospital. In 1914, under the Local Government Board, Holland began research on the causation of stillbirth by examination of stillborn babies in the two hospitals he worked in. In 1922, he published his report concluding that “‘it appears that more foetuses were killed by the complications of labour than died during pregnancy from maternal or placental diseases, a point of great practical importance in its bearing in the teaching of obstetrics and the management of labour’”.⁴⁵ Between 1924 and 1930, Holland repeated this research at a nation-wide level under the Medical Research Council’s Child Life Investigation and he found approximately the same conclusion as in his London-based research. Moreover, the report published in

⁴² Rosemary Elliot, ‘Miscarriage, abortion or criminal feticide: Understandings of early pregnancy loss in Britain, 1900-1950’, *Studies in History and Philosophy of Biological and Biomedical Sciences*, 47 (2014), 248.

⁴³ Ferguson, ‘Ignored Disease or Diagnostic Dustbin?’, 491.

⁴⁴ Armstrong, ‘Invention of Infant Mortality’, 215

⁴⁵ Oakley, *Captured Womb*, 65; Woods, *Death before Birth*, 161.

1926 also argued, as well as other research published in the mid-1920s, that the causes of neonatal deaths were very similar to the causes of stillbirth.⁴⁶ Those results highlighted that stillbirth and neonatal deaths had in the interwar period some of the same causes of death as maternal mortality, and thus to prevent those deaths, it was necessary to improve the clinical training of obstetrics to every medical student.

The rise of maternal mortality in the 1920s had also raised the question of maternal morbidity. In July 1930, thus, after a decade of political campaigns from women's groups and political supporters within the House of Commons, the Ministry of Health issued the Memorandum 153/MCW 'which authorise[d] local authorities to permit birth control advice "[i]n cases where further pregnancy would be detriment to health"'.⁴⁷ This memorandum was a benediction for the working-class mothers whose multiple pregnancies raised their mortalities, their morbidities, and ill-health. This Memorandum, nevertheless, was for a very limited group of mothers who would have died if they had another pregnancy, which left out numerous women who could have another pregnancy but did not desire it. In the 1930s, the Great Depression led to an unemployment rate of more than 20 per cent in Britain, which hence led to a decline of income in the population at large but even more within the working-class families. This resulted in reducing the quality and quantity of diet of those unemployed families. In those conditions, women might not have the wish and the means to raise a new child. Indeed, Elliot stresses that 'Poverty, physical stress, the demands of household and existing children were seen as reasons for women both seeking artificial termination of pregnancy, and being at risk from spontaneous pregnancy loss'.⁴⁸ It could explain why the illegal induced abortion rate of 1930-1933 doubled compared to the 1911-1920 rate. As Oakley highlights 'There was little doubt that induced abortion was on the increase, and that many hundreds of British women died annually from their own attempts thus to prevent birth.'⁴⁹

In the late 1920s, also, a Departmental Committee on Maternal Mortality and Morbidity was organised. Two reports were published, one in 1930 and the second in 1932.

⁴⁶ Woods, *Death before Birth*, 162, 164.

⁴⁷ Lesley Hoggart, 'The campaign for birth control in Britain in the 1920s', in *Gender, Health and Welfare*, eds. Digby and Stewart (London: Routledge, 1996), 144.

⁴⁸ Elliot, 'Miscarriage, abortion or criminal feticide', 255.

⁴⁹ Oakley, *Captured Womb*, 90-91.

Both reports concluded that the only solution was good antenatal, intranatal and postnatal care, and education of the ‘ignorant mothers’ who did not attend the antenatal services offered to them by the local authority clinics.⁵⁰ In other words, the conclusions of the reports were similar to the 1904 Report of the Interdepartmental Committee on the Physical Deterioration of the Population: the mothers were ignorant and so in need of medical supervision and of a better education by the same medical professionals.⁵¹ To conclude, for the 1920s and early 1930s, Loudon declares that ‘Antenatal care had been a disappointment. It failed to reduce maternal mortality. Much had been expected, but little had come of all the efforts to establish clinics.’⁵²

From the mid-1930s onwards, antenatal care became more accessible and accessed and the management of labour started to improve thanks to a number of medical discoveries and better obstetric education, which also coincided with the beginning of the steep decline of maternal mortality, and as this thesis will demonstrate, the beginning of a continuous decline of the stillbirth rate. X-rays began to be more frequently used to determine the size of the pelvis, leading to induced labour in case of contracted pelvis, as will be highlighted in Chapter 1. The second discovery was linked to blood in two ways. Firstly in 1933, Fullerton and Davidson understood the relation between the haemoglobin level and the increased volume of blood linked to the problem of anaemia in pregnancy. The second was on the understanding of and growing access to blood transfusion that permitted the prevention of death by haemorrhage both during surgical and normal deliveries. Blood transfusion in 1930s, nevertheless, was not yet properly functional as the discovery of rhesus-blood group was not discovered until 1940. Finally, the mid-1930s corresponded to the development of the chemotherapeutic treatment of puerperal sepsis and other infections by Prontosil, which was discovered and developed by Gerhard Domagk and Leonard Colebrook.⁵³ Despite those advances, the true factor for the steep decline of maternal mortality and the rise in standards of maternal and child welfare was the Second World War. Indeed Loudon argues that ‘In Britain the war led to a number of changes in maternal care which would have occurred eventually but not as rapidly as they did’.⁵⁴ In brief, the Second

⁵⁰ Oakley, *Captured Womb*, 72; Loudon, *Death in Childbirth*, 263.

⁵¹ Oakley, *Captured Womb*, 258-59.

⁵² Loudon, *Death in Childbirth*, 263.

⁵³ Oakley, *Captured Womb*, 105-06; Woods, *Death before Birth*, 236.

⁵⁴ Loudon, *Death in Childbirth*, 263; Jones, *Health and Society*, 108.

World War period can be summarised as ‘Warfare led to welfare’, as will be examined in the second chapter.⁵⁵

Concerning childbirth, the main change was the idea and results from the plan of evacuation of the pregnant women between 1939 and 1947. The plan was to register every pregnant woman from the areas of evacuation and to make them go either by train or by road to a host area where they would be welcomed firstly into a private home and would deliver either in a local authority institution or in an emergency home.⁵⁶ Helen Jones affirms that ‘Evacuation supposedly brought home to the middle class and rural dwellers the appallingly low standard of living of the urban working class. These revelations helped to break down class barriers and forge a consensus in society over the need for a welfare state.’⁵⁷ The evacuation, by planning deliveries to take place in medical institutions, introduced women on a large scale to the experience of hospital/medical institution deliveries. Indeed, for example in Glasgow the rate of institution deliveries rose by 20 per cent in the early months of the Second World War.⁵⁸ The evacuation plan for expectant women, however, did not work as well as the Government pre-planned. Indeed, throughout the period of evacuation, the emergency maternity homes only received as little as two-thirds of the capacity they could welcome. Many women preferred to stay in their homes in the evacuation areas. The emergency maternity homes, however, gave women a taste of hospital deliveries and that they could have good obstetric care away from home. Loudon thinks emergency maternity homes gave the women the possibility to expect more, with more safety due to the presence of obstetricians ready to intervene if necessary.⁵⁹ Indeed, Oakley underlines that ‘Records of these emergency maternity homes show that the stillbirth and maternal and infant mortality rates were all reasonably, even surprisingly, low.’⁶⁰ However, in general, the maternal, neonatal and infant mortality and stillbirth rate throughout Britain fell steeply in the mid-1940s, which the Ministry of Health claimed the emergency maternity homes to be at least in part responsible for. The steep decline of the stillbirth rate in this period and its reasons will be explained in depth in Chapter 2.

⁵⁵ Oakley, *Captured Womb*, 117.

⁵⁶ Oakley, *Captured Womb*, 117-18; Loudon, *Death in Childbirth*, 263-64.

⁵⁷ Jones, *Health and Society*, 94.

⁵⁸ Oakley, *Captured Womb*, 118-19; Loudon, *Death in Childbirth*, 263-64.

⁵⁹ Loudon, *Death in Childbirth*, 263-64.

⁶⁰ Oakley, *Captured Womb*, 120, 125; Loudon, *Death in Childbirth*, 266; Clare Hanson, *A Cultural History of Pregnancy: pregnancy, medicine and culture, 1750-2000* (Houndmills, Basingstoke, New York: Palgrave Macmillan, 2004), 131.

The Second World War brought an end to the Great Depression, which brought full employment as soon as 1941. Moreover, the Government regulated the prices of everything important to daily life, such as food or clothes, and imposed rationing which helped to raise the average living standard.⁶¹ Loudon stresses that ‘It may seem a paradox that shortage of food and rationing led to improved nutrition, but improved economic conditions from war work together with rationing ensured a more equable supply and a more balanced diet for women whose diet had been poor partly from poverty, partly from tradition’, as Chapter 2 will highlight, focusing on the influence it had on the stillbirth rate.⁶²

In 1948, with the establishment of the National Health Service (NHS) in Britain, childbirth and antenatal care came to a turning point. Indeed, as Oakley declares, ‘The introduction of the [NHS] in 1948, together with the growing concentration of deliveries in hospital, was to sound the final death knell for local authority antenatal care’, as will be explored in greater depth in Chapters 4 and 5.⁶³ Furthermore she adds that

Place of birth and the organisation of antenatal care are intimately linked. When most babies are born at home, the logic of intranatal and antenatal care vests control with the community services – with general practitioners, the midwives and the Medical Officer of the local health authorities. With the centralization of care in hospital, antenatal care itself eventually becomes an increasingly hospital-based service.⁶⁴

The Second World War onwards increased women’s, but mostly obstetricians’, demand for institutional deliveries and especially hospital deliveries, and as the NHS provided them this service free of charge, it allowed the demand to be fulfilled. Midwives were still the main ones to deliver even in hospitals, but if there was the necessity, an obstetrician would be available. In Britain, between 1937 and 1959 the rate of institutional deliveries passed from 40 per cent to 64 per cent.⁶⁵ The establishment of the NHS, nevertheless, did not mean the end of the local authorities directly. The growth of hospital-based antenatal care and childbirth occurred progressively. The division of maternity care was debated within the medical community for years but with the growth of demand for hospital-based delivery,

⁶¹ Jones, *Health and Society*, 99; Oakley, *Captured Womb*, 126.

⁶² Loudon, *Death in Childbirth*, 263, 454-55.

⁶³ Oakley, *Captured Womb*, 115; Storrier, *Scotland’s Domestic Life*, 444.

⁶⁴ Oakley, *Captured Womb*, 132.

⁶⁵ Oakley, *Captured Womb*, 132; Storrier, *Scotland’s Domestic Life*, 444.

the percentage of hospital antenatal care raised steeply in the detriment of local authority antenatal clinics, but never reached 100 per cent, as will be highlighted in this thesis.⁶⁶

Since the mid-1940s, the maternal, infant, neonatal and stillbirth mortality rates decreased more or less progressively. Oakley, therefore, underlines that

By the 1950s maternal mortality was no longer any good as an outcome variable because of its relative scarcity – 0.76 per 1,000 total births in England and Wales in 1951 ... Infant mortality ... had never been regarded as a good indicator of medical care in pregnancy and at birth because of the long period after birth during which social influences could take their toll, masking any possible effect of medical care.⁶⁷

That was why a new indicator was necessary to judge obstetric care. In 1950, physicians and statisticians realised that in infant mortality, the vast majority of death happened in the neonatal period and more precisely in the early neonatal period which corresponds to the first week of life. From the 1950s onwards, the new indicator became perinatal mortality, as this thesis will underline, which corresponds to the stillbirth and early neonatal mortality. Its rate declined slowly throughout the second half of the twentieth century, as will be demonstrated in this thesis. While infant mortality was no longer regarded as a good indicator of national health, it did not mean that medical research was not done in order to keep decreasing certain infant deaths that remained high. SIDS was one focus of investigation and in Britain, from the mid-twentieth century onwards, national research was funded by the Ministry of Health and the Medical Research Council, in order to understand the causes and thus prevent such infant deaths, as Ferguson highlighted in his article.⁶⁸ Furthermore, while infant death was not considered a good indicator of medical care in pregnancy and delivery, it does not mean that certain infant deaths such as these attributed to SIDS did not have some similarities with perinatal deaths, as it will be highlighted in Chapter 6.

⁶⁶ Oakley, *Captured Womb*, 135-36.

⁶⁷ *Ibid.*, 146.

⁶⁸ Ferguson, 'Ignored Disease or Diagnostic Dustbin?', 494-500.

B) Childbearing, Technology and Obstetrics, 1950-2000

The second half of the twentieth century corresponded to the time of the development of technologies for obstetricians to visually access the womb. For this part, I will refer frequently to Nicolson and Fleming's book *Imaging and Imagining the Fetus* which researches in depth the development of obstetric ultrasound in Glasgow; however, Nicolson and Fleming do not approach in depth the connection between ultrasound scanning and stillbirth, which this thesis covers. This technology was allowed thanks to the development of "Sound Navigation and Ranging" (sonar) since the First World War.⁶⁹ Following the Second World War, different physicians tried to use sonar technology in the medical field.⁷⁰ The development of ultrasound as we know it today originally came from the technological and medical research effectuated by Ian Donald and his co-workers in Glasgow in the 1950s to the 1970s. Ian Donald became the Regius Professor of Midwifery, which is to say obstetrics, at the University of Glasgow in 1954, which allowed him to work both in the Western Infirmary and the GRMH. Concerning ultrasound/sonar, Glasgow was the ideal city to develop its use for gynaecological and obstetrical reasons. Indeed, Glasgow was still a heavy industrial engineering city. Those industries used sonar for metal flaw detection in the metallurgical industries.⁷¹ Donald and his co-workers, Dr John MacVicar, obstetrician and gynaecologist, and Thomas Brown, a young engineer located in Glasgow, began to develop ultrasound scanning from 1955 onwards first on gynaecological cases and then on obstetrical cases.⁷² Oakley underlines that the 'Application of ultrasound to obstetrics in the beginning in Glasgow was hampered by the geographical separation between the gynaecological department in the Western Infirmary and the obstetrical department at the [GRMH] in Rottenrow' and the impracticality to transport the machine from one hospital to the other.⁷³ That was why obstetric ultrasound was used for the first time only in 1957. Brown helped Donald develop ultrasound instruments to be used more easily but also to be able to see in two and three dimensions. Nicolson and Fleming affirm that 'By far the most important addition to Donald's project at this time ... was Brown himself'.⁷⁴

⁶⁹ Oakley, *Captured Womb*, 156-57; Nicolson, Fleming, *Imaging and Imagining the Fetus*, 14-15.

⁷⁰ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 21-45.

⁷¹ Oakley, *Captured Womb*, 158.

⁷² Nicolson, Fleming, *Imaging and Imagining the Fetus*, 59-62, 91-92, 100; Oakley, *Captured Womb*, 158.

⁷³ Oakley, *Captured Womb*, 159.

⁷⁴ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 102-03, 108-09.

In the late 1950s, Donald could detect the fetal skull among other bony parts. The person, however, who made the most progress initially with the ultrasound machine concerning the position of the fetal head was his staff nurse, Miss Marjorie Marr. Indeed, she came to use the flaw detector while doing her morning round and taught herself to recognise the echo representing the fetal skull.⁷⁵ Oakley underlines that

Once Donald had thus realized how easy it was to get a picture of the fetal skull, he had the idea of measuring the fetal biparietal diameter (BPD: skull width). The idea was to plot and monitor intrauterine growth, and to work out fetal skull size in relation to the all-important bony capacity of the mother's pelvis [in late pregnancy].⁷⁶

In the 1960s, BPD developed with the improvement of the scanner and came to be used in early pregnancy to diagnose fetal growth retardation, under James Willocks and Stuart Campbell's supervision.⁷⁷

In 1958, Donald and his co-workers while looking by ultrasound, with the newest two dimensional device Brown had developed, for a fibroid in a woman, discerned faint echoes in her uterus, which seemed to indicate the presence of a fetus. A pregnancy test was done which confirmed the woman was indeed pregnant. The real novelty was that the new scanner perceived a fetus of only 14 weeks' gestation.⁷⁸ Brown, nevertheless, was still unhappy with his scanner and he kept on improving it so that 'the quality of the final image would be improved'.⁷⁹ Furthermore, wanting to be the one scanning, he began to imagine a scanner which would not require a clinician: the Automatic Scanner. Brown, thus, started to work on this new project, which he completed in 1960. The Automatic Scanner was a sheer success, allowing the clinicians to focus on the patient and the results and not on how the scanner functioned.⁸⁰ Fleming and Nicolson declare that 'The Automatic Scanner ... began the process of black-boxing the technology ... Diagnostic ultrasound was moving toward becoming a technique that an obstetrician-gynaecologist who, unlike Donald, had little interest in engineering, could happily adopt.'⁸¹ Another scanner called the Disonograph

⁷⁵ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 117; Oakley, *Captured Womb*, 159-60.

⁷⁶ Oakley, *Captured Womb*, 160-61, Nicolson, Fleming, *Imaging and Imagining the Fetus*, 179-85.

⁷⁷ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 187-89; Oakley, *Captured Womb*, 163-64; Woods, *Death before Birth*, 255.

⁷⁸ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 138-39.

⁷⁹ *Ibid.*, 144-45.

⁸⁰ *Ibid.*, 146-56.

⁸¹ *Ibid.*, 156.

finally became available on the market in the 1960s; it was designed by Brown, John Fleming and Dugald Cameron.

The advance into perceiving a 14-week old fetus motivated Donald to succeed in detecting even younger fetuses and thus the complications of early pregnancy via intrauterine diagnosis.⁸² In the Queen Mother's Hospital (QMH), the newest maternity hospital in Glasgow, Donald began to scan every pregnant woman of less than 20 weeks. It became quite easy for the team to perceive fetuses of 12 weeks or more; they even succeeded to perceive an eight/nine-week old fetus. The biggest discovery which would help gynaecological and obstetric ultrasound diagnosis to be read more easily came from a lucky accident. In late 1963, a patient waiting quite a time to be scanned, and scared to ask to use the toilets, went under the scanner with a full bladder. The clinician looking at the images from her scanning realised that a full bladder pushed the bowel away from the uterus, giving a clear view of the uterus itself. Donald described this phenomenon in those words: 'Beautiful view you get'.⁸³ From that day onwards, each woman going for ultrasound scanning was given a glass of orange juice. The "iron curtain of the maternal abdominal wall" was finally uncovered by ultrasound improvements in devices and methods; moreover, in the mid-1960s, Donald and his team realised that they had been photographing the placenta for quite some time without knowing it. Both the placenta and the uterus could be screened for check-up.⁸⁴ Nicolson and Fleming stress that 'Placental localization was to prove one of the most significant applications of obstetric ultrasound', as will be highlighted in this thesis.⁸⁵

From the late 1960s, ultrasound scanning began to be nationally and internationally accepted as a potential routine antenatal check-up thanks to the work of Donald and his co-workers in Glasgow and Stuart Campbell's work after his move to London. Few hospitals in Britain and elsewhere, however, had purchased an ultrasound scanner throughout the 1960s. The widespread use of ultrasound in antenatal care, however, came thanks to the introduction of the real-time scanner in 1973 by the American company Advanced

⁸² Nicolson, Fleming, *Imaging and Imagining the Fetus*, 173-77; Oakley, *Captured Womb*, 161; Malcolm Nicolson, 'Death and Birth', In *A Cultural History of the Human Body*, eds. Crozier and Beccalossi (Oxford: Berg Publishing, 2010), 37.

⁸³ Oakley, *Captured Womb*, 161; Nicolson, Fleming, *Imaging and Imagining the Fetus*, 177-78.

⁸⁴ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 178, 191-92; Oakley, *Captured Womb*, 164.

⁸⁵ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 193-94.

Diagnostic Research (ADR). Nicolson and Fleming declare that ‘Real-time scanners proved to be easier to learn on and to employ clinically than the static B-scanners ... The human eye and brain are better at interpreting moving images than stationary ones’.⁸⁶ Thousands of this American real-time scanner model were sold in the second half of the 1970s onwards. Oakley highlights that throughout the Western world, ‘By 1978 the ascent of ultrasonography had reached such peaks it was said that modern obstetrics and gynaecology could not be practised without it’.⁸⁷ Stuart Campbell declared ‘the introduction of ultrasound in obstetrics as “one of the great revolutionary milestones” in the specialism; he also added that ‘[ultrasound] “should be regarded as an integral part of prenatal care”’.⁸⁸ Widespread use of ultrasound was also possible thanks to a new generation of obstetricians in the 1980s who received training in ultrasound and believed technology would be the future of their profession.⁸⁹

Ultrasound was a major technological advance in antenatal care, but it was not the only one. Fetoscopy is another example of the development of technology in obstetrics developed between the 1950s and 1970s. It was meant ‘to see the fetus and study its oxygenation ... in real-life colour’.⁹⁰ This technique could detect congenital malformations, however, in that area, ultrasound in association with amniocentesis was favoured to fetoscopy. Research in fetoscopy, nevertheless, continued in the 1970s, especially by Kaback. He began to research live fetuses, whose mothers had decided to have an induced abortion, to collect “human fetal material” by incision within the mother’s abdomen and uterus. That is why Oakley emphasises that ‘Fetoscopy thus opened upon the route to another brave world, that of antenatal fetal surgery’ either for diagnosis or treatment reason.⁹¹ Amniocentesis technique, on the other hand, was able to discern neural tube defects according to the concentration of feto-alpha protein. This discovery was found by Brock and Sutcliffe in Edinburgh in 1972. Finally, amniocentesis was also able to detect fetal lung maturation; this was established thanks to Gluck and his team’s work in 1971.⁹² According to Oakley, the development of technologies in obstetrics enabling access to or visualisation of the inside of the womb had a specific aim: ‘The obstetrical pursuit of more

⁸⁶ Ibid., 231.

⁸⁷ Oakley, *Captured Womb*, 165-66; Nicolson, Fleming, *Imaging and Imagining the Fetus*, 233.

⁸⁸ Hanson, *Cultural History of Pregnancy*, 137; Oakley, *Captured Womb*, 165.

⁸⁹ Oakley, *Captured Womb*, 166.

⁹⁰ Ibid., 171-72.

⁹¹ Ibid., 172, 279.

⁹² Ibid., 173.

and more knowledge about the fetal condition and life-style *in utero* is integrated to the obstetrical claim to expertise in general.’⁹³

The development of those obstetric technologies had different consequences. Indeed, as Nicolson and Fleming declare: ‘the ultrasound image is an “illusion”. But it has become, in our culture, a uniquely powerful illusion’.⁹⁴ The first one concerned maternal/paternal-fetal bonding. This thesis will underline how it influenced the perception of stillbirth. As Campbell said, ultrasound check-up became a family event meaning that the fathers became more and more present and involved in their wives’ pregnancies and childbirth. Oakley affirms that ‘It may be alleged that to all concerned ultrasound screening is a delightful experience’.⁹⁵ Sonia Meyers, nevertheless, stresses that ‘both my clinical experience and ethnographic studies undertaken have demonstrated that women have varied responses to seeing their images of their foetuses – some react with joy others with apathy or anxiety; not all experience psychological bonding.’⁹⁶ Ultrasound, thus, had helped some parents, especially younger parents more accustomed to imaging technology, to bond, but it should not be generalised to all pregnancies.

The second consequence of ultrasound, as it enabled one to gaze ‘behind the iron curtain’, was the rise of a new patient: the fetal patient independent of its mother, which impacted the medical perspective on stillbirth as this thesis will demonstrate. Indeed, Ian Donald highlighted that “‘Today the infant at birth is no longer an unknown patient’”.⁹⁷ The mothers, thus, became passive actors of their own pregnancies as the medical gaze was focused on the fetus, an astronaut floating in space, a situation that many feminists have advocated against.⁹⁸ Mothers on average, however, felt safer to be scanned in order to know what to expect than to be ignorant of their fetus’ condition.⁹⁹ Furthermore, as Dickens and Cook highlight: ‘Fetuses are not ‘patients’ in a real sense, but only by metaphor or analogy.

⁹³ Oakley, *Captured Womb*, 183; Sonia Meyers, ‘Invisible Waves of Technology: Ultrasound and the Making of Fetal Images’, *Medicine Studies*, 2 (2010), 197-98.

⁹⁴ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 267.

⁹⁵ Oakley, *Captured Womb*, 184; Meyers, ‘Invisible Waves of Technology’, 203.

⁹⁶ Meyers, ‘Invisible Waves of Technology’, 203.

⁹⁷ Oakley, *Captured Womb*, 182; Woods, *Death before Birth*, 254; Nicolson, Fleming, *Imaging and Imagining the Fetus*, 201; B. Dickens, R. Cook., ‘Ethical & legal issues in reproductive health, Ethical and legal approaches to “the fetal patient”’, *International Journal of Gynecology and Obstetrics*, 83 (2003), 85.

⁹⁸ Nicolson, ‘Death and Birth’, 37; Meyers, ‘Invisible Waves of Technology’, 198; Rosalind Pollack Petchesky, ‘Fetal Images: The Power of Visual Culture in the Politics of Reproduction’, *Feminist Studies*, 13 (1987), 270-71; Nicolson, Fleming, *Imaging and Imagining the Fetus*, 257-58.

⁹⁹ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 261; Oakley, *Captured Womb*, 270-71.

Unlike born children, they cannot be treated without their mothers' bodies being affected'.¹⁰⁰ The focus on fetal well-being was linked to the still quite high neonatal mortality rate in the aftermath of the Second World War. Indeed Nicolson stresses that 'In the 1940s and 1950s, therefore, neonatal health became a matter of considerable concern in both professional and lay circles. And concern for the life of the newborn led to a more intense focus on the life, and death, of the fetus.'¹⁰¹ Ultrasound and other medical technologies/techniques allowed medical professionals to know the fetal anatomy, which thus permitted them to diagnose and treat fetal pathologies, and to predict fetal life or death, as this thesis will emphasise. Sometimes the only solution to the diagnosis of fetal pathologies or abnormalities proposed by the medical practitioners to the parents was and still is termination of pregnancy; however, termination has always been the woman's/couple's decision.

The last consequence concerns the rise of debate between maternal rights and fetal rights. The development of the fetal patient coincided with the legalisation of social and therapeutic abortion in many western countries. The pro-life supporters, backed by different religions, use the rhetoric of the fetal patient to argue that it has a right to live and therefore stress the alleged 'injustice' of a woman's choice to terminate her pregnancy.¹⁰² These arguments are mainly used in the USA. Fetal rights, nevertheless, are not recognised legally in any western countries. Indeed to be recognised as a human being, one needs to breathe and have an independent blood circulation.¹⁰³ Anti-abortionists use the ultrasound scan to try to persuade mothers not to abort by allegedly 'proving' to the women that their fetus is a person in its own right. Actually, in certain states in the USA, women wishing for an abortion are forced to look first at their fetuses on the screen of the ultrasound scan before being allowed to abort.¹⁰⁴ Ian Donald used the same technique to dissuade mothers from aborting in the QMH in Glasgow from 1967, the year of the Abortion Act, to his retirement in 1976.¹⁰⁵ Pro-life supporters also resort to ultrasound images of dead fetuses in their demonstrations to shock people and emphasise their message.¹⁰⁶

¹⁰⁰ Dickens, Cook, 'Ethical and legal approaches to "the fetal patient"', 87.

¹⁰¹ Nicolson, 'Death and Birth', 40-41.

¹⁰² Dickens, Cook, 'Ethical and legal approaches to "the fetal patient"', 88-89.

¹⁰³ Ibid., 89-90.

¹⁰⁴ Nicolson, 'Death and Birth', 37.

¹⁰⁵ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 239-40.

¹⁰⁶ Petchesky, 'Fetal Images', 263-64.

Finally, the last means of anti-abortionists' propaganda consist of films depicting a fetus *in utero* seen via ultrasound to allegedly 'undeniably prove' fetal life. Donald first released a film of this sort in 1978 entitled *Human Development before Birth*. In this film, he showed how a normal and healthy fetus lives and develops inside the womb. He showed this film in different pro-life meetings, but it was also broadcasted on television in Britain, Ireland, the USA and in Italy where it had a huge success.¹⁰⁷ The best known of this kind of film is *The Silent Scream*. This film was released in the USA in the mid-1980s, narrated by Dr Bernard Nathanson. *The Silent Scream* depicts the abortion of a fetus followed entirely via ultrasound scanning.¹⁰⁸ Petchesky stresses that the ultrasound video is shown to the public edited; indeed, the director accelerated the movement of the fetus and increased its size. Moreover, Dr Nathanson maintained that the fetus feels pain and screams whereas a twelve-week fetus does not have either lungs or cerebral cortex, preventing it screaming or feeling pain as Nathanson suggested.¹⁰⁹ Finally, Petchesky emphasises that

The most disturbing thing about how people receive *The Silent Scream* ... is their apparent acceptance of the image itself as an accurate representation of a real fetus. The curled-up profile, with its enlarged head and finlike arms, suspended in its balloon of amniotic fluid, is by now so familiar that not even most feminists question its authenticity (as opposed to its relevance).¹¹⁰

Indeed, the fetus has become part of society. For example fetus images are used in adverts, newspapers and magazines.¹¹¹ Anti-abortionists, therefore, are playing on this fact to spread their message that a fetus is a human being in its own right.

C) Definition and Registration of Stillbirth

Definition and registration of stillbirth are important issues as they will determine the measure of stillbirth and perinatal mortality rates as will be highlighted in this thesis. Concerning its definition, stillbirth is quite a vague nomination; indeed, the term "deadbirth" and "stillbirth" has been interchangeable. The latter, nevertheless, appeared in the *Oxford*

¹⁰⁷ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 242-43.

¹⁰⁸ Petchesky, 'Fetal Images', 264, 266.

¹⁰⁹ Ibid., 267.

¹¹⁰ Ibid., 268.

¹¹¹ Nicolson, 'Death and Birth', 37; Nicolson, Fleming, *Imaging and Imagining the Fetus*, 1, 244; Meyers, 'Invisible Waves of Technology', 199.

English Dictionary around the seventeenth century, whereas the former was first defined and used since 1330.¹¹² In the definition of stillbirth in the late eighteenth century, however, there was the idea of ‘birth of a child alive or with a beating heart, but not breathing’.¹¹³ That was why Ballantyne emphasised that a “dead-born” baby could not be resuscitated because it was dead *in utero* at the onset of labour, whereas a “stillborn” infant ‘shows “temporarily stillness at birth, not the definitive stillness of death”’; thus there was still a chance to reanimate the fetus and have a live-birth.¹¹⁴ The debate between stillbirth and dead-birth occurred in the first two decades of the twentieth century, as this thesis will explain. Woods agrees with Ballantyne’s distinction between the definite state of dead-birth and the possible transition from stillbirth into live-birth.¹¹⁵ Woods stresses that the definition of stillbirth and dead-birth is rendered more complicated in English, than in many other European languages where there is only one word for dead-born/stillborn, for example ‘*nato morto* in Italian ... *nacido Muerto* in Spanish, *mort-né* in French, *totgeboren* in German, *dødfødt* in Norwegian, and *dödfödda* in Swedish’.¹¹⁶

Woods underlines that medical practitioners have frequently divided stillbirth categories in relation to labour. Indeed, on one hand, there have been antepartum stillbirths with the possibility of a ‘macerated’ stillborn, meaning the fetus died within the womb before onset of labour which thus could not be due to the medical professionals present at delivery. On the other hand, there have been intrapartum stillbirths which happen during delivery which could ‘raise questions about the quality of care that [the] mother had received while in labor’.¹¹⁷ The distinction between the two types of stillbirth has been used throughout the twentieth century, as this thesis will underline. Obstetric and midwifery care had reached such a high quality at the end of the twentieth century that in 2001 the *New Oxford Dictionary of English* narrowed its definition of “stillbirth” to ‘birth of an infant that has died in the womb (strictly, after having survived through at least the first 28 weeks of pregnancy, earlier instances being regarded as abortion or miscarriage)’.¹¹⁸ Intrapartum stillbirth seems to be no longer included in the definition of “stillbirth”; only fetal death in utero could now be described as a stillbirth. The *Oxford Dictionary* is a good reference;

¹¹² Woods, *Death before Birth*, 15, 17.

¹¹³ *Ibid.*, 15.

¹¹⁴ *Ibid.*, 23.

¹¹⁵ *Ibid.*, 17.

¹¹⁶ *Ibid.*, 25.

¹¹⁷ Woods, *Death before Birth*, 17; Nicolson, ‘Death and Birth’, 41.

¹¹⁸ Woods, *Death before birth*, 18.

however, when it comes to medical or legal terms it is not the ideal one. Indeed it defines stillbirth as beginning at 28 weeks gestation onwards whereas since 1992, in Britain the new Still-birth (Definition) Act considers stillbirth as all fetal death from the 24th week gestation onwards, for reasons that will be explained in Chapter 7.

Armstrong affirms that ‘the death of a foetus produced a miscarriage and the death of an infant a stillbirth’.¹¹⁹ While this definition is not legally binding, it emphasises the idea of viability of a fetus which distinguished a miscarriage from a stillbirth; meaning that if a fetal death occurred, if the fetus is not viable it is described as the former and if the fetus is believed to be viable we deal with the latter. Viability is a medical and a state construction. Worldwide, there have been many variations in regards to the definition of viability even if it is always between 20 and 30 weeks gestation. In the second half of the twentieth century, the World Health Organisation (WHO) tried to find a single definition of viability accepted worldwide. WHO proposed this definition of viability in 1992: a fetus becomes viable after 22 weeks of gestation or if its weight is over 500g.¹²⁰ This process in Britain began in the early twentieth century, as will be pointed out in Chapter 1, where the medical profession believed a fetus became viable after the 28th week of gestation or if it weighed more than a kilo or if it measured over 350mm crown to heel (which was fixed to 250mm in the mid-1920s).¹²¹ To conclude, definitions of stillbirth and of viability have an important role to play as one needs to have defined them in order to begin the process of stillbirth registration, as will be highlighted in Chapter 1 for the case of Scotland.

Stillbirth registration throughout the Western World began in different times and under different definitions. The first countries to have registered stillborn babies were the Scandinavian countries from the eighteenth century onwards. Sweden first started the registration followed by Norway, the Netherlands, and finally Denmark.¹²² Stillbirth registration allowed its rate to be calculated, which is essential for the medical profession to help prevent stillbirth, as this thesis will emphasise. Sweden’s registration, as it has been measured continuously since the late eighteenth century, became the model of registration for countries wishing to register their stillbirths and its rate was to be used as the rate of

¹¹⁹ Armstrong, ‘Invention of Infant Mortality’, 214.

¹²⁰ Woods, *Death before Birth*, 20, 24-25.

¹²¹ *Ibid.*, 19-21.

¹²² *Ibid.*, 56-61.

reference worldwide in comparative studies. Woods, nevertheless, suggests that as stillbirth registration has existed for more than two centuries in Sweden, it is likely that its definition had been altered during that time and also that the stillbirth rate in the early years was certainly not perfectly reliable. For example it is possible that neonatal deaths were registered as stillbirths in the beginning.¹²³ In the late nineteenth century, for all the Scandinavian countries, registration ‘was both routine and ... reasonably accurate’.¹²⁴

In the rest of Europe and the USA, stillbirth registration took more time. In Britain, registration of stillbirth occurred only in the twentieth century whereas the infant deaths began to be separated into an independent category from other deaths from the mid-nineteenth century, but according to the countries within Britain stillbirth registration began in different decades, as this thesis will stress. In England and Wales, from 1874 under the new Registration Act, stillbirth had to be certified in order for families to legally bury their stillborn babies in cemeteries, but Woods doubts whether the regulation was always respected.¹²⁵ Medical professionals and statisticians tried to integrate stillbirth in the Registration Act in the early twentieth century. Despite succeeding to encourage the population to notify any birth to their local Medical Officers from the aftermath of the First World War, stillbirth was only registered in England and Wales from 1 July 1927.¹²⁶ Stillbirth registration in Scotland happened only at the eve of the Second World War whereas the first Registration Act for Scotland, the Civil Birth and Death Registration (Scotland), was introduced in 1855. In Scotland, hence, stillbirths were finally registered nearly a century after all the other deaths.¹²⁷ Whereas England and Wales had a system of systematic certification for the disposal of stillborn babies, no legal document was required in Scotland until the Registration of Still-Births (Scotland) Act, 1938, except if individual cemetery authorities demanded one. The Scottish Office drew up the bill on stillbirth registration because, using the Secretary of State for Scotland Walter Elliot’s words ‘It may well be that if attentions were concentrated on them they would not be still-born, but living

¹²³ Ibid., 56-57.

¹²⁴ Ibid., 56.

¹²⁵ Ibid., 69.

¹²⁶ Woods, *Death before Birth*, 70; Loudon, *Death in Childbirth*, 19; Nicolson, ‘Death and Birth’, 40; Gayle Davis, ‘Stillbirth registration and perceptions of infant death, 1900-60: the Scottish case in national context’, *Economic History Review*, 62 (2009), 629-31, 636-37.

¹²⁷ Davis, ‘Stillbirth registration and perceptions of infant death’, 629, 641; Loudon, *Death in Childbirth*, 19, Nicolson, ‘Death and Birth’, 40.

children'.¹²⁸ Preventing stillbirth was a major focus of the medical community as this thesis will explain. Finally registration of stillbirths in Northern Ireland was passed only in 1961.¹²⁹ Historians, however, have not yet studied the case of Northern Ireland. Stillbirth, throughout Britain, was 'defined in terms of gestational age of more than 28 weeks where the fetus, after being completely expelled from its mother, did not breathe or show any other signs of life'.¹³⁰ Loudon highlights that this definition was the most common in the different western countries; that was why it 'was proposed by the Health Organisation of the League of Nations in 1925 and recommended for international usage in 1930'.¹³¹

In the USA, stillbirth registration was 'even more chaotic in its early decades than it is today'.¹³² Indeed, the specificity of the USA was that each state had its own definition and therefore own registration bill from 1922 onwards.¹³³ Loudon and Woods both stress that in the USA the definition of viability could vary from 4 months to 28 weeks gestation, which meant that calculating the stillbirth rate for the entire country was rather difficult or impossible.¹³⁴ The registration of stillbirths began to be harmonised throughout the USA from 1942 onwards 'by tabulating two critical gestational ages: 20 and 28 weeks Last Menstrual Period'.¹³⁵ Finally, in the rest of Western Europe, registration of stillbirths had a particularity well into the twentieth century. Indeed, taking the example of France and Belgium, Loudon explains

By law, all births had to be registered within three days. There were registered either as alive at the date of registration (*présenté vivant*) or dead (*mort-né*). It was not obligatory to specify whether those entered as "*mort-nés*" were born alive and died in the first three days or whether they were stillborn.¹³⁶

Woods, moreover, stresses that stillbirth registration in France was faced with another problem. He declares the 'The desire to avoid the deaths of unbaptized infants encouraged the practice of emergency baptism and thus the possibility that the unborn or stillborn could

¹²⁸ Davis, 'Stillbirth registration and perceptions of infant death', 640.

¹²⁹ Loudon, *Death in Childbirth*, 19.

¹³⁰ Woods, *Death before Birth*, 70; Davis, 'Stillbirth registration and perceptions of infant death', 629, 641; Armstrong, 'Invention of Infant Mortality', 214; Loudon, *Death in Childbirth*, 19-20.

¹³¹ Loudon, *Death in Childbirth*, 19-20.

¹³² Woods, *Death before Birth*, 74.

¹³³ *Ibid.*, 25.

¹³⁴ Woods, *Death before Birth*, 74-75, Loudon, *Death in Childbirth*, 20.

¹³⁵ Woods, *Death before Birth*, 75.

¹³⁶ Loudon, *Death in Childbirth*, 20; Woods, *Death before Birth*, 77.

be prematurely baptized and registered as [live] births'.¹³⁷ Those two specificities completely altered the accuracy of the stillbirth rate in France and Belgium, and therefore the rate is to be taken with caution while making an international comparison of stillbirth rates. This highlights the importance of religious views of stillbirth, from the theological (the place of the soul in the after-life) and pastoral care perspectives. Those two perspectives on the religious view on stillbirth influenced how society viewed and acted around stillbirth but also how society could influence the religious view on stillbirth, both on the theology and pastoral care, as this thesis will emphasise for Britain in the late twentieth century onwards.

III) Overview of Historiography and Research Questions

This review highlights that from the late twentieth century historians had researched intensely the development of antenatal care as a tool of medicalisation of pregnancy throughout Britain and its consequences on expectant mothers, pregnancy and childbirth in general. They have especially studied the period preceding the establishment of the NHS. Historians have also researched the development of ultrasound and other technologies, but mostly focused on the consequences of the introduction of these technologies in routine antenatal care rather than on their development in itself, except for Nicolson and Fleming's book. Concerning stillbirth, academics had mainly focused on its definition, its registration and thus its rate.

Research on stillbirth, therefore, has been limited. Furthermore, the history of antenatal care has been studied mainly from an English focus. Except for research on Ballantyne's work in Edinburgh, venereal disease clinics, and the Edinburgh Maternity Scheme during the First World War, few academics had researched antenatal care from a Scottish focus. Moreover, antenatal care has been studied intensively in relation to maternal and infant mortality. That is why this thesis will focus mainly on the relation between the medicalisation of childbearing and stillbirth in Glasgow, Scotland and Britain in general throughout the twentieth century. I decided to begin this thesis with Ballantyne's plea for a pro-maternity hospital and to finish with the change of definition of stillbirth in Britain in

¹³⁷ Woods, *Death before Birth*, 78.

1992. My thesis focuses on the medicalisation of stillbirth but also its interactions with the passing of new legislations throughout the period studied as well as societal and religious developments in the late twentieth century. Indeed, this thesis will first highlight the purely medical importance with regards to stillbirth. Then it will underline how in the late twentieth century, in relation to the second wave feminism demanding more patient advocacy and woman-centred care, and in the case of stillbirths in relation to the creation by bereaved parents of SANDS and its influence, the medical perspective was entwined with emotional and psychological implications, changing attitudes towards stillbirth and its management, and changing medical, legal and religious views on stillbirth.

My research questions, thus, are the following:

- How did the medical understanding, treatment, prevention and management of stillbirth change in Glasgow, Scotland, and Britain from 1901 to 1992?
- What were the connections between the medical understanding of stillbirth, the legislative perspective on stillbirth, and the societal and religious views on stillbirth, between 1901 and 1992? How did one aspect influence the others?

IV) Methodology

My research is based on analysing medical articles and archival data, linked to the legal and medical developments towards stillbirth, as well as primary and secondary oral history data. Regarding the medical aspect of the research, I drew primarily on articles from different medical journals. I chose to review the *British Medical Journal (BMJ)* and the *Lancet* comprehensively for a national point of view, as well as the *Edinburgh Medical Journal (EMJ)*, the *Glasgow Medical Journal (GMJ)* and the *Scottish Medical Journal (SMJ)* for a Scottish focus. I also used articles from British obstetrical journals that archivists thought important and included in their collections. The *BMJ* and the *Lancet* also carry a wider societal perspective which was more interesting for my research than a purely medical focus, as this thesis also approaches societal perspectives of stillbirth rather than an exclusive medical point of view.

Articles from medical journals provided mostly a Scottish and/or national vision of the issues around stillbirth. In order to highlight the special case of Glasgow, I used annual medical reports, which could be accessed from the NHS Greater Glasgow and Clyde Archive (NHSGGCA) as well as the Glasgow City archives. The former archive kept all the GRMH's annual medical reports from 1926 (year of the first annual report from this hospital) to 1969, and it also has the first two annual clinical reports from the Queen Mother's Hospital (QMH). Hospital medical/clinical reports provided me with all the different stillbirths according to the methods of delivery, the presentations of the fetus, and according to the medical recommendations. The Glasgow City archive provided me with the Medical Officer of Health's (MOH) annual reports for the city of Glasgow from 1901 to 1972. Those reports included the notification of births, meaning that stillbirths were included even before the registration of stillbirth in Scotland became compulsory. After 1939, when all stillbirths had to be registered in Scotland, the reports also included different tables regarding the relation between stillbirth and types of antenatal supervision or in relation to the parity or the mother's age. Those reports helped me to provide quantitative data (graphs and tables I created from information found in those archival sources) for Glasgow, illustrating the arguments made in the British or Scottish medical articles.

Royal Colleges have also provided much information around stillbirth from a medical point of view. Indeed, I used archival materials from the Royal College of Physicians and Surgeons of Glasgow (RCPSG) archive, as well as the Royal College of Obstetricians and Gynaecologists (RCOG) and Royal College of Midwifery (RCM) archives. Those three archives were quite rich and varied in what they conserved. The RCPSG archive kept papers, notes and correspondence from different Glaswegian obstetricians such as A. M. Sutherland and Prof James Hendry, as well as the Committee Minute Books from the Glasgow Obstetrical & Gynaecological Society (GOGS). The Committee minutes helped me to highlight once more where the focus was for obstetricians in Glasgow with regards to stillbirth, and hence also illustrated or reinforced national arguments and concerns underlined in medical articles. The RCM archive was extremely varied in its material as I was able to find older midwifery textbooks and notes as well as personal testimonies. Finally the RCOG archive was very helpful in understanding the partnership between the British obstetric professionals and the Government when the latter wished to have a better point of view on a specific area of obstetrics, such as antenatal and intranatal care or

management of perinatal deaths. The RCOG organised Working Parties on specific obstetrical/gynaecological interests in order to establish broader reports or guidelines for the Government and the medical community to help improve the quality and standard of care throughout the country. That last archive, therefore, provided me with a view on the medical agenda around stillbirth but also what was on the political agenda, especially after the establishment of the NHS.

In addition, my research also utilises oral history, making use of both my own and pre-existing interviews, mostly from Lindsay Reid's oral history research, in order to access changing medical and religious attitudes towards stillbirth. As Lynn Abrams emphasises, oral history represents four distinctive forms: the interview, the audio recording of the interview, the transcript and the interpretation of the material.¹³⁸ For my own oral history research, I have hence had access to all four, on the other hand regarding Reid's oral history, I only have access to the written transcript. This is not a major problem, because, as Abrams underlines, 'An accurate and complete transcript does permit you to see the interview in its entirety: its shape, its rhythm, its fluency or conversely its disjointed nature'.¹³⁹ Some of Reid's oral history interviews are in the public domain published in a book; however, she also sent me extracts of some of her interviews, which were not published. For the latter, they are dislocated from the rest of the interview and thus my interpretation of them needs to be comprehended accordingly. As Abrams explains, there are three different models of interpretation and use of such interpretation: reminiscence and community model, evidential model, and theoretical model.¹⁴⁰ In this thesis, I interpreted Reid's and my oral histories under the evidential model. Abrams defines it as follows: 'This encompasses the application of oral history for evidence gathering, the use of oral testimony as data, providing information to support an argument and illustrative material for publication. In this model the oral history text is likely to appear dismembered from its context, as short, pithy extracts, chosen for their typicality or their ability to say something in a memorable way.'¹⁴¹ I have chosen this model as oral history is used in this thesis on the same level than other types of sources, and not as the core sources, offering the possibility to triangulate material, whilst being aware of the context in which it was created.

¹³⁸ Lynn Abrams, *Oral History Theory*, Second Edition (London: Routledge, 2016), 20.

¹³⁹ *Ibid.*, 23.

¹⁴⁰ *Ibid.*, 25-26.

¹⁴¹ *Ibid.*, 25.

Regarding the religious perspective, however, oral history offered almost the only way to access certain evidence and hidden voices. Indeed, chaplains and religious representatives talked about their own experiences and practices according to the context and circumstances, which can vary from the established texts and practices. Oral History of religious representatives thus was essential to this thesis to understand the link between the religious and societal perspectives in Glasgow in the second half of the twentieth century. For the religious representatives, my intention was to interview at least one representative of the 16 faiths/religions present in Glasgow in the twentieth century. I was able to interview three ministers from the Church of Scotland, a rabbi, a Buddhist nun and, a minister from Glasgow Unitarian. For all the other religions/faiths I was unfortunately unable to reach anyone but I found alternative written sources, especially regarding Islam and the Roman Catholic Church as they were large religious communities in Glasgow in the twentieth century. During the interviews, I asked interviewees about their training and their career history, what they were taught about stillbirths during their training, their experiences around stillbirths during their professional life, what the religious evolutions around stillbirth were and why. I always finished the interview asking if they had any comments or remarks, or something they personally believed was important to emphasise.

Finally, as the Glaswegian population, as any other Western population, has been becoming more and more secular, I recruited a willing participant from the Humanist Society of Scotland, and I was also able to interview two different hospital chaplains. The latter are in the present day the ones who really witness and provide pastoral care for parents/mothers who have a prenatal (whatever the gestational age), perinatal or infant death. They, therefore, had been really important participants for my research because as hospital chaplains have been working hand in hand with the medical community when there has been a stillbirth, thus their function had evolved in accordance with the medical management of stillbirth, but also with the societal changes around stillbirth (they have worked in partnership with SANDS), which I was able to appreciate thanks to those two interviews. The religious perspective, then, really focuses on the changes in theology and pastoral care due to the secularisation of the population, the increasing importance of woman-centred and compassionate care and the advances in obstetrics changing the

outcomes of pregnancy and the management of perinatal deaths towards the end of the twentieth century.

In addition, I again used oral history in order to provide a more personal voice and experience from medical professionals, which provided more details on certain themes approached in the archival material. For the medical representatives, I interviewed, as planned, both midwives and obstetricians who worked or trained in Glasgow in the second half of the twentieth century.

In regards to the legislative aspect of my thesis, obviously, the relevant Acts have been the most important pool of sources. Those can be found online on the website *Legislation*.¹⁴² However, the National Archives of Scotland (NAS) was an important source in helping to learn about the work behind the Acts as they kept all documents in the debate for proposed Bills meant for Scotland, with contributions across legislative, religious and medical aspects of the issues.

V) Chapter Outline

Chapter one focuses on the era prior to the registration of stillbirth in Scotland, from 1901 to 1938, when stillbirths were legally unregulated. This chapter recounts the appearance and development of antenatal care and improvement of care at childbirth due to a fear for the depopulation and degeneracy of the race, especially after the First World War. This chapter argues that understanding and preventing stillbirth became the centre of obstetrical attention as a means to provide a healthy future generation, and that was why registration was demanded in order to help better monitor and analyse stillbirths, thus influencing the legal system to accommodate the medical demand.

Chapter two focuses on the period during the Second World War up to the eve of the establishment of the NHS. During this period, the Scottish medical community could analyse the Scottish stillbirth rate and the trend it was taking through the new section on

¹⁴² *Legislation*, < <http://www.legislation.gov.uk/>>, [Accessed 25 April 2017].

stillbirth in the Annual Report published by the Registrar-General for Scotland. This chapter tracks the impact of this new statistic, arguing that the medical community shifted its gaze from a mostly pure obstetrical understanding of the causes of stillbirth, focusing only on the direct causes of stillbirths, towards a more societal perspective, such as the social history of the woman that could increase the risk of developing obstetrical conditions and abnormalities. Obstetricians wanted to know the ‘how’, but from that point onwards they also wanted to understand the ‘why’ behind it. This chapter, hence, emphasises the role of social class and nutrition played towards the understanding and prevention of stillbirth as major influential factors, but also highlights obstetrical changes in the 1940s which still influenced the stillbirth rate, focusing on the case of Glasgow.

The third chapter focuses on the obstetric causes of stillbirth in the 1940s and 1950s, as the medical knowledge and technology available at the time were similar during those two decades. This chapter argues that, while stillbirth was now understood in the light of other aspects, the obstetrical reasons for stillbirth were not to be forgotten and the fight to prevent such stillbirths was still on-going with more knowledge, skills and tools than in the era prior to registration. This chapter highlights the start of a higher rate of medicalisation and use of technologies such as the invention of ultrasound and increased use of X-rays during the antenatal period and childbirth in order to improve the management of such causes of stillbirths and thus to try to prevent stillbirths in those cases. This chapter argues that obstetricians considered prematurity and, to a lesser extent, postmaturity as the new *bête noire* of this era. This chapter underlines that prematurity and postmaturity increased the risk of developing other obstetrical conditions and abnormalities and thus had to be prevented to offer the best chance of survival for fetuses. This chapter emphasises the continued importance of antenatal supervision to diagnose any obstetrical conditions or abnormalities as soon as knowledge and skill made it possible and thus to try to counteract them in order to deliver a healthy baby.

Chapter four looks at the period between the creation of the NHS and the eve of the opening of the new Maternity Hospital in Glasgow, the QMH, from 1948 to 1963. This chapter argues that this new era of the welfare state regarding health was to be one of promise towards live-births as it offered the best antenatal and intranatal care to all, free of charge. This, therefore, offered the best chance to both the women and the fetuses and thus

should put an end to any preventable deaths. The slow decrease in the perinatal mortality rate, therefore, was felt as a failure of the system to be rectified, in particular, through an always increasing medicalisation and hospitalisation of pregnancy and childbirth with obstetricians at the forefront of the scene.

Chapter five, 1964 to 1976, focuses on the period of high rates of hospitalisation and medical intervention in the antenatal period and even more during childbirth. This chapter argues that this had been rendered possible in Glasgow through the opening of its new, and modern, maternity hospital, the QMH. It was the first British hospital with an ultrasound department; furthermore, it was built in a new and modern way differing very radically from the older Nightingale-wards maternity hospital in its organisation and practice. It represented the future of obstetrics and midwifery which would offer to the entire female population the best chance for the live-birth of a healthy baby. This chapter argues that, regarding the social causes of stillbirth, smoking in pregnancy became the new focus in the fight to prevent perinatal deaths. Moreover this chapter argues that the degree medicalisation of childbirth had reached became contested in the 1970s in relation to second-wave feminist ideology of woman-centred care and patient advocacy. Finally, this chapter emphasised that the promise of live-births, highly prominent in medical discourse, thanks to the more medicalised, knowledgeable and technological obstetric services offered to any pregnant woman, as well as the reduction of family size, made stillbirth be felt even more deeply and emotionally by families/women when it occurred. Discontentment in the mid-1970s was raised about the lack of management and support around this tragic event from the medical team looking after those women, and therefore the necessity for a change.

Chapter six then recounts the changes, in Britain, of the medical management and support around the women/couples when facing a stillbirth, following the discontentment explained in Chapter 5, in hospitals and outside hospital, from the diagnosis to the subsequent pregnancy. This chapter argues that much has been done in the creation of guidelines and advice, but despite putting in place many of the recommendations, some hospitals, maternity wards and medical institutions still lacked some considerations and options due to being over-stretched, which was a characteristic of the NHS in the late twentieth century. This chapter highlights that guidelines, created by psychotherapists and by the RCOG's Working Party on the management of stillbirths and perinatal deaths,

offered the best options but this was not always reflected in the reality of the obstetrical services. It emphasises that there is an emotional and psychological impact of stillbirth coming on the medical agenda, moving stillbirth from a purely medical event to a more complex event seen as a death and a loss to be mourned. Finally this chapter argues that societal changes around stillbirth, and especially the creation of SANDS, influenced the medical perspective on how to view and respond to stillbirth, but also influenced the religious perspective with changes in theology but mostly in pastoral care. Funerals for stillbirths became more common from the late 1970s onwards, and thus, this pushed parents to ask more questions on what happened to their babies' soul to their religious representatives or chaplains. Furthermore, pastoral care around stillbirth had to evolve, as for many religions they had never dealt with burying or cremating a stillborn before the late 1970s and their practice then had to follow the medical and societal development towards the management of stillbirth.

That shortage of funds and staff is explained in the final chapter with a process of re-privatisation of health care and thus a strict national budget for the NHS from the late-1970s onwards, which is uncovered with the failure of a governmental report on ways to further reduce the perinatal mortality rate: the Short Report. This chapter points out that high medicalisation and hospitalisation of pregnancy and childbirth was to stay, and the impossibility to return to a more domiciliary service as it was inked in our system, after decades of obstetricians pushing for it, as chapters 3 to 5 underline. This chapter argues that the ever higher technological medical skills and knowledge available in the late twentieth century called into question the viability age of a fetus, which thus led to the new and current Still-birth (Definition) Act of 1992 for Scotland, England and Wales.

The conclusion will answer the research questions and show how the understanding of stillbirth evolved from 1901 to 1992 from medical, legal, societal and religious points of view and how they influenced one another. This conclusion will hence reflect on the contribution of this thesis in the historical understanding of stillbirth in the twentieth century, as well as highlighting some potential paths for future research to further develop the contribution.

Chapter 1: Understanding, diagnosing and preventing stillbirth in the era prior to registration in Scotland, 1901-1938

Introduction:

This chapter looks at the first four decades of the twentieth century, which corresponded to the era prior to registration in Scotland in regards to stillbirth. It will first demonstrate the link between the foundation of antenatal care in Edinburgh, and the beginning of the medical attention towards stillbirth, its understanding and prevention due to the importance to give birth to a strong and healthy nation, at the turn of the twentieth century. That was why the medical community started to refer to the fetus as the unborn child. This change of vocabulary highlighted the perceived importance for doctors of the fetus' health and well-being as it was already seen by the medical profession as the future being it would be. It was therefore the doctor's duty to provide it with the best chance for survival.

This chapter argues that this new medical attention towards stillbirths influenced the passing of certain Acts in Scotland, and more broadly in Britain, to help the medical profession to render childbirth and pregnancy safer, such as the different midwives Acts and the Maternity and Child Welfare Act, 1918, therefore providing the best opportunity for the fetus. Some of those Acts and the accelerated development of antenatal care from the mid-1910s onwards were a consequence of the First World War and renewed worry for the future of the race from the Government and the medical community because of the loss of so many young men and the declining birth rate occurring at the time in Britain.

This chapter will also recount the different conditions the obstetricians and other medical professionals knew at the time to be causes of stillbirths and could diagnose during the antenatal period. It will focus particularly on toxæmia of pregnancy, the widespread prevalence of contracted pelvis and its consequences during childbirth, breech presentation and the most dreaded cause of the time: syphilis. This section will underline the national

concern and literature on those conditions but will also underline the case of Glasgow in connection with those conditions and stillbirths.

Finally, this chapter will argue that the rising Scottish medical attention towards stillbirth and its prevention pushed the Scottish medical community to demand the passing of a law to register stillbirths, Registration of Still-birth (Scotland) Act, 1938, to help them monitor and increase their knowledge of stillbirth to further its prevention.

1) Awareness towards the unborn child, 1901-1914

On 6 April 1901, Dr John William Ballantyne, lead researcher in antenatal pathology and hygiene and practising obstetrician in Edinburgh, wrote to the *British Medical Journal* (*BMJ*) ‘a plea for a pro-maternity hospital’.¹ He explained the reason for his plea as follows

I think it must be admitted that we are not making all possible haste towards the solution of the many problems of prenatal diagnosis and treatment, and I think that there is a means of investigation which has not yet been tried, at least not yet attempted on a large scale and in a systematised fashion.²

Because of the course of the Boer Wars, the belief that something had to be done in regards to the health of the next generations became a recurrent theme, and Ballantyne’s plea for the foundation of antenatal maternity hospitals was at the heart of this growing feeling.³ As Smith and Nicolson underline, those worries concerned mostly the ‘urban working class’ as they represented the group of the population with the highest infant mortality rate and the highest morbidity rate, and thus were seen by the Government and medical community to be at the centre of “Racial Degeneration”.⁴ Maternity hospitals, being voluntary hospitals were mainly for the working-class population who could not afford medical private practices but did not have their place in Poor Houses, and that was why antenatal provision in maternity hospitals was believed by Ballantyne to be essential to help the working-class female and infant health. According to him, pro-maternity hospitals would ‘be for the

¹ J. Ballantyne, ‘A plea for a pro-maternity hospital’, *BMJ*, 1 (1901), 813-14.

² *Ibid.*, 813.

³ Vanessa Heggie, ‘Lies, Damn Lies, and Manchester’s Recruiting Statistics: Degeneration as an “Urban Legend” in Victorian and Edwardian Britain’, *Journal of the History of Medicine and Allied Sciences*, 63 (2008), 188.

⁴ David Smith, Malcolm Nicolson, ‘The “Glasgow School” of Paton, Findlay and Cathcart: Conservative Thought in Chemical Physiology, Nutrition and Public Health’, *Social Studies of Science*, 19 (1989), 215-16.

reception of women who are pregnant but who are not yet in labour'.⁵ It would welcome women who had complications in previous pregnancies, as well as women who in the present pregnancy had been diagnosed with complications, but also working women with a normal pregnancy to be able to rest during their last month. Ballantyne included this last group of women as he believed they would give 'birth to larger and more healthy infants' if they were able to rest, and thus help decrease infant mortality rate and build a stronger and healthier nation.⁶ A woman wrote to the Women's Co-operative Guild in 1915: 'The child is the asset of the nation, and the mother the backbone. Therefore, I think the nation should help to feed and keep that mother, and so help to strengthen the nation by her giving birth to strong boys and girls'.⁷ Her words went in the same direction of Ballantyne's idea to welcome working women in antenatal departments in their last months of pregnancy. Ballantyne, nevertheless, did not explain or think of the question of who would care for those women's existing children, which proved to be problematic, and thus this category of women did not use the facilities available to them. According to Ballantyne, the pro-maternity hospital should be connected to the maternity hospital, this way when the onset of labour began, the patient should have been transferred to the main hospital for delivery.⁸

Ballantyne believed the wards would have two benefits. Firstly, they would enable the mothers to seek medical advice and help before childbirth on 'diet, exercise, clothing and mental and sexual hygiene'.⁹ Secondly, a pro-maternity ward would enable the medical profession to acquire an enhanced knowledge of pregnancy and the pregnant woman's body before childbirth 'by experimenting with therapeutic and dietary regiments, and routinely examining stillbirths by post mortem'.¹⁰ Three months after the publication of his plea, beds were specifically arranged for antenatal hygiene in the Edinburgh Royal Maternity Hospital (ERMH). That part of the maternity hospital was named the Hamilton Ward 'in honour of the University's first professor of midwifery, James Hamilton'.¹¹ The pre-maternity ward in

⁵ Ballantyne, 'A plea for a pro-maternity hospital', 813.

⁶ Ibid., 814.

⁷ Margaret Llewelyn Davies, *Women's Co-operative Guild, Maternity: letters from working-women* (London: G. Bell, 1915), 154.

⁸ Ballantyne, 'A plea for a pro-maternity hospital', 813.

⁹ Salim Al-Gailani, 'Pregnancy, pathology and public morals: making antenatal care in early twentieth-century Edinburgh', in *Western Maternity and Medicine, 1880-1990*, eds. Greenlees and Bryder (London: Pickering and Chatto, 2013), 7.

¹⁰ Ibid.

¹¹ Ann Oakley, *The Captured Womb, A History of the Medical Care of Pregnant Women* (Oxford: Blackwell, 1984), 49.

the ERMH became a separated Antenatal Department in 1919.¹² As Clare Hanson states, ‘The relationship between mother and child for Ballantyne is primarily a physiological one, seen in terms of exchanges between, for example, the maternal blood and the child’s tissues’.¹³ Ballantyne underlined the importance of researching and understanding fetal pathologies, thanks to the post-mortem examination of stillborn babies, in order to give the best chance to the woman’s subsequent pregnancy and prevent any fetal death in similar cases. In 1902, he published a new manual entitled *A Manual of Antenatal Pathology and Hygiene of the Foetus*, followed in 1904 by *A Manual of Antenatal Pathology and Hygiene of the Embryo*, which were meant for other obstetricians to understand the complexity of fetal life and to be able to diagnose some of the pathologies in their own practices.¹⁴

Ballantyne was not the only obstetrician to express the importance of antenatal supervision and care in the 1900s, indeed Dr Arthur Helme, obstetrician in Manchester, highlighted in 1907 that

From the economic standpoint, the value of the life of the child *in utero* is enhanced by the present fall in the birth-rate; since fewer children are being born, it follows that the life of the child *in utero* becomes of higher value, and that it is becoming of greater importance that life shall be preserved, and that it shall come to fruit.¹⁵

Regarding Glasgow and its Maternity Hospital, nicknamed Rottenrow, Dr (later Prof) John Martin Munro Kerr was the main supporter for the foundation of a Dispensary for Pregnant Women, and for Nursing Mothers and New-born Infants. He put together proposals for its establishment in May 1914. Surprisingly, when Munro Kerr highlighted the importance of antenatal supervision, he referred to works undertaken in London, ‘but [he] made no reference ... to ... Ballantyne’s work in Edinburgh’, which seems quite bizarre but could be because of rivalry between the two Scottish cities.¹⁶ Glasgow Royal Maternity Hospital (GRMH) committee agreed with Munro Kerr, and funded this new dispensary. The Dispensary for Pregnant Women, and for Nursing Mothers and New-born Infants opened

¹² Alison Nuttall, ‘Maternity Charities, the Edinburgh Maternity Scheme and the Medicalization of Childbirth, 1900-1925’, *Social History of Medicine*, 24 (2011), 381.

¹³ Clare Hanson, *A Cultural History of Pregnancy: Pregnancy, Medicine and Culture, 1750-2000* (Houndmills, Basingstoke, New York: Palgrave Macmillan, 2004), 95.

¹⁴ J. Ballantyne, *A Manual of Antenatal Pathology and Hygiene of the Foetus* (Edinburgh: William Green and Sons, 1902); J. Ballantyne, *A Manual of Antenatal Pathology and Hygiene of the Embryo* (Edinburgh: William Green and Sons, 1904).

¹⁵ Arthur Helme, ‘The Unborn child: its care and its rights’, *BMJ*, 2 (1907), 422.

¹⁶ Derek Dow, *The Rottenrow, The History of the Glasgow Royal Maternity Hospital 1834-1984* (Lancaster: The Parthenon Press, 1984), 88.

its doors for the first time on 1 June 1915, and from 11 August 1915 six beds were allocated within the Obstetric ward for women requiring special antenatal supervision. Dow, former archivist of the NHS Greater Glasgow and Clyde Archive (NHSGGCA), notes that ‘Although Munro Kerr had been the spokesman for ante-natal work, the 1915 Annual Report gave equal credit to the enthusiasm of Robert Jardine’, who was a renowned and leading obstetrician, practising in that maternity hospital.¹⁷

As the medical community and society in general grew more worried about the fate of the unborn child due to the fear of ‘degeneracy of the race’, many demanded that registration of stillbirths become mandatory as any other births, as it was already done in some European countries, as explained by Woods.¹⁸ In Britain, stillbirth registration was not included in the first Births and Deaths Registration Acts passed in the nineteenth century ‘because the stillborn child was not considered to have a legal existence’, thus was not to be included in the national statistics nor be covered by laws.¹⁹ That was why the burials of stillborn babies did not require any funeral services, which made them ‘cheap and expeditious’.²⁰ Woods, nevertheless, highlights that in England and Wales

Under the provision of the New Registration Act [1874] no still-born child ... should be buried without a *certificate*, stating that they were still-born, signed either by the registered medical practitioner who was in attendance at the birth, or by one who had examined the body. In the absence of a registered medical practitioner a declaration has to be made by the midwife or some other person qualified to give such information, stating that the child was not born alive.²¹

Notification of stillbirths was reinforced in England and Wales thanks to the Notification of Births Act of 1907. It defined stillbirth as a child born dead after twenty-eight weeks gestation.²² Despite an official stillbirth certificate being mandatory in England and Wales, many undertakers still buried stillborn babies even without one. Indeed in an article published in 1911 entitled ‘Manchester: the law and stillbirth’, the author stressed that

Nearly 20,000 so-called stillborn children are yearly buried in this country, and of these several thousands at least are interred without medical certificate. A written statement, even by the mother

¹⁷ Ibid., 89.

¹⁸ Robert Woods, *Death before birth: fetal health and mortality in historical perspective* (Oxford: Oxford University Press, 2009), 56-78.

¹⁹ Gayle Davis, ‘Stillbirth registration and perceptions of infant death, 1900-60: the Scottish case in national context’, *Economic History Review*, 62 (2009), 630.

²⁰ [Anon], ‘The registration of stillbirth’, *BMJ* (1901), 169.

²¹ Woods, *Death before birth*, 69.

²² J. Ballantyne, ‘EOS’, *Lancet*, 183 (1914), 896.

herself, that the child was not born alive is all that is necessary to authorise the undertaker to carry out the burial.²³

This shows that despite the necessity of a certificate, which did not even have to be provided by a medical practitioner, some alleged stillborn babies continued to be buried without the written proof they were born dead.

Such certificates, on the other hand, were not mandatory or required in certain Scottish burial grounds, and some stillborn babies had even been buried outside of burial grounds. Gayle Davis underlines that ‘It was ... possible for a cemetery authority to lay down, as one of the conditions governing burials in their cemetery, that the body of the stillborn child would not be buried there unless a certificate by a doctor or certified midwife was furnished to the superintendent’.²⁴ If burial was carried out outside a burial ground or cemetery, ‘There is no restrictions on such disposals of the remains of stillborn children’.²⁵ On the other hand, since the Cremation Act of 1902, it was stated that any cremation of “human remains” had to take place in a registered crematorium, and ‘The expression “human remains” ... includes stillbirths, and such remains therefore cannot lawfully be disposed of by cremation except at places and in the manner indicated [by the Act]’.²⁶ Cremation was definitive whereas an interred body could always be exhumed and that was why, laws regarding cremation had to be firmer on the actual condition of the child at birth as it could not have been verified after being cremated.

Both in England and Wales and in Scotland, in the nineteenth and early twentieth centuries, parents with little means who had babies, who died within 24 hours of birth, passed them for stillborn babies. Medical practitioners, in the turn of the century, were in favour of stillbirth registration to prevent such practices. In 1908, physicians emphasised that ‘The ease with which the body of a child alleged to be stillborn can be got rid of is a disgrace to our Statute Book, and great advantages would undoubtedly follow from an amendment of the law to provide for the registration of stillbirths’.²⁷ In those cases where new-borns, dead in the early neonatal period, but who had been buried as stillborn babies,

²³ [Anon], ‘Manchester: the law and stillbirth’, *Lancet*, 177 (1911), 1674.

²⁴ Davis, ‘Stillbirth registration and perceptions of infant death’, 633.

²⁵ [Anon], ‘The BMJ: The disposal of the bodies of stillborn children’, *BMJ*, 2, (1927), 183.

²⁶ *Ibid.*, 183-84.

²⁷ [Anon], ‘The BMJ: Stillbirth’, *BMJ*, 2 (1908), 763.

parents or the person who lied on the baby's state at birth to the undertaker could have been charged for giving false information to the Registrar but could also be put under investigation for murder or manslaughter of their child. That was why medical practitioners supported registration for any birth, still or alive. A Bill in favour of stillbirth registration was introduced on 20 July 1908 to the House of Commons, but such a bill was not passed for nearly another two decades.²⁸ Dr Ballantyne and Dr Amand Routh, obstetrician in the Charing Cross Hospital and the Samaritan Hospital for Woman, London, supported such a bill and reckoned that 'A Stillbirth Registration Act would give statistics and rouse effort to the greater care of the ante-natal child and to prevent congenital diseases', meaning such an Act would help the medical community to monitor and increase their knowledge on stillbirth in order to prevent such births.²⁹

One of the issues surrounding legislation on stillbirth was the lack of a definite definition of the term. As stillbirth had not been a concern neither for the medical community nor the policy makers in the nineteenth century, its definition could remain vague, but with the special attention towards stillbirth in the early twentieth century, a definition became a necessity. Ballantyne differentiated "dead-birth" from "still-birth". He defined "dead-birth" as 'the complete expulsion from the maternal birth canals of a child which, during or before birth, has lost the characters of ante-natal life (heart-beat, arterial pulsation, and movement)'.³⁰ On the other hand a "still-birth" was 'the complete expulsion from the maternal birth canals of a child which, whilst continuing to exhibit one or more of the signs of ante-natal life ... fails for a time to assume that of post-natal life (pulmonary respiration), and then ... loses even the character of ante-natal life'.³¹ This distinction was clinically important, indeed, a stillborn baby did not breathe at birth, but could have a heartbeat, which meant there was still a chance to resuscitate the infant.³² On the other hand a dead-born baby had no chance to be resuscitated. Resuscitation in the early twentieth century used to be called resuscitation of the (apparent) stillborn baby, but with the development in resuscitating skills and devices, it came to be known as resuscitation of the

²⁸ Ibid.

²⁹ Ballantyne, 'EOS', 897; Amand Routh, 'Medical Societies, Royal Society of Medicine, Section of Obstetrics and Gynaecology', *Lancet*, 183 (1914), 1183.

³⁰ [Anon], 'EOS', *Lancet*, 183 (1914), 1540; Woods, *Death before birth*, 24.

³¹ [Anon], 'EOS', *Lancet*, 183 (1914), 1540; Woods, *Death before birth*, 24.

³² Champneys, 'Discussion on resuscitation of the stillborn', *BMJ*, 2 (1911), p. 980.

newborn, which linked it more to themes around neonatal deaths than stillbirths. That is why it is not further developed in this thesis.

Regarding viability, Ballantyne insisted that a stillbirth should be from the 24th week of pregnancy instead of the 28th as ‘every improvement in the construction of the *couveuse* [i.e. incubator] and every advance in the feeding of the premature infant might alter the age of viability and make it earlier’.³³ He underlined, however, that he was ready to accept the definition of viability at 28 weeks ‘for the sake of uniformity’.³⁴ This choice around viable gestation age between 24 and 28 weeks in the definition of stillbirth would only become a subject of debate within the medical community from the late twentieth century, as Chapter 7 will demonstrate. During the discussion following Ballantyne’s presentation at the Edinburgh Obstetrical Society (EOS) meeting of March 1914, Dr A. K. Chalmers, Medical Officer of Health (MOH) for Glasgow, stated that ‘There was a danger of confusion in accepting Dr Ballantyne’s definition of stillbirths seeing that that term had such a deep-rooted association with a dead-born child. Personally he would risk the confusion and raise the standard of the practitioner’s knowledge.’³⁵ When the first Act requiring the registration of stillbirths passed in England and Wales in 1926 and in Scotland in 1938, however, Ballantyne’s definitions were not adopted, and “stillbirth” remained the synonym of “deadbirth”, and this would remain true throughout the period studied in this thesis.

While registration of stillbirth was not adopted in the early twentieth century, there was still a possibility to estimate the number of stillbirths in each city. Indeed, in Scotland, in 1907, a new Notification of Births Act was adopted and put into force in 1908. This new Notification of Births Act included the mandatory notification of the births of babies, born either alive or dead. Notification and registration are two different procedures, differing in their aims. While registration was under the Registrar-General’s responsibility and was done for legal reasons on the national level, notification was done for medical and social reasons and thus under the MOH’s responsibility at the city level. Notification was not a perfect measure as duplicates could be made by mistake, or some stillbirths went unnotified, and women who were not living in the city but who gave birth in that said city had to notify the birth of their babies there increasing the number of births for the population of that city.

³³ Ballantyne, ‘EOS’, 897.

³⁴ Ibid.

³⁵ [Anon], ‘EOS’, 1540.

This needs to be remembered when providing data for the city, as it would have given only an imperfect image. It provided, nevertheless, the Medical Officers of Health, if they wanted to know about stillbirths, with an estimation of the percentage of stillbirths compared to the live births in their city, if not the perfect image they wished for. Indeed, from the annual report of 1909 onwards, the MOH in Glasgow emphasised that

While there is every reason to believe that medical men are notifying the still-births occurring under their care, many midwives are still in ignorance of the fact that such births should be notified. Until registration of still-births is obtained, and some restriction is placed upon internment certification, we shall probably always lose a proportion of the actual numbers occurring.³⁶

The fact that midwives might not have known they needed to notify stillbirths can be explained by the fact they were not regulated and surely not always immediately informed of changes in the law regarding notification and other legal aspects around childbearing and childbirth. Regulation of Scottish midwives did not occur before mid-1910s, as shown in the next part of this chapter. We can also see that the lack of burial certification in Scotland would limit the accuracy of the number of stillbirths per year.

In Glasgow, in the annual report from 1908 onwards, the MOH provided some data on stillbirth (Table 1.1). This table shows us that in the years after the Notification of Births Act, 1907 came into force ever more stillbirths were being notified. I do not believe there had been such a rise in the number of stillbirths in Glasgow from 1908 to 1914, but believe that it was the number of stillbirths notified which increased as more medical practitioners and midwives knew this had to be done. Indeed, except for the first year of notification of stillbirths, the percentage of stillbirths out of the total notified births in Glasgow remained stable during the period at around 4 per cent.

³⁶ Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow, 1910*, D-HE/1/1/18, 17.

Glasgow	Number of stillbirths	Percentage of stillbirths out of the total notified births
1908	568	2.8
1909	877	3.7
1910	878	3.8
1911	902	4
1912	899	3.9
1913	1,266	4.2
1914	1,336	4.3

Table 1.1: City of Glasgow, Notified Stillbirths, 1908-14.³⁷

This table, therefore, gives us an estimation of the stillbirth rate in Glasgow in the years preceding the First World War of 40 stillbirths for each 1,000 total births (live and stillbirths), which was considered a high rate. With the war starting, its mass casualties on the battlefield and the continuing decline of the birth rate, Glasgow being more or less representative of other industrial areas in Britain, it illustrates why the Government during and after the war, encouraged by first wave feminism, wished that the stillbirth, the neonatal mortality and the infant mortality rates had to be reduced to avoid further the degeneracy of the race, and they acted upon it in order to help maximise the chance of the birth of healthy babies, as will be underlined in the next part.

II) The acceleration of improved care in regards to the unborn child, 1915-1938

A woman wrote to the Women's Co-operative Guild in 1915: 'There is nothing that is done can ever be too much if we are to have going a race in the future worthy of England, but it will not be until the nation wakes up to the needs of the mothers of that future race'.³⁸ This quotation highlights that even some in the lay population, influenced by first wave feminism, feared for the future generation's health. This part of my chapter regards the legislation as well as new medical welfare offered in the prevention of stillbirth and other mortalities related to childbirth.

³⁷ Table from data in Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow, 1908-19*, D-HE/1/1/16-23.

³⁸ Davies, *Maternity: letters from working-women*, 90.

According to Dr Shannon, an obstetrician practising in Glasgow, a large number of preventable stillbirths ‘was largely due to the existence of untrained midwives’ who did not know when to refer cases to the hospital and infected women arrived too late to the hospital where nothing could be done to save the fetus.³⁹ This goes against what we now know and was already believed by some obstetricians at the time that the blame was placed on GPs who received an inadequate obstetric training. Shannon’s belief nevertheless illustrates the willingness of obstetricians to become the uncontested specialists around childbirth at a time when most deliveries were attended by midwives. In 1914, when his article was published, Scottish midwives were still unregulated, and most of them learnt their skills by apprenticeship instead of being trained in hospitals by obstetricians. On the other hand, their English and Welsh counterparts had been regulated since 1902 because of the Midwives Act. This Act established the Central Midwives’ Board (CMB (E&W)), under which each English or Welsh midwife had to register to be allowed to practice and which regulated midwifery through rules and a mandatory set training.⁴⁰ In Scotland, the equivalent law was not passed until 1915, therefore up to this date no required training was imposed to practice midwifery.

The Midwives Act of 1902 did not apply to Scotland for several reasons, as Lindsay Reid underlined in her PhD thesis ‘Scottish midwives, 1916-1983’. Using Scottish Member of Parliament Eugene Wason’s words as follows

[He] explained to the House [of Commons] that “a joint Bill would have been difficult because of differences in the legal systems”. In addition, Wason suggested a second reason why legislation for Scotland was not necessary: the situation at the time in Scotland was satisfactory as “these things are managed better in Scotland”.⁴¹

In the early twentieth century, however, Scottish Medical Officers of Health began to campaign for a similar Act for Scotland as they insisted that midwifery was *not* managed better in Scotland. They emphasised the need for such an Act to reduce both the maternal and infant mortality rates which were quite high, especially in Glasgow. Reid highlights the important work of especially two Medical Officers of Health in Scotland: Dr Chalmers for

³⁹ David Shannon, ‘BMA: Eighty-second annual meeting at Aberdeen: The cases of contracted pelvis admitted to Prof Kerr’s Clinic in the Glasgow Maternity Hospital between the years 1909 and 1913’, *Lancet*, 184 (1914), 504.

⁴⁰ Lindsay Reid, ‘Scottish midwives, 1916-1983: the Central Midwives Board for Scotland and practising midwives’, (Unpublished PhD thesis, University of Glasgow, 2002), 29.

⁴¹ *Ibid.*, 32.

Glasgow and Dr Campbell Munro for Renfrewshire. With the help of fellow Medical Officers of Health, they ‘formed the basis of the first Scottish Midwives Bill’.⁴² Chalmers, until the Scottish Midwives Act passed in 1915, campaigned for such an Act with the argument that it was a necessity to help reduce puerperal fever ‘too common in the practice of the untrained midwives who conducted more than half the annual births in Glasgow’.⁴³ Reid emphasises that Chalmers did not put the entire fault for puerperal fever on the midwives’ skills, but he argued that the mothers who booked those untrained midwives were the poorest and with the harshest living conditions and thus they did not have an immune system strong enough to fight puerperal fevers.⁴⁴ That was why those women needed even more than wealthier women to be delivered under the care of qualified midwives, trained in hospitals under the care of skilled midwives and obstetricians, in order to give them and their fetus the best chance of a healthy life.

In the 1910s, it seemed that unanimous consent for the establishment of a Scottish Midwives Act allowed for the introduction of the Midwives (Scotland) Bills in the House of Commons on 23 April 1912. Reid argues that ‘the Act might have passed sooner but for the outbreak of war’.⁴⁵ The Midwives (Scotland) Act was finally passed in December 1915 and put into force on 1 January 1916. Reid emphasises, however, that ‘the [later] speedy enactment of the Bill was due primarily to the shortage of doctors in Scotland because of the war and not because of the need to recognise the importance of the profession of midwifery and its place in the health care of the people of Scotland’.⁴⁶ Supposedly, after the Act came into force, all women who referred to themselves as midwives had to register under the newly founded Scottish Central Midwives Board (CMB (S)) within five years. Storrier notes that it took more than five years, and that in the 1950s there were still some untrained midwives, nicknamed howdies or handiwomen, practising their skills in Scotland, but that was true for everywhere in Britain.⁴⁷ This could be explained because women asking for qualified midwives to deliver them had to pay the midwives a fee. For some really poor women or women living in most secluded areas, this could not always be

⁴² Reid, ‘Scottish midwives, 1916-1983’, 33-34; Lindsay Reid, *Scottish Midwives, Twentieth-Century Voices* (East Linton: Tuckwell Press, 2000), 3.

⁴³ Sir Alexander Macgregor, *Public Health in Glasgow, 1905-1946* (Edinburgh & London: E & S Livingstone Ltd, 1967), 110.

⁴⁴ Reid, ‘Scottish midwives, 1916-1983’, 35.

⁴⁵ *Ibid.*, 39.

⁴⁶ *Ibid.*, 42.

⁴⁷ Susan Storrier, *Scotland’s Domestic Life* (Edinburgh: John Donald *et al*, 2006), 442.

achieved and therefore those women hired howdies for their deliveries. Howdies were obviously always cheaper than qualified midwives, and moreover they would have stayed longer in the women's home as well as taken care of the housework unlike the qualified midwives, which could have been particularly attractive to some women who already had many children.⁴⁸

To return to the newly established CMB (S), its duties 'included the regulation of the issue of certificates, conditions of admission to the Roll of midwives, the course of training in midwifery and conduct of examinations and remuneration of examiners'.⁴⁹ In the mid-1920s, the CMB (S) changed the midwives training which used to be six months for all women who wanted to become midwives, to six months for women who already were General Nurses but to 12 months for women with no general nursing certificates.⁵⁰ This increase was to provide a better training for midwives and therefore to improve the care provided to the mothers during childbearing and childbirth.

One of the established rules for midwives was that a midwife had to call for a medical practitioner, either a general practitioner or an obstetrician within her maternity hospital, if she believed labour was abnormal or a complication arose. A midwife, Olive Haydon, highlighted that a midwife's experience was important as a doctor was called according to her skills to recognise a complicated labour. She explained that 'The inexperienced midwife sends more often for help in delayed labour'.⁵¹ On the other hand, a skilled qualified midwife might be hesitant in calling a doctor as the fee to be paid by the woman might go entirely to the doctor and not to the midwife, as the woman might not be able to afford to pay both fees. In England and Wales, this rivalry was put to an end with the Midwives Act, 1918 which 'required local authorities to pay "medical aid" fees to doctors called in by a midwife, which helped to remove the mutual hostility between midwives and general practitioners'.⁵² This Act then allowed for midwives to be more prompt in calling a doctor

⁴⁸ Reid, *Scottish Midwives*, 5

⁴⁹ Reid, 'Scottish midwives, 1916-1983', 43.

⁵⁰ Dow, *The Rottenrow*, 152-53.

⁵¹ Olive Haydon, 'Abnormalities and complications in pregnancy and labour: a midwife's point of view', *Lancet*, Extra Numbers (1924), 137.

⁵² Irvine Loudon, *Death in Childbirth: An International Study of Maternal Care and Maternal Mortality 1800-1950* (Oxford: Clarendon, 1992), 209.

if necessary as they knew both would be paid their fees. Unfortunately, this was not applied in Scotland.

The First World War played as an incentive towards existing health schemes as so many men died in combat and eugenics fears of the depopulation of the race increased.⁵³ Indeed, Routh stressed in an article published in 1916 that

the life of the infant and the unborn babe ... was of small account with a high birth-rate and a prolonged peace. Now, with small birth-rate, and when mothers are mourning the loss of “only sons”, ... the life of the child is of enormous importance, and steps to ensure maternal and infant welfare being initiated at conception instead of being delayed till child-birth, to the great advantage of both the mother and the child.⁵⁴

Routh emphasised in December 1916 that ‘As a result of increased interest in the unborn child, a large number of ante-natal clinics and maternity centres have been instituted with the primary object of trying to save the child’.⁵⁵ Indeed, during the First World War, many local authorities opened antenatal clinics outside maternity hospitals.

In Scotland, this was made possible with the Notification of Births (Extension) Act of 1915 which provided local authorities with intensive powers to ‘make such arrangements as it thinks fit and as may be sanctioned by the Local Government Board for Scotland for attending to the health of expectant and nursing mothers’.⁵⁶ The Act also provided an increased budget to the local authorities in order for them to finance such arrangements. The Notification of Births (Extension) Act, 1915 was passed for the following reason

The heavy casualties of the war and the employment of large numbers of women in industrial occupations led to increased attention being paid to the conditions on which the welfare of mothers and infants depend. Much work that hitherto had been undertaken voluntarily by many

⁵³ Helen Jones, *Health and Society in twentieth-century Britain* (London, New York: Longman, 1994), 41; Loudon, *Death in Childbirth*, 90, 207; Anne Digby, ‘Poverty, Health and the Politics of Gender in Britain, 1870-1948’, in *Gender, Health and Welfare*, eds Digby and Stewart (London: Routledge, 1996), 81; Miriam Cohen, Micheal Hanagen, ‘The Politics of Gender and the Making of the Welfare State, 1900-1940: A Comparative perspective’, *Journal of Social History*, 24 (1991), 474.

⁵⁴ Amand Routh, ‘The importance of getting a pregnant woman under medical supervision’, *Lancet*, 188 (1916), 1056.

⁵⁵ Ibid.

⁵⁶ Macgregor, *Public Health in Glasgow, 1905-1946*, 113; Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow, 1914-1919*, D-HE/1/1/23, 10.

Local Authorities became obligatory by the passing of the Notification of Births (Extension) Act, 1915.⁵⁷

In Glasgow, provisions for antenatal and postnatal clinics provided by Glasgow Corporation began from the passing of this new law, nevertheless, due to lack of suitable premises, Glasgow Corporation only opened its first local authority antenatal clinic a decade later. Antenatal care during the war was then provided exclusively by the antenatal dispensary at the GRMH, as well as provided by GPs.⁵⁸

At the end of the First World War, as a gesture of its willingness to take part in the nation's health issue and prevention of its degeneracy, as well as under the pressure of the Suffragettes' concern over maternal and infant health, the Government passed the Maternity and Child Welfare Act in 1918, and the Ministry of Health was created in 1919.⁵⁹ With the Maternity and Child Welfare Act and after the creation of the Ministry of Health, the latter 'took over the numerous activities of the Local Government Board', and what used to be regional initiatives became standardised at a national level.⁶⁰ 'The Maternity and Child Welfare Act intended to increase access to antenatal care and thereby ensure that predictable problems were not first met during delivery' but through medical supervision in the antenatal period.⁶¹ In order to increase access to antenatal care, the local authorities then were required 'to provide free antenatal clinics'.⁶² Antenatal supervision was now offered by each local authority, free of charge for women for the first time in history.

This, however, was influenced by the economic context and what the Government deemed feasible financially as well as whether one region was prosperous or not. Indeed, as Sir Alexander Macgregor, MOH in Glasgow in the interwar period, pointed out, 'we ... entered upon a period of expansion but its pace was subject to national financial control during the interwar years of depression and to the Treasury policy of "stop and go" as regards projects involving capital expenditure'.⁶³ Moreover, the Government passed those

⁵⁷ Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow, 1914-1919*, D-HE/1/1/23, 10.

⁵⁸ Macgregor, *Public Health in Glasgow, 1905-1946*, 115-16, 120.

⁵⁹ Smith, Nicolson, 'The "Glasgow School"', 216.

⁶⁰ Loudon, *Death in Childbirth*, 207.

⁶¹ Nuttall, 'Maternity Charities, the Edinburgh Maternity Scheme and the Medicalization of Childbirth', 385; Oakley, *Captured Womb*, 56.

⁶² Loudon, *Death in Childbirth*, 209.

⁶³ Macgregor, *Public Health in Glasgow*, 114-15.

Acts for social reasons (to help make the nation healthier and prevent racial degeneration as previously underlined) but also for economic purposes as Sir Eardley Lancelot Holland emphasised in 1919: 'Antenatal work has for its aim the great economic principle of the prevention of waste'.⁶⁴ Indeed, when a fetus died in utero but close to term or during labour, 'At the best there is a waste of time, a waste of energy, a waste of health, and a waste of money and material, distributed amongst mother and family, the doctor, the midwife and nurse, the National Health Insurance [NHI] sickness and maternity benefits.'⁶⁵ This shows that those Acts were not only passed on a pure philanthropic basis but also a way to prevent economic and financial waste that maternal and fetal death created and thus needed to be prevented, especially in a context of decreasing birth-rate.

Despite some financial difficulties from time to time during the interwar period, antenatal care increased and flourished throughout Great Britain. Theodore Haultain, obstetrician in Edinburgh, wrote in 1926 that

Assuredly this is the greatest importance, not only personally for the patient and her child but also socially for the country, which is being faced at present with a declining birth-rate, and thus everything possible should be done to aid the pregnant woman and her unborn child. This has not only been recognised by the medical profession but also by the general public, who are becoming educated in regard to the great importance of ante-natal care. This is well shown by the ever-increasing attendances – all of their free will – of expectant mothers at the ante-natal clinics throughout the country.⁶⁶

The fact that Haultain stressed that women came to antenatal clinics or departments from their own free will is to be underlined because in 1921, Browne, obstetrician then in Edinburgh, reckoned, as did many other obstetricians of his time, that each expectant woman should have notified her pregnancy. This notification could be on a voluntary basis or made compulsory if volunteering did not work, that way each woman would be sure to receive antenatal care during her pregnancy.⁶⁷ This was never done but we can see that notification of pregnancy was not a necessity to help increase the number of women attending antenatal clinics. Ever more women accepted the medical advice that it was worth their time to be checked medically for them and their fetus in the antenatal period to make sure they were both healthy and that vaginal delivery would be safe.

⁶⁴ Eardley Holland, 'The results to be expected from antenatal care', *Lancet*, 194 (1919), 53.

⁶⁵ *Ibid.*

⁶⁶ Theodore Haultain, 'Some practical aspect of antenatal care', *EMJ*, 33 (1926), 133.

⁶⁷ J. Browne, 'Still-birth: its causes, pathology and prevention' Part 3, *EMJ*, 27 (1921), 296.

After the 1918 Maternity and Child Welfare Act was passed, Glasgow, as any other British city, witnessed an increased attendance at antenatal clinics. Rottenrow, at the end of the war, had 25 beds reserved for antenatal patients who needed bed rest and/or daily check-ups, and it had a clinic where checks-up were carried out. From that point onwards until the late 1930s, antenatal care expanded (Table 1.2). Glasgow Corporation, furthermore, had opened eight antenatal clinics by 1925 which rose to 11 clinics in 1930, and employed some female doctors (additional to the Medical Officers of Health) and more health visitors (the Green Ladies) to staff those new clinics. Routine check-ups were provided in those clinics and ‘Those found by the medical officer to require special attention were referred to the [GRMH], an invaluable facility agreed between the Corporation and the Directors of the hospital’.⁶⁸ The rising number in primary cases (first attendance to an antenatal clinic) from 1930 to 1931 could be explained partly thanks to a new rule implemented by the CMB (S) in 1931, which specified that

where a midwife is retained for a confinement, it is her duty to secure ante-natal supervision for her client by a medical practitioner. As only about 40 per cent of expectant mothers engaged medical practitioners for their confinement the effect of the rule was to augment the numbers attending the ante-natal clinics.⁶⁹

Year	Primary Cases at Glasgow Corporation Antenatal Clinics	Total Attendances at Glasgow Corporation Antenatal Clinics (Primary and Subsequent)	GRMH Antenatal Clinic	
			Primary Cases	Total Attendances
1919			1,750	
1925	> 1,000		3,878	
1929	2992	13875	4742	10355
1930	3602	16968	5200	12201
1931	6504	25231	5947	15989
1932	7581	33009	5017	15286
1933	7823	34049	4502	15022
1934	8424	38257	5558	16600

Table 1.2: Attendances at Antenatal Clinics, City of Glasgow, 1919-34.⁷⁰

⁶⁸ Macgregor, *Public Health in Glasgow*, 114, 118-20.

⁶⁹ Ibid., 120.

⁷⁰ Table from data in Macgregor, *Public Health in Glasgow*, 120; Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow, 1934*, D-HE/1/1/35, 8.

The MOH of Glasgow in 1934, Macgregor, applauded this increase in antenatal clinic attendance; however, he stressed that ‘While these numbers are large, and represent more than half of the total births in the city, experience shows that a very considerable proportion of pregnant women do not take full advantage of the service offered’.⁷¹ Indeed, such Acts and services had not been accepted by everyone instantly, it was always a long and slow process, and furthermore, reluctance and opposition were always met, and this was true throughout Britain. Some women refused the idea of antenatal care, but also many women could not afford the time it would take them to receive antenatal care because of their work and home duties, especially if they had small children not yet of school age, or could not afford the bus fare to travel to such clinics. This is illustrated through Ann Lamb’s memory of her training in Edinburgh in 1927-28: ‘Sometimes you would be going down the street to see a woman and a head would pop out at the window. “Oh nurse come and help me.” You had never seen her before, you didn’t know her name, and up the stairs you went and delivered the baby.’⁷²

Finally, Eardley Holland stressed in July 1919 that ‘antenatal work depends on a high standard on intranatal work for the fulfilment of its aims. Antenatal work is the strategy, intranatal work is the tactics of preventive obstetrics.’⁷³ Indeed, good antenatal supervision had to be followed by good intranatal care to ensure the safety of both the woman and the fetus until it had assumed a postnatal life. Both antenatal and intranatal care worked hand in hand. In the interwar period and earlier, most deliveries occurred in women’s homes, and approximately 60 per cent of women were attended by midwives. As explained at the beginning of this chapter, women still sometimes booked howdies for their deliveries if they could not afford the fee to pay for a qualified midwife. The NHI sickness and maternity benefits mentioned earlier by Holland provided women whose husbands were covered by the NHI the money to cover the booking of a qualified midwife. It was felt by the medical community that it was really important to make sure women received the best intranatal care available when the birth-rate was low. The Great Depression in the 1930s proved to have repercussions in this matter because ‘the Government ... placed a limit on the length of time during which an unemployed insured person could remain eligible for

⁷¹ Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow, 1934*, D-HE/1/1/35, 8.

⁷² Reid, *Scottish Midwives*, 12.

⁷³ Holland, ‘The results to be expected from antenatal care’, 54.

insurance benefit'.⁷⁴ Around 10,000 men lost their NHI in 1933 meaning if they were married, women also lost their maternity benefit. If a family was unemployed, it was most unlikely that the woman could afford the fee for the qualified midwife. Macgregor, then, explained that in Glasgow in the 1930s, 'As practising midwives were reluctant to book cases in the absence of maternity benefit [and that many women visited the antenatal clinic before booking anyone for their delivery] the Corporation approved a scheme for the payment of midwives' fees in necessitous cases', and this scheme helped many Glaswegian women until the 1937 Maternity Services (Scotland) Act, which will be explained later in this chapter.

The person present at delivery, therefore, needed to be well trained in the field of midwifery to detect any rising complication undiagnosed during antenatal care and to be able to adjust to it or contact a hospital for the woman to receive the help she required. In the late 1920s, Munro Kerr blamed the general practitioners for high death rates in childbirth in home deliveries in Glasgow, because during their training they were unable to attend to enough deliveries to train adequately. He underlined that this issue was explained by the fact that medical students did not frequently accompany midwives on their home deliveries, and thus lacked experience on that kind of confinements, the ones dealt with as GPs.⁷⁵ We see here that qualified midwives were trusted by obstetricians compared to GPs who were the main competitors of obstetricians in the context of childbirth, and this distrust continued throughout the twentieth century as the following chapters will highlight. Obstetricians needed to stress their value and that they were the specialists regarding childbearing and childbirth within the medical profession. They were, therefore, the only ones who could reduce maternal, fetal and neonatal mortality rates within the medical profession.

In Glasgow, from 1915 until 1938, the MOH's annual report kept on reporting the number of stillbirths notified within the city. Figure 1.1 shows the proportion of stillbirths notified in Glasgow from 1915 to 1938 relative to the total notified births in the city. This Figure underlines the little change in the proportion of stillbirths compared to total births notified in the city. From the late 1920s onwards, however, the proportion was slightly

⁷⁴ Macgregor, *Public Health in Glasgow*, 121.

⁷⁵ Dow, *The Rottenrow*, 95-97.

higher than the proportion from 1915 to 1926.⁷⁶ This could be explained due to the Great Depression and thus harsher living conditions which could have influenced women's health and the health of their fetuses, nevertheless, another aspect could explain such a slight increase. In 1926 and again in 1930, the boundary of the city of Glasgow was extended by 4,179 hectares and then by 217 hectares, and even if most of the new neighbourhoods were meant to help clear some of the slums by offering more lands to the Glaswegian working-class population, the latter did increase slightly with the inhabitants who were living in the annexed neighbourhoods.⁷⁷ This increase of population and the consequences of the Great Depression both explain this small augmentation in the proportion of stillbirths to total births in Glasgow.

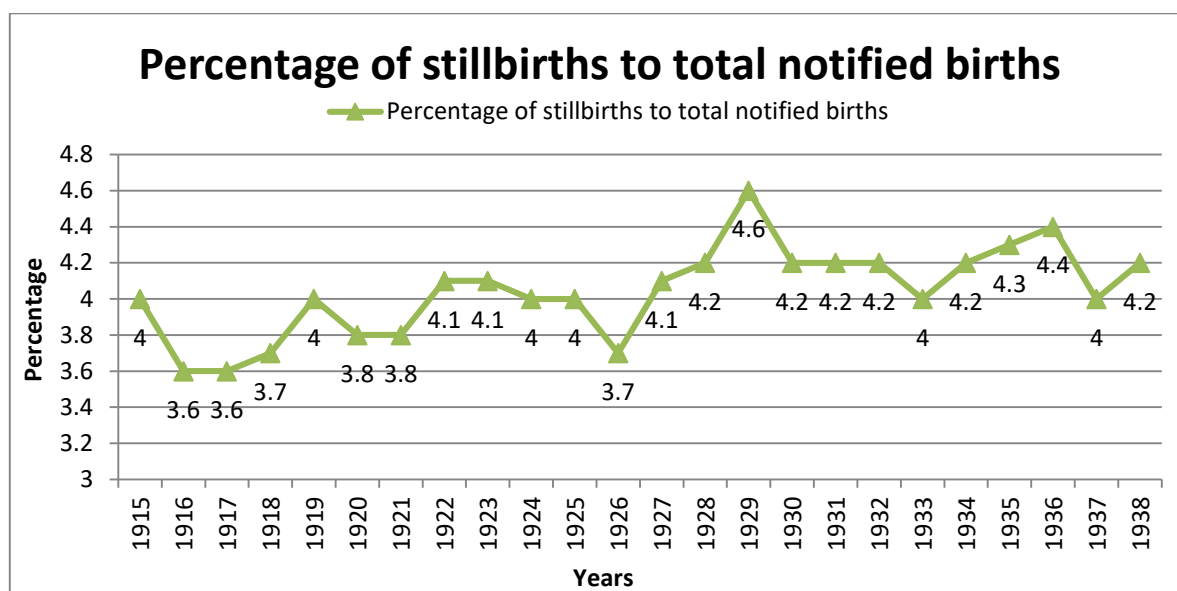


Figure 1.1: Percentage of notified stillbirths to total notified births (less duplicate), City of Glasgow, 1915-38.⁷⁸

Finally from 1917 to 1920, the MOH ordered an examination of the causes of stillbirths for the following reason: 'The examination of stillbirths was begun in February, 1917, with a view to ascertaining the causes of death, and especially to determining the part played by syphilis in contributing to the death of the foetus' (Table 1.3).⁷⁹ Some of those

⁷⁶ Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow, 1915-38*, D-HE/1/1/23-39.

⁷⁷ Irene Maver, 'Neighbourhoods, *The Glasgow Story*, < <http://www.theglasgowstory.com/story/?id=TGSEG>>, [Accessed 01 February 2017].

⁷⁸ Graph from data in Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1915-38*, D-HE/1/1/23-39.

⁷⁹ Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow, 1914-19*, D-HE/1/1/23, 35.

causes of deaths, such as syphilis, ill-health of mother, foot (which probably meant breech with extended legs) or asphyxia, could sometimes have been prevented if women had received antenatal supervision throughout their pregnancy and had been prescribed a hospital delivery. Some of these causes of stillbirth and their prevention from 1901 to 1938 will be the focus of the following part, looking particularly at the case of Glasgow, and more specifically the GRMH.

Syphilis	13
Meningeal Haemorrhage	49
Epicranial Haemorrhage	4
Foetal Deformity	24
Accidents of Birth	33
Delayed Labour	1
Precipitate Labour	3
Asphyxia	7
Injury to Head	13
Transverse Presentation	1
Cord	6
Foot	1
Hydramnios	1
No Obvious Cause of Death	132
Full Time	20
Premature	52
Injury to Mother	8
Ill-health of Mother	24
Advanced in Decomposition	28
Total	255

Table 1.3: Causes of death in 255 stillbirths examined, City of Glasgow, 1917-20.⁸⁰

III) Obstetric causes of stillbirths and prevention, 1901-38, with a particular focus on the case of Glasgow

In 1924, Dr Johnstone, practising in Edinburgh, underlined that ‘The older obstetricians were inclined to think that antenatal observation meant merely testing of the urine and the examination of the pelvis, but the more antenatal care was practised, the more

⁸⁰ Ibid., 36.

obvious it had become that there were many other conditions to be attended'.⁸¹ In the early twentieth century, therefore, in the few antenatal hospitals or dispensaries or when a medical professional was able to see a pregnant woman before labour began, the two main check-ups were to diagnose contracted pelvis and possible toxæmias of pregnancy through urine test. After the First World War and the development of antenatal care, other abnormalities and conditions could be diagnosed in the antenatal period, such as breech presentation. Finally, another condition will be explained in this part. This condition had been feared for a long time but witnessed an increased focus during and after the First World War: syphilis. Indeed, movement of men during the war increased resorting to prostitution and thus in part facilitated contamination of both soldiers and prostitutes, and then to the rest of the population and future offspring.

I will first look at how obstetricians diagnosed contracted pelvis. Throughout the nineteenth century and early twentieth century, in Britain, but even more frequently in Glasgow, the childhood disease of rickets was found in a large number of children of both sexes. This disease affected the bones, making them soft and preventing a normal growth of the bones.⁸² Rickets was due to a lack of vitamin D. As vitamin D is manufactured in the skin upon exposure to sunlight, the main issue was the lack of exposure to the sunlight.⁸³ Rickets was even more frequent in Glasgow than in certain other cities due to its geographical location, its principle occupation and the way it was built; indeed, the problem was that the space between tenements 'was often so narrow that sunlight did not reach parts of Glasgow at street level'.⁸⁴ Even after the 1866 City Improvement Act and the 1920s Slum Clearance Scheme, Glasgow remained an unhealthy place, especially concerning rickets. Indeed, as Glasgow was an industrial city, the main issue which failed to allow the sunlight to reach the ground was the 'emissions from industrial works and domestic fires, which cast a shadow over the street below'.⁸⁵

⁸¹ Abernethy Willet, 'BMA, Obstetrics and Gynaecology: Methods of antenatal clinics and their application to private service', *Lancet*, 204 (1924), 389.

⁸² Pamela Stone, 'A History of Western Medicine, Labor, and Birth', in *Childbirth across cultures: ideas and practices of pregnancy, childbirth and the postpartum*, eds. Selin and Stone (Amherst, Mass: Springer Verlag, 2009), 46.

⁸³ Stone, 'A History of Western Medicine, Labor, and Birth', 46; Mark William Skippen, 'Obstetric practice and cephalopelvic disproportion in Glasgow between 1840 and 1900', (Unpublished PhD thesis, University of Glasgow, 2009), 45, Smith, Nicolson, 'The "Glasgow School"', 204.

⁸⁴ Loudon, *Death in Childbirth*, 136; Skippen, 'Obstetric practice', 45.

⁸⁵ Skippen, 'Obstetric practice', 47.

In fact, the girls who grew with rickets then were more likely to also have a growth deficiency of their pelves. Therefore, there were so many women with contracted pelves, due originally to rickets, that the medical profession characterised the contracted pelvis as the standard British pelvis. Finally, women aggravated their problem of flattened pelves by wearing corsets since their teenage years, often too tight, and this behaviour was widespread in all the classes of the population.⁸⁶ The worse, nevertheless, was that women kept wearing their corset until late in their pregnancy. On the one hand, middle- and upper-class women wore it during their pregnancy to hide it as it was taboo since it was a direct consequence of sexual intercourse. On the other hand, working-class women wore it until late in pregnancy to avoid being fired because of their condition when they needed the extra wages.⁸⁷

In the GRMH, from 1909 to 1913, contracted pelves represented 27.5 per cent of total admissions, a high proportion of patients.⁸⁸ The risk was complications due to cephalopelvic disproportion, meaning the fetus' head would have been too big to pass through the woman's pelvic outlet. Cephalopelvic disproportion, if not diagnosed before labour, and sometimes even if diagnosed, was a high cause of fetal and maternal mortality. This explains why early in the century obstetricians emphasised the importance of examining women's pelves. Pelvimetry, which is the measurement of the dimensions and capacity of the pelvis, therefore, was a necessity in the prevention of stillbirth due to contracted pelves. Early in the century, obstetricians carried out pelvimetry using their hands and fingers.

The first important diagnosis was to see if a woman had a contracted pelvis or not. Dr Robert Jardine, obstetrician at the GRMH, highlighted in 1907 that to diagnose contracted pelves, an important measurement was the length of the diagonal conjugate.⁸⁹ According to the result, a pelvis was thought to be contracted or not. If the pelvis seemed to be contracted, the obstetrician had to estimate if the fetus' head would be able to pass through this pelvis. In January 1903, Dr Munro Kerr read a paper to the EOS on a 'New Method of Estimating

⁸⁶ Stone, 'A History of Western Medicine, Labor, and Birth', 46-47.

⁸⁷ *Ibid.*, 47.

⁸⁸ Shannon, 'The cases of contracted pelvis admitted to Prof Kerr's Clinic', 504.

⁸⁹ Robert Jardine, 'Infantile mortality and morbidity from the obstetric standpoint', *GMJ*, 68 (1907), 246.

the Relative Sizes of the Foetal Head and Maternal Pelvis.’ In this paper, he explained his own technique as follows

With the right hand he took a Pawlik grip of the foetal head and pressed it into the pelvic inlet. Two fingers of the left hand were passed into the vagina and these estimated the consistency and manner of engagement of the head in relation to the nature and extent of the pelvic deformity. Further information was also obtained by utilising the thumb, which was passed outside along the brim of the pelvis, and this estimated the degree of over-lapping. By this bimanual method, also, the head was moved from side to side at the brim and the engagement of the occiput or sinciput was tested. The amount of difficulty the head would encounter in passing the brim could thus be appreciated ... In carrying out this examination it was better to stand at the patient’s side, not in front, and it was an advantage to have the patient under an anaesthetic.⁹⁰

Munro Kerr’s technique had been the preferred method of choice throughout the first half of this century. Thanks to this method, Munro Kerr claimed that an obstetrician could diagnose in which of the three different degrees of cephalopelvic disproportion a patient was. I stress that Munro Kerr claimed such method allowed perfect diagnosis; however, the latter relied a lot on luck and experience of the obstetrician.

The first and most severe degree was when ‘the overlapping of the foetal head [with the pelvic brim] was very marked’, in which case the prescribed treatment was Caesarean section.⁹¹ Caesarean section was introduced by Murdoch Cameron from 1888 at Rottenrow as a surgical operation which could save both the child and the mother instead of a last-resort operation with high mortality rates, both maternal and fetal, as it was used in the nineteenth century. Caesarean section was then improved by Cameron’s successor and student Munro Kerr, in the early twentieth century; that was why ‘many doctors in the USA refer to Caesarean as Kerr’s operation’.⁹² Caesarean sections became, therefore, highly recommended as it was a relatively safe operation. The maternal and fetal mortality rates after a Caesarean section were low, especially in cases of contracted pelvis. The second degree of cephalopelvic disproportion was mild. In this group, many possible modes of treatment were available such as natural delivery under medical supervision, forceps delivery, induction of labour, and pubiotomy or symphysiotomy.⁹³ A pubiotomy was a small surgical rupture of the pubic bone of a few centimetres lateral to the symphysis,

⁹⁰ J.M. Munro Kerr, ‘EOS: A New Method of Estimating the Relative Sizes of the Foetal Head and Maternal Pelvis’, *Lancet*, 161(1903), 307; Pawlik grip is the third of the four grips from Leopold’s maneuvers (see Appendix 2: Christian Gerhard Leopold’s Maneuvers figures)

⁹¹ Shannon, ‘The cases of contracted pelvis admitted to Prof Kerr’s Clinic’, 504.

⁹² Dow, *The Rottenrow*, 69.

⁹³ Shannon, ‘The cases of contracted pelvis admitted to Prof Kerr’s Clinic’, 504.

whereas a symphysiotomy was a surgical division of the pubic symphysis.⁹⁴ Both operations increased the pelvic capacity and thus helped the fetus to pass through. Dr Shannon stressed that ‘Pubiotomy was preferred to symphysiotomy, but neither operation found much favour in the [GRMH] clinic’.⁹⁵ Induction of premature labour was done in the early twentieth century by the introduction of bougies around the thirty-sixth week gestation. Bougies consisted of the introduction between the membranes and uterine wall of two to three sterilised cylinders of celluloid or gun-elastic. The vagina was then packed to keep the bougies in place for 12 hours. Labour was to begin within 48 hours after introduction.⁹⁶ This method was not entirely reliable as sometimes labour did not start, which explained why it was disregarded, as emphasised in Chapter 2. Finally the third degree was a slight overlapping ‘and delivery was always spontaneous’, meaning it was always a vaginal delivery but could lead to a prolonged labour and hence required medical surveillance.⁹⁷

The main problem was that, before the First World War, as highlighted earlier, antenatal clinics or dispensaries were rare, and thus most women were seen for the first time at delivery when nothing could be done in cases of cephalopelvic disproportion. Many of those cases were brought as emergencies to maternity hospitals, the patients were exhausted and sometimes in shock as they had been in labour for hours or more than a day. In those cases, obstetricians had no choice but to perform a destructive operation called craniotomy to save the life of the mother.⁹⁸ Indeed, Dr Jardine highlighted that he ‘hate[s] doing such operation, but in cases in which I am convinced that the risk to the mother of any operation to save the child will be greater than the risk of the destructive operation, I never hesitate to do the latter’, a policy adopted by all obstetricians working at Rottenrow at that time.⁹⁹ In 1910, Dr Francis Champneys, Physician-Accoucheur at St. Bartholomew's Hospital and president of the CMB (E&W), agreed with Jardine and ‘emphasised the higher

⁹⁴ Pubiotomy, *Dictionary.com, The American Heritage® Stedman's Medical Dictionary* (Houghton Mifflin Company, 2002), <<http://dictionary.reference.com/browse/pubiotomy>>, [accessed 13 April 2015]; symphysiotomy, *Dictionary.com, The American Heritage® Stedman's Medical Dictionary* (Houghton Mifflin Company, 2002), <<http://dictionary.reference.com/browse/symphysiotomy>>, [accessed 13 April 2015].

⁹⁵ Shannon, ‘The cases of contracted pelvis admitted to Prof Kerr's Clinic’, 504.

⁹⁶ Thomas Watts Eden, ‘Indications for the induction of premature labour’, *Lancet*, Extra numbers (1924), 26; Hafiz Abdel Nabi, Nasreen Aflaifel, Andrew Weeks, ‘A hundred years of induction of labour methods’, *European Journal of Obstetrics & Gynaecology and Reproductive Biology*, 179 (2014), 238.

⁹⁷ Shannon, ‘The cases of contracted pelvis admitted to Prof Kerr's Clinic’, 504.

⁹⁸ Loudon, *Death in Childbirth*, 131.

⁹⁹ Jardine, ‘Infantile mortality and morbidity from the obstetric standpoint’, 241-42; Shannon, ‘The cases of contracted pelvis admitted to Prof Kerr's Clinic’, 504.

value of the mother's life compared with that of the foetus ... If for any reason Caesarean section was inadmissible he would prefer craniotomy to pubiotomy, as it had no risk for the mother'.¹⁰⁰ Champneys claimed that craniotomy was risk-free for the mother; it can be argued, however, that no operation is ever risk-free, and craniotomy was no exception, and even Champneys's contemporaries knew such a fact. Jardine underlined that he was 'glad to be able to say that the destructive operations done in the hospital are mostly done on dead children', which could be explained by the fact that many patients were sent into hospitals after a failed attempt of a home delivery, hours after labour started.¹⁰¹ It meant that many stillbirths, in cases of performed craniotomy, were preventable, and obstetricians, with increased antenatal supervision, could help reduce the high rate of stillbirths, at least stillbirths due to cephalopelvic disproportion.

The interwar decades were the beginning of a long process in the development of obstetric technologies. First there was X-ray technology in antenatal care to help diagnose cephalopelvic disproportion. X-ray pelvimetry was first described in 1907, but not used more routinely before the interwar period.¹⁰² As Hiddinga and Blume emphasise

In developing X-ray pelvimetry what was at stake was something more than tackling established problems with new and (it was hoped) more precise methods. It was no longer simply a matter of providing a convincing distinction between normal and abnormal deliveries. In bringing X-ray technology to bear, in seeking greater precision, obstetricians in this period were looking to grasp the birth process, to assess the probabilities of otherwise undetectable abnormal delivery, and to plan any anticipated interventions in it.¹⁰³

The use of X-ray as a tool of cephalopelvimetry seemed to allow obstetricians to see more precisely the degree of cephalopelvic disproportion and thus offer the best course of delivery to prevent intrapartum stillbirth. Nevertheless, this technique had some flaws, as Miss Keren Parkes explained at the London Association of the medical women's federation in 1937: 'Unfortunately estimates based on these elaborate measurements were all static and failed to allow for the alterations in flexion and the moulding of the head which took place under the influence of uterine contractions, whose strength and efficacy were quite

¹⁰⁰ Harveian Society of London, 'The treatment of labour in contracted pelves', *Lancet*, 175 (1910), 793.

¹⁰¹ Jardine, 'Infantile mortality and morbidity from the obstetric standpoint', 242-43.

¹⁰² Oakley, *Captured Womb*, 58.

¹⁰³ Anja Hiddinga, Stuart Blume, 'Technology, Science and Obstetric Practice: The Origins and Transformation of Cephalopelvimetry', *Science, Technology, & Human Values*, 17 (1992), 166.

unpredictable'.¹⁰⁴ Indeed X-ray cephalopelvimetry did not offer the crucial factor that was 'the size of the head during labor' influenced by contractions.¹⁰⁵ That was why, in that period, obstetricians agreed to let primiparous pregnant women diagnosed with mild contracted pelvis have a trial labour under medical supervision.¹⁰⁶ A trial labour was a natural labour by vaginal delivery if all went well, in other words allowing the woman to deliver at her body's pace, thus without any medical or surgical interference such as induction of labour if no complications arose. Obstetrician Gilbert Strachan explained that in his own practice in Cardiff in such cases, 75 per cent of the women had delivered naturally without any interference, 15 per cent had required forceps deliveries, and only 10 per cent had a Caesarean section performed after a couple of hours of labour.¹⁰⁷ Nevertheless, as Robert Hendry, obstetrician at Liverpool, noted, when women came under antenatal supervision and were diagnosed with mild contracted pelvis

there is little need to keep the patients under close observation, they do not attend regularly, do not realise their danger and the need to report at hospital as soon as labour begins. Very naturally they desire to have the labour at home where they engage a midwife. A doctor is called in, and sometimes after vainly trying to deliver, sends the woman into hospital, too late for anything but a craniotomy.¹⁰⁸

This highlights that vaginal delivery was recommended for women diagnosed with mild contracted pelvis, nonetheless, medical supervision from the start of labour was needed in case labour did not advance naturally and complication arose, in order to intervene as soon as the obstetricians felt that the fetus' life was threatened.

X-rays also began in the 1930s to be used in obstetrics to diagnose placenta praevia, known under the designation Placentography. Prof Munro Kerr and Dr Mackay in a meeting at the Glasgow Obstetrical and Gynaecological Society (GOGS) in January 1933 presented a paper on 'The Diagnosis of Placenta Praevia, with special reference to X-ray method'. They explained that placenta praevia could be diagnosed by X-ray in late pregnancy, and therefore women diagnosed with this complication could be treated directly

¹⁰⁴ Kerren Parkes, 'London Association of the Medical Women's Federation: recent advances in obstetrics', *Lancet*, 229 (1937), 1466.

¹⁰⁵ Hiddinga, Blume, 'Technology, Science and Obstetric Practice', 168.

¹⁰⁶ Gilbert Strachan, 'Some problems in antenatal supervision', *Lancet*, 228 (1936), 666.

¹⁰⁷ Ibid.

¹⁰⁸ Robert Hendry, 'Some common conditions requiring ante-natal care', *Lancet*, 202 (1923), 549.

by performing a Caesarean section to prevent further haemorrhage.¹⁰⁹ Nevertheless, Mackay pointed out that placentography was not always a viable technique and that it posed some difficulties as well as dangers.¹¹⁰ Unfortunately, the minutes did not report more information on what were those difficulties and dangers of this method as danger of X-ray on fetuses during childhood had not yet been discovered. Placentography continued to be developed in the 1940s and the 1950s; however, this technique was never reliable and led to many debates within the obstetric community on that subject, as will be demonstrated later in this thesis.

The second check-up done from the beginning of the twentieth century was to see the presence of albumin in the urine. Albumin is a protein, and its presence in a pregnant woman's urine could be a sign of toxaeimias of pregnancy. Toxaemia of pregnancy was a disease of the mother in her last trimester.¹¹¹ Its name came from the belief that toxaeimias were due to toxins in the maternal system developing while pregnant.¹¹² Indeed, Dr Byers, obstetrician in Belfast, stated in 1905

The second view is that eclampsia depends upon a poison, a toxin or series of toxins manufactured by the mother and the foetus ... Now it must at once be admitted that no one has hitherto been able to isolate any of these toxins which may be said to be the specific cause of eclampsia. For the present the "toxaemia" view is the popular one.¹¹³

A decade later, the theory that a toxin was the cause of toxaeimias of pregnancy still held. In 1913, Dr Williamson stressed in an article that recent researches had proved that the toxin resided in the embryo's cells attached to the uterine wall.¹¹⁴ That research had been proven wrong since then but it emphasised the strong and long belief within the medical profession of a toxin as the cause of toxaemia.

¹⁰⁹ RCPSG Archive, *GOGS, Committee Minutes 1921-39*, RCPSG 14/1/2.

¹¹⁰ Ibid.

¹¹¹ Loudon, *Death in Childbirth*, 85.

¹¹² Anja Hiddinga, *Changing Normality: Pregnancy and scientific knowledge claims 1920-1950 with special reference to the USA* (Amsterdam: Centrale Drukkerij Universiteit van Amsterdam, 1995), 59.

¹¹³ John Byers, 'The Pathology and treatment of eclampsia', *Lancet*, 166 (1905), 748.

¹¹⁴ Herbert Williamson, 'A lecture on some points in determining the signification of albuminuria in pregnancy', *Lancet*, 181 (1913), 1363.

Loudon explains that the first symptoms of the disease were ‘usually a rise in blood pressure, followed by albuminuria and oedema’.¹¹⁵ During the first decade of the twentieth century, blood pressure could not be detected, as the routine clinical measurement of the pressure became only widespread around 1910. The first symptoms were swelling and the presence of protein in the urine of the mother.¹¹⁶ That was why obstetricians underlined the importance of checking the women’s urine several times during the whole of pregnancy, and this even after blood pressure had become a routine check-up.¹¹⁷ Toxaemia developed usually slowly, but in some cases women arrived at the latest phase of the disease suddenly, called eclampsia.¹¹⁸ When pre-eclampsia developed the mother experienced ‘headache, giddiness, disturbance of vision, or severe epigastric pain’.¹¹⁹ When the disease entered into the phase of convulsions ‘known as eclamptic fits or eclampsia’, toxaemia was at its most dangerous phase, as the only treatment was delivery and frequently ended fatally for both fetus and woman.¹²⁰ Indeed, from the cases of eclampsia treated at the ERMH from 1912 to 1921, for the 45 cases of premature delivery (under 36 weeks gestation), 32 were stillborn, including 4 twins, and one neonatal death. During the same period, for the cases whose delivery was at term, the fetal mortality was at 43.8 per cent, and the neonatal mortality was at 7.7 per cent.¹²¹ To summarise, if a woman with eclampsia had a premature delivery, it had more than a 82 per cent chance of being a stillbirth or neonatal death, compared to around 50 per cent if the delivery was at term. Those percentages underlined the importance for obstetricians to prevent toxaemia from reaching the phase of convulsions.

Early in the twentieth century, as Byers expressed in 1905, ‘despite the recent advances in every department of medical science, our knowledge of convulsions occurring in pregnancy, during labour, and after delivery, is still anything but accurate, defined, or scientific’.¹²² This remained true in the present day. Indeed, Hiddinga points out that ‘In 1916 the obstetrician Zweifel referred to eclampsia as a “disease of theories”, characterising the situation with respect to the current state of affairs in research on this disease’.¹²³ Byers

¹¹⁵ Loudon, *Death in Childbirth*, 85.

¹¹⁶ *Ibid.*, 87.

¹¹⁷ Williamson, ‘the signification of albuminuria in pregnancy’, 1363.

¹¹⁸ Loudon, *Death in Childbirth*, 85.

¹¹⁹ Byers, ‘The Pathology and treatment of eclampsia’, 749; Loudon, *Death in Childbirth*, 86.

¹²⁰ Loudon, *Death in Childbirth*, 86.

¹²¹ H. Davidson, Douglas Miller, ‘Record of eclampsia in the Royal Maternity Hospital, Edinburgh, during ten years, 1912-21’, *EMJ*, 28 (1922), 122-23.

¹²² Byers, ‘The Pathology and treatment of eclampsia’, 747.

¹²³ Hiddinga, *Changing Normality*, 58.

still proposed a treatment to prevent convulsions when the first symptoms of toxæmia appeared, such as albuminuria, as well as a treatment when convulsions had started. He described his prevention of convulsion as follows

The patient, clothed in flannel, should be kept in bed, have a warm bath every night, and a free action of the bowels every day ... She should be kept mainly on a milk diet with vegetables, bread-and-butter, and stewed fruits, and have plenty of fluids, plain water and mineral waters, to drink. If this plan is thoroughly carried out most cases will not develop convulsions.¹²⁴

Ballantyne, in 1912, agreed with Byers on treating toxæmia with a diet composed mainly of milk, after diagnosing albuminuria in a patient, as well as wearing flannel, keeping the patient warm and 'the use of drastic purgatives'.¹²⁵ Ballantyne also recommended a chloride-free diet for patients who had both albuminuria and oedema. Finally he believed that if treatment began only when such syndromes as headaches or blurred vision appeared, bleeding could be prescribed.¹²⁶

If convulsions began, on the other hand, Byers recommended, during convulsion fits, positioning the patient on her side with head low with something between teeth to avoid hurting the tongue.¹²⁷ To evacuate the toxin, he ordered purges.¹²⁸ Finally, he explained that older obstetricians kept on treating until the onset of labour, whereas younger professionals preferred to induced labour to treat eclampsia and thus to try to save the woman and the fetus.¹²⁹ Ballantyne's treatment after the start of convulsions is explained below:

I have very seldom used of morphia ... I have concentrated upon venesection, intravenous transfusion with saline, washing out the stomach with bicarbonate of soda solution, the introduction into the stomach by the tube of a large dose of sulphate of magnesia, the use of large enemata, and the hot pack.¹³⁰

We can see similarities in the two obstetricians' treatments but also some uniqueness, indeed, in the early twentieth century, obstetricians debated frequently on the causes and treatment of toxæmias and especially eclampsia, and thus each obstetrician experimented

¹²⁴ Ibid., 749.

¹²⁵ J. Ballantyne, 'The preventive and medical treatment of eclampsia', *EMJ*, 19 (1912), 266-67.

¹²⁶ Ibid, 267.

¹²⁷ Byers, 'The Pathology and treatment of eclampsia', 748-49.

¹²⁸ Ibid., 749.

¹²⁹ Ibid.

¹³⁰ Ballantyne, 'The preventive and medical treatment of eclampsia', 268.

with his/hers own technique in his/her practice.¹³¹ Eclampsia was still a disease in the process of being understood, and still is, and thus was accompanied with high maternal and fetal mortality rates, and with what we would consider in the present quite bizarre treatment to treat eclampsia.

Few advances had been made on the origin of toxæmia of pregnancy between the early twentieth century and the end of the interwar period. Indeed, Munro Kerr in a 1932 EOS meeting underlined that

Considering the enormous amount of investigation and research that has been expended on the subject of the toxæmias of pregnancy, in this and other countries, during the last 30 years, it is surprising that more definite conclusions regarding them have not been reached ... although many changes have been found to occur in blood and urine ... investigators are inclined to consider such changes to be the effects rather than the cause of toxæmia.¹³²

In the interwar period, obstetricians had made some improvement as regards treatment of toxæmia of pregnancy. According to Loudon, this was in large part why antenatal supervision had developed more and had been more widely accepted.¹³³ Toxæmias of pregnancy could take many forms from the morning sickness to the dangerous eclampsia, and any pregnant woman could develop toxæmias of pregnancy despite being perfectly healthy.¹³⁴ Loudon highlights, however, that ‘The incidence of toxæmia is higher in first than subsequent pregnancies, in multiple than single pregnancies, and in older than younger mothers’.¹³⁵ Dame Louise McIlroy, one of the first women to graduate in medicine at the University of Glasgow and the first woman to become Professor of Obstetrics and Gynaecology in London in 1921, underlined that ‘Abortions ... dead- and still-births are the consequences in most of maternal toxæmia’, by that we understand why obstetricians had researched extensively treatments for toxæmias.¹³⁶ Dame Louise, as well as Miss Parkes, both practising in London, noted that during antenatal visits three different

¹³¹ Ibid., 266.

¹³² J. M. Munro Kerr, ‘Etiology of the toxæmia of pregnancy in the light of recent laboratory and clinical observations’, *EMJ*, 39 (1932), obst. 53.

¹³³ Loudon, *Death in Childbirth*, 90.

¹³⁴ Munro Kerr, ‘Etiology of the toxæmia of pregnancy’, obst. 53; [Anon], ‘Toxæmia of pregnancy’, *Lancet*, 219 (1932), 1101.

¹³⁵ Loudon, *Death in Childbirth*, 85.

¹³⁶ Louise McIlroy, ‘The toxæmia of pregnancy’ part 1, *Lancet*, 224 (1934), 292; ‘Famous Scholars in the Faculty of Medicine Dame Anne Louise McIlroy (1878-1968)’, *University of Glasgow*, <<http://www.gla.ac.uk/schools/medicine/aboutus/history/ourfamous scholars/annelouisemcillroy/>>, [Accessed 17 April 2015].

check-ups had to be completed to diagnose toxæmias. The first two had been in place before the First World War: urine tests to see if there was albumin in the patient's urine and taking the patient's blood pressure as mentioned above. The last check-up was to weigh the patient at each visit, because 'A large or sudden increase in weight in the latter part of pregnancy is very significant of water retention in the tissues ... If the gain is excessive it is due to "occult oedema" ... and suggests the presence of toxæmia and of nephritis.'¹³⁷ According to Dame Louise, the following symptoms could be signs of toxæmias of pregnancy and the women during their antenatal supervision needed to be asked if they had any of the following symptoms, to be able to diagnose toxæmias as early as possible: severe vomiting, heartburn, persistent headache which could be the first symptom of eclampsia, hypertension and antepartum haemorrhage in the late stage of pregnancy if it was not diagnosed as placenta prævia.¹³⁸

In the interwar period, different treatments were described in medical journals. In 1932, Daly and Armstrong, practitioners in Glasgow, published an article on a treatment based on Alkalis and Calcium. They divided toxæmias of pregnancy into three categories: mild, severe and eclampsia. In mild cases, they recommended alkaline compound tablets. In severe cases, they treated women first with intravenous injections of alkali and calcium ampoules. Alkali ampoules were constituted of sodium bicarbonate, sodium acetate crystalline and sterile distilled water. The calcium ampoules contained calcium acetate anhydrous, glacial acetic acid and sterile distilled water. When a patient was at term, they recommended inducing labour to prevent an accentuation of the symptoms of the disease at the onset of labour. They were confident of the treatment effect for mild and severe cases of toxæmias of pregnancy; however, in cases of eclampsia, such treatment seemed not to work.¹³⁹ In the 1930s, in the ERMH, an equivalent treatment was used. In their cases of pre-eclampsia, six methods were described in their annual medical and clinical report. There were: eliminative method with spontaneous onset of labour after the twenty-eighth week, eliminative method and induction of premature labour, eliminative method and Caesarean section, eliminative treatment without delivery following directly treatment, intravenous alkalis and eliminative method with spontaneous onset of labour, and lastly intravenous

¹³⁷ McIlroy, 'The toxæmia of pregnancy', 293; Parkes, 'London Association of the Medical Women's Federation', 1465.

¹³⁸ Louise McIlroy, 'The toxæmia of pregnancy' part 2, *Lancet*, 224 (1934), 346-47.

¹³⁹ Alexander Daly, W. Armstrong, 'Toxæmia of pregnancy treated with Alkalis and Calcium', *Lancet*, 220 (1932), 1328-29.

alkalies and eliminative method with induction of labour.¹⁴⁰ The reports do not say explicitly what they meant by eliminative method specifically but the idea was to eliminate the toxin already present in the system. We see that alkali ampoules seemed to be recognised in Scotland as a class one treatment for pre-eclamptic cases.¹⁴¹ Toxaemia of pregnancy, to conclude, had been a highly debated and researched condition in the period studied in order to understand it better and prevent maternal and fetal deaths caused by this condition. This research and these debates continue to the present day, and thus this condition linked to stillbirth will be mentioned again in following chapters.

Dr Johnstone, in 1924, explained what older obstetricians focused on in antenatal clinics, but he also added that ‘the more antenatal care was practised, the more obvious it had become that there were many other conditions to be attended to’.¹⁴² Indeed, other abnormalities and complications could be now diagnosed and obstetricians tried to treat them in order to prevent maternal, fetal or neonatal deaths. Such abnormalities or complications were for example antepartum haemorrhage including placenta praevia, breech presentations or other malpresentations. Regarding breech delivery, there were two major risks for the fetus’ well-being: intracranial injuries and asphyxia, due to the head being delivered last.¹⁴³ The obstetricians’ main preoccupation was to try ‘to bring a living child into the world with the least possible amount of damage to it or the mother’.¹⁴⁴ Blacker, an obstetrician practising in London in the early twentieth century, believed the best chance for the child, to avoid asphyxia, was to deliver the head ‘with the maximum rapidity’ by forceps.¹⁴⁵ On the other hand, some obstetricians around the same time supported the use of a catheter introduced into the mouth of the fetus while still in the birth canal. They refuted the idea of delivering the head too quickly as it would have injured both the mother and the child, whereas if a catheter was used there was no risk of asphyxiation to the baby, and delivery could follow its own pace or with the help of forceps if necessary.¹⁴⁶

¹⁴⁰ LHSa, *ERMH and SMP, Medical and Clinical Report for the year 1933*, LHB3/8A, 45-46.

¹⁴¹ Aleck Bourne, ‘A lecture on the toxaemias of pregnancy’, *BMJ*, 1 (1920), 729

¹⁴² Willet, ‘Methods of antenatal clinics and their application to private service’, 389.

¹⁴³ Eardley Holland, ‘Breech Presentations’, *Lancet*, Extra Numbers (1924), 68.

¹⁴⁴ George Ord, ‘The prevention of asphyxia when the birth of the after-coming head is delayed: a history note’, *Lancet*, 158 (1901), 1450.

¹⁴⁵ G. Blacker, ‘The prevention of asphyxia when the birth of the after-coming head is delayed’, *Lancet*, 158 (1901), 1033.

¹⁴⁶ Ord, ‘The prevention of asphyxia’, 1450.

With improved antenatal supervision after the First World War onwards, obstetricians and midwives had other options offered to them than those described above. Indeed, if a woman was monitored during pregnancy, to prevent fetal death during labour, an obstetrician or a midwife could diagnose a breech presentation before delivery and treat it. According to Holland, diagnosis of a breech presentation was simple, ‘if the hard, round head, freely movable on the body of the foetus, can be grasped by the examining hands at the fundus, and if vaginal examination reveals a foot lying beside the presenting part in the lower segment of the uterus’, it was a breech presentation.¹⁴⁷ The best technique to prevent delivery by the breech was external version after the 36th week of pregnancy. Holland explained in detail how to perform an external version in 1924 as follows

The patient lies on her back with the shoulders slightly raised and the abdominal muscles relaxed; the operator stands on her right side. (1) First locate the position of the head ... Next find out if the breech is sunk in the pelvic cavity or is lying above the brim and moveable ... (2) Keep the right hand below the breech, and, having located the head with the left hand, apply pressure to the breech and the head in opposite directions ... The pressure must be steady and continuous, and the foetus will be felt to move round towards a transverse position; after this stage is reached the rest is easy, and the foetus can be followed round until the breech is in the fundus and the head over the pelvic brim ... (3) Make steady pressure on the fundus in order to force the foetus as low as possible, which has the effect of flexing the spine and head and of restoring the general flexed attitude of the foetus, which may have been disturbed by the manipulations; then press the head steadily down into the pelvic brim as low as possible ... Finally, apply a tight abdominal binder, fastened from above downwards and starting above the fundus of the uterus; the binder should be worn for 12 hours ... Examine the patient again in two or three days’ time to see if the presentation has changed.¹⁴⁸

As a result of external version, many breech presentations, and therefore stillbirths, could be prevented. Many women in the interwar period, nevertheless still did not attend any kind of antenatal supervision for various reasons as discussed earlier, and therefore breech presentation could not always be prevented. It also happened to some women, despite having received antenatal supervision, where external version failed.

The best way to deliver in such a situation was still an on-going debate throughout the interwar period, but medical students in obstetrics and midwife pupils were taught to prefer gentleness and deliberation during the delivery of the head.¹⁴⁹ The main issue at that time, however, was to decide if a breech delivery could be conducted at home under the care of a

¹⁴⁷ Holland, ‘Breech Presentations’, 68-69.

¹⁴⁸ *Ibid.*, 69-70.

¹⁴⁹ Chassar Moir, ‘Prognosis in breech presentation’, *Lancet*, 228 (1936), 1227

midwife or if it ought to be dealt with in a medical institution under the care of a medical practitioner.¹⁵⁰ In 1924, Olive Haydon stated that ‘The CMB rule that medical aid should be summoned for labour if the “presentation is other than the uncomplicated head or breech”’, therefore the CMB allowed midwives to deliver breech presentations if not accompanied with any other complications, and as CMBs were mainly constituted of medical practitioners, the medical profession trusted qualified midwives to deliver babies safely born by breech.¹⁵¹ Chassar Moir, obstetrician in London, as well as McClure and Macafee from Belfast, highlighted in the late 1930s two different types of breech presentation: the uncomplicated and the complicated ones. According to them, ‘The term “complicated breech” ought to be restricted to cases in which a second distinct obstetrical abnormality is present, such as ... placenta praevia or hydrocephalus’.¹⁵² Midwives could, thus, deliver uncomplicated breech presentation whereas complicated cases were exclusively the obstetricians’ domain. Moir insisted that the danger for the fetus in a breech presentation was not as high as it was once believed; however its risk of death was considered four times greater than for a fetus delivered by vertex. The risk of fetal death was even higher in primiparae and in complicated breech presentation. Finally, he stressed that the most important factor for the survival of the fetus during delivery was the attendant’s experience, wherever the delivery occurred.¹⁵³ The main cause of fetal death in a breech presentation in the interwar period, after research carried out by Holland and Browne among others, was ‘intracranial haemorrhage due to tentorial tear’.¹⁵⁴ Asphyxia remained a cause of fetal death in breech delivery, but was not one of the main reasons behind such stillbirths.¹⁵⁵

In the interwar period, a disease still worried obstetricians immensely in regards to fetal loss. Syphilis, and especially congenital syphilis, remained the bugbear to understand and defeat, as the examination of the causes of stillbirth ordered by the MOH in Glasgow in 1917, mentioned previously, highlights. For congenital syphilis, physicians thought fetus and infant could contract syphilis in three different ways: ‘the infection of the infant at birth, the infection of the foetus by the mother whilst in the uterus, and infection by the father at

¹⁵⁰ [Anon], ‘The management of Breech presentation’, *Lancet*, 225 (1935), 37.

¹⁵¹ Haydon, ‘Abnormalities and complications in pregnancy and labour’, 138; Reid, ‘Scottish midwives, 1916-1983’, 29, 45.

¹⁵² Moir, ‘Prognosis in breech presentation’, 1226; H. McClure, C. Macafee, ‘BMA: Section of obstetrics and gynaecology: Breech delivery’, *Lancet*, 230 (1937), 631.

¹⁵³ Moir, ‘Prognosis in breech presentation’, 1226.

¹⁵⁴ *Ibid.*, 1227.

¹⁵⁵ *Ibid.*

the moment of conception'.¹⁵⁶ Syphilologists believed, however, that the syphilitic father was more likely to transmit the disease to his offspring by his semen during the conception than the mother during pregnancy, despite both men and women being contaminated. Routh, indeed, highlighted in 1918 that the paternal infection of the ovum was 'always associated with infection of the mother', and thus when congenital syphilis was contracted by the semen, according to the medical profession of the time, it made two victims, the mother and the developing fetus.¹⁵⁷ Furthermore, from 1916 onwards, due to the war, thus movement of large groups of men and therefore fear of the propagation on the disease, the Government passed Acts to try to contain the spread of the disease, such as the Public Health (Venereal Disease) Regulations (Scotland) in October 1916.¹⁵⁸ This fear increased even more after the First World War and the Spanish influenza epidemic which killed so many. Society in general believed that congenital syphilis would have been the last straw causing the decay of civilisation.¹⁵⁹

From the mid-1920s and in some places even before, to avoid stigma, the 'innocent patients' (defined as married women and children) were treated, not in Venereal Disease centres, but in antenatal clinics.¹⁶⁰ Indeed, in Glasgow in 1925 regarding the maternity and child welfare services, Glasgow Corporation had opened five centres for the treatment of venereal disease.¹⁶¹ A theory, first explained by Dr Mott in 1914, which became popular with obstetricians in the interwar period, held that 'Syphilitic mothers at first suffer miscarriages with dead children, then have stillbirths, then diseased children dying in early infancy, and eventually may have children showing no signs of disease'.¹⁶² This theory shows why obstetricians believed syphilis caused so many antenatal deaths, and for the concern of this thesis, so many stillbirths, and thus the importance to prevent congenital syphilis, or at least to treat it. In the early twentieth century, at a Royal Commission on Venereal Diseases, Mrs Scharlieb emphasised that syphilis was the main cause of fetal death both before and after the fetus was viable, representing around 20 per cent of all fetal

¹⁵⁶ Claude Quézel, *history of syphilis*, trans. Braddock and Pike (Cambridge: polity press, 1990), 165.

¹⁵⁷ Amand Routh, 'Valedictory Presidential Address on Antenatal Syphilis', *Lancet*, 191 (1918), 45.

¹⁵⁸ Roger Davidson, 'Venereal Disease, Sexual Morality, and Public Health in Interwar Scotland', *Journal of the History of Sexuality*, 5 (1994), 260.

¹⁵⁹ Quézel, *history of syphilis*, 176; Woods, *Death before Birth*, 232.

¹⁶⁰ Davidson, 'Venereal Disease', 273; Al-Gailani, 'Pregnancy, pathology and public morals', 23.

¹⁶¹ Macgregor, *Public Health in Glasgow*, 118-19.

¹⁶² Routh, 'Valedictory Presidential Address on Antenatal Syphilis', 45.

deaths in England and Wales.¹⁶³ From 1914 to 1930, however, based on his research on the causation of stillbirths, Holland concluded that “‘it appears that more foetuses were killed by the complications of labour than died during pregnancy from maternal or placental diseases’”.¹⁶⁴ Syphilis, then, seemed to have taken more breadth in the medical profession’s belief than what it was really, as regards causes of stillbirths.

Obstetricians recorded that most of the stillbirths due to syphilis were found in macerated fetuses, meaning those fetuses that had been dead for quite a time. Strachan, an obstetrician in Cardiff, emphasised in 1922 that, even if many stillborn fetuses were found macerated, ‘Maceration alone is no sign of the presence of syphilis’.¹⁶⁵ Browne reported in an article the stillbirths cases encountered in the ERMH from August 1919 to October 1920. He noted that, out of the 120 stillbirths during the period, 22 were cases of maceration, which represented 18.3 per cent of all stillbirths. Out of those 22 cases, 14 macerations happened because of syphilis, and those 14 cases were the only cases of stillbirths due to syphilis during the time on which this report was based.¹⁶⁶ This stressed that syphilis was not as preponderant a cause as believed but a vast majority of those syphilitic stillbirths were found in cases of maceration, meaning the fetuses were dead long before labour. Finally, Browne explained he diagnosed syphilitic stillbirths according to the eight signs described below

1. Spirochaetes in foetal organs ... 2. Presence of active syphilis in the mother. 3. Strongly positive Wasserman reaction in the mother. 4. History of repeated still-births or abortions, or of premature births or neonatal death without obvious cause. 5. Presence of syphilitic changes in the placenta. 6. Presence of chondro-epiphysitis. 7. Enlargement of foetal spleen. 8. Absence of other cause of antenatal death...¹⁶⁷

In 1922, Dr Cruickshank, an obstetrician in Glasgow, showed that the percentage of stillbirths was higher in mothers who tested positive for syphilis and did not have any antenatal supervision than in mothers who had tested negative and been supervised, which

¹⁶³ Ibid.

¹⁶⁴ Oakley, *Captured Womb*, p. 65; Woods, *Death before Birth*, 161.

¹⁶⁵ Strachan, ‘The pathology of foetal macerated’, *BMJ*, 2 (1922), 82.

¹⁶⁶ J. Browne, ‘Still-births: its causes, pathology and prevention’ Part 1, *EMJ*, 27 (1921), 158; Browne, ‘Still-births: its causes, pathology and prevention’ Part 2, *EMJ*, 27 (1921), 199.

¹⁶⁷ Browne, ‘Still-births: its causes, pathology and prevention’ Part 1, 159.

seems quite logical.¹⁶⁸ This statement showed the necessity to test the pregnant women to be able to give them the anti-syphilitic treatment. The syphilitic test was created in 1906 by Wassermann, who based his research on Bordet's 'clarificatory work on reactions to non-treponemic antigens' established in the late nineteenth century. The test was commonly known as the Bordet-Wassermann's diagnosis or "BW".¹⁶⁹ This test was not always viable. Indeed, even if a woman tested positive, she may have sometimes been syphilis free, and vice-versa.¹⁷⁰ In 1921, furthermore, Browne recommended that even if women had tested negative for syphilis, but had had syphilis or unexplained previous miscarriages or stillbirths, to give her the anti-syphilitic treatment as prevention.¹⁷¹ The treatment for syphilis had been quite a medical struggle.

Before Pasteur's discoveries of microbes in 1877, the only two possible treatments were mercury or to rest until it resolved itself.¹⁷² In 1905, in Germany, the Zoologist Schaudinn finally discovered the microbes responsible for syphilis. 'After various suggestions it was baptised *Treponema* (because of its resemblance to a twisted thread) *pallidum* (because of its pale colour).'¹⁷³ Following this discovery, Paul Ehrlich from Frankfurt experimented for a new treatment for syphilis through pentavalent arsenicals. He collaborated with a Japanese researcher Heta, and in May 1909, while studying the effect of their six-hundred-and-sixth compound, 'the magic bullet had reached its target' and a new treatment for syphilis was born. It was known under three names: "606", Salvarsan and arsphenamine.¹⁷⁴ Then, in 1921, another treatment was discovered by Sazerac and Levaditi: bismuth.¹⁷⁵ Bismuth given in association with another treatment, especially Salvarsan, became the treatment of choice in the interwar period.

¹⁶⁸ Cruickshank, 'Discussion on stillbirths and neo-natal death: Syphilis as a cause of ante-natal death', *BMJ*, 2 (1922), 594; [Anon.], 'The BMJ: the prevention of stillbirths and neo natal death', *BMJ*, 2 (1922), 605.

¹⁶⁹ Quézel, *History of syphilis*, 141.

¹⁷⁰ Quézel, *History of syphilis*, 141, 198; Routh, 'Valedictory Presidential Address on Antenatal Syphilis', 46; R. Henry, 'Contributions to a discussion on pregnancy and latent syphilis: The inter-relationship between pregnancy and syphilis', *Lancet*, 196 (1920), 988.

¹⁷¹ Francis Browne, 'Stillbirth its causes, pathology and prevention', *BMJ*, 2 (1921), 142.

¹⁷² Quézel, *History of syphilis*, 116, 118; David Nabarro, 'Medical Society for the Study of Venereal Disease: Antenatal treatment of syphilis', *Lancet*, 1928 (211), 232.

¹⁷³ Browne, 'Stillbirth its causes, pathology and prevention', 140.

¹⁷⁴ *Ibid.*, 142.

¹⁷⁵ Browne, 'Stillbirth its causes, pathology and prevention', 142-43; Charles Dennie, *A History of Syphilis* (Springfield: Charles C Thomas, 1962), 81.

The treatment given to mothers during their pregnancies had to begin in the fourth month of gestation. According to the physicians of that time it was because ‘The anlage that formed the different parts of the congenital syphilitic body was just in that period of formation when the administration of ... arsphenamine would prevent the distortions that took place in the teeth and the body structure of the infant’.¹⁷⁶ Quétel, nevertheless, underlines that ‘syphilis was not so easily defeated. After several years of euphoria it was perceived that neither the clinic nor the laboratory could guarantee recovery.’¹⁷⁷ It was not before the introduction of penicillin from the 1940s that syphilis was properly cured, which will be explained in detail in the following chapter.

I will now look at the GRMH in the interwar period as a case study on the obstetric conditions and abnormalities mentioned earlier in that part of the chapter which resulted in stillbirths. We have seen previously that in Rottenrow, the Antenatal Dispensary was opened in the mid-1910s. In the GRMH, the Antenatal Dispensary was linked to an Antenatal Department from 1917 onwards.¹⁷⁸ In 1927, in order to improve the Maternity Hospital’s good reputation within the city and the obstetrical profession, the first Medical Report was published for the year 1926.¹⁷⁹ Dow emphasises that thanks to the Medical Reports, ‘Not only was the [GRMH] in the forefront of British obstetrics; it was now seen to be so’.¹⁸⁰ During the period, the Medical Report divided the cases between the outdoor or District cases, the indoor cases and the cases sent to Stobhill Hospital when there were more patients than beds. In the 1920s the Hospital could welcome 108 patients at a time but in 1923 the average occupancy was 123, rising to 161 in 1925. A co-operation was established between Rottenrow and the Stobhill Hospital (Parish Council Hospital) so that the latter welcomed the overflow patients.¹⁸¹ In the 1930s, the co-operation was not only between Rottenrow and Stobhill Hospital but between Rottenrow and Glasgow Corporation, so that all the municipal hospitals welcomed Rottenrow’s overflow patients.¹⁸²

¹⁷⁶ Dennie, *A History of Syphilis*, 83-84.

¹⁷⁷ Quétel, *history of syphilis*, 143.

¹⁷⁸ Dow, *The Rottenrow*, 89.

¹⁷⁹ *Ibid.*, 93.

¹⁸⁰ *Ibid.*, 94.

¹⁸¹ *Ibid.*, 92.

¹⁸² NHSGGCA, *GRMH, Medical Report for the Year 1934*, HB45/3/21(i), 6.

The GRMH reports dealt mainly with the indoor cases. During the interwar period, on average the GRMH welcomed 4,334 patients in their Indoor Department, and took care of 4,211 domiciliary patients. Rottenrow was quite a large institution, and Dow stresses that from 1932 onwards, in the midst of the Great Depression, despite ‘a lack of funds, the [GRMH] still managed to expand services for the remainder of the decade’.¹⁸³ In regards to the large number of cases under the Outdoor Department, since June 1888 Rottenrow had funded a new branch established on St Vincent Street called the West End Branch. The function of this Branch was to deal only with domiciliary deliveries, and especially in the area which was once under the Western Infirmary’s jurisdiction (the West End area of Glasgow). Annually, until the Second World War, the West End Branch’s cases corresponded to around one quarter of all outdoor cases dealt with by the hospital.¹⁸⁴

As well as Glaswegians, the GRMH welcomed pregnant women from the West of Scotland who had been diagnosed with a complication or abnormality by their own doctor and were sent to the hospital to be provided with the best care.¹⁸⁵ Comparing the percentage of stillbirths between the Indoor Department and the District is quite striking (Figure 1.2). In Rottenrow, between 1926 and 1938, the average percentage of stillbirths in the Indoor Department was 13.6 (on average 410 stillbirths) compared to 2.1 (on average 87 stillbirths) in the Outdoor Department.¹⁸⁶ The incidence of stillbirth, thus, was around seven times higher in the Indoor Department. According to the Medical Report, this is explained because in the Indoor Departments, ‘Many of [the abnormal cases] were emergency cases. This fact, together with many others, such as the high incidence of rickets in the population which is served by the Hospital, indicates that the type of case dealt with is unfortunately often the gravest variety.’¹⁸⁷ Indeed, as seen previously, it was a rule for midwives to call for medical aid or send women to the hospital the midwives were working for, if they diagnosed any abnormalities or complications, other than uncomplicated breech, at the time of delivery.

¹⁸³ Dow, *The Rottenrow*, 101.

¹⁸⁴ *Ibid.*, 64.

¹⁸⁵ *Ibid.*, 92.

¹⁸⁶ NHSGGCA, *GRMH, Medical Reports for the Years 1926-1938*, HB45/3/13(i)-25(ii).

¹⁸⁷ NHSGGCA, *GRMH, Medical Report for the Year 1933*, HB45/3/20(i), 6.

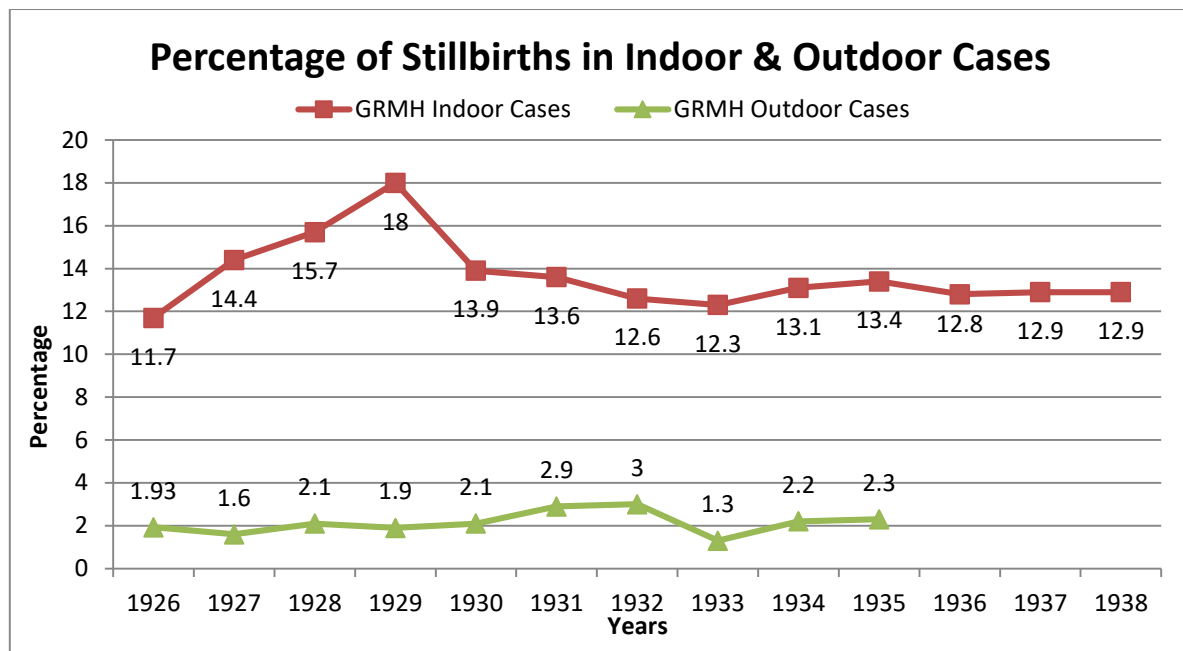


Figure 1.2: Percentage of stillbirths in Indoor and Outdoor Cases, Rottenrow, 1926-38.¹⁸⁸

Regarding the complications described previously in this part, I am now looking at the percentage of stillbirths in this maternity hospital to show the incidence of stillbirth linked to those conditions in the case of Glasgow. Instances of contracted pelvis were really frequent in the GRMH, which was linked to the high incidence of rickets the last quotation from the Medical Report underlined. The percentage of stillbirths in cases of contracted pelvis diminished steadily throughout the interwar periods (Figure 1.3).¹⁸⁹ This decline might be explained by the higher number of women going to antenatal clinics and being diagnosed with contracted pelvis and thus delivered according to their degree of contracted pelvis: Caesarean section, induction of premature labour or trial labour under medical surveillance. In Rottenrow, the percentage of stillbirths after Caesarean section was on average 4.7 in the interwar period, which was at its highest in 1927 with 8.93 per cent of Caesarean section ending up with a stillbirth, and at its lowest in 1929 with 1.57 per cent.¹⁹⁰ This percentage is for Caesarean section whatever the recommendation and not just in cases of contracted pelvis, but it shows how important and relatively safe this operation was for the survival of the fetus. As many cases were sent as emergencies, however, for such patients who had a contracted pelvis or other complications and tried to have a home delivery, either because they did not attend an antenatal clinic or decided to have a home delivery against medical advice, craniotomy was performed to save the mother as explained

¹⁸⁸ Graph from data in NHSGGCA, *GRMH, Medical Reports for the Years 1926-1938*, HB45/3/13(i)-25(ii).

¹⁸⁹ NHSGGCA, *GRMH, Medical Reports for the Years 1926-1938*, HB45/3/13(i)-25(ii).

¹⁹⁰ Ibid.

earlier. In the GRMH, during the period studied, craniotomy was performed on average 30 times per year (Figure 1.4), the number had diminished between 1926 and 1938, especially in the 1930s.¹⁹¹ This seems to indicate that craniotomy was less resorted to because of the increased attendance of antenatal clinics in Glasgow in the interwar period.

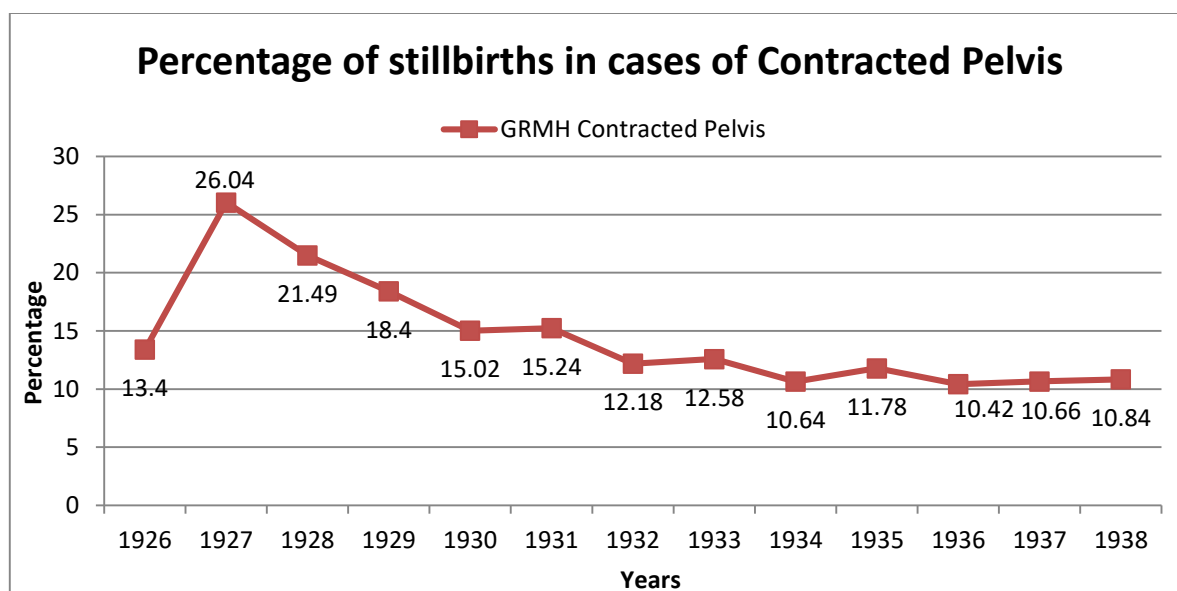


Figure 1.3: Percentage of stillbirths in cases of contracted pelvis, Rottenrow, 1926-38.¹⁹²

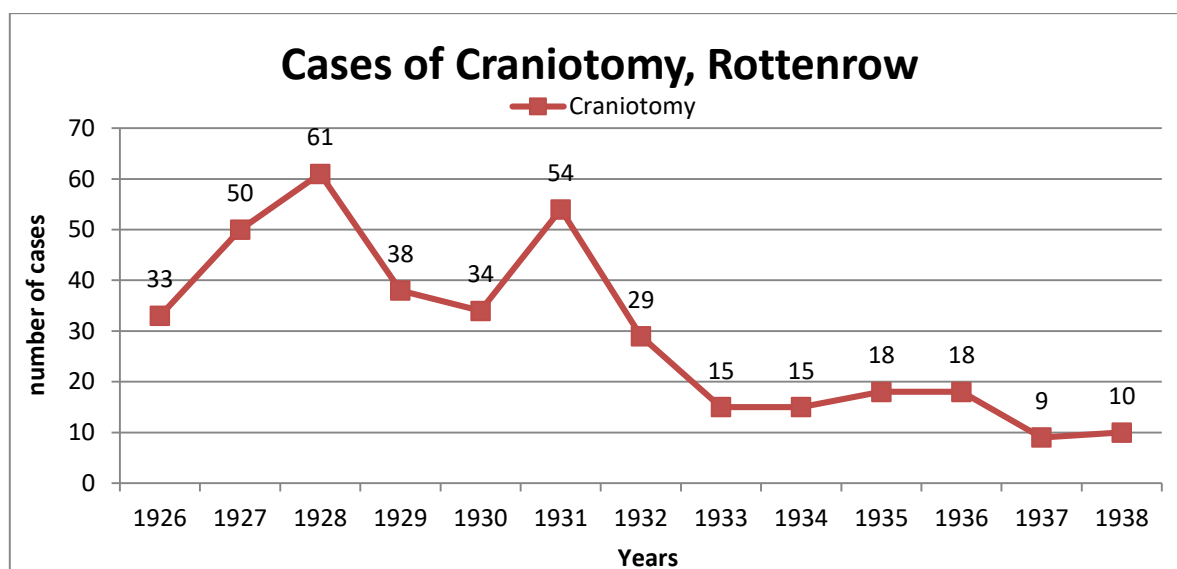


Figure 1.4: Number of stillbirths in cases of performed craniotomy, Rottenrow, 1926-38.¹⁹³

Regarding toxæmias of pregnancy, many cases were encountered in Rottenrow. As the GRMH changed its classification of the different toxæmias in the 1930s, I could only

¹⁹¹ Ibid.

¹⁹² Graph from data in NHSGGCA, *GRMH, Medical Reports for the Years 1926-1938*, HB45/3/13(i)-25(ii).

¹⁹³ Ibid.

compare the percentage of stillbirths due to toxae-mias as a whole. The percentage stayed relatively similar from 1926 to 1937 in toxae-mic patients (Figure 1.5).¹⁹⁴ Finally, in regards to breech presentation, there is a clear demarcation between the 1920s and the 1930s (Figure 1.6). Indeed, in the 1920s, there were over 35 per cent of the cases of breech delivery which ended up in a stillbirth, whereas in the 1930s, the percentage of stillbirths in breech presentation was always under 25 per cent.¹⁹⁵ It could be explained by the increasing number of pregnant women who attended some kind of antenatal supervision, especially in their late pregnancy, and thus the midwife or obstetrician supervising could detect the breech presentation and prevent it by performing external version as explained previously.

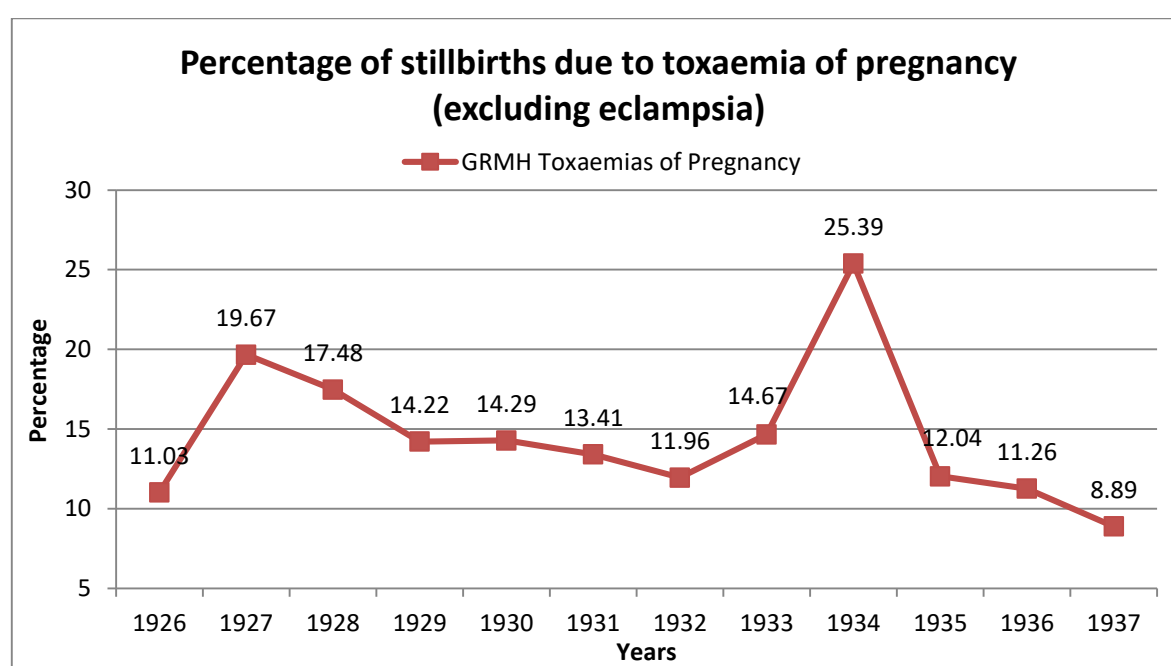


Figure 1.5: Percentage of stillbirths due to toxemia of pregnancy (excluding eclampsia), Rottenrow, 1926-37.¹⁹⁶

¹⁹⁴ NHSGGCA, *GRMH, Medical Reports for the Years 1926-1938*, HB45/3/13(i)-24(i).

¹⁹⁵ NHSGGCA, *GRMH, Medical Reports for the Years 1926-1938*, HB45/3/13(i)-25(ii).

¹⁹⁶ Graph from data in NHSGGCA, *GRMH, Medical Reports 1926-1937*, HB45/3/13(i)-24(i).

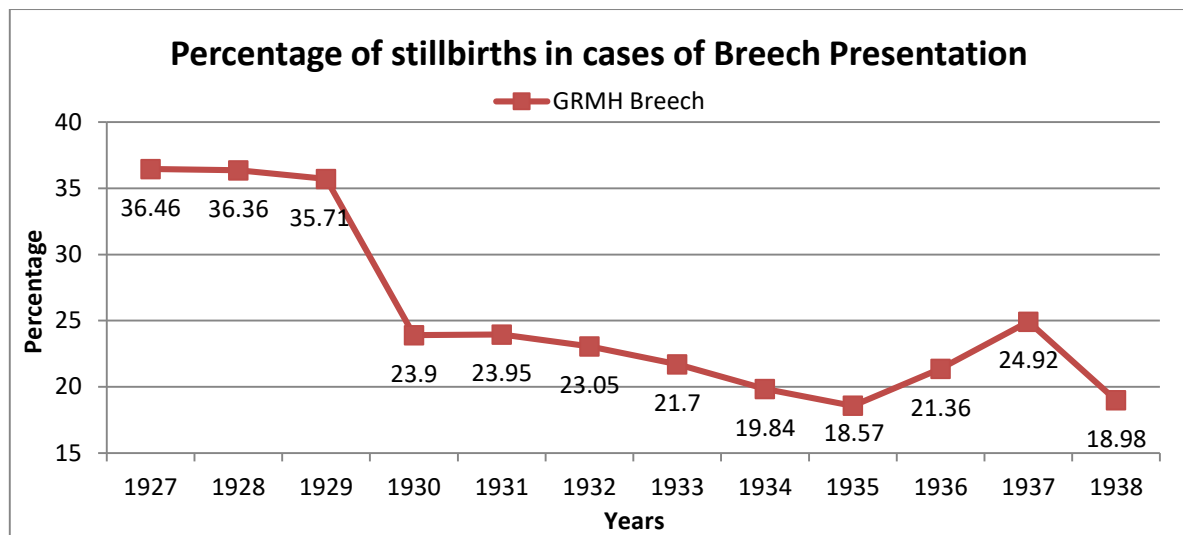


Figure 1.6: Percentage of stillbirths due to breech presentation, Rottenrow, 1927-38.¹⁹⁷

This case study highlights that the national concern for those conditions was justified as in Glasgow, the percentages of stillbirth in cases diagnosed with such conditions in Rottenrow were high, and despite a decline throughout the interwar period, many of those stillbirths could have been prevented by better antenatal supervision and/or management of labour. The obstetrical fight against stillbirth and to provide an always higher rate of live births was only beginning and would continue throughout the remainder of the twentieth century.

IV) Towards the Registration of Still-birth (Scotland) Act, 1938

After the First World War until the mid-1930s, fetal, neonatal and maternal mortality rates remained high, and some years the maternal mortality rate even increased, despite the increasing access to antenatal care. New Acts, hence, were passed in Scotland regarding midwives such as the Midwives and Maternity Homes (Scotland) Act in 1927 and the Maternity Services Act in 1937.¹⁹⁸ The latter Act imposed upon local authorities the obligation to establish a salaried midwifery service “adequate to the needs of their areas”, and supported midwifery to remain domiciliary, opposing the wish of obstetricians. Following the 1937 Act, the CMB (S) increased midwives training to a year for women who already had general nursing training, for other women their training was increased to

¹⁹⁷ Graph from data in NHSGGCA, *GRMH, Medical Reports for the Years 1927-1938*, HB45/3/14(i)-25(ii).

¹⁹⁸ Reid, ‘Scottish midwives, 1916-1983’, 80, 84-86, 89-90.

two years; finally midwives also had to enrol for refresher courses.¹⁹⁹ Shown earlier, Munro Kerr blamed the lack of experience of GPs for the high death rates, and his perspective was confirmed by reports on maternal mortality effectuated in Scotland in the interwar periods. They demonstrated women were less likely to die during childbirth if attended by a certified midwife than a GP. At that time, therefore, in uncomplicated domiciliary labour, a working-class woman under the care of a midwife had more chance to survive than a middle- or upper-class woman under the care of a general practitioner.²⁰⁰ That was why the 1937 Maternity Services Act supported home confinements under the care of salaried midwives to decrease firstly maternal mortality but also fetal and neonatal deaths. As the Great Depression deprived many women of their NHI sickness and maternity benefit, and not all places like Glasgow had their local authorities putting a scheme in place to help women pay for the midwife's fee, more women relied on howdies. The 1937 Maternity Services Act then also helped to prevent stillbirth and neonatal deaths by having the local authority providing midwives to all women free of charge.

Finally, regarding stillbirth from the legislative perspective, in England and Wales, the Births and Deaths Registration Act, passed in 1926 and came into force in 1 July 1927, required stillbirths to be registered. This Act was demanded since the early twentieth century, by certain members of the medical community, as well as statisticians. As I explained earlier in this chapter, notification of stillbirth was in place, however, it was not done uniformly throughout Britain and thus there was large discrepancies between different areas within Britain, but also worldwide with regards to registration of stillbirth, if in place, as I already highlighted in the introduction. That was why in 1911 the Royal Statistical Society of London 'concluded that registration of stillbirths ought to be established in Britain and all other countries, and that this required a satisfactory international definition of stillbirth'.²⁰¹ A unique international definition of stillbirth was not established, and still is not; nevertheless, the establishment of registration of stillbirth in Britain began to being thought more concretely from that point onwards. The Act passed in England and Wales as the title underlined was not just about the registration of stillbirths but about registration of all births and deaths, included stillbirths. Davis stated that 'The Births and Deaths

¹⁹⁹ Oakley, *Captured Womb*, 109-10; Reid, 'Scottish midwives, 1916-1983', 90, 95-97, 104-05; Loudon, *Death in Childbirth*, 209; Woods, *Death before Birth*, 236; Dow, *The Rottenrow*, 154.

²⁰⁰ Reid, 'Scottish midwives, 1916-1983', 91.

²⁰¹ Davis, 'Stillbirth registration and perceptions of infant death', 636-37.

Registration Act of 1926 aimed mainly to provide stronger safeguards against the concealment of crime in relation to the disposal of the dead'.²⁰² As I explained earlier in this chapter, the notification of stillbirth was mandatory for the burial of stillborn babies in England and Wales but it was not always done despite being mandatory, and thus registration should be able to correct this and prevent further concerns. The Act was not applied to Scotland because of the different administrative system, and the Act was designed around the English and Welsh system. A certain amount of information was requested, as you can see on the form for the registration of stillbirth provided by the Act of 1926 (see Appendix 1: Registration of Stillbirth form, England and Wales, 1926).

In Scotland, after the passing of the English and Welsh Act, the assistant secretary of the Scottish Board of Health wrote to the Registrar General for Scotland, Dr James Crauford Dunlop, to see if a Scottish Act could be done with regards to registration of stillbirth and thus to provide 'observations on the English proposals and [the Registrar General for Scotland's] views on securing similar powers for Scotland'.²⁰³ Dunlop believed registration of stillbirths was not a necessity due to the non-separate existence of stillborn children and thus mandatory notification of stillbirth under the jurisdiction of the Medical Officers of Health was sufficient. His view was not shared by everyone and in the 1930s, the voices in favour of registration of stillbirths became more vocal, as there were increasing worries about the augmenting maternal mortality rate and the fate of the unborn child, even more in time of the current depression, as highlighted in this chapter and introduction. As Davis points out, 'Dunlop's successor as Scottish Registrar General, James Gray Kyd, accepted the value of stillbirth notification but argued that it should be a national policy and should include the presumed cause of death, as in the case of child born alive'.²⁰⁴ The Scottish Department of Health suggested then to create a Scottish Registration of Stillbirth Bill, which was supported by the Scottish medical community and Scottish statisticians.

The Bill was debated at length, especially on the issue regarding how it could help prevent future stillbirth and maternal deaths, but after Walter Elliot, the Secretary of State for Scotland argued 'It may well be that if attention were concentrated on them they would

²⁰² Ibid., 637.

²⁰³ Ibid., 638.

²⁰⁴ Ibid., 639.

not be still-born, but living children' that the Bill was voted by both Houses.²⁰⁵ The Registration of Still-births (Scotland), Act was thus passed in 1938, and began on 1 January 1939. On the form the following information was needed: date and place of the delivery, the sex of the baby, the parents' names, the father's profession or rank, the place and date of the parents' marriage, medical certificate with cause of death by a physician or a midwife who had examined the baby's corpse.²⁰⁶ As a 1938 publication on the Scottish registration of stillbirths emphasised

The Act imposes a duty of certification on the medical practitioner who attends at a stillbirth or who examines the body of a stillborn child, and where possible the cause or probable cause of death must be given. In the latter respect the Scottish requirements go beyond the English in which only a statement that the child was not born alive is demanded.²⁰⁷

Indeed, the Scottish Act included Kyd's recommendation to include the (probable) cause of death. Both the English and Welsh and the Scottish Acts defined a stillborn child as "any child which was issued forth from its mother after the twenty-eighth week of pregnancy and which did not at any time after being completely expelled from its mother breathed or showed any other signs of life".²⁰⁸ This Scottish Act, finally, recognised the importance, as the medical community had wanted since the First World War if not before, to monitor on a national scale the stillbirth rate in order to understand fully its causes and thus to allow the medical practitioners to try to prevent such births. From 1939 onwards, in each Annual Report of the Registrar-General for Scotland, a part was dedicated to the stillbirths registered that year in Scotland, as will be analysed in the following chapter.

Conclusion:

In the early twentieth century, accelerating after the First World War, in Scotland, and more generally in Britain, medical practitioners and society in general worried about the decreased and decays of the population, especially of the urban working class. Obstetricians, with Ballantyne as their pioneer, believed the solution laid in the antenatal life. If they could prevent and treat abnormalities and conditions before the onset of labour, it would

²⁰⁵ Ibid., 640.

²⁰⁶ Ibid., 641.

²⁰⁷ [Anon], 'Registration of stillbirths in Scotland', *Lancet*, 232 (1938), 1546.

²⁰⁸ Ibid.

allow them to prevent some of the fetal and neonatal deaths as well as facilitating the births of healthier and stronger babies who would grow into a healthier and stronger future generation. The early twentieth century, therefore, witnessed the start and growth of antenatal care procured by well trained professionals. This kind of care was first provided in antenatal dispensaries or department within maternity hospitals by obstetricians and hospital-trained midwives, and then from 1915 onwards also in antenatal clinics run by local authorities. Antenatal supervision aimed to prevent fetal deaths from conditions such as toxæmias of pregnancy, cephalopelvic disproportion, breech presentation and the fearful syphilis. The number of expectant women provided with antenatal care increased especially after the First World War; however, not all pregnant women in the period studied in this chapter came to clinics or dispensaries to be supervised before their deliveries started. Antenatal care, therefore, grew and was recognised as a necessity by the medical profession as well as the Government, but it did not mean the entire pregnant female population resorted to antenatal care during that period. Finally, at the eve of the Second World War, the Government realised the need to register stillbirths as any other births and deaths, under the encouragement of the medical professionals, in order to know the causes of stillbirth on a national level and to try preventing such deaths which were considered as waste on many levels.²⁰⁹

²⁰⁹ Holland, 'The results to be expected from antenatal care', 53.

Chapter 2: Stillbirth from the Second World War to the Establishment of the National Health System, 1939-1948

Introduction:

During the Second World War until the establishment of the National Health Service (NHS) in July 1948 for Scotland, the Scottish stillbirth rate, which could finally be measured due to the registration of stillbirth from 1939 onwards, declined quite steadily. Such decline, moreover, took the medical community by surprise as they believed the harsher living conditions during wartime would only have raised the stillbirth rate or at least maintained the 1939 rate. That is why I am first going to explain the decline of the stillbirth rate from 1939 to 1944 using a detailed analysis of the Scottish Registrar-General Annual Reports on stillbirths. I will also recount how this decline had been understood, and where more attention had to be paid and the differences within Scotland.

Professor Dugald Baird, Regius Professor of Midwifery in Aberdeen, and other practitioners explained this decrease principally as due to a rise in the standard of nutrition throughout the expecting population because of rationing, as it will be demonstrated in the second part of this chapter. Indeed, during the Second World War, schemes and Acts were put in place in order to keep a high standard of nutrition for the entire civilian population. The Government and local authorities put a particular focus on two groups, children and expectant and nursing women, giving them extra rations of certain food and vitamins/nutrients.

The increase in standards of nutrition was not the sole cause of the decline of stillbirth even if it played a major part. Indeed, this period also saw the end of the much feared syphilis as a substantial cause of stillbirths, thanks to the appearance of the much awaited and researched cure, which will be explained in this chapter. Finally, in this chapter we will be looking specifically at the case of Glasgow during that time period by focusing on the Medical Officer of Health's (MOH) annual reports for Glasgow as well as the Glasgow Royal Maternity and Women's Hospital's (GRMH) Annual Medical Reports, which will

highlight other reasons for the decline of the stillbirth rate in Scotland such as a higher surgical intervention rate and a reduction of failed forceps cases.

l) Study of the Scottish Registrar-General Annual Reports on Stillbirths, 1939-44

1939 was the first year during which stillbirths were registered in Scotland and from then data was recorded and analysed in the Annual Reports of the Registrar-General for Scotland. I shall give an analysis of their findings about the trends for the first six years after the Registration of Still-birth (Scotland) Act, 1938 came into force. Firstly, from 1939 to 1944 the national stillbirth rate receded from 42.2 per 1,000 total births to 32.5 per 1,000 total births. The Scottish stillbirth rate during those six years is detailed below (Figure 2.1). It is obvious when looking at the graph that the national stillbirth rate for Scotland underwent a significant decline during the Second World War. Prof Baird, moreover, pointed out in his article 'The future of obstetrics', published in 1953, that in '1949 the Scottish stillbirth rate was 27 [per 1,000 total births], i.e. a fall of 36 per cent in ten years'.¹ Baird also highlighted that 'The more interesting fact is that the fall in the stillbirth rate was steepest in the years 1943 and 1944 at a time when staffs were depleted and so much energy was being expended in winning the war', which seemed paradoxical.²

¹ Dugald Baird, 'The future of obstetrics', *EMJ*, 60 (1953), 19.

² Ibid.

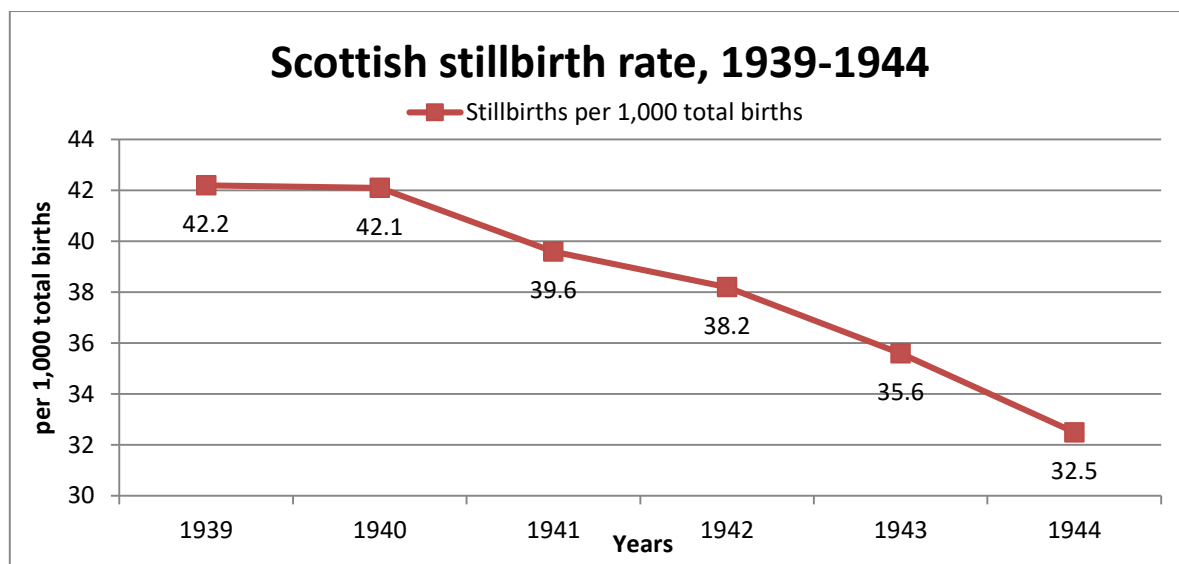


Figure 2.1: Scottish Stillbirth Rate, 1939-1944.³

The Scottish stillbirth rate of 1939 was high compared to other stillbirth rates of the same year (Table 2.1), and therefore there was an absolute necessity to understand the causes and prevent stillbirths in Scotland in order to reach a lower rate.

Country	Stillbirths per 1,000 total births
New Zealand	30
Holland (1938)	25
Canada	27
England & Wales	30
Scotland	42.2

Table 2.1: Stillbirth rates per 1,000 total births in different countries, 1939.⁴

In the Annual Reports, the number of stillbirths is analysed in regards to the geography, the age and parity of mothers, the legitimacy or otherwise of the child, and so on. The Annual Report looks first at the comparison of the stillbirth rate between the urban (large burghs) and the rural areas (counties exclusive of large burghs) of Scotland. In the Annual Report of 1944, it is underlined that

In the aggregate of the large burghs [the stillbirth] rate was 33.6 and in counties exclusive of large burghs it was 31.2, an urban excess of 8 per cent, as against 9 per cent in 1943, 12 per cent in 1942 and 14 per cent in 1941. In 1939 and in 1940 the rates were almost identical. Comparing the rates for 1944 with those for 1939 the rate for Scotland is less by 23 per cent, that for the large burghs by 20 per cent, and that for the counties by 27 per cent.⁵

³ Graph from data in LHSA, *Annual Reports of the Registrar-General for Scotland, 1939-44*, LBH16/6/34-39.

⁴ John Sturrock, 'Obstetrical responsibility in the prevention of foetal and neonatal deaths, *EMJ*, 51 (1944), 417.

⁵ LHSA, *Ninetieth Annual Report of the Registrar-General for Scotland, 1944*, LBH16/6/39, lxi.

This shows us that the occurrence of stillbirth declined both in urban and rural areas of Scotland, but despite this decrease, the rate remained higher in cities and towns. Indeed the stillbirth rate of the four largest cities in Scotland – Glasgow, Edinburgh, Dundee and Aberdeen – between 1939 and 1942 ‘was 44, 39, 46, 36’ respectively.⁶ Except for 1940, the stillbirth rate of these four cities was always higher than the national stillbirth rate. That was why the East Central and West Central Divisions had a higher stillbirth rate than the Northern and Southern Divisions of Scotland.⁷ Indeed, the Annual Report for 1942 stressed that there was ‘an excess in the Industrial East and West Central Divisions, but more particularly in the latter, over the rates for the less industrial Divisions of the North and South’.⁸ Furthermore, in the Annual Report for 1944 it is highlighted that ‘As in every year except 1940 the [stillbirth] rate is highest in the West Central Division’.⁹ The West Central Division, and thus Glasgow particularly, had therefore much more to do than the rest of Scotland in its public health policies to reduce its large number of stillbirths.

The Annual Reports then compared the stillbirth rate regarding the age and parity of the mothers. The medical profession believed that both the age of the mother and the parity influenced the well-being of a fetus.¹⁰ Indeed, on the one hand, women over 40 years old had a higher risk to have a stillbirth. On the other hand, a first pregnancy was more likely to result in a stillbirth than a second or a third pregnancy, but then the probability to have a stillbirth increased on the fourth pregnancy onwards.¹¹ According to Woods, ‘women having a first pregnancy in their late thirties or forties are at the highest risk of a fetal death’.¹² Taking the case of Scotland, these beliefs seemed consistent when looking at the stillbirths (legitimate) per thousand children born, by age of mother and number of previous children in 1939 and 1944 (Tables 2.2 and 2.3). As there was only little data for the higher

⁶ [Anon], ‘The BMJ: Infant Mortality in Scotland’, *BMJ*, 1 (1944), 119.

⁷ ‘The East Central Division consists of the Counties of Fife, Clackmannan, Stirling, West Lothian, Midlothian and East Lothian, with the city of Dundee; the West Central Division consists of the Counties of Lanark, Dunbarton, Renfrew and Ayr; while the Northern Division includes all counties north and west of these two divisions, and the Southern Division all counties south and east.’, LHSA, *Eighty-Fifth Annual Report of the Registrar-General for Scotland*, 1939, LBH16/6/34, lxxv.

⁸ LHSA, *Eighty-Eighth Annual Report of the Registrar-General for Scotland*, 1942, LBH16/6/37, lv-lvi.

⁹ LHSA, *Ninetieth Annual Report of the Registrar-General for Scotland*, 1944, LBH16/6/39, lxi.

¹⁰ Cameron, ‘Antenatal diet and its influence on still-births and prematurity’, *GMJ*, 22 (1944), 3.

¹¹ FitzGerald, McFarlane, ‘Foetal distress and intrapartum foetal death’, *BMJ*, 2 (1955), 359; Irvine Loudon, *Death in Childbirth: An International Study of Maternal Care and Maternal Mortality 1800-1950* (Oxford: Clarendon, 1992), 21-22.

¹² Robert Woods, *Death before birth: fetal health and mortality in historical perspective* (Oxford: Oxford University Press, 2009), 21-22.

parities, the Registrar-General for Scotland changed the presentation of the table by regrouping the parity/orders in groups from 1941 onwards to give a better representation of the reality.

Number of previous children	All Ages	Age of Mother					
		Under 20	20-24	25-29	30-34	35-39	40 & over
0	49	29	37	48	62	98	95
1	30	32	21	29	35	46	38
2	32	19	16	27	45	42	60
3	41		27	31	44	58	80
4	43		35	25	45	61	60
5	43		25	30	38	52	72
6	53			35	38	66	78
7	59			30	33	68	91
8	58				48	49	96
9	61				26	66	82
10 and over	86				30	106	90
Total	42	29	29	36	46	62	77

Table 2.2: Still-births (Legitimate) per thousand Children born, by Age of Mother & Number of previous Children, 1939.¹³

Number of previous children	All Ages	Age of Mother					
		Under 20	20-24	25-29	30-34	35-39	40 & over
None	36	20	26	36	52	63	54
1-3	24	29	14	19	27	32	43
4-6	44		22	34	36	48	41
7-9	58			43	49	59	65
10 and over	75				23	83	75
Total	32	21	22	27	35	44	58

Table 2.3: Still-births (Legitimate) per 1000 Total Children born, by Age of Mother & Number of Previous Children, 1944.¹⁴

For both 1939 and 1944, the older a mother was, the more likely she was to have a stillbirth. The national stillbirth rate for 1939 was 42.2 per 1,000 total births and had dropped to 32 per 1,000 total births in 1944. In 1939 the stillbirth rate for women under 20 was quite lower than the national rate compared to the rate for women who were 40 or over, which was nearly double the national stillbirth rate.¹⁵ In 1944 the gap was narrower and the

¹³ LHS, *Eighty-Fifth Annual Report of the Registrar-General for Scotland, 1939*, LBH16/6/34, lxvii.

¹⁴ LHS, *Ninetieth Annual Report of the Registrar-General for Scotland, 1944*, LBH16/6/39, lxiv.

¹⁵ LHS, *Eighty-Fifth Annual Report of the Registrar-General for Scotland, 1939*, LBH16/6/34, lxvii.

stillbirth rate was lower than in 1939, nevertheless, older women still had more chance to have a stillbirth.¹⁶ The same can be said about parity between 1939 and 1944. The stillbirth rate was lower for 1944, however, for both years women were more likely to have a stillbirth in primiparae, then the stillbirth rate decreased and was under the national rate for child 2 to 4, to rise again from the fifth child onwards.¹⁷ As Woods highlights, the stillbirth rate for women being 40 or over having their first child was very high. In 1939, 40 year-old and above primiparous pregnant women were more than twice as likely to have a stillborn baby as the average, and nearly twice more likely than primiparous women.¹⁸ In 1944, the stillbirth rate for the older primiparous women was not as alarming when compared to the national average and compared to the stillbirth rate for primiparae of all ages, however, it remained quite high.¹⁹

On the other hand, when looking at the percentage of illegitimate births in Scotland from 1939 to 1944, 'the proportion [of illegitimate births] for still-births is higher than that for live births' (Table 2.4).²⁰ This might be explained by the fact that expectant unmarried women did not attend antenatal supervision as much as married women due to the societal prejudice against them. Indeed, a midwife who trained in Lennox Castle hospital in the 1940s said that '[expectant unmarried girls] maybe came to Glasgow or round about because they were pregnant, because they had to run away from home. It was a stigma. A stigma to a girl to have a baby but it wasn't a stigma against a man for producing it.'²¹ Furthermore, Dr Ellis, obstetrician in Edinburgh, highlighted that the

excessive stillbirth rate and the still more excessive neonatal and infant mortality rates are ... an index of society's reaction to the unmarried mother and her child ... During pregnancy the mother, and after birth the infant, receive less care and are exposed to greater risks than those that form part of a normal family unit.²²

Abnormalities, therefore, were seen for the first time during deliveries, which were mainly home confinements, and could not be treated; if possible, women were sent as emergencies to maternity hospitals, where often little could be done to save the fetus if it was not already

¹⁶ LHSA, *Ninetieth Annual Report of the Registrar-General for Scotland, 1944*, LBH16/6/39, lxiv.

¹⁷ LHSA, *Ninetieth Annual Report of the Registrar-General for Scotland, 1944*, LBH16/6/39, lxiv, LHSA, *Eighty-Fifth Annual Report of the Registrar-General for Scotland, 1939*, LBH16/6/34, lxvii.

¹⁸ LHSA, *Eighty-Fifth Annual Report of the Registrar-General for Scotland, 1939*, LBH16/6/34, lxvii.

¹⁹ LHSA, *Ninetieth Annual Report of the Registrar-General for Scotland, 1944*, LBH16/6/39, lxiv.

²⁰ Ibid.

²¹ Lindsay Reid, *Extract of her Oral History Research*, 2000s.

²² Richard Ellis, 'The newborn: some problems of survival', *EMJ*, 55 (1948), 324-25.

dead. Moreover, the number of illegitimate births had risen during the Second World War, as had happened during the First World War. Populations become more mobile during wars and casual or temporary relationships increase, increasing the rate of illegitimate births.

Year	Percentage of Illegitimate Stillbirths out of the Total Number of Still-birth	Percentage of Illegitimate Live Births out of the Total Number of Live Births
1939	6.8	6.0
1940	7.2	5.9
1941	8.3	6.6
1942	8.8	7.1
1943	9.0	7.6
1944	10.0	7.9

Table 2.4: Percentage of Illegitimate stillbirths and Percentage of Illegitimate Live Births, Scotland, 1939-44.²³

Regarding the causes of death in stillborn babies during the studied period, the main causes are identified in Figure 2.2. The main characteristic to highlight is the decrease in the percentage of ill-defined or unknown causes.²⁴ This decrease was due to better registration rather than a real decrease in unexplained causes. Indeed, in the Annual Report of 1939, it is underlined that ‘Part of this high proportion of ill-defined and unknown causes is, no doubt, due to the novelty of the scheme, and will doubtless be reduced as the value of specification of still-births by cause becomes apparent’.²⁵ Their prediction seemed to come to pass in that the percentage for all other causes of stillbirths increased during the period, especially the ones due to difficult labour and fetal defects, when only the ill-defined or unknown rate diminished (Figure 2.2). In 1944, the Annual Report explained that the decrease in the percentage for the ill-defined or unknown causes ‘is due [to some extent] to the practice of sending an inquiry to the certifier in many such cases to ask if any defined probable cause can be indicated’.²⁶ This shows that the Scottish Registrar-General attempted to be as meticulous as possible in identifying the causes of stillbirths in order to make medical practitioners and midwives more aware and more attentive in the future to prevent such causes.

²³ LHSa, *Ninetieth Annual Report of the Registrar-General for Scotland, 1944*, LBH16/6/39, lxiv.

²⁴ LHSa, *Annual Reports of the Registrar-General for Scotland, 1939-44*, LBH16/6/34-39.

²⁵ LHSa, *Eighty-Fifth Annual Report of the Registrar-General for Scotland, 1939*, LBH16/6/34, lxviii.

²⁶ LHSa, *Ninetieth Annual Report of the Registrar-General for Scotland, 1944*, LBH16/6/39, lxvi.

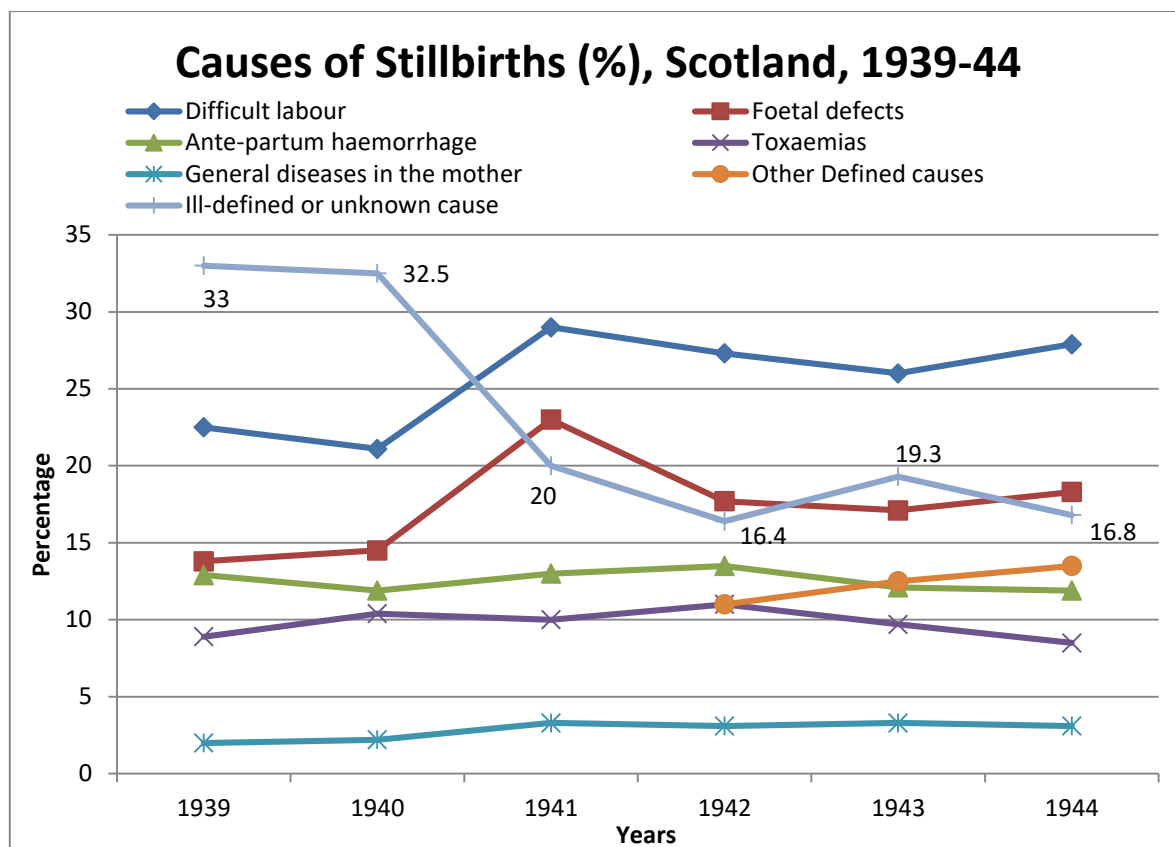


Figure 2.2: Causes of Stillbirth in percentage, Scotland, 1939-1944.²⁷

Furthermore, there is an excess during this period of stillborn baby boys for most of the causes. For all causes of death the excess of male stillbirths was between 11 per cent in 1943 and 27 per cent in 1941 (Table 2.5).²⁸ We now know that there is always an excess of male fetuses but this excess is corrected mostly during pregnancy (through miscarriages and stillbirth) and, to a lesser extent, childhood; at the time, nonetheless, the medical community just started to realise it. Indeed, the annual report for 1944 underlined that ‘For all causes there are 18 per cent more male than female children among the still-born, as against 7 per cent among the live-born’.²⁹ The excess of males in live births had remained around 5 per cent during those six years, and therefore the percentage of excess in male stillbirths was at least double to five times that of the excess of boys in live births.³⁰ For stillbirths, the excess of boys was found at the highest in cases of difficult labour.³¹ Quite a lot of fluctuation in regards to the sex ratio was witnessed for stillbirths due to general

²⁷ Graph from data in LHSa, *Annual Reports of the Registrar-General for Scotland, 1939-44*, LBH16/6/34-39.

²⁸ LHSa, *Annual Reports of the Registrar-General for Scotland, 1939-44*, LBH16/6/34-39.

²⁹ LHSa, *Ninetieth Annual Report of the Registrar-General for Scotland, 1944*, LBH16/6/39, lxvii.

³⁰ LHSa, *Annual Reports of the Registrar-General for Scotland, 1939-44*, LBH16/6/34-39.

³¹ Ibid.

diseases of the mother.³² On the other hand, when it came to fetal defects, from 1939 to 1944, the excess was always in females. Indeed, during the period, the male stillbirths were only around 60 per cent of the female ones. To conclude, more male fetuses were stillborn in all the causes but more female stillborn fetuses were diagnosed with fetal defects.

Ratio Male/Female of Stillbirths according to Causes of Death	1939	1940	1941	1942	1943	1944
General diseases of mother	1.08	1.77	1.72	1.13	1.42	0.89
Toxaemias	1.18	1.39	1.58	1.36	1.21	1.38
Ante-partum Haemorrhage	1.41	1.24	1.36	1.26	1.36	1.34
Foetal Defects	0.64	0.69	0.63	0.57	0.6	0.6
Difficult labour	1.68	1.72	1.56	1.61	1.35	1.59
Other defined causes	1.19	1.28	1.49	1.23	1.2	1.35
Ill-defined & unknown causes	1.27	1.28	1.28	1.37	1.11	1.19
All Causes	1.23	1.26	1.27	1.19	1.11	1.18

Table 2.5: Ratio Male/Female of Stillbirths according to Causes of Death.³³

	1939	1940	1941	1942	1943	1944
Medical Practitioners	94.4	95.3	96.1	96.6	96	96.9
Midwives	5.3	4.6	3.7	3.1	3.8	3

Table 2.6: Division in Certification of Stillbirths (%), 1939-1944.³⁴

As explained in Chapter 1, either the medical practitioner who attended the birth or examined the body of the stillborn baby, or if no medical practitioner was available, the midwife who assisted the birth, had to certify the stillbirth and when possible give the cause or probable cause of death. According to the Annual Reports, a vast majority of stillbirths were certified by medical practitioners (Table 2.6). Knowing that most births were home confinements under the care of midwives at that time, it would appear that midwives used to call in general practitioners in those cases or the stillborn babies were sent to a hospital's pathology department. Indeed, in the 1950s, in Dunfermline there was no pathology laboratory but they had access to the pathology laboratory at the Edinburgh Royal Infirmary as explained below

So if there was a death in the labour room, this was a sad thing. You took the baby away, and you, bathed it, put the binder on, just the same. And you wrapped it with the gauze – the gamgee – and

³² Ibid.

³³ Table from data LHSA, *Annual Reports of the Registrar-General for Scotland, 1939-44*, LBH16/6/34-39.

³⁴ Table from data in LHSA, *Annual Reports of the Registrar-General for Scotland, 1939-44*, LBH16/6/34-39.

you wrapped the poor little thing in this, folded it over, top and bottom and sealed it all up. We put it in a brown paper parcel just like as if it was a parcel to go to the Post Office, tied it with string – or sellotape.

A girl used to work in the big path lab at Edinburgh Royal Infirmary. They used to do post mortems over there because we hadn't the facilities. We just didn't have anybody. We'd let this girl know – if there was a baby to collect. She used to come with a shopping bag, put the brown paper parcel with the baby in – she used to carry it in a bag.³⁵

That practice may have already begun before the war and elsewhere than Dunfermline, especially in rural areas of Scotland which lacked the resources and technology found in the main urban hospitals. That practice, therefore, is one explanation for the high percentage of stillbirths certified by medical practitioners, either general practitioners or pathologists, than midwives.

To conclude, in analysing the Registrar-General for Scotland's Annual Reports from 1939-44, we have understood the reasons influencing the stillbirth rate, and for this period where the aspects which brought the rate down, as well as the aspects on which the medical profession still needed to focus on in order to help further decline the stillbirth rate. Women living in certain areas of Scotland, such as the industrial belt, for example, had to be monitored more closely than Scottish women living in the north or the Borders, and doctors had to pay particular attention to older women and/or women with high parity who were at a higher risk of having a stillbirth to reduce the stillbirth rate. Analysis of the reports shows that male fetuses were more likely to be stillborn than female fetuses; therefore it was believed that developing technology to determine the sex of a fetus during pregnancy would help medical professionals know which women might need closer antenatal supervision. Continuing developing technologies which could also diagnose abnormality, especially fetal defects – the second highest known cause of stillbirth in the period – was also believed to be beneficial in lowering the stillbirth rate. That was why obstetric technologies took such a fundamental place in antenatal and also intranatal care in the second half of the twentieth century as this thesis will emphasise. In the next part I will focus on non-purely obstetrical reasons, linked in part to the place of residence we analysed in this section, which the medical community believed to have largely influenced the decline in the stillbirth rate during the Second World War and the years preceding the establishment of the NHS in Scotland and Britain more broadly.

³⁵ Reid, *Extract of her Oral History Research*, 2000s.

II) Stillbirth, Social Class and Nutrition

The decrease of the stillbirth rate during the Second World War in Scotland, and more broadly in Britain, was explained especially around the themes of social class and nutrition. Indeed, an article entitled ‘Infant mortality’ published in the *Lancet* in 1945 stated

The unduly high infant mortality in Scotland – “that distress area” – has long been a source of anxiety to all who have the interests of the country at heart. Assuming similar standards of obstetric care, it has been implied that social and economic factors are responsible for the difference between Scotland and her neighbours. A more explicit statement of the problem comes from Aberdeen where Professor Baird has completed a survey of the influence of social and economic factors on stillbirths and neonatal mortality.³⁶

Baird’s survey showed that the two groups where the differences in stillbirth and neonatal mortality were the greatest were the booked cases in the Aberdeen Royal Maternity Hospital (ARMH) and patients who delivered in a fairly expensive nursing-home under the care of a specialist obstetrician. As both groups received the same standard of obstetric care, the differences in the stillbirth and neonatal mortality must have come from differences in social and economic backgrounds, which included great differences in diet. The group of women delivered at the hospital were mainly working- and lower-middle-class women whereas the group who delivered in the nursing-home were upper- or upper-middle-class women.³⁷ This conclusion proved that much could be done when focusing mainly on diet, especially in the lower classes.

Beginning in the interwar period, the scientific community had begun to stress the importance of the nutritional quality of the food and specific vitamins women seemed to need while pregnant. In May 1937, Dr Young, an obstetrician in Edinburgh and London, underlined the importance of vitamins A and E based on experiments done on pregnant animals. Dr Young could not confirm that vitamin A played an important role for the pregnant woman, but was certain of the value of vitamin E especially at the beginning of the pregnancy to allow the growth of the fetus until full term.³⁸ The medical research on vitamins began in 1922 with Evans and Bishop’s experiment on rats. The results obtained

³⁶ [Anon], ‘Infant mortality’, *Lancet*, 246 (1945), 820.

³⁷ Ibid.

³⁸ James Young, ‘The habitual abortion and stillbirth syndrome and late pregnancy toxæmia vitamin E and the prolactin-progesterone mechanism’, *BMJ*, 1(1937), 955.

were that rats could not reproduce except if they received a diet including ‘certain essential foodstuff’.³⁹ Many scientists worked on understanding what the ‘essential foodstuff’ consisted of in the early 1920s. In 1924, Dr Sure named it ‘Vitamin E’ and said it was to be found in high quantity in wheat, especially in its germ. In the early 1930s, vitamin E was given in the form of wheat-germ oil to infertile mothers or to mothers with recurrent miscarriages as a treatment. The treatment could also have included vitamin A and D, also with calcium. Many obstetricians believed that vitamin E played a role only in the first trimester of pregnancy until the placenta was fully developed, and therefore the treatment should be given as soon as a woman with habitual miscarriages knew she was pregnant.⁴⁰ Currie, honorary surgeon in Leeds Maternity Hospital, nevertheless stressed that ‘until further observations are made it would appear safer to give [the treatment] throughout the whole of pregnancy’.⁴¹

According to Helen Jones, ‘the most likely reason for improvements in health was probably related to the mothers’ better nutrition. Even during the worst periods of food shortages the distribution of food was more equitable than it had been before the war.’⁴² As said previously, the Scottish stillbirth rate had diminished most steeply during the harshest years of the Second World War which seemed paradoxical. Indeed, Ian Sutherland, from the Institute of Social Medicine in Oxford, highlighted that

In many respects the environment of the expectant mother deteriorated during the war. The strain and anxieties of life increased, particularly in the towns, with overcrowding, bombing, queuing, separation of families, and other additions to the housewife’s duties and responsibilities. Moreover, married women worked in industry to a greater extent than ever before. All these are factors which might well be expected to have increased the rate.⁴³

The decrease in the stillbirth rate, therefore, could be explained partially thanks to the food rationing in place in Britain at that time.⁴⁴ Indeed, as Dr Ellis underlined, the fall of the stillbirth rate had ‘been tentatively attributed to improved nutrition, since other factors tending to produce stillbirth remained operative’.⁴⁵

³⁹ David Currie, ‘Vitamin E in the treatment of habitual abortion’, *BMJ*, 2 (1937), 1218.

⁴⁰ *Ibid.*

⁴¹ *Ibid.*, 1219.

⁴² Helen Jones, *Health and Society in Twentieth Century Britain* (London: Longman 1994), 52.

⁴³ Ian Sutherland, ‘The stillbirth-rate in England and Wales in relation to social influences’, *Lancet*, 248 (1946), 954.

⁴⁴ Baird, ‘The future of obstetrics’, 19.

⁴⁵ Ellis, ‘The newborn: some problems of survival’, 328.

Before the war, according to the Departmental Inquiry on Maternal Mortality, 1932, ‘there was a great deal of ill-health among working-class mothers which could not be assessed’, and the main reason for this ill-health was poverty.⁴⁶ Working-class women, when they could not provide enough food for their family, were depriving themselves to give as much as possible to their husbands and children. This practice meant that women were under nourished before and even during subsequent pregnancies, increasing the miscarriage, stillbirth and neonatal mortality rates.⁴⁷ During the war, for the first time, local authorities and then the Government put into force schemes to provide extra rations to children, expectant and nursing women. Indeed, as the Annual Report of the MOH of the City of Glasgow for 1940 highlighted, ‘The arrangements for supplying milk to mothers and children up to five years of age under the scheme prepared by the Scottish Milk Marketing Board, which came into operation on 15 July, 1939, were superseded by the National Milk Scheme towards the end of July, 1940’.⁴⁸ Providing extra milk ration was the first scheme passed of many.

The Ministry of Health and the Ministry of Food, while rationing all types of food, provided expectant women of all classes ‘Priority milk and eggs, supplementary vitamins, and, later in the war, other extra rations were made available’ to them.⁴⁹ The Ministries of Health and Food established the extra provision of certain food for expectant women in accordance with the League of Nations’ technical commission’s nutrition standards. Actually, in 1942, the Ministry of Health and the Ministry of Food supplied cod liver oil and orange juice to all expectant mothers to help to provide ascorbic acid, as well as vitamins A and D. In Glasgow, the cod liver oil and other dietary supplements were issued from the Glasgow Corporation through the Child Welfare Centres. Table 2.7 illustrates the weight (in lbs) of those dietary supplements including cod liver oil issued to the expectant and nursing women and children. Cod liver oil was issued quite evenly throughout the war and the years preceding the establishment of the NHS. On the other hand, the quantity of

⁴⁶ Margery Spring Rice, ‘Health of working women in war-time’, *Lancet*, 235 (1940), 252.

⁴⁷ *Ibid.*

⁴⁸ Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow, 1940*, D-HE/1/1/40, 15.

⁴⁹ Sutherland, ‘The stillbirth-rate in England and Wales in relation to social influences’, 954.

cod liver oil emulsion, which was meant more for young children, varied slightly more from one year to another.

Dietary supplements issued from the Child Welfare Centres in lbs	1943	1944	1945	1946	1947	1948
Cod Liver Oil	2883	2447	2880	2565	1842.5	2429
Cod Liver Oil Emulsion	6117	4824	6007	4017	3513.5	4512
Chemical Food	3768	3404	3568	6252	1773	3864
Sundry Foods	143	139	150	169	52	124
Total	12971	10814	12605	13003	7181.5	10929

Table 2.7: Dietary Supplements issued from the Child Welfare Centres, in lbs, City of Glasgow, 1943-48.⁵⁰

Then, in 1943, the Ministries put at disposition to expectant mothers tablets of vitamins A and D.⁵¹ That was why Sutherland stressed that

The nutritional standards set throughout the country would explain why the worst areas of the country have shown the most improvement and, as a consequence, have rendered the experience of the whole country more uniform. Improved nutrition would raise the general level of health of the mother and make her better able to support the growing foetus.⁵²

Nutrition during pregnancy became such a concern during the war that some maternity hospitals opened their own dietary department. In the GRMH, a dietician was first appointed to the Antenatal Clinic in 1942. Food demonstrations as well as type-written sheets containing advice on diet were given to all patients of the Clinic. That first year, the dietician focused principally on the diet of pregnant women in their last trimester thanks to individual sessions. Those patients had regular appointments to report on the diet they followed and the dietician made personalised changes when necessary. At the end of 1942, 300 patients had been followed by the dietician and 140 had delivered. According to the Medical Report for the year 1942

Amongst them there were four still-births and five premature births – the rest being full-term healthy infants. This combined still-birth and premature birth-rate is roughly one quarter of the combined still-birth and premature birth-rate prevailing in the Hospital as a whole, and though the numbers so far are small, the results indicate the need for more supervision of the diets during pregnancy. Certain figures relating to the diet of the ward patients, whose pregnancies have

⁵⁰ Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1943-48*, D-HE/1/1/41-44.

⁵¹ RCOG Archive, *Nutrition Committee, 1944-47, Meeting papers, 1945-1947*, RCOG/M37/3.

⁵² Sutherland, 'The stillbirth-rate in England and Wales in relation to social influences', 954.

terminated in still-births, premature births and full-term infants, were collected to show the effect of diet on the liability of the foetus. The results, which are statistically significant, go to show that a good dietary regime plays an important part in the ante-natal care of the expectant mother.⁵³

The results of this research were published in 1944 in the *Glasgow Medical Journal* by Miss Cameron, Rottenrow's dietician. The research included 500 pregnant women in their last trimester that received personalised advice on diet at the Antenatal Clinic between July 1942 and October 1943 compared to 500 pregnant women who visited the Antenatal Clinic but did not receive particular advice on their diet (Table 2.8). They seem to corroborate with their initial conclusion I quoted above, even if the estimated rate of 'roughly one quarter of the combined still-birth and premature birth-rate prevailing in the Hospital as a whole' was quite overestimated. In both groups the age and parity of the mothers were quite similar; however, the control group had a higher stillbirth rate than the supervised group. As both groups received the same obstetric care, only the diet differed and thus must have been the factor influencing the stillbirth rate.

	Supervised Group	Control Group
Still-births	21 (4.2%)	36 (7.2%)
Average parity of mothers	2.96	3.08
Average age of mothers	28.38	28.8

Table 2.8: Results between the Supervised Group and the Control Group, 1942-1943, Rottenrow.⁵⁴

The next table shows that in the 500 pregnant women under dietary supervision, those who had a stillbirth or a premature birth had the less nutritious diet. Dr Sturrock, obstetrician at the Simpson Memorial Maternity Pavilion (SMMP) in Edinburgh, underlined that diet influenced the outcome of a pregnancy, nevertheless 'Where there is gross deficiency, the building up of the necessary reserves cannot be done during one pregnancy, even if the diet then is adequate'.⁵⁵ If women had poor health for nearly their entire life, it seems fair to affirm that adequate diet for just under nine months would not have been a miracle cure for those women's ill-health, but it would have been a good start towards better health.

⁵³ NHSGGCA, *the GRMH, Medical Report for the Year 1942*, HB45/3/29(i), 7-8.

⁵⁴ Cameron, 'Antenatal diet and its influence on still-births and prematurity', 5.

⁵⁵ Sturrock, 'Obstetrical responsibility in the prevention of foetal and neonatal deaths', 420.

	Stillbirths	Premature Births	Full-term Births
First-class protein (gms)	27.4/50	29.9/50	45.9/50
Calcium (gms): daily intake recommended → 1.5 gms	0.76	0.80	1.22
Phosphorous (gms): daily intake recommended → 2 gms	0.91	0.93	1.37
Age	32.1	28.4	28.6
Parity	4.2	2.9	3.12

Table 2.9: Nutriment, age and parity in stillbirths, premature and full-term births, 1942-43, Rottenrow.⁵⁶

In 1944, the Royal College of Obstetricians and Gynaecologists (RCOG) put in place a Nutrition Committee; the creation of such a Committee was explained as followed

Sir Joseph Barcroft said that the suggestion that the College should undertake this investigation occurred to him when the Nutrition Society was considering a request from Lord Woolton for advice on certain aspects of dietary of the pregnant woman and the effect of diet on the foetus. Sir Joseph had heard many expressions of opinion, some of which were lacking confirmation and he felt that the College was the body to make authoritative statements.⁵⁷

On 25 February 1946, the Nutrition Committee invited Dr Clement Smith of the Boston Children's Hospital to speak about his research on his recent work in the Netherlands, of which 'the chief object ... was to discover if babies at birth or in their prenatal life show any effects of the deficiency of feeding in the mothers'.⁵⁸ His research looked at pregnant women's nutrition during three periods: 'the pre-war period, the period of occupation when the diet of pregnant mothers had been limited to 800 calories per day for [imposed] experimental purposes [due to the Dutch Famine Winter], and the period after liberation when extra nourishment had been provided'.⁵⁹ According to Dr Smith, there were little differences between the periods, but he believed that better nutrition in the last trimester helped babies to grow bigger. He underlined, however, that 'The neonatal mortality was not affected by diet, but the *stillbirth rate was higher in the "hunger" period* and would probably "catch up" to normal'.⁶⁰ Dr Smith's results in the Netherlands, as well as Baird's results which he presented to the Committee on 30 April 1945, reaffirmed the results

⁵⁶ Cameron, 'Antenatal diet and its influence on still-births and prematurity', 3.

⁵⁷ RCOG Archive, *Nutrition Committee, 1944-47, Meeting papers, 1945-1947*, RCOG/M37/3.

⁵⁸ Ibid.

⁵⁹ Ibid.

⁶⁰ Ibid., emphasis in originals.

showed by the GRMH dietician that undernourished or malnourished pregnant women, especially in the last trimester, were more likely to have a stillbirth.

Rationing and extra rations had been a benefit for the women in the lowest classes to have an adequate diet while pregnant, and as Hanson argues, 'At the end of the war the Ministry of Health could claim, with some justification, that these measures were the prime cause of a marked decline in maternal, neonatal, infant mortality and stillbirth rates.'⁶¹ Baird, nevertheless, concluded in an article published in 1947, after an experiment conducted in Aberdeen in 1945-1946 between pregnant women who attended the ARMH (lower social-class women) and pregnant women who attended a private nursing-home (upper social-class women), that 'Before the war the diet of the high income-group was much superior to that of the poor, and my investigation has shown that, during the war years, in Aberdeen at least, the high income-group still had a much better diet than the poor'.⁶² This can be explained by the fact that the expectant women in the upper social classes used the entirety of rations available to them whereas the pregnant women in the lower social classes failed 'to make use of rations'.⁶³ Indeed, overall the Government schemes worked well, the milk and egg schemes were used at 100 per cent by mothers; on the other hand, however, the vitamin scheme, in whatever procured form, did not work as well as only around 50 per cent were used.⁶⁴ That must be why, in 1948, McKinlay found that in Scotland 'the difference in incidence [of stillbirths] between the social classes is actually greater in 1945 than it was in 1939'.⁶⁵ Ellis, therefore, concluded that McKinlay's results clearly proved that the rise in nutritional standards in the entire Scottish female population during war-time was not 'the sole factor in reducing the overall stillbirth and neonatal mortality rates'.⁶⁶

To summarise, the decrease in the stillbirth rate was explained by the medical community as due to the better nutrition of women, which was itself due to the equal rationing and schemes regarding certain food and dietary complements put in place during

⁶¹ Clare Hanson, *A cultural History of Pregnancy: pregnancy, Medicine and culture, 1750-2000* (Houndmills, Basingstoke, New York: Palgrave Macmillan, 2004), 131.

⁶² Dugald Baird, 'Social class and foetal mortality', *Lancet*, 250 (1947), 532.

⁶³ M. Roscoe, 'A dietary survey of pregnant women and school children in Edinburgh', *EMJ*, 53 (1946), 573.

⁶⁴ Loudon, *Death in Childbirth*, 263.

⁶⁵ Ellis, 'The newborn: some problems of survival', 328.

⁶⁶ *Ibid.*

the War. Obstetricians and dieticians believed nutrition had an especial importance in preventing stillbirth in the last trimester of pregnancy, and therefore, a woman's diet needed to be followed and improved if there were any deficiencies. The better distribution of the available food through rationing, however, did not narrow the gap between the different class groups especially in regards to the female population. That is why the steep decline in the stillbirth rate in the 1940s cannot be fully explained around the arguments of better nutrition but must also be explained in terms of other factors as will be shown in the next case-study of Glasgow, but also in the following chapter on a national level.

III) The End of Syphilis as a 'Threat for the Future of the Race'

As shown in the first chapter, in the interwar period congenital syphilis was the beast to understand and tackle as it was held to threaten the future of the nation and was believed to be a significant cause of stillbirth. Prevention of syphilis and especially congenital syphilis, therefore, was felt to be a priority. In Glasgow the number of women attending Glasgow Corporation antenatal clinics to be tested for syphilis had risen quite steeply from 1924 (when they began) until 1943. The number of women testing positive, on the other hand, diminished. Indeed,

in 1924 less than 1,000 women attended [antenatal clinics] and about five per cent of them had positive blood reactions. By 1939 the number examined had risen to 8,616 [women] with only 1.2 per cent positive results, and [despite] intervening fluctuations it had risen in 1943 to 11,067 [women attending] with 1.8 per cent positive [results].⁶⁷

Thanks to this increased blood checking during the antenatal period, the number of cases of congenital syphilis in infants in Glasgow diminished from 335 in 1922 to 15 in 1941, but then rose to 27 in 1942 and 32 in 1943. If there had been such a decrease of congenital syphilis in infants, there must also have been, therefore, a decrease of syphilis as a cause of stillbirths. In the Annual Reports of the Registrar-General for Scotland, the number of stillbirths due to syphilis was 20 in 1939, 23 in 1940, 32 in 1941 and 1942, 28 in 1943 and 24 in 1944, a small number across the whole of Scotland.⁶⁸ In the GRMH, the percentage of stillbirths due to syphilis represented 0.3 per cent of the total causes of stillbirths for the

⁶⁷ [Anon], 'Prevention of congenital syphilis', *Lancet*, 244 (1944), 505.

⁶⁸ LHASA, *Annual Reports of the Registrar-General for Scotland, 1939-44*, LBH16/6/34-39.

years 1940, 1941, 1942 and 1943, 0.8 percent for 1944 and 1945, and 0.4 per cent for 1946.⁶⁹ Stillbirths due to syphilis in Rottenrow, therefore, represented only a minuscule proportion of stillbirths, which should not have been the main concern of the obstetricians working in this Hospital. The increase for the years 1941 to 1943 for Scotland and for the years 1944 and 1945 for Glasgow could be explained because of ‘the increased promiscuity of war-time [which] led to infections during pregnancy’.⁷⁰

In the days after the Second World War came the cure that was going to put an end to the fear and threat of syphilis that had lasted for centuries. Indeed, penicillin was introduced in the 1940s as a treatment for syphilis and the results were astonishing. According to MacFarlane, an obstetrician in Newcastle-upon-Tyne, ‘Penicillin with small amounts of arsenic and bismuth [would] protect the foetus; but it may not fully cure the mother’.⁷¹ MacFarlane wrote that it may not fully cure the mother in order to keep in mind that syphilis was still a dangerous disease and the appearance of penicillin should not make people forget that fact, thus by underplaying the curative effect of penicillin, it might give an incentive for people to remain cautious. Moreover, he also stressed that when the bi-treatment penicillin-arsenic/bismuth was used, even when begun late in the pregnancy and/or when syphilis was virulent, pregnancies frequently had a positive outcome.⁷² Nevertheless, syphilis remained more dangerous for the fetus if contracted while the woman was already pregnant than before pregnancy, and the later in pregnancy syphilis was contracted the more dangerous. Finally, in the late 1940s onwards, the fear of hereditary syphilis through the father’s semen had been proven impossible. Syphilis could only pass to a fetus’ system through ‘the placenta or by contact with a syphilitic lesion at the time of birth’ and not at the moment of conception.⁷³ As long as the mothers were treated before their fifth month of pregnancy, the fetus would be syphilis free. Therefore the rate of stillborn mortality due to syphilis dropped drastically in the 1950s to become a non-threatening diagnostic and it ceased to be a worry within the medical community when it came to stillbirth.

⁶⁹ NHSGGCA, *The GRMH, Medical Report for the Years 1940-1946*, HB45/3/27(ii)-33(i).

⁷⁰ [Anon], ‘Prevention of congenital syphilis’, 505.

⁷¹ W. MacFarlane, ‘Treatment of syphilis during pregnancy’, *Lancet*, 255 (1950), 1071.

⁷² *Ibid.*

⁷³ Mary Carpenter, *Health, Medicine and Society in Victorian England* (Santa Barbara: ABC-CLIO, LLC, 2010), 88.

IV) The Case of Glasgow, 1939-1948

In this part I am going to detail the case of Glasgow in the Second World War and years preceding the establishment of the NHS through data from Glasgow Corporation's annual reports and from the GRMH's annual reports. In the city of Glasgow, the stillbirth rate decreased from 4.2 per cent of the total births notified in Glasgow in 1939 to 2.9 per cent for 1949 (Figure 2.3). This decline applied to the totality of births notified in Glasgow, hence including both hospital and institution deliveries and home confinements that had taken place in the city. Home confinements could be medically or non-medically attended, meaning attended by a general practitioner and/or a midwife. Hospital/institution deliveries occurred either in hospitals or in private nursing homes. The care received for those types of delivery was similar but the latter was private and thus expensive, and thus principally booked by upper-class and upper-middle-class women whereas hospitals mainly consisted of lower-class women as was already the case prior to the registration of stillbirth.

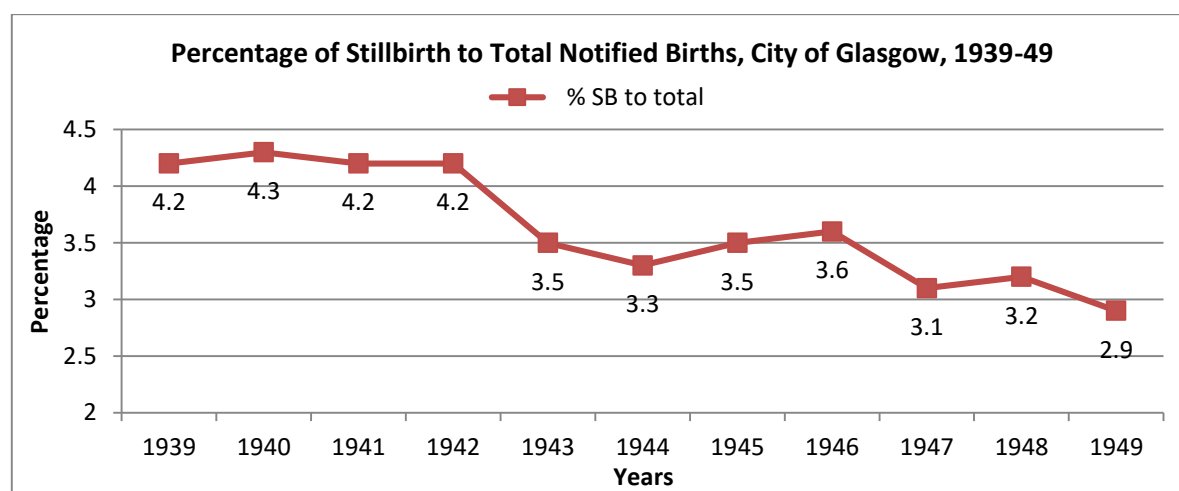


Figure 2.3: Percentage of Stillbirth to Total Notified Births, City of Glasgow, 1939-49.⁷⁴

Figure 2.4 illustrates the percentages of stillbirths according to the types of delivery in Glasgow from 1939 to 1949. From this figure we can see that for all types of delivery, the percentage of stillbirths decreased but not all at the same pace, except for those medically attended in nursing homes, which remained constant (between 2 and 3 per cent).⁷⁵ After

⁷⁴ Graph from data in Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1939-49*, D-HE/1/1/40-45.

⁷⁵ Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1939-49*, D-HE/1/1/40-45.

1944 for all types of delivery, the percentage of stillbirths was equal or under 3.1 per cent, except for hospital births, which remained much higher.⁷⁶ This can be explained by the fact that women who delivered in hospitals had or had had abnormal pregnancies, or that their homes were unfit for a home confinement. For both reasons we can conclude that those women belonged mainly to the lowest social classes. Indeed, upper- and upper-middle-class women with abnormalities or deciding not to deliver at home would have paid to deliver in a nursing home under the care of specialist obstetricians, as highlighted just above. Furthermore, patients having a home confinement had normal pregnancies and labours as they would have been directly transferred to the hospital if the attendant noticed an abnormality at the onset or during labour. Women delivering in hospitals were more likely to have a stillbirth due to either obstetric abnormalities and/or disadvantages due to their social and, as mentioned earlier in this chapter, nutritional background. That was why the percentage for the entire city was higher than the rate for the patients delivered in the district or in nursing homes, but was still closer to those rates than the hospital delivery rate as still more deliveries were occurring at home than in medical institutions.

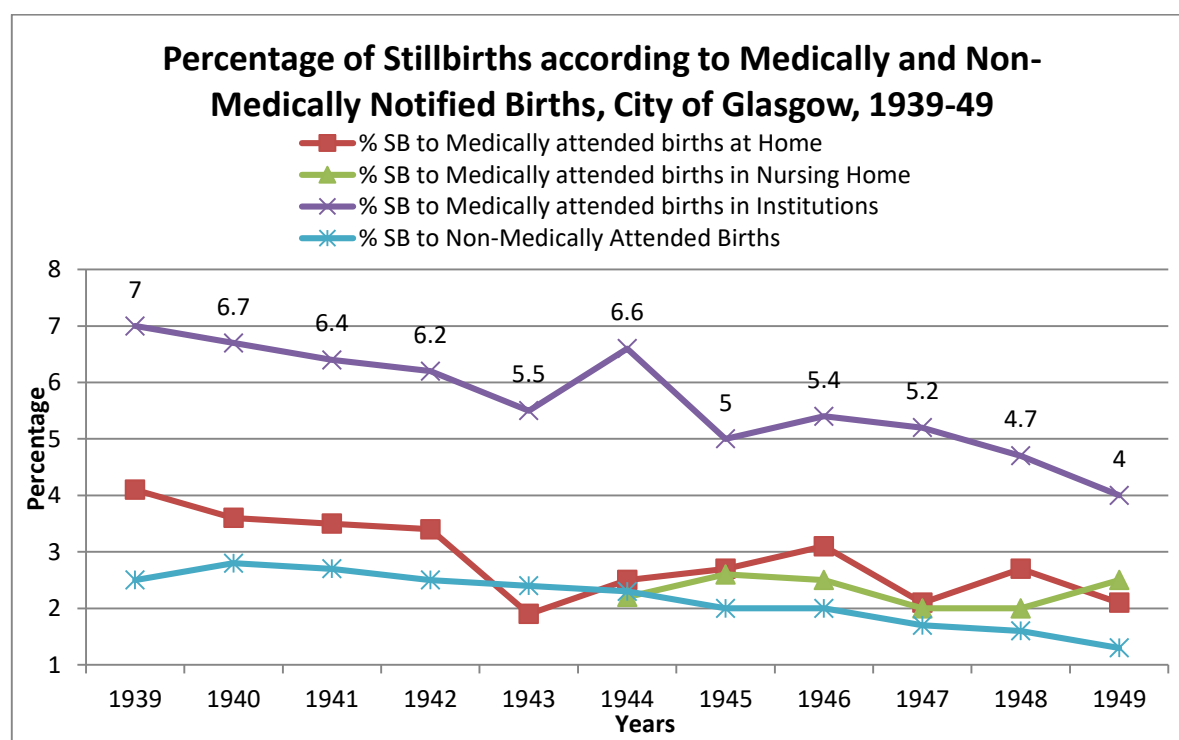


Figure 2.4: Percentage of Stillbirths according to Medically & Non-Medically Notified Births, City of Glasgow, 1939-49.⁷⁷

⁷⁶ Ibid.

⁷⁷ Graph from data in Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1939-49*, D-HE/1/1/40-45.

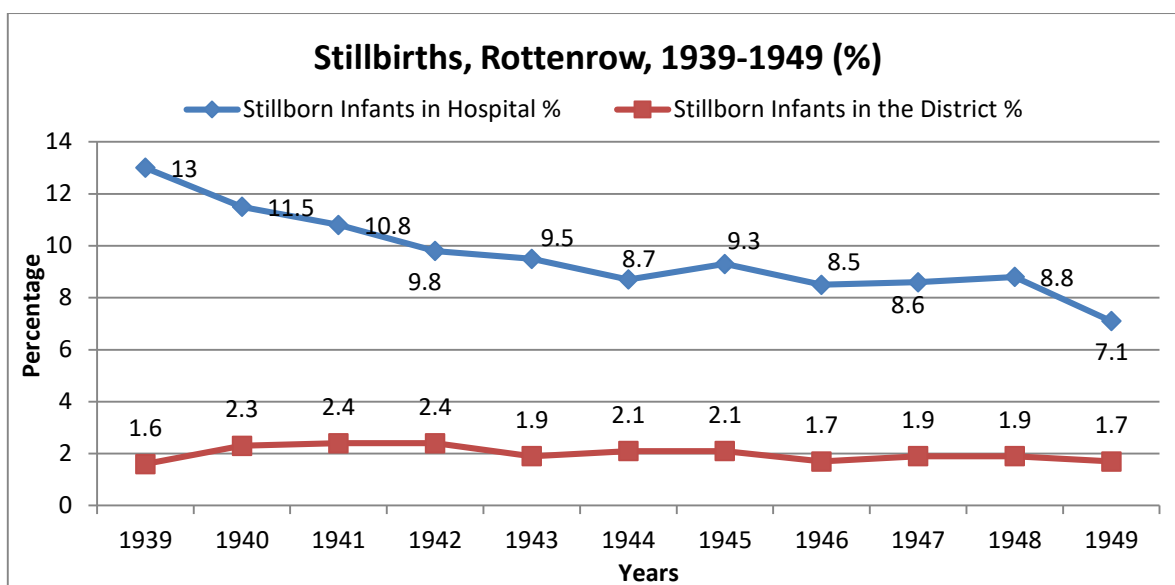


Figure 2.5: Stillbirths (%), Rottenrow, 1939-1949.⁷⁸

The MOH's report in the 1940s did not provide more detailed information about stillbirth. Moreover, as most stillbirth occurred in hospital and the GRMH was the biggest hospital providing maternity beds in Glasgow, I use its annual reports in order to give us a clearer picture, if not a complete one, of stillbirth in Glasgow. In the GRMH, the stillbirth rate for in-patients diminished from 13 per cent in 1939 to 7.1 per cent in 1949, whereas the stillbirth rate for the district patients remained more or less stable, but still lower than the in-patient one (Figure 2.5). During this period the number of admitted in-patients stayed roughly the same, from 4,502 in-patients in 1939 to 4,252 in 1949; only in 1945 the number decreased under 4,000 in-patients, which could be explained that some women were sent away from Glasgow to deliver in the countryside in Lennox Castle Hospital or Cresswell Maternity Hospital, as these were considered safer during the war as based in the countryside far from potential bomb attacks. Lennox Castle (Figure 2.6) used to be a psychiatric hospital; nevertheless, in 1939 when the Government planned the evacuation of children and expectant women, some wards of Lennox Castle were turned into a Maternity Hospital. Lennox Castle remained a maternity hospital until 1964 when the Queen Mother's Hospital (QMH) opened. Cresswell Maternity Hospital (Figure 2.7), on the other hand, used to be a Poor House turned into a maternity hospital at the beginning of the war for pregnant women evacuated from Glasgow.⁷⁹

⁷⁸ Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1949*, HB45/3/26(i)-36(i).

⁷⁹ Reid, *Scottish Midwives*, 84, 95.

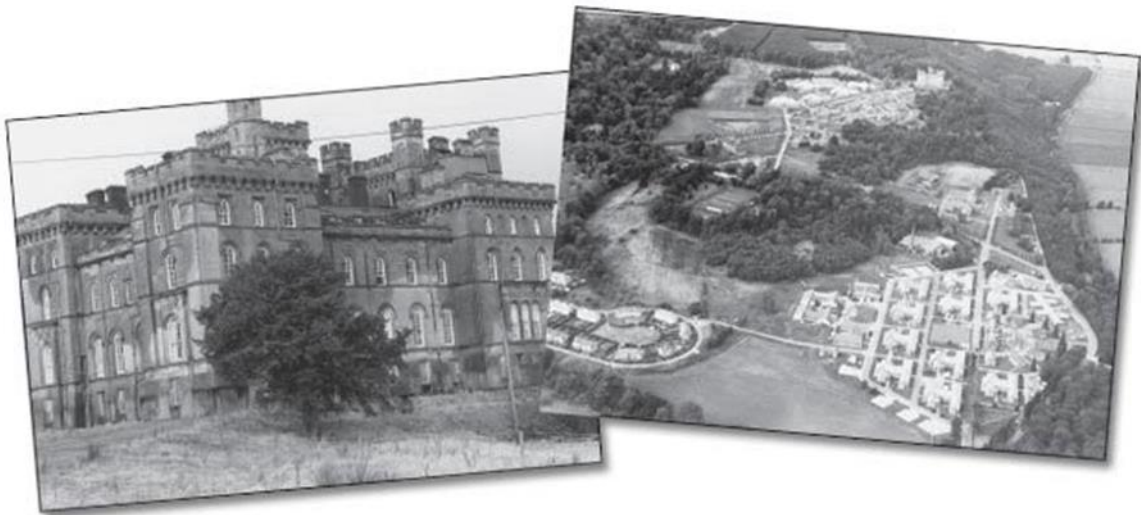


Figure 2.6: Lennox Castle Hospital.⁸⁰



Figure 2.7: Cresswell Maternity Hospital.⁸¹

The GRMH, furthermore, had seen the number of its domiciliary patients decrease drastically. Indeed, in 1939, Rottenrow pupils and qualified midwives and medical students took care of 4,322 patients compared to only 1,553 for the year 1949. This diminution can be explained by several reasons. Firstly, as for in-patients, some women who could have been delivered in the district were sent to Lennox Castle or Cresswell Maternity Hospital. Indeed, the evacuation and planning deliveries to take place in medical institutions introduced pregnant women on a large scale to the experience of hospital/medical

⁸⁰ 'Lennox Castle Hospital', *Secret Scotland*, <<http://www.secretscotland.org.uk/index.php/Secrets/LennoxCastleHospital>>, [accessed 20 January 2016].

⁸¹ 'Dumfries Poorhouse', *The Workhouses*, <<http://www.workhouses.org.uk/Dumfries/>>, [accessed on 20 January 2016].

institution deliveries.⁸² For a subsequent pregnancy, therefore, especially after the establishment of the NHS in 1948, women might have chosen a hospital delivery when their mothers would have stayed in the district. Secondly, the West End Branch that took care of home deliveries, especially in the West End of the city, was bombed in 1941 and closed in 1942.⁸³ It meant that a large area previously served by the Hospital was no longer covered and therefore those women had to find another place to deliver either in an institution in or outside Glasgow or deliver at home by booking one of the city district midwives, the Green Ladies.

Some of the patients transferred from the District to Rottenrow were cases of “failed forceps”. The percentage of stillbirth in these cases was quite high in the period studied, but there is a clear distinction regarding the stillbirth rate for cases of “failed forceps” before and after 1944 (Figure 2.8). Cases of “failed forceps” were predominantly un-booked cases brought into the hospital as emergencies as forceps were applied in many cases in the district by doctors before the women’s cervix was fully dilated, and therefore those stillbirths were, for the vast majority, preventable and were due to overly zealous and harassed general practitioners. The fact that in 1943 out of all the “failed forceps” cases dealt with by the hospital, 85.7 per cent ended up in a stillbirth might actually be explained due to the highest shortage of doctors in 1943, as Baird emphasised in 1953, and thus doctors might have been less patient and applied forceps too early during labour in order to go back to their other requirements.⁸⁴ From 1944 onwards, judging by the hospital’s reports, general practitioners seem to have been slightly less eager to apply forceps than they had been for the year 1943, which can be explained by the fact that it was from that time onwards that medical students received better obstetrical training for the general practice degree. Nevertheless, as written just above, the percentage remained too high for a preventable cause of stillbirth in most cases.

⁸² Ann Oakley, *The Captured Womb, A History of the Medical Care of Pregnant Women* (Oxford: Blackwell, 1984), 118-19.

⁸³ Derek Dow, *The Rottenrow, The History of the Glasgow Royal Maternity Hospital 1843-1984* (Lancaster: The Parthenon Press, 1984), 105.

⁸⁴ NHSGGCA, *The GRMH, Medical Reports for the Years 1943*, HB45/3/30(i); Baird, ‘The future of obstetrics’, 19.

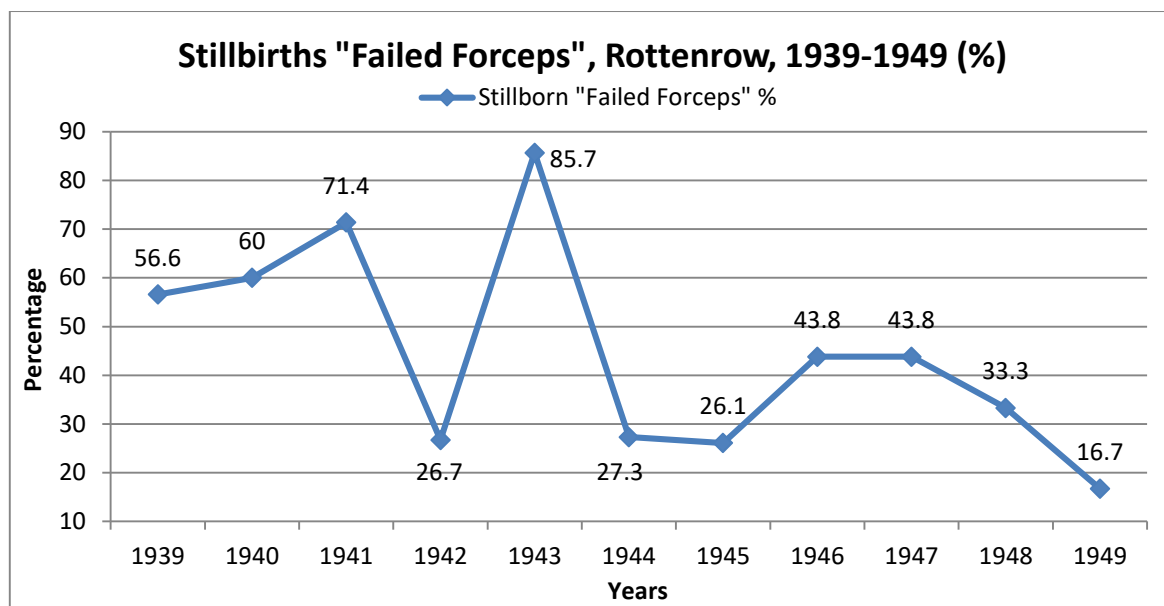


Figure 2.8: Percentage of Stillbirths in Cases of “Failed Forceps”, Rottenrow, 1939-1949.⁸⁵

In the 1940s, not all conditions could be diagnosed and treated during the antenatal period or during labour to offer the highest chance of survival to the fetus. Indeed, I compare the percentage of stillbirth for cases of mixed and concealed accidental haemorrhage (meaning there was no or only slight vaginal bleeding when women were examined and the diagnosis was done only after the delivery of the placenta when the haemorrhage was revealed) with cases of apparent accidental haemorrhage (large amount of bleeding was found during vaginal examination and hence diagnosis could be done antenatally or at the onset of labour, excluding placenta praevia). In the first condition the percentage of stillbirth is comparable between women who attended the Hospital antenatal clinic (Category A) and women who did not attend the Hospital antenatal clinic (Category B). On the other hand, for the latest condition, for most years women in Category B had a higher percentage of stillbirth (Figures 2.9 and 2.10).⁸⁶ This proves that in the 1940s, with the obstetrical knowledge and technology available at the time, not all conditions could be diagnosed antenatally, and it is still true in the present day for concealed haemorrhage. This underlines the reason why obstetricians believed in continued research for diagnosing ever more conditions in the antenatal period through biomedical or technological development. Obstetricians also kept encouraging women to deliver in hospitals to offer the best chance to their fetus if a condition was diagnosed during labour and prompt intervention was needed, as will be further highlighted later on.

⁸⁵ Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1949*, HB45/3/26(i)-36(i).

⁸⁶ NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1949*, HB45/3/26(i)-36(i).

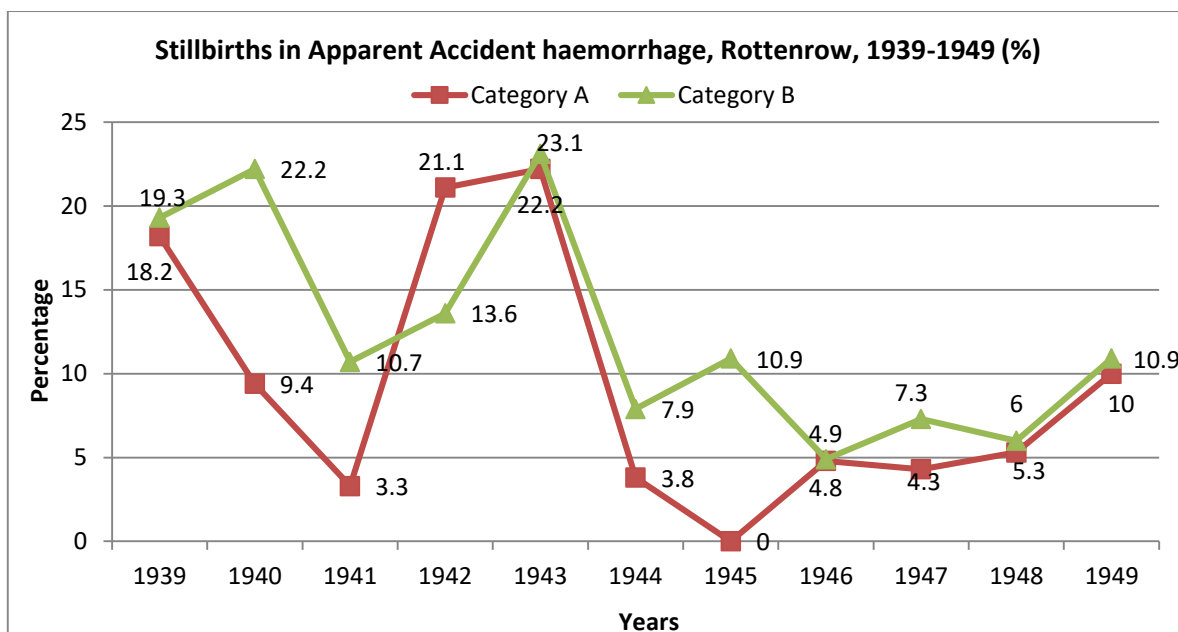


Figure 2.9: Percentage of Stillbirths in Apparent Accidental Haemorrhage, Rottenrow, 1939-1949.⁸⁷

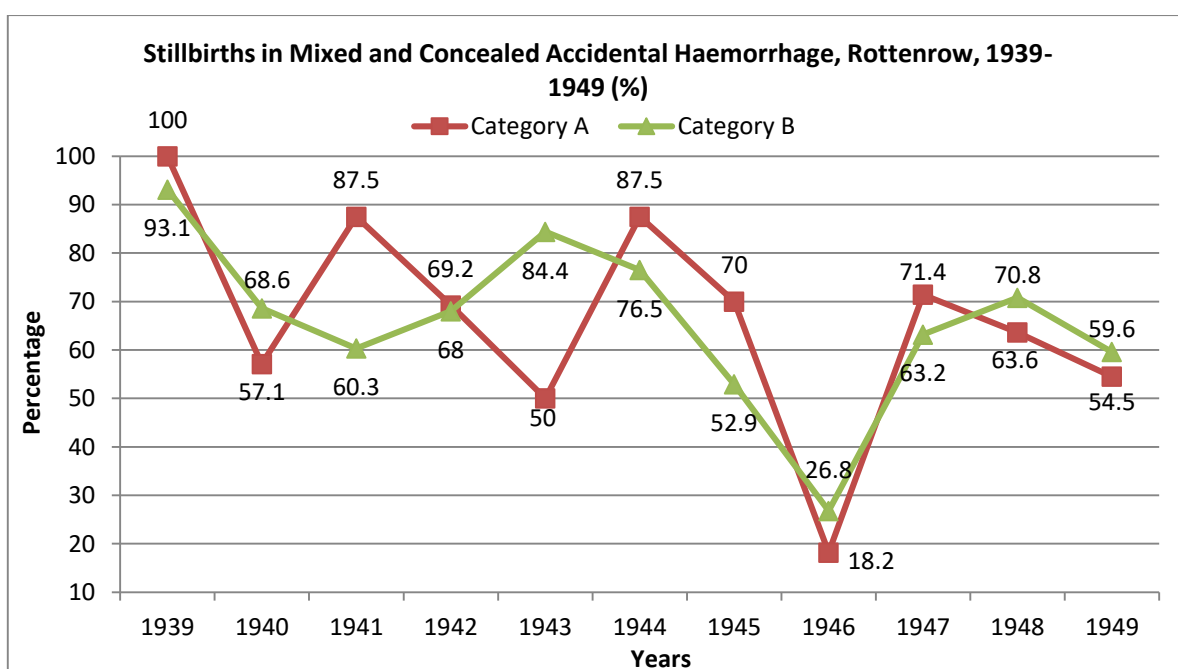


Figure 2.10: Percentage of Stillbirths in Mixed or Concealed Accidental Haemorrhage, Rottenrow, 1939-1949.⁸⁸

Regarding the obstetrical operations used in the 1940s, the safest operation according to the percentage of stillbirths was the Caesarean section. In the 1940s, the Hospital performed two types of Caesarean section: the classical operation and the lower uterine segment operation. The latter operation was that developed by Munro Kerr early in the

⁸⁷ Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1949*, HB45/3/26(i)-36(i).

⁸⁸ Ibid.

twentieth century, mentioned in the first chapter, which became ever more popular worldwide, and is the operation predominantly in use in the present day. In the 1940s, already, for most years, the lower uterine segment operation carried less risk for the survival of the fetus than the classical operation (Figure 2.11). During the period studied, the lower uterine segment operation was practiced in greater numbers. In 1939, lower uterine segment operations represented 33.6 per cent of the Caesarean sections performed in the Hospital whereas in 1947 the percentage of lower uterine segment operation had risen to 56.1.⁸⁹ Caesarean section when compared to other obstetrical operations such as induction of premature labour was less harmful for the fetus. Both methods of induction of labour, artificial rupture of membranes and bougies, nearly always had a percentage of stillbirths above 10 per cent in the 1940s (Figure 2.12), while the highest percentage of stillbirths due to Caesarean section for the same decade was 9.1 per cent.⁹⁰ In 1940 and 1941, the use of bougies to induce labour was not practised and that is why the percentage of stillbirths for those years was 0 per cent. This method, moreover, became ever less practised during the period. Artificial rupture of membranes was predominantly practised when obstetricians decided to induce labour. That was why the percentage of stillbirth for all inductions of labour is nearly identical to the one for artificial rupture of membranes, and thus it is not included in Figure 2.12. On average, in the GRMH, in the 1940s, artificial rupture of membranes represented 95.7 per cent of the operation performed to induce labour.⁹¹

⁸⁹ Ibid.

⁹⁰ Ibid.

⁹¹ Ibid.

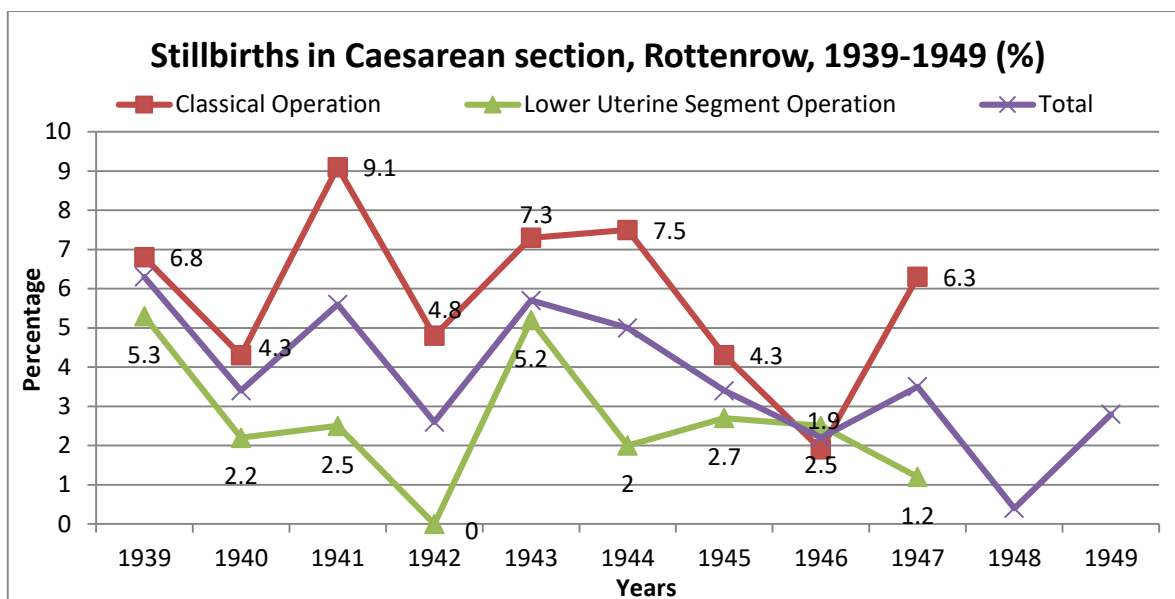


Figure 2.11: Percentage of Stillbirths in Caesarean section, Rottentow, 1939-1949.⁹²

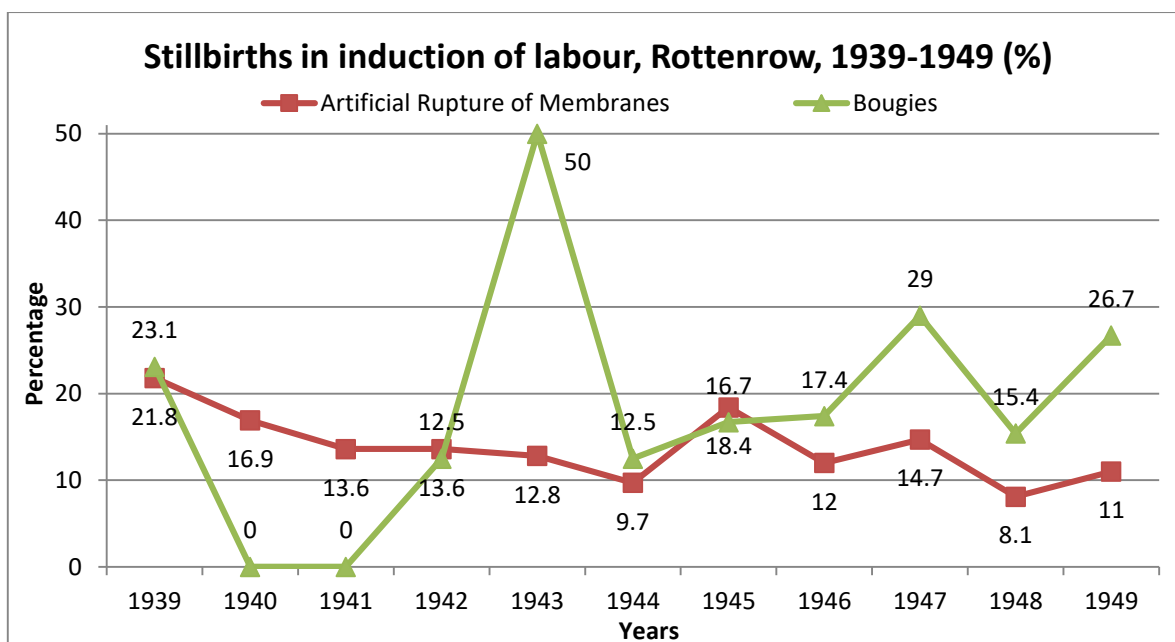


Figure 2.12: Stillbirths in induction of labour, Rottenrow, 1939-1949.⁹³

Conclusion:

To conclude, both nationally and in Glasgow, the stillbirth rate decreased in an unexpected way during the 1940s as obstetricians believed the harsh conditions accompanying war would keep the rate at the same level, if not increasing the rate. At the

⁹² Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1949*, HB45/3/26(i)-36(i).

⁹³ Ibid.

time and the following decade, most obstetricians explained this reduction as being due to a higher standard of nutrition, because of rationing and the establishment of schemes in order to provide extra rations to pregnant and nursing women. Their research highlighted the importance of good and varied nutrition especially in the last trimester to prevent stillbirth. They emphasised that nutrition must have been one of the most important factors as the standard of obstetrics remained quite similar within the interwar period. Loudon furthermore emphasises that

The acceptance in war of a degree of regimentation, such as identity cards and the need to register and apply to authorities for ration cards and food and mineral supplements, encouraged women to “put themselves under supervision early in pregnancy”. In large parts it established a habit of early antenatal care and taking iron tablets which was a standard by the end of the war ... Food rationing with special supplements and the work of emergency maternity service ... in retrospect became part of the foundation of a [NHS] system of comprehensive maternal care.⁹⁴

Nutrition was central in the obstetrical discourse in the 1940s in the fight to reduce stillbirth. This chapter recounted the medical beliefs, research and findings on nutrition, the link with social class and prevention of stillbirth. As stressed in this chapter, within the female population, the gap between women of social classes I and V remained large despite the increased standard of nutrition in this period. This proved that other factors played a role in the decline of the stillbirth rate during this period. First of all, syphilis ceased to be a significant cause of stillbirth due to the discovery and in the 1940s, and especially after the Second World War, distribution of penicillin. Focusing on the case of Glasgow, other factors are underlined in explaining the decline of the stillbirth rate in the 1940s. The percentage of stillbirths in cases of failed forceps diminished, especially after the war when doctors were no longer as overstretched as during the war and thus the application of forceps too early in labour decreased. Furthermore the case of Rottenrow emphasised the increased resort to surgical operations, both Caesarean section and induction of premature labour. This highlights that antenatal supervision had remained the key instrument of obstetrics in its fight against antenatal and intranatal fetal deaths, to detect abnormalities and offer the best type of delivery, resorting more easily to surgical delivery when believed necessary. This will be further emphasised in the next chapter, which is focused on causes of stillbirth already investigated in Chapter 1 in the 1940s and 1950s throughout Britain.

⁹⁴ Loudon, *Death in Childbirth*, p. 263, pp. 265-66.

Finally in this chapter, by analysing the Scottish Registrar-General Annual Reports on stillbirths, I highlighted the interest to develop technologies among other things to enhance obstetricians and midwives' diagnostic skills in order to detect conditions and abnormalities earlier during pregnancy, which would allow the medical professionals to act upon them faster and hence prevent stillbirths. This interest in obstetric technologies will be underlined throughout the rest of the thesis as an essential tool in the prevention of stillbirths in Britain, but also the rest of the Western world, in the second half of the twentieth century. The development of obstetric technologies came hand in hand with the increased medicalisation of pregnancy and childbirth, through antenatal supervision and a higher rate of surgical deliveries, to ever further decrease the stillbirth rate.

Chapter 3: The Predominant Causes of Stillbirths in the 1940-50s, the core of the obstetrical fight

Introduction:

In the previous chapter I focused on features related exclusively to the 1940s. The following chapter will focus on aspects related to the development of the purely obstetric aspects of stillbirths during both the 1940s and the 1950s. The medical knowledge in these decades was quite similar, despite the major change in provision of medical care through nationalisation of the health system in 1948. The following points were not all the obstetric aspects and abnormalities around stillbirth for that period, but they represented the major aspects in regards to stillbirth according to the medical community of the time. This chapter will focus on breech presentation, asphyxia, prematurity and postmaturity, contracted pelvis and finally toxemia of pregnancy. Some of those features were already mentioned in the first chapter, and I will therefore analyse and explain the changes or continuations in regards to treatments prior to the era of registration and this period, as well as highlight a new focus of the time: prematurity. This chapter will emphasise the continued importance of antenatal supervision for the diagnosis of any obstetrical conditions or abnormalities as soon as medical knowledge and skill made such diagnosis possible, as well as early increases in the medicalisation of pregnancy and childbirth as a means of preventing avoidable obstetrical stillbirths where possible.

l) Breech presentation

Breech presentations remained one of the major causes of preventable stillbirth or fetal distress in the 1940s and 1950s. In the Glasgow Royal Maternity and Women's Hospital (GRMH), the percentage of stillbirths by breech presentation between 1940 and 1946 represented on average six per cent of the total causes of stillbirths in the Hospital.¹ Those six per cent of stillbirths could have been prevented in certain cases by better antenatal supervision, especially in cases where breech presentation was associated with

¹ NHSGGCA, *The GRMH, Medical Reports for the Years 1940-1946*, HB45/3/27(i)-33(i).

another condition. Furthermore, the percentage of stillbirths in breech presentations increased from 1943 to 1947 (Figure 3.1). This was a failure in the fight against preventable stillbirths, especially when the stillbirth rate was diminishing as a whole in the GRMH. Prevention and diagnosing breech presentation during the antenatal period, close to term, therefore, remained a priority.

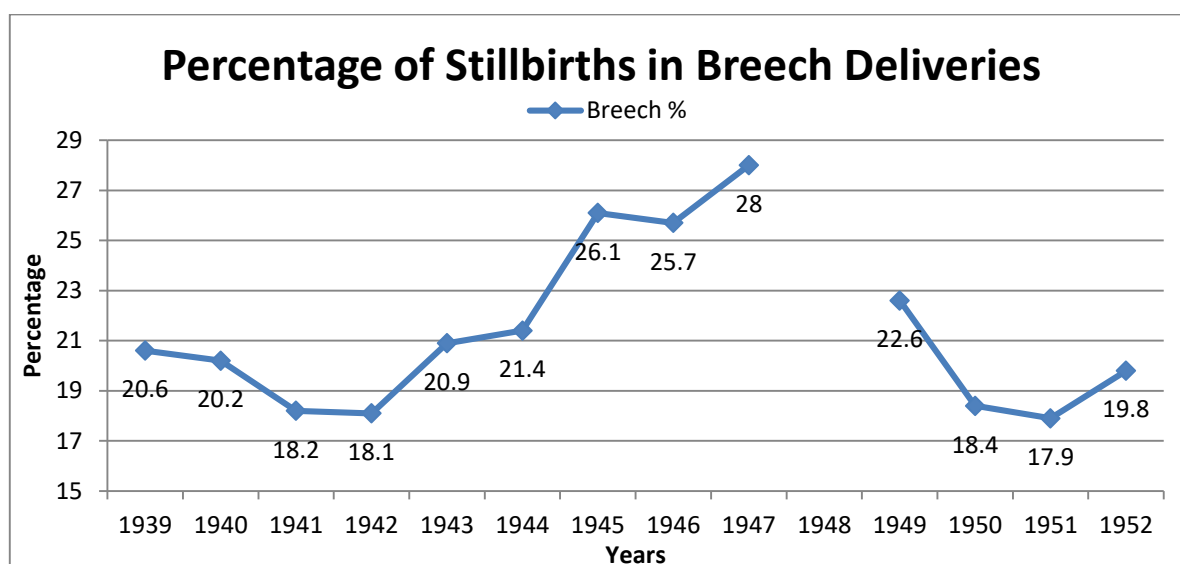


Figure 3.1: Percentage of Stillbirths in Breech Presentations, Rottenrow, 1939-52.²

We should, first, understand the aetiology of breech presentations. Keith Vartan, an obstetrician in Woolwich, near London, wrote in March 1940 about his concerns about the veracity of the aetiology of breech presentation which he learnt during his medical degree and found in textbooks since then. He underlined that ‘What struck me then and still impresses me ... is that most of [the] factors which are reputed to be causes [such as contracted pelvis, placenta praevia and abnormal shaped uterus] very seldom occur’.³ According to him, the causes lay elsewhere. He believed that breech presentations came from factors which prevented the spontaneous cephalic version of the fetus around the end of pregnancy. He explained that the main causes of breech presentation were in 37.3 per cent extended legs of the fetus, in 23.6 per cent plural pregnancies where one or more fetuses prevented one or more to undergo spontaneous version, and in 9 per cent prematurity. Finally, according to his research, there was still 22.9 per cent of breech presentation with no apparent reason.⁴ That was why obstetricians often made a distinction

² Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1952*, HB45/3/26(i)-39(i).

³ Keith Vartan, ‘Cause of breech presentation’, *Lancet*, 235 (1940), 595.

⁴ *Ibid.*, 596.

between normal or uncomplicated breech presentation on the one hand and complicated breech presentation on the other. I will explore this in the context of the GRMH in the late 1940s – early 1950s.

From 1948 to 1952, Rottenrow's annual medical reports also provided data on the numbers of delivery in uncomplicated and complicated breech deliveries, in booked and non-booked cases, as well as the percentage of fetal mortality in those two types of breech presentations (Table 3.1). Uncomplicated breech presentation was a breech presentation without any abnormality or condition. On the other hand, complicated breech deliveries were defined as 'where some other obstetric complication is present'.⁵ In that context, by fetal mortality, Rottenrow did not only mean stillbirths, but stillbirths and neonatal deaths. From Table 3.1, we can see that in uncomplicated cases, the fetal mortality rate at the GRMH fluctuated quite extensively.⁶ Thus, even in uncomplicated cases, if not diagnosed antenatally and supervised closely during labour, breech delivery could easily end tragically for the fetus. I emphasise lack of antenatal diagnosis and close supervision during labour, because the year with the highest rate, 1951, was also the year with the highest number of uncomplicated breech deliveries in un-booked cases. Therefore there is arguably a link between unsupervised cases, which arrived at the hospital as emergencies or at the onset of labour to the hospital, and fetal mortality during uncomplicated breech deliveries. Being well supervised during the antenatal period and labour cannot explain completely the different mortality rates because, for the years 1949 and 1950, the number of uncomplicated breech cases in non-booked patients was similar; however, in 1949 the fetal mortality rate was 4.4 per cent and increased to 9 per cent in 1950.⁷ There was, therefore, another factor, if not several, influencing both booked and un-booked patients, such as the number of staff available at the time, if the woman began labour at home supervised by one of the hospital midwives working in the District and was brought in as an emergency, the length of labour or the health and the strength of the fetus, or just chance variation.

Regarding complicated breech deliveries, association with another complication or abnormality meant that the fetal mortality rate was much higher than in uncomplicated

⁵ NHSGGCA, *The GRMH, Medical Reports for the Year 1948*, HB45/3/35(i), 79.

⁶ NHSGGCA, *The GRMH, Medical Report for the Year 1952*, HB45/3/39(i), 8-9

⁷ Ibid.

cases.⁸ It would seem that from 1949 onwards there was a decrease in fetal mortality, from the highest rate to the lowest rate of the period.⁹ Such high rates could be explained as due to the high fetal mortality as a result of the associated complication which was aggravated by the breech presentation. There were many un-booked cases during that period, and the fetal mortality rate could have been slightly less if those women had been diagnosed for both the condition/abnormality and the breech presentation. Nevertheless, there were many booked cases with complicated breech delivery meaning that, at the time, those fetal deaths could not always be prevented by a high standard of obstetrics, and hence could not yet be reduced to a much lesser percentage.

GRMH	Uncomplicated Breech Deliveries (Total foetal mortality %)	Complicated Breech Deliveries (Total foetal mortality %)
1948 Booked	16	52
1948 Non-booked	28	94
1948 Total	44 (15.9%)	146 (42.5%)
1949 Booked	8	40
1949 Non-booked	37	59
1949 Total	45 (4.4%)	99 (54.5%)
1950 Booked	29	29
1950 Non-booked	37	64
1950 Total	66 (9.0%)	103 (46.6%)
1951 Booked	26	40
1951 Non-booked	52	64
1951 Total	78 (21.8%)	104 (36.5%)
1952 Booked	24	50
1952 Non-booked	30	63
1952 Total	54 (11.1%)	113 (35%)

Table 3.1: Uncomplicated and Complicated Breech Deliveries, Rottenrow, 1948-52.¹⁰

As explained in Chapter 1, external cephalic version performed around the 34th-36th week of gestation was the predominant method used to prevent breech delivery. There was a debate during those two decades whether anaesthesia should be routinely used or not while performing an external version. Anaesthesia allowed the abdomen to relax, but it also increased the risk of fetal death. Anaesthesia was mainly recommended if the first external version without anaesthesia failed and the woman was diagnosed with a mild degree of

⁸ Ibid.

⁹ Ibid.

¹⁰ Ibid.

contracted pelvis and had been prescribed a trial labour.¹¹ Ludlam and Winchester stressed the importance of reassuring the patient when performing an external version without anaesthesia ‘so that she co-operates and relaxes her abdominal muscle’.¹² In the GRMH in 1950, out of the 60 primigravidae cases in which external version was performed before labour, 51 were done so under anaesthesia, which corresponds to a percentage of 85 (Table 3.2). In the multiparae cases, 59 of the 85 external versions, performed before labour, were attempted under anaesthesia, giving a percentage of 69.4.¹³ It would seem that in the early 1950s in Rottenrow, most cases undergoing an external version before labour were given anaesthesia, even if that was slightly less true for multiparae cases.

External version before labour 1950	Nb of cases	Success	Failure	% success	Nb attempted under anaesthesia
Primigravidae	60	38	22	63.3	51
Multiparae	85	75	10	88.2	59

Table 3.2: Cases of Performed External Version before Labour, Rottenrow, 1950.¹⁴

In an article published in the *Lancet* in 1941, the author highlighted that ‘On the wisdom of this there is little dispute, though the procedure [external version] itself is not devoid of risk’.¹⁵ Indeed, in the GRMH, the percentage of stillbirths in performed external version between 1939 and 1952 was as follows (Figure 3.2). On average, during the period studied, the stillbirths in cases of performed external versions represented 10.1 per cent, which was still quite high considering it was meant to prevent complications that a breech delivery would bring.

¹¹ Phillipa Ludlam, George Winchester, ‘Symposium on breech presentation: Management of pregnancy in breech presentation’, *EMJ*, 58 (1951), 20.

¹² *Ibid.*, 19.

¹³ NHSGGCA, *The GRMH, Medical Reports for the Year 1950*, HB45/3/37(i), 108.

¹⁴ *Ibid.*

¹⁵ [Anon], ‘Dangers of breech delivery’, *Lancet*, 238 (1941), 162.

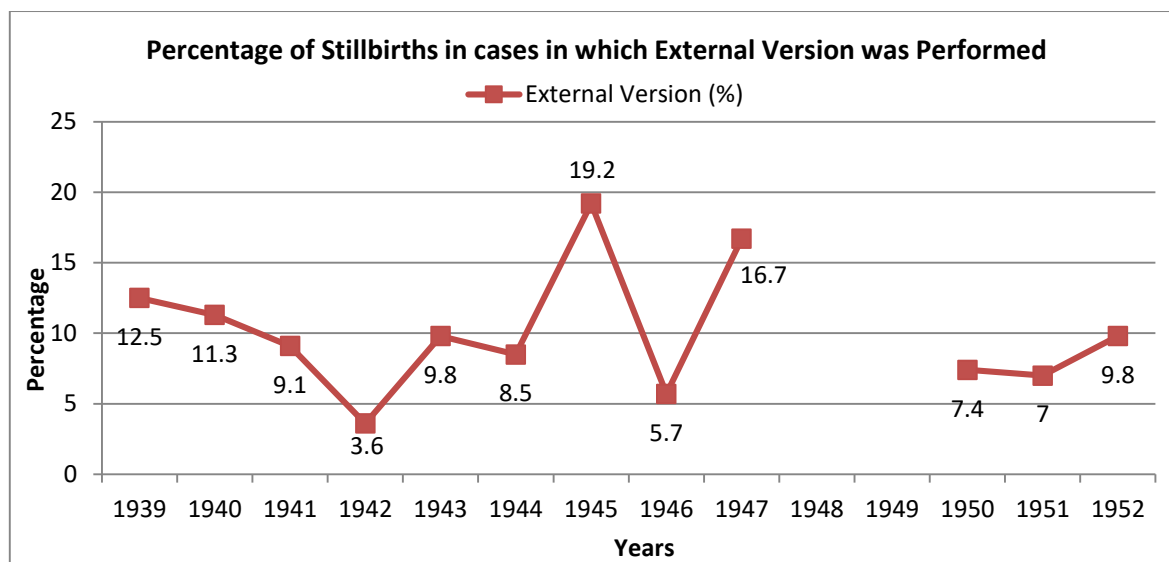


Figure 3.2: Percentage of Stillbirths in Cases in which External Version was Performed, Rottenrow, 1939-52.¹⁶

In the late 1940s and the 1950s, Dr James Mair, an obstetrician in the Southern General Hospital in Glasgow, as well as other obstetricians of his time such as Mr Cox, an obstetrician in Liverpool, and Maurice Noble, Joan Mackie and Marjorie Paterson, practising in the Simpson Memorial Maternity Pavilion (SMMP) in Edinburgh, emphasised that it had been demonstrated that breech presentation was as dangerous in multiparae as in primigravidae, contrary to what was previously believed, and thus as much care should be given in multiparous breech presentations.¹⁷ Indeed, in Rottenrow, between 1939 and 1947, the percentage of stillbirths in breech deliveries was for most years higher in multiparae than in primigravidae (Figure 3.3). In Edinburgh, in the SMMP, between 1945 and 1949, the percentage of stillbirths was also higher in multiparae cases than the one in primigravidae cases. Indeed, according to an analysis conducted by Cutts and Abbas on the cases in the SMMP, ‘this is marked in [their] study. There were 507 primigravid breech births with a foetal loss [here they also included both stillbirths and neonatal deaths in that term] of 96; that is 18.9 per cent; and 360 multiparous breech births with a foetal loss of 107 or 29.8 per cent.’¹⁸ Mair, nevertheless, underlined that the risk to the fetus delivered by breech, according to a series published in the early 1950s, could ‘be very slight indeed, and in some

¹⁶ Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1947*, HB45/3/26(i)-39(i).

¹⁷ [Anon], ‘Obstetrics and gynaecology: breech presentation and its management’, *Lancet*, 254 (1949), 117; L. Cox, ‘North of England obstetrics and gynaecology society: breech delivery’, *Lancet*, 255 (1950), 497; Maurice Noble, Joan Mackie, Marjorie Paterson, ‘Symposium on breech presentation: The management of labour in primigravid breech presentation’, *EMJ*, 58 (1951), 34; James Mair, ‘The management of breech presentation’, *Lancet*, 262 (1953), 361.

¹⁸ Reginal Cutts, Abbas, ‘Symposium on breech presentation: An analysis of foetal loss in 867 breech births in the SMMP during the years 1945-49 inclusive’, *EMJ*, 58 (1951), 35.

circumstances it can be less than the risk arising from external version'.¹⁹ Dr Fell, an obstetrician in London, agreed with Mair, but only in maternity hospitals which had an extremely proficient staff in regards of breech delivery. Elsewhere external version, preferably without anaesthesia, involved less risk for the fetus.²⁰

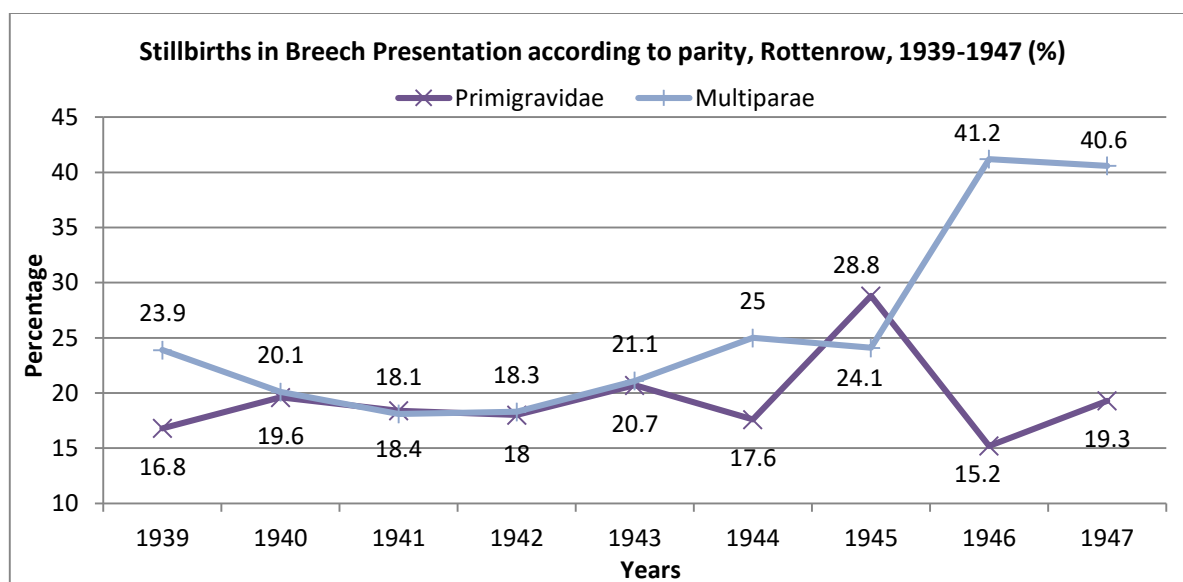


Figure 3.3: Percentage of Stillbirths in Breech Presentation according to Parity, Rottenrow, 1939-47.²¹

Mair believed fetal loss due to breech delivery could be diminished to a low rate if each hospital unified its method of management to the one used by its obstetrician with the best results. Mair explained the unified management applied in the Southern General from 1949. When a breech presentation was diagnosed, external cephalic version was to be performed without anaesthesia. If version failed, which seemed to happen quite frequently in primigravidae, the woman's obstetrician decided whether or not to attempt a vaginal breech delivery with the help of forceps.²² Breech delivery was considered if the breech presentation was uncomplicated and if the legs were extended. When breech delivery was prescribed, to prevent fetal distress during labour which could have led to a neonatal death or intranatal stillbirth, the weight of the fetus during labour had to be considered. If a fetus was less than 5lbs or more than 9lbs, fetal and neonatal mortality was more likely to occur, especially from intracranial haemorrhage for the bigger fetuses.²³ According to Mair, the ideal fetal weight for breech delivery was between 6 and 7 lbs, and he stressed that 'The

¹⁹ Mair, 'The management of breech presentation', 361.

²⁰ M. Fell, 'External Cephalic Version', *Lancet*, 262 (1953), 367.

²¹ Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1947*, HB45/3/26(i)-34(i).

²² Alan Gairder, M. Jackson, L. Jackson, 'A hundred cases of breech presentation', *Lancet*, 237 (1941), 273.

²³ Cox, 'North of England obstetrics and gynaecology society: breech delivery', 497.

lower weights, although apparently attractive, carry too much risk of immaturity.’²⁴ A decision by weight seemed quite a simple and efficient standard, however, it was not before the late 1950s that ultrasound started to be developed. There was not yet, therefore, an available device or method which could give a clear picture of the probable weight of the fetus. The probable weight of the fetus was estimated from the obstetrician’s experience and external measure of the woman’s stomach. Mair emphasised that a standardised method of management of breech delivery in each hospital should mean that external version would be performed less, especially if the first attempt failed, and obstetricians would resort to more planned breech deliveries preceded by induction of labour when the fetal weight seemed ideal.²⁵

In order to put in place Mair’s standardisation, but also just to perform external version to avoid breech deliveries as well as to diagnose whether the breech presentation was complicated or not, meant that women had to come regularly to antenatal clinics and agree to deliver in hospital when recommended by their medical team. In the 1940s, and even more in the 1950s, women increasingly recognised the need to receive antenatal care and accepted hospital delivery when advised, as the following chapter will emphasise, thus allowing many preventable stillbirths such as in cases of breech presentation to be avoided.

II) Asphyxia

Intracranial haemorrhage remained the main factor causing stillbirth in breech delivery, but asphyxia was close behind. The latter was the result of fetal distress whatever the reason for that distress; this hypothesis had been supported by Agnes Macgregor, an obstetrician in Edinburgh, in 1948. In the 1950s, asphyxia represented around two thirds of all causes of stillbirths. According to Richard De Soldenhoff and Gordon Brill, obstetricians in Ayrshire, on one hand, fetal distress in primigravidae derived mostly from delayed (or prolonged) labour, which ended in the asphyxia of the fetus or newborn if delivery was not immediate or rapid after the first signs of fetal distress. Delayed or prolonged labour was defined in that period as a ‘labour lasting 48 hours or more’.²⁶ On the other hand, fetal

²⁴ Mair, ‘The management of breech presentation’, 362.

²⁵ Ibid., 364.

²⁶ NHSGGCA, *The GRMH, Medical Reports for the Year 1950*, HB45/3/37(i), 56-57.

distress in multiparae was predominantly found early in labour. For both primigravidae and multiparae, the risk of asphyxia during labour would explain why obstetricians encouraged women to deliver in hospital. They thought that way, as soon as fetal distress was diagnosed, labour could be accelerated using forceps or performing a surgical operation and hence stillbirth prevented, which would not be options in home confinements.

In the 1940s, in the GRMH, the percentage of stillbirths due to delayed labour, and thus for many cases which ended in asphyxia, was on average 8 (Figure 3.4). The figure for 1946 is much higher than the rest because it included not only cases of delayed labour which were delivered either by forceps or a destructive operation (such as craniotomy), as with the other years, but it also included cases of delayed labour in which spontaneous delivery occurred. Even without that last year, we can see that delayed labour had been increasing in importance as a cause within all causes of stillbirths, and therefore, delayed/prolonged labour had to be avoided and signs of fetal distress diagnosed quickly in order to prevent stillbirth. For this, induction of labour or prompt medical intervention at the first sign of fetal distress was believed to be the best solution, and it was believed, could mostly be done in hospital where the resources to perform such interventions were available at a moment's notice.

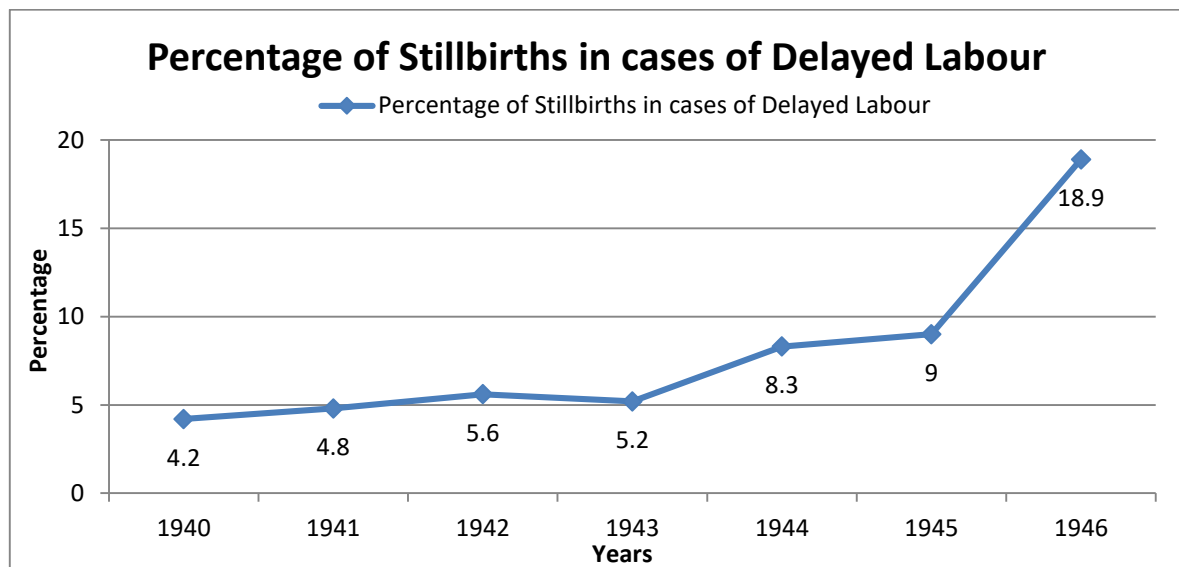


Figure 3.4: Percentage of Stillbirths due to Delayed Labour according to the total of stillbirths, Rottenrow, 1940-46.²⁷

²⁷ Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1940-1946*, HB45/3/27(i)-33(i).

Soldenhoff and Brill noted that the signs of fetal distress were as follows: fall of the fetal heartbeat to 120 or under, rise of the fetal heartbeat to 160 or above, meconium, muffling, irregularity, and tumultuous movement.²⁸ Meconium corresponds to ‘the dark green mucoid material that forms the first faeces of a newborn infant’.²⁹ The medical profession reckoned that ‘The passage of meconium is always ominous, especially if freshly passed, as compared with old staining’, even more if it was absent from the liquor amnii in the earliest stage of labour.³⁰ Indeed, Fitzgerald and McFarlane in 1955 demonstrated that when meconium was present during labour, 69 per cent of the fetuses ended up as stillborn or were born frail; they also showed that when fetal distress was due to a slow heartbeat the percentage of stillbirths was 56 per cent, and 59 per cent if the heartbeat had an irregular rhythm.³¹ All of those signs underlined the importance before and during labour of monitoring the mother and her fetus, and to chart the data to see clearly when the fetus was in distress, and therefore prevent a stillbirth or neonatal death due to asphyxia or anoxia. Soldenhoff and Brill stressed that ‘To save foetal life in the ante-natal and labour wards one must be ruthless’.³² As long as the mother’s life was safe, everything in their power must be done to save the future child. They also noted the help given by hyper-oxygenation of the mother when fetal distress was diagnosed. Once again, these recommendations were more adapted to hospital delivery than home delivery where the attendant had fewer tools and equipment at his/her disposal.

The main causes of fetal distress, which could cause asphyxia, were as follows: prolonged labour especially among the primigravidae as underlined earlier, and partial occlusion of the umbilical cord; however most predominantly the cause was undefined. That was why Soldenhoff and Brill insisted on charting labour, but also on trying to prevent labour over 24 hours and to ban labour over 30 hours. Operative deliveries such as Caesarean section and forceps were highly recommended in cases of fetal stress to avoid preventable fetal death. Brill and Soldenhoff highlighted that ‘If foetal distress develops, an immediate assessment of the case must be made with a full vaginal examination to rule out

²⁸ Richard De Soldenhoff, Gordon Brill, ‘Foetal distress: its relation to stillbirth and neo-natal death’, *EMJ*, 61 (1954), 22-23.

²⁹ ‘meconium’, in *Collins English Dictionary - Complete & Unabridged 10th Edition*. Source location: Harper Collins Publishers, <<http://dictionary.reference.com/browse/meconium>>, [Accessed: 06 August 2015].

³⁰ [Anon.], ‘Foetal distress’, *BMJ*, 2 (1955), 726; David Leslie, ‘Ante-partum meconium staining of the liquor amnii’, *BMJ*, 2 (1959), 612.

³¹ [Anon.], ‘Medical Memoranda: Oxygen for foetal distress in domiciliary midwifery’, *BMJ*, 1 (1958), 758.

³² De Soldenhoff, Brill, ‘Foetal distress: its relation to stillbirth and neo-natal death’, 25.

malpresentation and prolapse of the cord; a rectal examination is not sufficient' in order to decide upon the adequate form of operative delivery.³³ As Agnes Macgregor explained, 'The immature brain of the newly born has a lower oxygen requirement, and consequently a higher tolerance of anoxia than the fully developed brain of the older subject'.³⁴ That was why Caesarean section was not performed in all cases of fetal distress. Indeed, Woodrow Coss, an obstetrician in Australia, emphasised in an article published in 1963 that

Early detection of anoxia gives more time to make preparations for intervention, and avoid hasty, or even "panic" operating when the foetal heart has become irregular. In my own practice, continuous monitoring in selected cases has given greater certainty in the management of foetal distress, sometimes confirming the safety of conservative management, and sometimes providing additional evidence for accelerated operative intervention.³⁵

We can see here again how obstetricians' guidelines were meant for hospital deliveries, which was believed to offer the best chance of survival to the fetus against asphyxia.

III) Prematurity and Postmaturity

From the 1940s onwards, prematurity became the *bête noire* in regards to the causes of stillbirths. Prematurity was defined according to the weight of the fetus/baby at birth; a fetus/infant was regarded as premature if it was viable and weighed 2,500 gms (5½lbs) or less. Moreover, it was frequently linked to placental insufficiency, meaning the placenta was malfunctioning, preventing the normal development of the fetus.³⁶ In an article published in 1959 on infant mortality in Scotland, it was reported that 'It has been estimated that premature births comprise about *half* the stillbirths and neonatal deaths, and though in many cases the prematurity is secondary to other causes, a considerable proportion of the deaths ... has no such explanation'.³⁷ Prematurity, therefore, caused stillbirths in two ways: firstly, and essentially, prematurity was a cause by itself and secondly, as the fetus was premature, it was more at risk to die due to another cause such as toxæmia of pregnancy or

³³ Ibid., 31.

³⁴ Agnes Macgregor, 'The pathology of foetal and neonatal asphyxia', *EMJ*, 59 (1952), 229.

³⁵ L. Woodrow Coss, 'Foetal anoxia', *Lancet*, 281 (1963), 844.

³⁶ Cameron, 'Antenatal diet and its influence on still-births and prematurity', *GMJ*, 22 (1944), 2, John Sturrock, 'Obstetrical responsibility in the prevention of foetal and neonatal deaths', *EMJ*, 51 (1944), 419.

³⁷ Emphasis added; [Anon], 'The BMJ: Lower maternal mortality and infant mortality in Scotland', *BMJ*, 2 (1959), 557; [Anon], 'Foetal and neonatal mortality', *Lancet*, 250 (1947), 105; Richard Ellis, 'The newborn: some problems of survival', *EMJ*, 55 (1948), 331.

breech presentation, and the more premature the more likely it was to die around the onset of labour.

Indeed, in 1941, regarding Baird and Wyper's analysis of the causes of stillbirths in the Aberdeen Royal Maternity Hospital (ARMH) booked cases, unexplained prematurity was the cause in 37 per cent of premature stillbirths whereas premature stillbirths due to toxæmia of pregnancy represented only 15.2 per cent.³⁸ From 1941 to 1944, in the SMMP, two thirds of premature stillbirths had been associated with an abnormal pregnancy, in which antepartum haemorrhage occurred in 48 per cent. During that time only a third of the premature stillbirths happened in normal pregnancies. John Sturrock, obstetrician at the Simpson, nevertheless, underlined that the statistics found in the SMMP were not to be generalised for the whole of Scotland as the SMMP treated a higher percentage of abnormal pregnancies than most Scottish practices.³⁹ In Rottenrow, from 1941 to 1949, all premature stillbirths were linked to a condition or abnormality during pregnancy or labour. This could be explained on the same lines as for the SMMP as the GRMH also took mainly cases unfit for home delivery (both for medical and social reasons) as emphasised previously. Figure 3.5 shows that premature stillbirths represented between one-third and half of the entire stillbirths delivered in Rottenrow in the 1940s.

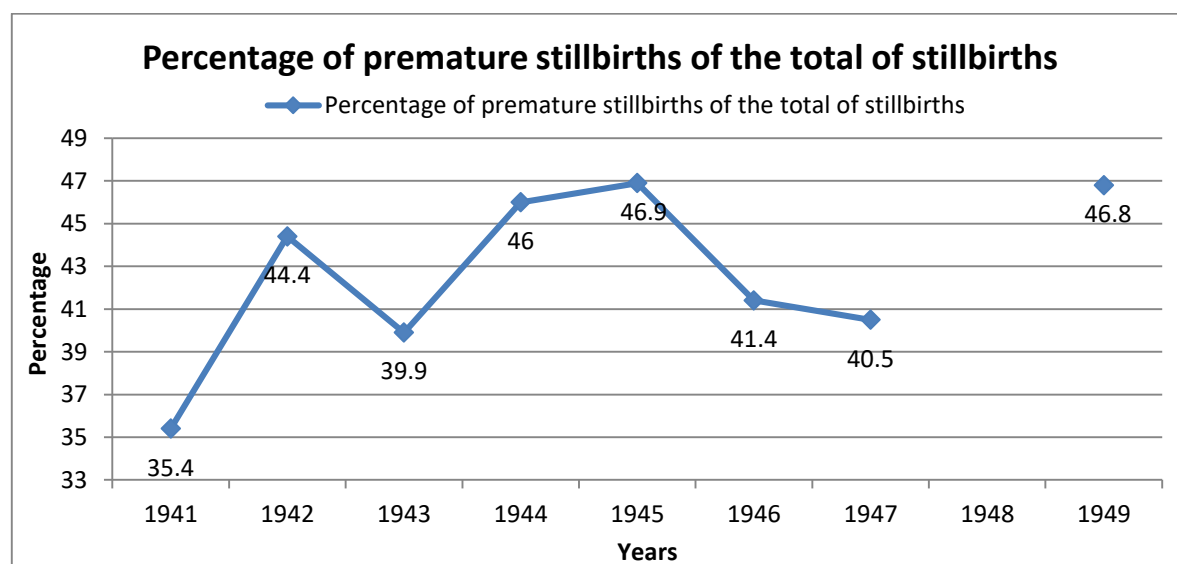


Figure 3.5: Percentage of premature stillbirths of the total of stillbirths, Rottenrow, 1941-49.⁴⁰

³⁸ Dugald Baird, John Wyper, 'High stillbirth and neonatal mortalities', *Lancet*, 238 (1941), 659.

³⁹ Sturrock, 'Obstetrical responsibility in the prevention of foetal and neonatal deaths', 419.

⁴⁰ Graph from data in NHSGCCA, *The GRMH, Medical Reports for the Years 1941-1949*, HB45/3/28(i)-36(i).

In the first three years of the 1950s, furthermore, the GRMH's annual reports included the numbers of stillbirths according to the prematurity, the antenatal supervision women received and the possible cause(s) of death (Tables 3.3 and 3.4). This underlines that prematurity as a cause, or related to a cause of stillbirth, was put under great scrutiny by the Hospital staff. The first table highlights that, within premature stillbirths and also within all stillbirths, the highest proportion came from un-booked cases, meaning the women were not followed by the Hospital staff in their antenatal period. Some might not have had any antenatal supervision but most had received antenatal care at least once from either their GP or a Green Lady. All were meant to be delivered in their own home or at their general practitioner's surgery but were judged unfit for those locations at the onset of labour. They were then mostly brought to the Hospital as emergency cases, this explains why those un-booked premature stillbirths represented around between 60 and 65 per cent of all premature stillbirths and around one-third of all stillbirths occurring between 1950 and 1952.⁴¹ The second table points out that certain causes were found more in booked premature stillbirths and other causes occurred more in un-booked. Indeed, in cases of toxæmia of pregnancy and placenta prævia, out of the total causes of stillbirths, the highest percentages of premature stillbirths occurred in un-booked cases. This is understandable if those cases arrived as emergency cases when little could be done except delivering the fetus. On the other hand, except for 1952, in cases of congenital abnormality, the highest percentages were found in booked cases. This could be explained by the fact that, even if not many diagnostic tests yet existed, some women might have had a fetus with a congenital abnormality or another abnormality in a previous pregnancy and therefore those women were followed closely by the Hospital staff during their present pregnancy. Finally, for unknown causes, the percentages of premature stillbirths were between 13 and 33 per cent of all stillbirths due to unknown cause. On the other hand, the percentages of all premature stillbirths due to toxæmia of pregnancy from 1950 to 1952 in Rottenrow remained higher than the one for unknown causes and thus much higher than the 15.2 per cent from Aberdeen in 1941.⁴² These percentages highlight why the medical community insisted on the need to receive antenatal care in order to diagnose early any condition and offer the best chance to the fetus in cases of premature labour.

⁴¹ NHSGGCA, *The GRMH, Medical Reports for the Years 1950-1952*, HB45/3/37(i)-39(i).

⁴² Ibid.

Percentage of Premature Stillbirths	1950	1951	1952
Premature – Booked of the total of premature stillbirths	34.2	40	37.3
Premature – Non-booked of the total of premature stillbirths	65.8	60	62.7
Premature - Booked of the total of stillbirths	18.9	24.6	20.3
Premature - Non-booked of the total of stillbirths	36.3	36.9	34.2

Table 3.3: Percentage of premature stillbirths according to their antenatal supervision, Rottenrow, 1950-52.⁴³

Stillbirths Grouped According to Possible Causal Factor (%)	Prem Booked 1950	Prem Non-booked 1950	Prem Booked 1951	Prem Non-booked 1951	Prem Booked 1952	Prem Non-booked 1952
Congenital abnormality	34.9	27.9	43.6	38.5	37.5	42.5
Toxaemias of pregnancy	23.8	45	25	48.3	25	41.7
Placenta praevia	28.6	42.9	13.3	60	0	66.7
Rhesus incompatibility	50	50	33.3	33.3	0	16.7
Miscellaneous	8.3	25	0	10.5	12	8
Cause unknown	18.5	33.3	18.3	30	13.6	27.1
Totals	22	35.2	23.9	37.8	20.9	33.2

Table 3.4: Percentage of premature stillbirths of the total of stillbirths according to possible causal factor, Rottenrow, 1950-52.⁴⁴

To conclude, all this evidence, from some of the main maternity hospitals in Aberdeen, Edinburgh and Glasgow, highlights how it became important for the obstetric community to understand and research the reasons behind prematurity, such as placental insufficiency, congenital abnormality or toxaemia of pregnancy, and to diagnose early on any problem rising during pregnancy and/or labour in order to decrease the percentage of premature stillbirth on the city/town and national levels. For this to happen, medical and nutritional standards were recommended and established by the medical profession.

Dr McNeil, an obstetrician in Edinburgh, recommended in 1942 the adoption of three standards in regards to prematurity and its characterisation, in all the maternity hospitals throughout Britain: the upper-weight standard of 2,500 gms, the lower-weight standards of either 1,000 or 1,500 gms, and the inclusion of all stillbirths within those weights. He believed that if such standards were to be adopted nation-wide, it ‘would allow accurate comparison between the figures of different hospitals, and would stimulate study and

⁴³ Table from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1950-1952*, HB45/3/37(i)-39(i).

⁴⁴ Ibid., some stillbirths had more than one factor.

advance knowledge of the problem [of prematurity]’.⁴⁵ The solution to prematurity seemed simple and logical, indeed to prevent prematurity, one had to prevent premature labour. McNeil underlined that it was the role of the obstetrician to ‘find the key to prevention in raising the level of health in the pregnant woman’.⁴⁶ As explained in the previous chapter, poor nutrition, especially in the last trimester, was a cause of prematurity (Table 3.5). As Woods highlights, from the 1940s onwards, ‘Prematurity and diet became a preoccupation’, and women were advised during the antenatal period on their nutrition in order to prevent prematurity and hence stillbirths.⁴⁷ Sturrock, moreover, stressed the equal importance of rest and home-help during pregnancy to give the women the best chance of carrying a healthy fetus to term.⁴⁸ Indeed, as Dr Alice Stewart highlighted, the combination of full paid employment and housework, especially in the last trimester, increased the risk of premature labour and thus premature stillbirths.⁴⁹ Under the NHS, it was easier for women to receive financial compensation if their medical team prescribed bed-rest than before the creation of the Welfare State.

	Stillbirths	Premature Births	Full-term Births
First-class protein (gms)	27.4/50	29.9/50	45.9/50
Calcium (gms): daily intake recommended → 1.5 gms	0.76	0.80	1.22
Phosphorous (gms): daily intake recommended → 2 gms	0.91	0.93	1.37
Age	32.1	28.4	28.6
Parity	4.2	2.9	3.12

Table 3.5: Nutriments, age and parity in stillbirths, premature and full-term births, 1942-43, Rottenrow.⁵⁰

Finally, prematurity was to be avoided as much as possible but so was postmaturity. Indeed, postmaturity led to placental insufficiency which could lead to asphyxia and therefore fetal death. Logically, the solution to prevent such death due to postmaturity seemed to be induction of labour. In 1958, Dr Gibberd studied the risk between induction of

⁴⁵ McNeil, ‘Prematurity and the high infant death rate’, *GMJ*, 137 (1942), 98.

⁴⁶ *Ibid.*, 99.

⁴⁷ Robert Woods, *Death before birth fetal: health and mortality in historical perspective* (Oxford: Oxford University Press, 2009), 169.

⁴⁸ Sturrock, ‘Obstetrical responsibility in the prevention of foetal and neonatal deaths’, 421.

⁴⁹ [Anon], ‘Environmental hazards of pregnancy’, *Lancet*, 274 (1959), 97.

⁵⁰ Cameron, ‘Antenatal diet and its influence on still-births and prematurity’, 3.

labour and postmaturity in relation to fetal death in normal pregnancies and he concluded that

In all the cases in which pregnancy passes the 41st week the loss directly due to postmaturity is less than 1.2 per cent – possibly considerably less. It probably varies from something less than 0.4 per cent between the 41st and 42nd weeks to something less than 4.3 per cent after the 44th week has been passed ... There is reason to believe that, in postmaturity, artificial rupture of the membranes carries with it dangers to the foetus that are considerably greater than those which the interference is designed to circumvent ... I accept that postmaturity carries an increased risk to the foetus, but this is not necessarily a good reason for forcing the foetus out of frying-pan of postmaturity into the fire of induction of labour.⁵¹

A year later, however, Theobald, obstetrician in Bradford, claimed that Gibberd and other obstetricians' conclusion that postmaturity was preferable to induction of labour as regards to fetal deaths was 'no longer tenable' and that he was 'well content to perform th[e] operation a hundred times in order to save four or even two healthy babies, as indeed [obstetricians had to] prevent death from postmaturity'.⁵² The debate about postmaturity and induction of labour to prevent fetal wastage did not see one side rising above the other. This debate, however, became a virulent one in the obstetrical literature only from the late 1950s compared to the issue of prematurity, which appeared much earlier in the literature.

IV) Contracted pelvis

The 1940s and 1950s saw the decreasing prevalence of contracted pelvises in women to almost nothing. In the 1940s, in the GRMH, the percentage of cases of contracted pelvis treated in Rottenrow represented 8.6 per cent of all patients admitted to the Hospital in 1939, falling to 4.9 per cent in 1949 (Table 3.6).⁵³ In comparison, in the interwar period, the cases of contracted pelvis treated in Rottenrow were 9.4 per cent of all the admitted patients. Thus, fewer and fewer women were diagnosed with contracted pelvis in Glasgow in the 1940s. This can be explained by better nutrition in childhood in the early interwar period, providing more calcium and vitamin D, and the beginning of a healthier city from the 1920s onwards. The Slum Clearance Scheme which destroyed the row of Backlands buildings

⁵¹ G. Gibberd, 'The choice between death from postmaturity and death from induction of labour', *Lancet*, 271 (1958), 66.

⁵² G. Theobald, 'The choice between death from postmaturity or prolapsed cord and life from induction of labour', *Lancet*, 273 (1959), 64.

⁵³ NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1949*, HB45/3/26(i)-36(i).

allowed more sunlight to reach the ground, and thus more vitamin D was absorbed by the inhabitants. This reduced the cases of rickets and therefore the contracted pelvis later in life in women.⁵⁴

Table 3.6: Contracted Pelvis Rate according to the number of patients admitted, Rottenrow, 1939-49.⁵⁵

Rottenrow	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Cases of Contracted Pelvis (%) treated in the Hospital	8.6	6.3	5.7	5	4.8	4.7	7.7	6.2	6.2	5.1	4.9
% of booked cases of contracted pelvis out of all cases of contracted pelvis	68.5	66.9	65.9	76.3	71.9	74.3	70.3	68.3	68.8	70.9	74.3
% of non-booked cases of contracted pelvis out of all cases of contracted pelvis	31.5	33.1	34.1	23.7	28.1	25.7	29.7	31.7	31.2	29.1	25.7

However, in Glasgow, despite those improvements made during the early interwar period, they were not sufficient in regards to contracted pelvis. Many women had still grown up with rickets resulting in pelvic deformities. Improvements made during the Second World War were still not sufficient as children in the 1940s were still diagnosed with rickets. Indeed, in 1945, McLennan, an obstetrician in the GRMH, ‘emphasises the need for better diet and higher vitamin intake not only for the child and adolescent ... but also for the expectant, and especially the nursing mother; thus only can the incidence of rickets in future generations be expected to fall’.⁵⁶ McLennan highlighted that ‘North of the Caledonian Canal I found complete absence of contracted pelvis’, meaning that contracted pelvis had been becoming a problem mostly specific to the Lowlands and especially the industrial central belt.⁵⁷ When looking at articles regarding contracted pelvis in the 1940s, I only found three articles, two published in the *Edinburgh Medical Journal* and one in the

⁵⁴ Mark William Skippen, ‘Obstetric practice and cephalopelvic disproportion in Glasgow between 1840 and 1900’, (Unpublished PhD thesis, University of Glasgow, 2009), 45-47; Irvine Loudon, *Death in Childbirth: An International Study of Maternal Care and Maternal Mortality 1800-1950* (Oxford: Clarendon, 1992), 136.

⁵⁵ Table from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1949*, HB45/3/26(i)-36(i).

⁵⁶ [Anon], ‘The contracted pelvis’, *Lancet*, 245 (1945), 183.

⁵⁷ Ibid.

Lancet. These only dealt with contracted pelvis in the industrial Scottish areas. Baird in his 1953 article entitled ‘the future of obstetrics’ emphasised that ‘The virtual abolition of rickets means that grossly deformed pelvic bones of the type which used to be so common in Glasgow [and in the rest of the Scottish industrial belt] are slowly vanishing’.⁵⁸

Indeed, in Rottenrow, from the late 1940s to the early 1960s, the total rate of contracted pelvis treated in the Hospital according to the number of deliveries continued to decrease to around half the rate in the Interwar period; nevertheless a slight rise can be witnessed in the early 1960s (Figure 3.6). The percentages for 1948 and 1949 are higher than in the previous table (3.6) because on that table the percentage was calculated according to the number of patients admitted, which was always higher than the number of cases delivered. As for the early 1940s, the number of cases delivered was not given in the annual medical reports, whereas it was always provided from the late 1940s onwards. Table 3.6 and Figure 3.6 also highlight that there were always more cases in the category of patients who received their antenatal supervision from the Hospital Clinic than from other sources, even if the gap closed to an extent in the early 1950s. This meant that general practitioners and the Green Ladies followed their patients antenatally but then sent them to the GRMH when their due date approached in order to receive the best care and best method of delivery for them and their fetuses according to the degree of their contracted pelvis. To conclude, contracted pelvis in Glasgow had been a scourge for most of the twentieth century, even when the rest of the maternity hospitals in the country had long stopped encountering this condition.

⁵⁸ Baird, ‘The future of obstetrics’, *EMJ*, 60 (1953), 20.

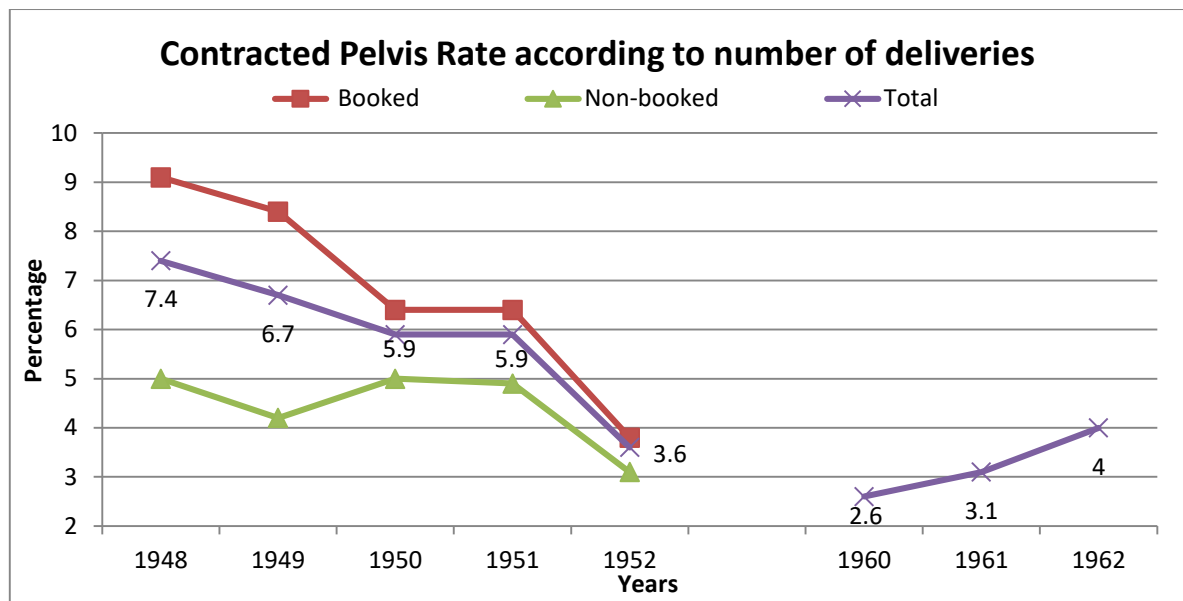


Figure 3.6: Contracted Pelvis Rate according to number of deliveries, Rottenrow, 1948-62.⁵⁹

Regarding stillbirths in cases of contracted pelvis in the 1940s and 1950s, there was quite a difference in the percentage of stillbirths in cases with contracted pelvis between those that had supervision at the Hospital Antenatal Clinic and the others (Figure 3.7). Indeed, the average percentage of stillbirths in the cases with contracted pelvis between 1939 and 1947 was 8.9 per cent in total, but it was 6.4 per cent in women who attended to the Hospital Antenatal clinic compared to 14.8 per cent in other cases.⁶⁰ Moreover, McLennan stressed in 1945 that

In primigravidae with contracted pelvis the stillbirth-rate was 167 per 1,000 live births, in contrast with 39 in the control group. For multiparae the figures were 133 and 30. If cases of caesarean section were excluded the stillbirth-rate rose to no less than 222 per 1,000 live births in both primigravidae and multiparae with contracted pelvis. This represents for the multiparae a foetal and neonatal death-rate more than seven times that of the normal group.⁶¹

The gap, nevertheless, between the two categories according to the received antenatal supervision, reduced quite steeply in the late 1940s onwards, which can be in part explained by the establishment of the National Health Service (NHS) in 1948 in Scotland. The NHS provided qualified antenatal supervision for free to every expectant woman throughout her pregnancy for the first time in Scottish history. In the 1940s resistance to antenatal supervision still existed and some women still resorted to it quite late in their pregnancy.

⁵⁹ Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Year 1952*, HB45/3/39(i), 6-7; NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1960-1962*, HB45/3/40(i)-42.

⁶⁰ NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1947*, HB45/3/26(i)-34(i).

⁶¹ [Anon], 'The contracted pelvis', 183.

Indeed, as Storrier emphasises, in the interwar period, ‘even where [antenatal clinics] were available, mothers often did not bother to attend. Nor did they visit their doctors’, and this behaviour continued for some time because for many women, they could not always afford the time antenatal supervision would have taken away from their work, looking after existing children or daily tasks.⁶² Antenatal supervision, nevertheless, became gradually more widespread in and out of the hospital in the 1950s. Storrier highlights that from 1948 onwards ‘there was a gradual increase in the uptake of antenatal care performed by general practitioners in their surgeries’.⁶³ This might in part be why women with contracted pelvises who delivered in Rottenrow but received antenatal supervision outside, were no longer more likely to have a stillbirth than women who visited the Hospital Antenatal Clinic and delivered in the Hospital.

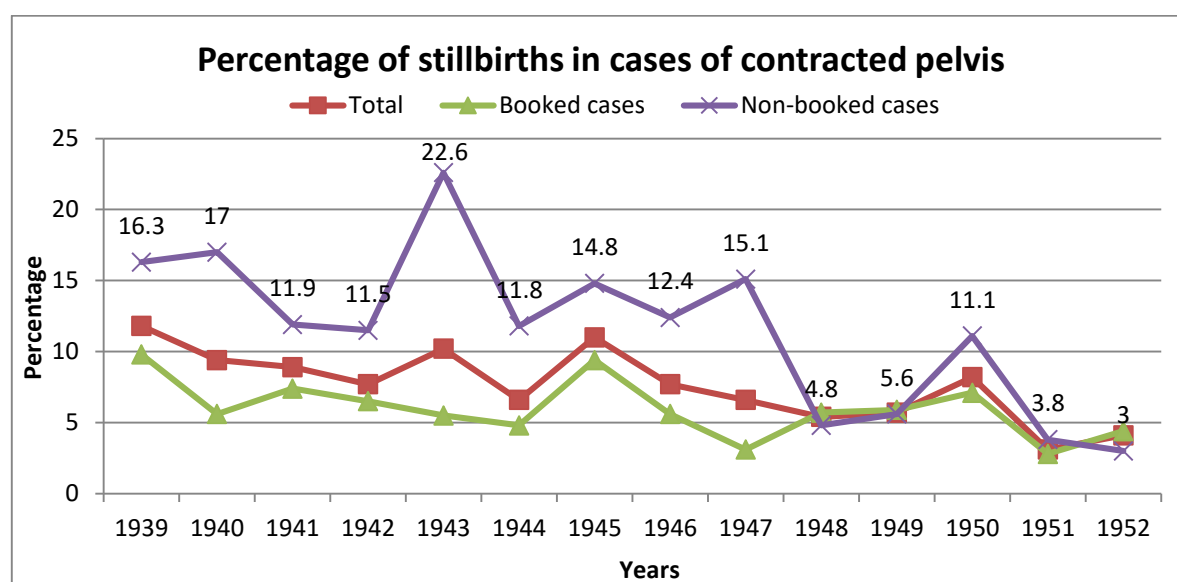


Figure 3.7: Percentages of stillbirths in cases of contracted pelvis, according to the antenatal supervision, Rottenrow, 1939-52.⁶⁴

McLennan’s and Rottenrow’s rates highlight the medical profession’s stress on the importance of women being diagnosed antenatally. In the first chapter I explained that obstetricians had used their hands and fingers to diagnose a contracted pelvis, and then around the end of the interwar period the X-ray began to be used in the diagnosis of contracted pelvis. In the 1940s and 1950s, X-ray pelvimetry became the method of choice for diagnosing contracted pelvis. Chassar Moir, an obstetrician in Oxford, explained in

⁶² Susan Storrier, *Scotland’s Domestic Life* (Edinburgh: John Donald *et al.*, 2006), 443.

⁶³ *Ibid.*, 444.

⁶⁴ Graph from data in NHS GCA, *The GRMH, Medical Reports for the Years 1939-1952*, HB45/3/26(i)-39(i).

1941 that X-ray pelvimetry should be done several times during a pregnancy: early to diagnose pelvic disproportion but also late in pregnancy to obtain more information to offer the best means of delivery. Indeed, an X-ray pelvimetry in the weeks preceding labour helped determine

1. The presentation, and the position of the foetal head. 2. The measurement of the shortest diameter of the foetal head... 3. The relationship of head to pelvis. 4. The length and shape of the sacrum. 5. The depth and inclination of the symphysis pubis. 6. The measurement of the antero-posterior dimensions of the pelvis at (a) the brim (i.e. the conjugate vera), (b) the mid pelvis, and (c) the outlet ... 8. The posterior-sagittal measurement of the outlet.⁶⁵

By having both the measurement of the different parts of the pelvis and the fetus and the relation between the pelvis and the fetal head, as already explained in the first chapter, the obstetrician could make a calculated choice on what type of delivery each woman with contracted pelvis required. Chassar Moir relied on the X-ray pelvimetry. He, nevertheless, cautioned obstetricians to confirm their X-ray reading regarding the relation between the fetal head and the pelvis using Munro-Kerr's bimanual cephalometry method.⁶⁶

As McLennan's rates underlined, Caesarean section in cases of contracted pelvis was a really safe operation for the fetus. Indeed Baird underlined in 1953 that 'since modern Caesarean section is relatively safe, obstetricians are not so frequently required to perform the more difficult kinds of vaginal deliveries' on women diagnosed with contracted pelvis.⁶⁷ By modern Caesarean section, Baird meant the operation the lower uterine segment operation. As seen in Chapter 2, in the GRMH between 1939 and 1947, the percentage of stillbirths when lower uterine segment operation was performed was only 2.6 per cent, compared to 5.8 per cent for cases of classical operation performed. In the 1950s, as underlined previously, the lower uterine segment operation was the one used mostly in Rottenrow (Table 3.7). The classical operation, however, was the operation performed in cases of emergency section, being simpler than the lower uterine segment operation. It explains why it was mostly performed in non-booked cases. Indeed, in 1952, out of the 51 classical operations 34 were performed in non-booked cases, which represented two-thirds of the classical operation performed in 1952.⁶⁸ Regarding stillbirths, from 1950 to 1952,

⁶⁵ J. Chassar Moir, 'Detecting pelvic contractions', *EMJ*, 48 (1941), 364.

⁶⁶ *Ibid.*, 368.

⁶⁷ Baird, 'The future of obstetrics', 20.

⁶⁸ NHSGGCA, *The GRMH, Medical Reports for the Year 1952*, HB45/3/39(i), 120.

except in 1952 where one stillbirth occurred, there were no stillbirths in booked cases, and only very few in non-booked cases (Table 3.8). These rates re-emphasised McLennan's and Baird's belief in the safety of Caesarean section around the mid-twentieth century. In Edinburgh, between 1940 and 1949, the average percentage of stillbirths in Caesarean sections performed was 3.8 per cent. During this decade, in Edinburgh, the number of Caesarean sections performed per year increased. 104 women were delivered by section in 1940 whereas in 1947, 292 women delivered by section.⁶⁹ In Rottenrow, from 1939 to 1949, the percentage of children born by Caesarean section began at 6.9 per cent, raised to 10.1 in 1945 and then fell to 7.5 in 1949 (Table 3.9).⁷⁰ Scottish obstetricians in the 1940s, therefore, were more inclined to perform a Caesarean section for many conditions such as contracted pelvis, multiple pregnancies or antepartum haemorrhage as the operation became safer both for the child and the mother and as more obstetricians mastered the technique of the operation, which helped medicalisation of childbirth in the second half of the twentieth century.

Caesarean section (percentages)	Booked	Non-Booked	Total
LUS Operation 1950	87 (80.6%)	56 (70.9%)	143 (76.5%)
Classical Operation 1950	21 (19.4%)	23 (29.1%)	44 (23.5%)
LUS Operation 1951	68 (81%)	61 (67%)	129 (73.7%)
Classical Operation 1951	16 (19%)	30 (33%)	46 (26.3%)
LUS Operation 1952	88 (83.8%)	59 (63.4%)	147 (74.2%)
Classical Operation 1952	17 (16.2%)	34 (36.6%)	51 (25.8%)

Table 3.7: Percentages of Caesarean section according to antenatal supervision, Rottenrow, 1950-52.⁷¹

Percentage of Stillbirths in cases delivered by Caesarean section	Booked	Non-Booked	Total
1950	0	7.4	3.2
1951	0	3.2	1.7
1952	0.9	3.1	2

Table 3.8: Percentages of Stillbirths in Cases delivered by Caesarean section, Rottenrow, 1950-52.⁷²

⁶⁹ J. Dunlop, 'Symposium on caesarean section: Part III: stillbirth and neonatal mortality', *EMJ*, 61 (1954), 54.

⁷⁰ NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1949*, HB45/3/26(i)-36(i).

⁷¹ Table from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1950-1952*, HB45/3/37(i)-39(i).

⁷² Table from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1950-1952*, HB45/3/37(i)-39(i).

Table 3.9: Percentage of children born by Caesarean section, Rottenrow, 1939-1949.⁷³

Rottenrow	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949
Percentage of children born by Caesarean section	6.9	6.7	7.5	7	7.7	7.3	10.1	8.2	8.4	8.5	7.5

V) Toxaemia of pregnancy

In the 1940s and 1950s, toxaemias of pregnancy, and especially pre-eclampsia, remained a major cause of stillbirths. I will, however, first concentrate on pre-eclampsia and hypertensive toxaemia. I used both terms because, as Hiddinga underlines, in the 1940s

Many internists ... believed that (pre-)eclampsia was in fact the manifestation of an underlying chronic hypertension brought to light only by pregnancy, and thus a symptom rather than a disease entity in itself. To support their claim they referred to women who remained hypertensive after having been (pre-)eclamptic during their pregnancies ... Difference of opinion about the 'true' nature of the disease and its distinction from various sorts of hypertension or forms of nephritis has been a major source of discussion in the literature on eclampsia. Especially since the 1930s, when it was claimed that essential hypertension is often a component of (pre-)eclampsia, arguments among obstetricians, internists, physiologists and pathologists ... have been abundant.⁷⁴

In the GRMH in the 1940s and 1950s, the percentage of stillbirths in cases of pre-eclampsia, essential hypertension and chronic nephritis decreased from 1939 to 1948 but then the rate returned to around that of the early 1940s (Figure 3.8).⁷⁵ Out of all cases of pre-eclampsia, essential hypertension and chronic nephritis, from 1939 to 1952, therefore, the percentage of stillbirths was 8.9, which did not represent a high percentage within cases treated for these conditions. Nevertheless, out of all the stillbirths in Rottenrow during that time, hypertensive toxaemia/pre-eclampsia and other conditions had one of the highest percentages according to all causes of stillbirths, mixed and concealed accidental haemorrhage or fetal deformity having the highest percentage most years. Indeed, between 1940 and 1952, the average percentage of these conditions in all the causes of stillbirths was 16.1 (Figure 3.9). Figure 3.9 highlights that from 1940 to 1944, hypertensive toxaemia

⁷³ Table from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1949*, HB45/3/26(i)-36(i).

⁷⁴ Anja Hiddinga, *Changing Normality: Pregnancy and scientific knowledge claims 1920-1950 with special reference to the USA* (Amsterdam: Centrale Drukkerij Universiteit van Amsterdam, 1995), 61.

⁷⁵ NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1952*, HB45/3/26(i)-39(i).

was becoming an ever less important cause of stillbirth. From 1945 to 1952, however, the percentage rose again and on average for those eight years, pre-eclampsia and other conditions represented 18.6 per cent of all causes of stillbirths.⁷⁶ It is quite surprising that the percentage of stillbirths due to pre-eclampsia was at its lowest in 1944, when, as explained in Chapter 2, ‘staffs were depleted and so much energy was being expended in winning the war’.⁷⁷ The reason behind it seems to be similar to the explanation for the decrease of stillbirth in general during the war years.

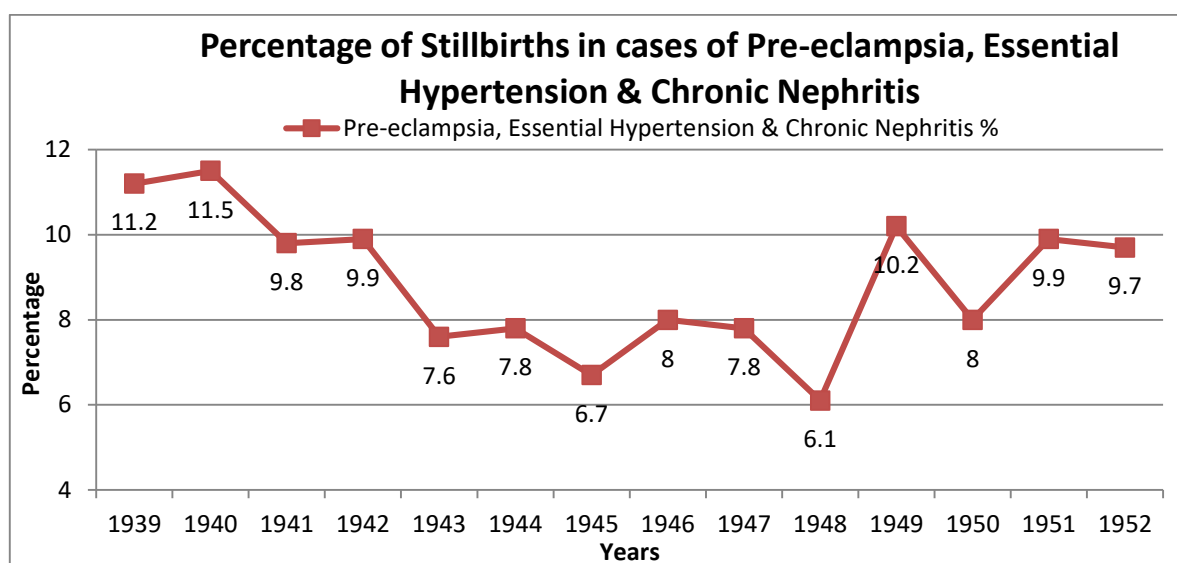


Figure 3.8: Percentage of Stillbirths in cases of Pre-eclampsia, Essential Hypertension & Chronic Nephritis, Rottenrow, 1939-52.⁷⁸

⁷⁶ NHSGGCA, *The GRMH, Medical Reports for the Years 1940-1952*, HB45/3/27(i)-39(i).

⁷⁷ Baird, ‘The future of obstetrics’, 19.

⁷⁸ Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1952*, HB45/3/26(i)-39(i).

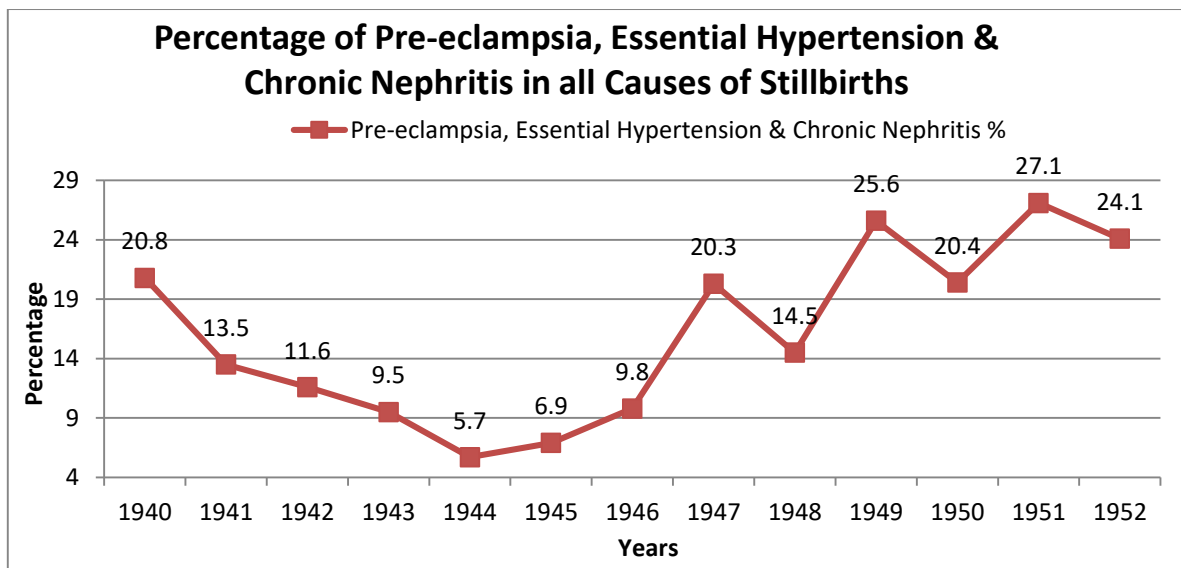


Figure 3.9: Percentage of Pre-eclampsia, Essential Hypertension & Chronic Nephritis in all Causes of Stillbirths, Rottenrow, 1940-52.⁷⁹

The importance of nutrition and rest were also highlighted for the treatment of pre-eclampsia. In 1942, Dr Miller explained the previous treatment and how the contemporary knowledge on the condition made that treatment obsolete. Indeed, the medical profession had once believed that the main cause of pre-eclampsia was a failure of renal function. In order to prevent such failure, the prescribed treatment was as follows: a reduction of protein consumption, an increase in the intake of fluids and sometimes an injection of saline infusion.⁸⁰ In the 1940s, nevertheless, the medical profession discovered that women with pre-eclampsia were inclined to develop oedema, and hence saline infusions and cutting the intake of protein were more harmful for those women's health. It was discovered that salt and lack of protein increased the risk of developing oedema. In the 1940s, therefore, women diagnosed with pre-eclampsia were first prescribed bed rest; in hospital if possible as women were less likely to stay in bed at home where housework and care of children surrounded them. If bed rest did not improve their condition sufficiently, then Miller recommended the following diet

An adequate intake of protein amounting to 100 grams daily is rational, and is specially desirable when much protein is being lost in the form of albumen in the urine. The third desideratum in the diet is that it should be salt-poor in the milder types of toxæmia and salt-free as possible when symptoms are severe.⁸¹

⁷⁹ Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1940-1952*, HB45/3/27(i)-39(i).

⁸⁰ Hiddinga, *Changing Normality*, 60.

⁸¹ Douglas Miller, 'Observations on eclamptic toxæmia and on essential hypertensions and chronic nephritis in pregnancy', *EMJ*, 49 (1942), 223-24.

Deficiency of vitamin B1 was thought in the late 1930s – early 1940s to play a role in the development of toxæmias of pregnancy, in 1943, Dr Kapeller-Adder and Dr Cartwright, obstetricians in Edinburgh, published their research on vitamin B1 and pre-eclampsia. Their conclusions are explained below:

Nineteen patients with mild or severe pre-eclamptic toxæmia were treated with vitamin B1. No beneficial effect was seen in any of these cases. In the group of patients with severe pre-eclamptic toxæmia the effect of the vitamin B1 treatment may even be described as detrimental ... and so the therapeutic use of vitamin B1 in toxæmia of pregnancy should be discouraged.⁸²

Pre-eclampsia had prompted much research, with some positive results and some, such as the vitamin B1, which proved to be failures. Both kinds of results were welcome. Despite recognising the symptoms of the condition, even in the mid-twentieth century and still today, its origin remained unknown. Only further research, it was believed, could give the medical community the key to the problem. As Dr Fitzgerald and Dr Clift, obstetricians in Lancaster, claimed in 1958, 'Any considerable improvement in treatment may be impossible until more is known about the cause of the toxæmia'.⁸³ The origin of pre-eclampsia was indeed unknown; however, diagnosing pre-eclampsia was possible. The obstetric profession, then, emphasised the need for women to receive regular antenatal supervision in order to offer maybe not the perfect treatment but at least the best chance of survival for the fetus and the mother through bed rest and appropriate diet.

Regarding eclampsia few improvements had been made in the 1940s and 1950s compared to the interwar period. As Hiddinga highlights in her thesis, this was not the fault of research. She stresses:

The dramatic character of the disease and its high rank among causes of maternal mortality has made not only its treatment but also its prediction and prevention a major concern for clinical researchers. In the 1940s and 50s both obstetricians and neurologists took this concern as a stimulus to research.⁸⁴

Nevertheless, she emphasises that pre-eclampsia could be diagnosed quite easily as long as women were monitored regularly throughout their pregnancy and had their urine and blood

⁸² R. Kapeller-Adder, J. Cartwright, 'Vitamin B1 and toxæmia of pregnancy', *EMJ*, 50 (1953), 313.

⁸³ T. Fitzgerald, A. Clift, 'The foetal loss in pregnancy toxæmia', *Lancet*, 271 (1958), 284.

⁸⁴ Hiddinga, *Changing Normality*, 58.

pressure checked. This was not the case for all women at that time. On the other hand, eclampsia was not as easy to prognose which pre-eclampsia patients would go on to develop full eclampsia or when. Prevention of eclampsia and hence maternal and fetal death was more difficult.⁸⁵

In the GRMH, between 1940 and 1952, out of all causes of stillbirths, Figure 3.10 illustrates that eclampsia was not the major cause of stillbirths. There had been, however, three periods within which the percentage of eclampsia rose in relation to the last period before declining to a lower percentage than the last period. Eclampsia as a cause of stillbirth within all causes of stillbirth might have decreased, however, between 1939 and 1952 (except for 1941 and 1942 for unknown reason), the percentage of stillbirths remained between 15 and 33 per cent of all eclamptic cases (Figure 3.11). For that time period, the average percentage of stillbirths was 28.8, which was quite a high percentage.⁸⁶ Thus, women developing eclampsia were likely to have a stillbirth. There might have been only a few cases per year; however, finding a treatment was a necessity, knowing how both the maternal mortality and stillbirth rates were high.

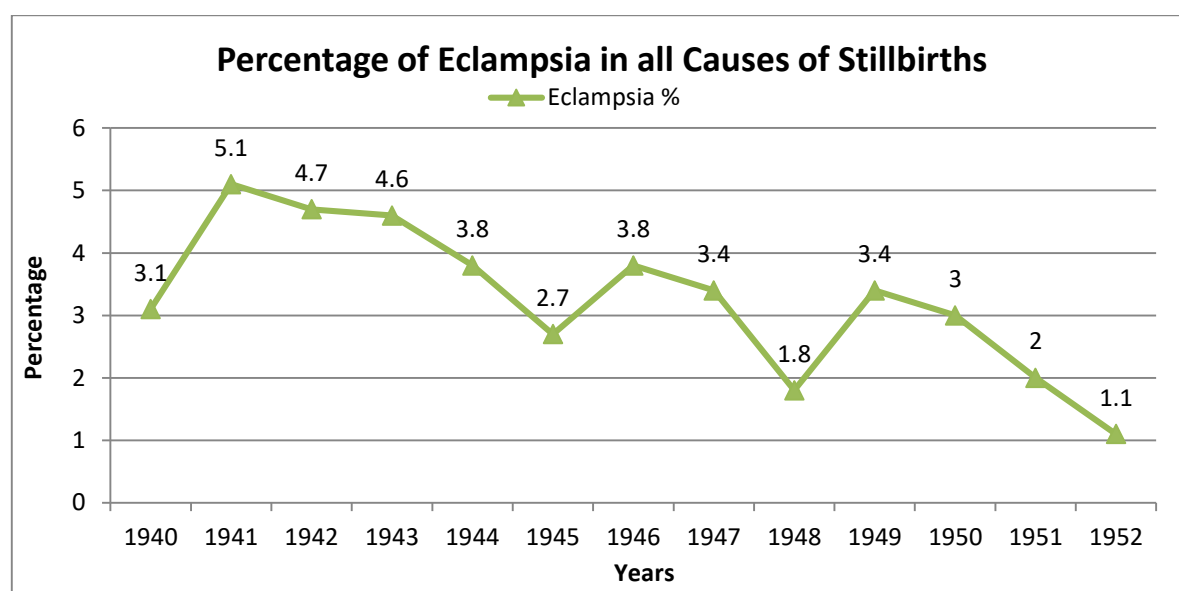


Figure 3.10: Percentage of Eclampsia in all Causes of Stillbirths, Rottenrow, 1940-52.⁸⁷

⁸⁵ Ibid., 65.

⁸⁶ NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1952*, HB45/3/26(i)-39(i).

⁸⁷ Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1940-1952*, HB45/3/27(i)-39(i).

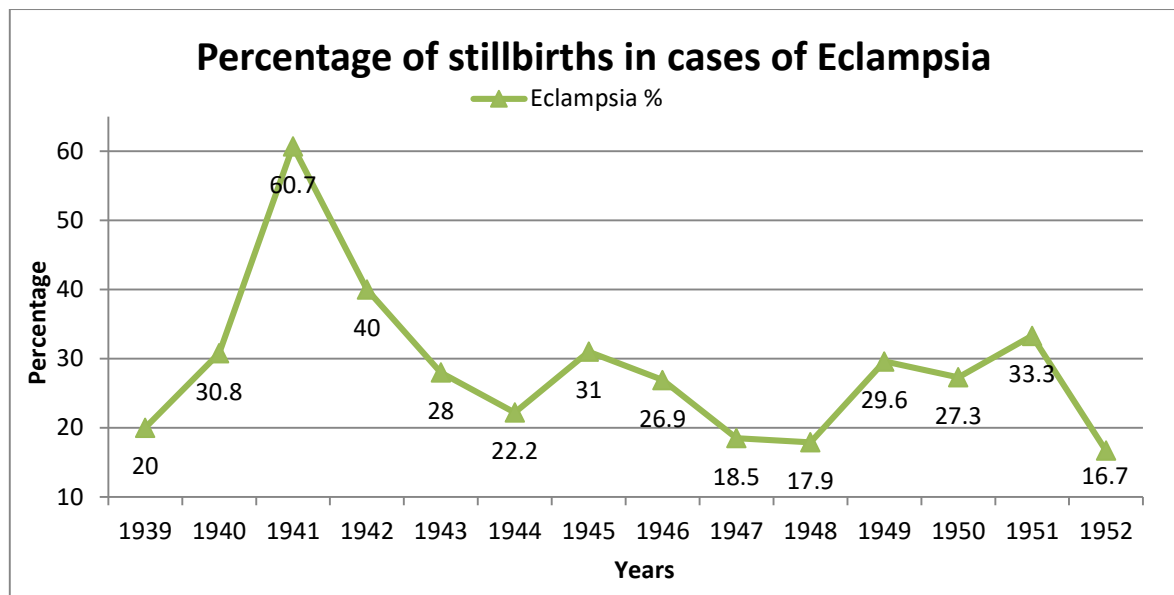


Figure 3.11: Percentage of Stillbirths in Cases of Eclampsia, Rottenrow, 1939-52.⁸⁸

Miller divided the treatment of eclampsia into five points: general treatment, sedative treatment, treatment of circulatory and pulmonary complications, diet and obstetric treatment. The general treatment consisted of hospital bed rest in a dark room under constant medical supervision of the patient's vital signs. Regarding the sedative treatment, Miller recommended morphine to prevent seizures. The treatment of circulatory and pulmonary complications consisted essentially of keeping the patient's airway clean and free so that she could breathe normally. Regarding diet, Miller prescribed water, fruit juice and milk when the patient was conscious. Finally, the obstetric treatment concerned only patients whose 'cervix is taken up and the uterus harden[ed] on abdominal palpation'.⁸⁹ In those cases, artificial rupture of the membranes was performed to induce labour and deliver the fetus to avoid fetal death and save the woman's life. Miller recommended Caesarean section in rare cases when induction of labour by artificial rupture of the membranes was unlikely to work because patients were not responding to any treatment. In March 1953, Dr Burt from Lennox Hospital reported to the Glasgow Obstetrical and Gynaecological Society (GOGS) on his clinical study on Caesarean section in eclampsia. On a series of seven patients, Caesarean section was performed early in the development of the condition and in all cases both the mothers and the infants survived. He believed that despite being a radical treatment for eclampsia, Caesarean section was the treatment with the most positive

⁸⁸ Graph from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1939-1952*, HB45/3/26(i)-39(i).

⁸⁹ Miller, 'Observations on eclamptic toxæmia', 231-32.

results for both parties.⁹⁰ We see here that within ten years, there has been a willingness from the obstetricians to go for more radical methods of treatment of eclampsia if results were more positive in order to give the best chance to both the woman and the fetus.

In 1958, Fitzgerald and Clift published their research on fetal and neonatal death due to toxae-mias of pregnancy. In the Lancaster maternity hospital from 1953 to 1957, there had been 819 cases of toxae-mias, in which 72 cases were either stillbirths or neonatal deaths. They divided those 72 cases into four groups: intrauterine death, accidental haemorrhage, intrapartum death and neonatal death. Their study showed that, within those groups, in primigravidae the incidence of fetal and neonatal deaths was due in 45 per cent of total primigravid loss to intrauterine death compared to 19 per cent of total primigravid loss due to accidental haemorrhage. In multigravidae, the greater incidence was the accidental haemorrhage (41 per cent of total multigravida loss), followed by intrauterine death (34 per cent of total multigravida loss).⁹¹ They then looked at the difference in fetal and neonatal deaths between booked (those who had attended the hospital antenatal clinic) and non-booked cases. When looking at Table 3.10, the most remarkable percentage is the one due to accidental haemorrhage in booked cases. Indeed, intrauterine death seemed to be unpreventable despite antenatal supervision. Regarding accidental haemorrhage in toxae-mic cases, however, many fetal deaths could have been avoided, seeing the difference of percentages between the booked and non-booked cases in that group, emphasising why the medical profession strongly encouraged women to receive antenatal care, and to attend even more regularly if diagnosed with pre-eclampsia.

	Total	Intrauterine Death	Accidental Haemorrhage	
Booked	39	38 %	10.8 %	% of total booked loss
Non-Booked	33	44 %	40 %	% of total non-booked loss

Table 3.10: Fetal and neonatal deaths due to Toxae-mias of pregnancy, Effect of Treatment, Lancaster, 1953-1957.⁹²

Their conclusion on the fetal and neonatal deaths in cases of toxae-mias of pregnancy was as follows:

⁹⁰ RCPSG Archive, *GOGS, Committee Minutes 1947-1962*, RCPSG 14/1/3.

⁹¹ Fitzgerald, Clift, 'The foetal loss in pregnancy toxae-mia', 284.

⁹² Ibid.

Evidence is produced suggesting that whereas in some cases placental function remains adequate following fairly normal foetal growth until there is a retroplacental haemorrhage, in others the foetus “fades out” because spasm of the uterine arteries reduces its supply of oxygen and nutriment. Provided accidental haemorrhage can be avoided, the policy of maintaining pregnancy till the 37th week may be successful in the first group of cases, but it is unsuccessful for those in which failure of foetal growth is followed by death in utero. A close watch should be kept for evidence that the foetus is not enlarging normally. The timing of delivery may be of more importance than the method.⁹³

This illustrates why the medical community believed attending antenatal care regularly for women with pre-eclampsia was vital, as the right timing for delivery was vital for the survival of the fetus.

In 1960 Dr Gate, an obstetrician in Sheffield, thanked Browne and Dodds for their research on hypertension in 1942 which brought to light the importance of checking the blood-pressure of women in their first antenatal visit. Browne and Dodds had found that ‘only 32 per cent of patients who began pregnancy with blood-pressures of 150/100 or over gave birth to living children’.⁹⁴ Because of that research, obstetricians and midwives had paid particular attention to hypertension during antenatal supervision, and therefore were able to reduce the risk of fetal death. Gate explained that

Emphasis was placed on mental and physical rest [in an institution], induction of labour before term, and caesarean section in selected cases. The wider application of these three principles – particularly the more frequent use of Caesarean section – was probably the main reason for the good results in [his] series.⁹⁵

Indeed, Gate studied a series of 71 patients with the same blood pressure as in the Browne and Dodd research, and his own result was quite different as 92 per cent of his patients in the series delivered a living infant.⁹⁶ The improvement in the care of hypertension in the 1940s and 1950s, thus, seems to have been for the best and a real success, and demonstrated how antenatal care and surgical delivery offered the best chance of fetal survival in hypertensive pregnancies. As essential hypertension was included with pre-eclampsia data in Rottenrow’s annual medical reports, however, such success in regards to improvement of treatment of hypertension cannot be verified for Glasgow.

⁹³ Ibid., 286.

⁹⁴ J. Gate, ‘Foetal mortality in essential hypertension’, *Lancet*, 275 (1960), 901.

⁹⁵ Ibid, 902.

⁹⁶ Ibid.

Conclusion:

In this chapter, I have highlighted that, in regard to stillbirths, some conditions had not changed much since the pre-registration era, such as toxæmia of pregnancy, despite substantial research; while other conditions began to disappear, even if it took more time in Glaswegian women, such as contracted pelvis. From the 1940s onwards, a new emphasis was established around prematurity and postmaturity, which could be both a cause of stillbirth in itself or a consequence of another condition/abnormality increasing the risk of stillbirth, and therefore became a priority within the medical profession. Finally what is clear in this chapter is the willingness of the obstetric community to increase medicalisation and intervention rates at the onset of, or during labour, in order to decrease the stillbirth rate. Obstetricians were more willing to resort to Caesarean section or induction of labour if this provided a better chance of fetal survival as Caesarean section and induction of labour were increasingly becoming safer for the mother. In order to do that, the number of women receiving antenatal care had to keep on increasing as surgical deliveries had to be mostly planned to procure the best rate of survival. Thus proof of the benefits of antenatal care had been highlighted by obstetricians throughout this period as I demonstrated. The entire focus now became the fetus and its survival. We can see here that the fetus tended towards becoming a patient in its own right where the medical community acted according to the fetus' condition. This perspective of the fetus as a patient will be further developed as the following chapters emphasise.

Chapter 4: Stillbirths under the National Health Service: the rise of medicalisation, hospitalisation and obstetric technologies, 1948-1963

Introduction:

The National Health Service (NHS) was established in Scotland through the 1947 National Health Service (Scotland) Act and brought into force from 5 July 1948. The NHS as a whole was established on a tripartite system; in other words, health was provided by three distinct groups: hospital services, primary care and community health services.¹ Regarding obstetrics, and especially antenatal supervision, maternity provision was divided between general practitioners in their surgeries, hospital antenatal clinics and maternity wards, and local health antenatal clinics and services provided by the community midwives. As I highlighted in the previous chapter, ever more Scottish women went to their general practitioners to receive antenatal care in the 1950s and early 1960s because the NHS provided and covered such care.² In Glasgow, local health maternity services were provided by Glasgow Corporation Domiciliary Midwifery; as Helen Joyce recalls, these midwives were ‘lovingly referred to by the Glasgow people as “green ladies” because of their green uniforms’.³ The main maternity hospital in Glasgow remained the Glasgow Royal Maternity and Women’s Hospital (GRMH), also known as Rottenrow, in the period studied in this chapter, although other hospitals provided maternity services such as the Southern General Hospital.

The 1950s and early 1960s correspond to a time of doubt in the obstetric community. The medical community believed the NHS would be very beneficial in continuing to decrease the stillbirth rate steeply, especially given the continued improvement in standards of health and nutrition throughout the female population. However, the desired decline in the stillbirth rate did not occur: in Glasgow, from 1950 to 1963, the stillbirth rate in the city

¹ Charles Webster, *The National Health Service: a political history*, 2nd edition (Oxford: Oxford University Press, 2002); Geoffrey Rivett, ‘1948-1957’, *National Health Service History*, <<http://www.nhshistory.net/shorthistory.htm>>, [accessed 26 February 2016].

² Susan Storrier, *Scotland’s Domestic Life* (Edinburgh: John Donald *et al*, 2006), 444.

³ Helena Joyce, *The Green Lady, Memoirs of a Glasgow Midwife* (Ladysmith: Circle 49 Publications Association, 2009), v.

only diminished by 9 points per 1,000 total births (Figure 4.1), whereas the rate decreased from 42 to 29 per 1,000 total births in the 1940s as I demonstrated in Chapter 2.⁴ The perceived lack of improvement led to reforms and pleas for an ever higher rate of medicalisation, intervention and hospitalisation during pregnancy and labour. Those reforms were believed by the obstetric community to be the solution to the problem and to help the stillbirth rate to finally decrease as obstetricians reckoned it should.

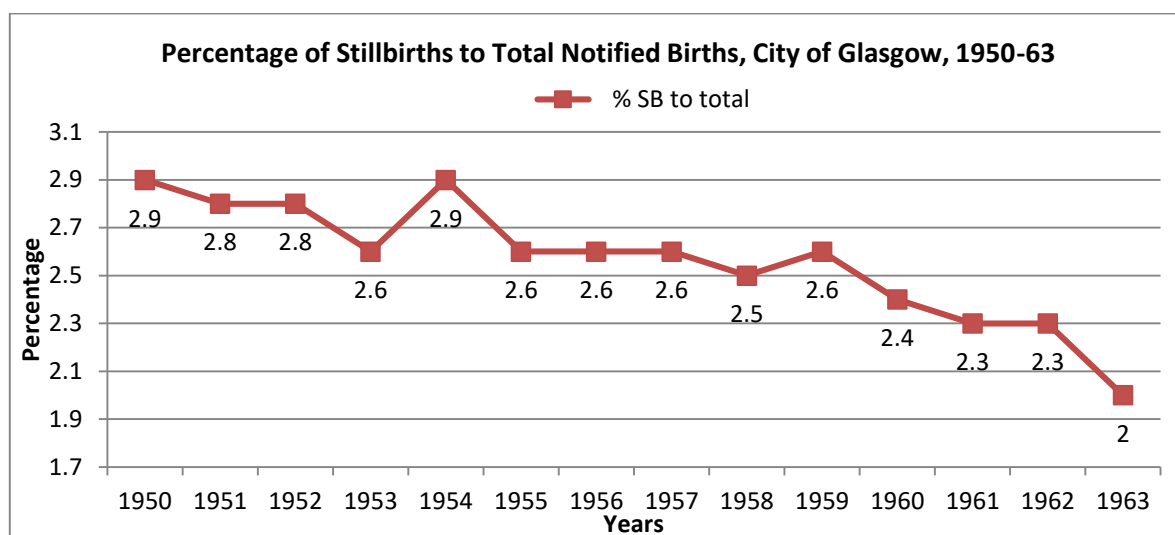


Figure 4.1: Percentage of Stillbirth to Total Notified Births, City of Glasgow, 1950-63.⁵

I) The 1950s, medical doubts and concerns towards stillbirth and perinatal mortality rates: time for a change?

By the second half of the twentieth century the medical profession, and society in general, no longer accepted the death of any viable fetuses as unavoidable: preventable stillbirths was to be minimised, if not eliminated. As Dugald Baird explained in 1953,

In Britain to-day most women have children because they want them and not because they cannot prevent them. More and more the size of the family is planned, and families of more than four are becoming scarcer ... The diminishing size of the family means that the individual baby has become more important. Parents are less willing to accept as unavoidable the loss of a first baby from birth injury, and are also aware of the risk of permanent damage from asphyxia. This changed attitude is reflected in the work of maternity hospitals ... Nowadays Caesarean sections

⁴ Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1939-63*, D-HE/1/1/40-59.

⁵ Graph from data in Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1950-63*, D-HE/1/1/46-59.

are being performed for the sake of the baby alone; for example, where there has been a previous stillbirth or where signs of foetal distress develop.⁶

The NHS was seen by the medical community, then, as a promise for families of live births. As Malcolm Nicolson highlights, ‘concern for the life of the newborn led to a more intense focus on the life, and death, of the fetus’.⁷ This focus was reinforced by the creation of a new category of mortality in 1936 by Austrian/German paediatrician Meinhard Von Pfaundler (1872-1947): perinatal mortality, which was used in Britain for the first time by Sigismund Peller in 1948 in the journal *Population Studies*. As Oakley explains, ‘From the mid-1940s the term “perinatal mortality” was increasingly used as a new composite index. By 1953 it was creeping into the language of reports.’⁸ In 1953, nevertheless, a definitive definition was not yet established. A definition, however, was soon after accepted internationally. It corresponds to the combination of stillbirth and early neonatal mortality (the first week of life). Those two mortality periods formed perinatal mortality because causes were similar, linked to the late fetal period in utero and the condition of labour. Perinatal mortality ‘ineluctably linked the antenatal with the intranatal and the postnatal, a move in the realm of ideology which was to further the same association in the realm of the physical organization of care’, as will be emphasised later on in this chapter.⁹ The Registrar-General for Scotland included perinatal mortality in the 1954 statistics, recording the perinatal mortality rate from 1951. In Glasgow, the perinatal mortality rate is shown in Figure 4.2.

⁶ Dugald Baird, ‘The future of obstetrics’, *EMJ*, 60 (1953), 20.

⁷ Malcolm Nicolson, ‘Death and Birth’, In *A Cultural History of the Human Body*, eds. Crozier and Beccalossi (Oxford: Berg Publishing, 2010), 40

⁸ Ann Oakley, *The Captured Womb, A History of the Medical Care of Pregnant Women* (Oxford: Blackwell, 1984), 146.

⁹ *Ibid.*, 147.

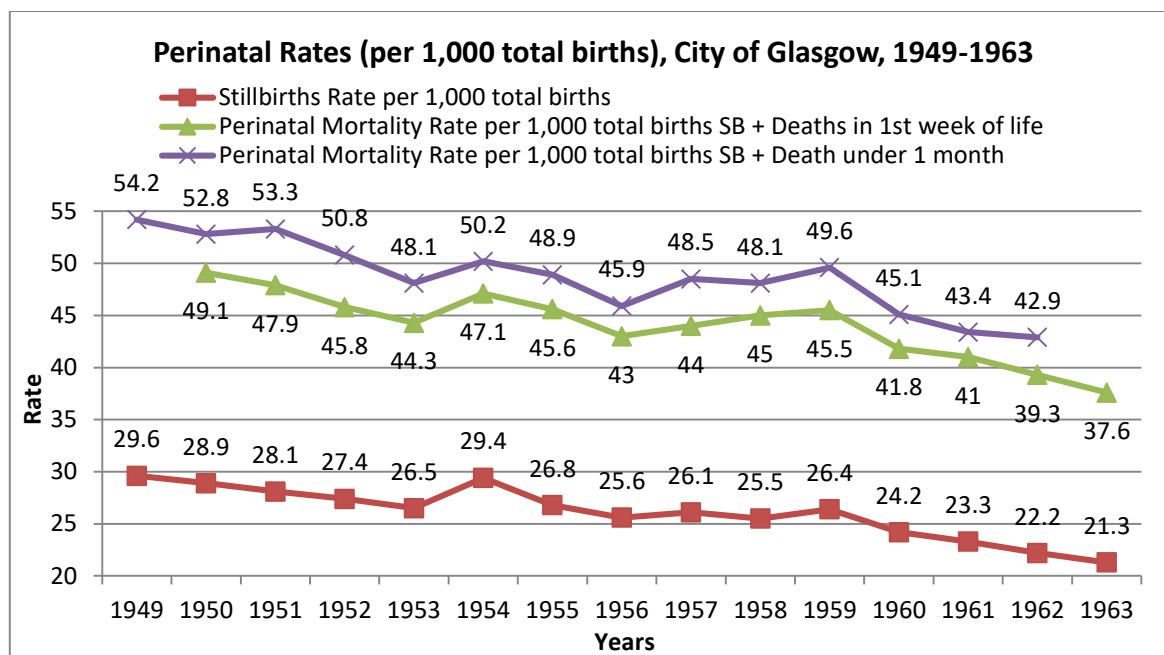


Figure 4.2: Stillbirth and Perinatal Mortality Rates, City of Glasgow, 1949-63.¹⁰

In 1955, the British perinatal mortality rate was still higher than many other countries with similar characteristics to Britain. It was diminishing but not as quickly as desired despite medical advances. In Scotland in 1955, the perinatal rate was 41 per 1,000 total deaths. In England and Wales in 1953, the perinatal mortality was lower, 36.9 per 1,000 total births, but still higher than many other western countries.¹¹ From 1935 to 1955, the rates for Scotland and England and Wales were above rates for Denmark, the Netherlands, the United States, Sweden, and Norway (Figure 4.3). This remained true for the rest of the period studied in this chapter.

The National Birthday Trust Fund established a committee to investigate the British perinatal mortality rate, which was titled the British Perinatal Mortality Survey (BPMS), which occurred in 1958. More precisely, ‘The principal survey was conducted during the week 3-9 March 1958, and covered 17,419 births in Great Britain (98 per cent of those registered), while the survey of stillbirths and neonatal deaths was extended to cover March, April, and May (7,851 deaths, 94 per cent of total).’¹² The survey included all British

¹⁰ Graph from data in Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1949-63*, D-HE/1/1/45-59.

¹¹ James Walker, John Henderson, ‘A review of perinatal mortality in Dundee’, *SMJ*, 12 (1967), 37; Alison Macfarlane, ‘Perinatal mortality’, *Lancet*, 314 (1979), 255-56.

¹² Robert Woods, *Death before birth: fetal health and mortality in historical perspective* (Oxford: Oxford University Press, 2009), 174.

medical institutions with an obstetric department. In an article entitled ‘Perinatal mortality’ published in 1962, the author emphasised that ‘Never before has such complete and nationwide information been obtained. In it obstetricians and midwives have examined what they are doing in a way that has not been attempted by any other branch of the health services.’¹³

Two reports were published in the following years, highlighting principal causes of perinatal mortality: asphyxia, disorders of birthweight and maturity (both pre- and post-maturity) and congenital malformation.¹⁴ Those three main causes of stillbirths were in part quite similar to the main causes of stillbirths in Glasgow in the 1950s and early 1960s, (Figure 4.4). Congenital abnormality was for all years, except 1954, the main cause of stillbirths. The second highest cause of stillbirths in Glasgow was haemorrhage in the mother, which differed from the national data. Prematurity, nevertheless, was an important cause of stillbirth, especially from 1955 to 1960, and asphyxia was more or less important according to the year during that time period.¹⁵ The reports emphasised the importance of the unification of the maternity services throughout the country in order to decrease the perinatal mortality by means of the comparison and application of standards and methods of low rate centres to all centres.

¹³ [Anon], ‘Perinatal mortality’, *Lancet*, 280 (1962), 1164.

¹⁴ *Ibid.*

¹⁵ Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1950-63*, D-HE/1/1/46-59.

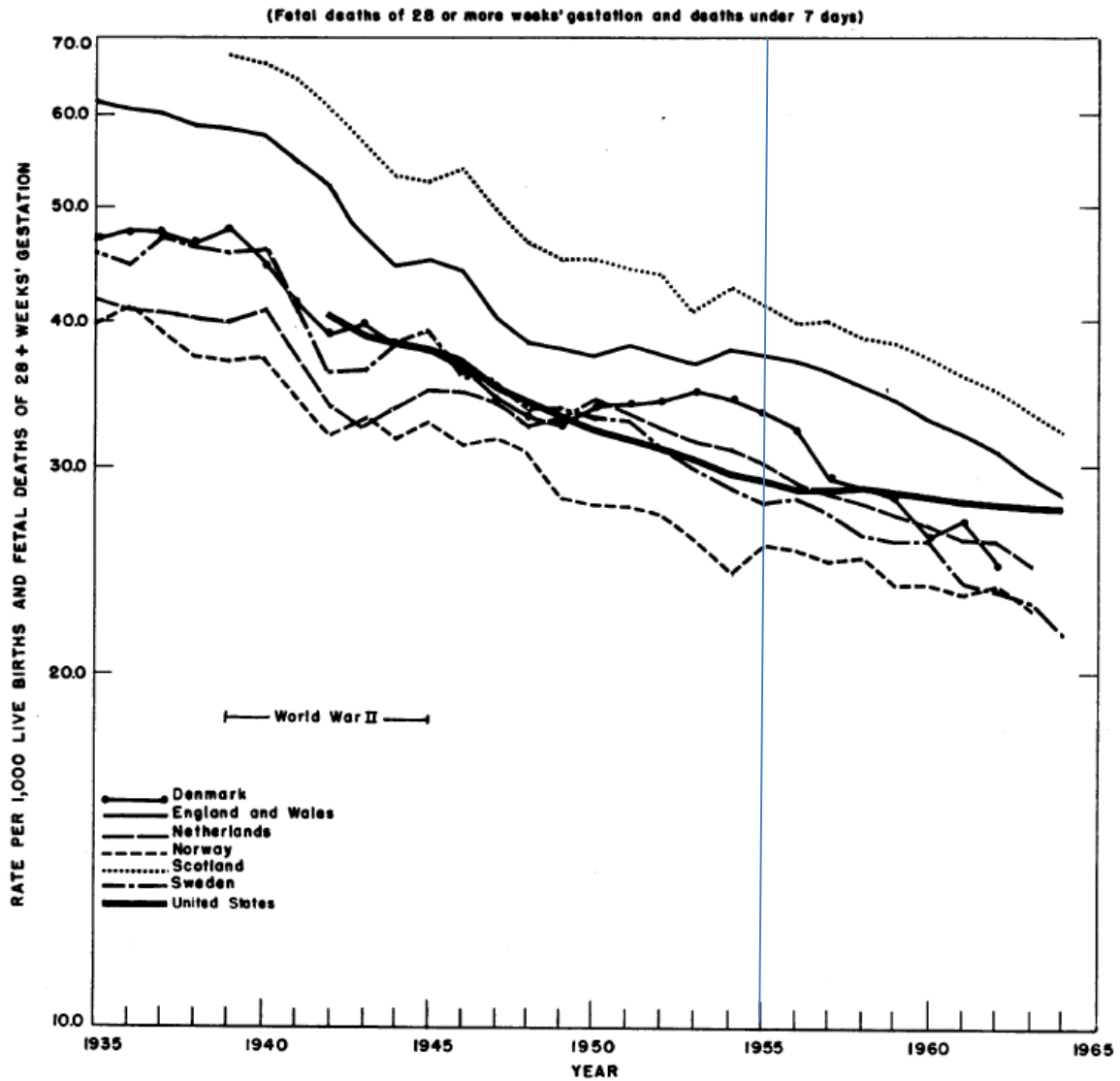


Figure 4.3: Perinatal Mortality Rates in selected Countries, 1935-64.¹⁶

¹⁶ Helen Chase, 'Perinatal and Infant Mortality in the United States and Six West European Countries', *American Journal of Public Health*, 57 (1967), 1738, line added in the Figure to highlight 1955.

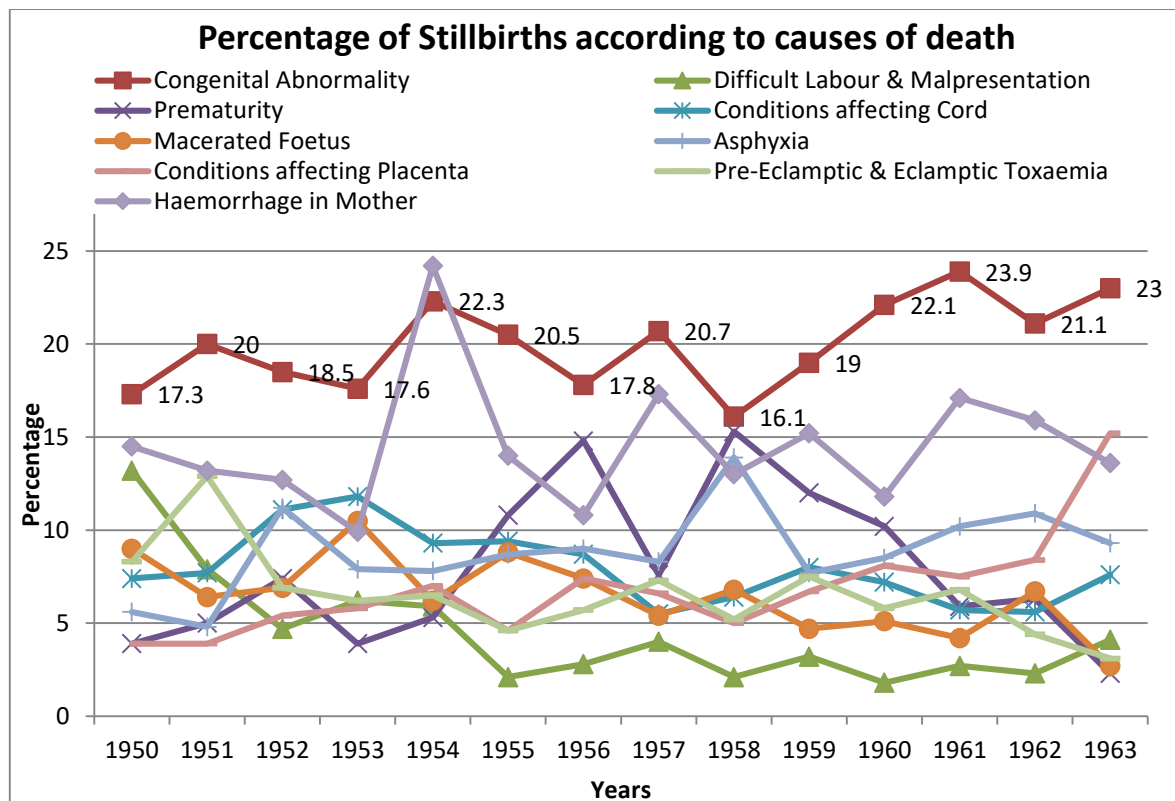


Figure 4.4: Percentage of Stillbirths according to Causes of Death, City of Glasgow, 1950-63.¹⁷

Baird participated in the BPMS and established his own perinatal classification. Firstly, perinatal deaths due to birth trauma which could have been avoided by the skilful management of labour. Secondly, deaths due to diseases of the mother, such as pre-eclampsia, placenta praevia, which antenatal care and skilled supervision during labour could ‘greatly lessen the risk to the baby’.¹⁸ Finally, what Baird defined as ‘Deaths due to unexplained physiological faults or hereditary defects which are not easy to influence by medical treatment during pregnancy or obstetrical skills during labour (fetal deformity; premature, cause unknown; mature, cause unknown; and some forms of antepartum haemorrhage)’.¹⁹ In the first two causes, mortality was preventable with skilled obstetric care. Baird believed those causes of stillbirth could be eliminated, and the disappearance of such stillbirths would have decreased the stillbirth rate to 10 per 1,000 total births in Aberdeen. He did not believe the rate could be decreased further, with the knowledge and technology available at the time. He stressed, however, that ‘the “lowest possible obstetric

¹⁷ Graph from data in Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1950-63*, D-HE/1/1/46-59.

¹⁸ Woods, *Death before birth*, 174.

¹⁹ *Ibid.*

death rate cannot be achieved by good obstetric care alone”, that “a higher level of health among mothers and reproduction at more favourable ages” would also be required’.²⁰

During the meeting of 19 April 1960 of the Glasgow Obstetrical and Gynaecological Society (GOGS), Dr Neville Butler, who also participated in the BPMS, underlined, as Baird did, that perinatal deaths were influenced according to the woman’s social class. He showed that ‘most of the still-births and neonatal deaths occurred in social class 5’.²¹ He concluded his presentation to the Society on ‘the unfortunate use of the terms asphyxia and maceration. He said that these conditions should be made more clear in certification’.²² This was an important point: in England and Wales and in Scotland, no modification had been made to the respective Acts on registration of stillbirths. The 1926 Act regarding registration of stillbirths for England and Wales did not require medical practitioners or midwives to give the cause or possible cause of death. This did not change until October 1960 when the Population (Statistics) Act made it a requirement.²³ In Scotland, in 1963, the Registrar-General for Scotland in association with the Procurator Fiscal Society made proposals for a revised form of Scottish death and stillbirth certificates ‘to bring the certificates into line with those in use in other countries’.²⁴ This emphasises the importance accorded to the possibility of establishing international trends for analysis. They explained the reason behind the proposal as follows:

Many important advances in medicine have been initiated as a result of studies based on data from medical certification of stillbirth ... it is therefore important that medical certification of cause of death should be carried out with care and that the form of certification should be consistent and clear.²⁵

Scottish medical practitioners had asked the Registrar-General for Scotland to adopt the international stillbirth certificate in order to help with international comparison as well as to illuminate potential areas of medical improvement.²⁶ The Procurator Fiscal Society was

²⁰ Ibid.

²¹ RCPSG Archive, *GOGS, Committee Minutes 1947-1962*, RCPSG 14/1/3.

²² Ibid.

²³ M. Heasman, ‘Registration of causes of stillbirth’, *Lancet*, 271 (1961), 455.

²⁴ NAS, *Correspondence of the Procurators Fiscal Society on proposals to revise the form of Scottish death and stillbirth certificates*, 08/05 – 11/12/1963, GB234/GD451/60.

²⁵ Ibid.

²⁶ Ibid., ‘The adoption for Scottish stillbirth registration of the international form of medical certificate of cause of death has been in response to representations made by the Scottish medical profession. This form is considered to have the advantages that it permits international comparability, that its sequence is a logical one

involved because procurator fiscals had the legal authority and duty to investigate unexplained or sudden deaths, including stillbirths, by gathering evidence such as death or stillbirth certificates as well as ordering a post-mortem if they believed it necessary.

The international form was designed in two parts; Part I recorded all the conditions (both of the fetus and of the expectant woman) which caused the stillbirth, while Part II recorded all other conditions which influenced the stillbirth but did not cause the stillbirth *per se*. To illustrate what was meant in the division between Part I and Part II and the order in which conditions needed to be recorded, the proposal included examples such as

An infant is stillborn having died during birth as a result of intranatal anoxia due to maternal toxæmia of pregnancy and consequent placental insufficiency. The infant was prematurely born the birth weight being 5lb. 4oz.

- I. (a) intra-natal anoxia
- (b) placental insufficiency
- (c) maternal toxæmia of pregnancy
- II. Prematurity – birth weight 5lb. 4oz.²⁷

The new form was in place when the Registration of Births, Deaths and Marriages (Scotland) Act 1965 was passed, allowing national and international comparisons thereafter which then helped the medical community and policy makers to understand the main problems around stillbirth to focus on.²⁸

II) Stillbirth and the Rh factor

Returning to medical advances in regards to stillbirth and its prevention, the discovery of the Rh factor had been a great achievement in the prevention of Rhesus isoimmunisation. In 1940 Landsteiner and Wiener discovered that ‘about 85 per cent of white people contain an element in their red blood cells similar to that present in rhesus monkeys and so designated Rh’.²⁹ They explained that the problem came from women who did not have that

for the certifying practitioner and that it permits a more informative analysis of the collected data deriving from such certificate.’

²⁷ Ibid.

²⁸ ‘Medical Certificate of Cause of Death, Registration of Births, Deaths and Marriages (Scotland) Act 1965, section 24’, *National Records of Scotland*, <<https://www.nrscotland.gov.uk/files/statistics/death-certificates/f11-notes-and-form-1jan66-31mar1990.pdf>>, [Accessed 08 April 2017].

²⁹ Gilbert Strachan, ‘The changing face of obstetrics and gynaecology’, *EMJ*, 60 (1953), obst 9.

element in their red blood cells (Rh negative) but whose fetus' blood was Rh positive. The Rh positive element passing through the placenta to the woman's blood would have formed antibodies, bringing future complication(s) for the fetus or the subsequent one(s). Indeed, many fetuses died in utero due to hydrops foetalis, which was an accumulation of fluid in fetal tissues or body cavities, which was one of the most severe forms of haemolytic disease and consequences of Rhesus isoimmunisation, and many newborns died of jaundice of pregnancy, another form haemolytic disease. In the early 1950s, despite further research, Rh isoimmunisation remained complicated and fetal death not always preventable. Indeed, according to Strachan,

The clinical obstetrical importance of this condition is that it explains a certain number of cases of intra-uterine death or still-birth for which previously no explanation was available. In certain cases with macerated foetuses syphilis was wrongly suspected, especially as in these cases the placental villi were enlarged, avascular and closely compressed.³⁰

This highlights that, in the first half of the century, when medical practitioners erroneously believed syphilis was one of the highest causes of stillbirths, some of the stillbirths supposedly caused by syphilis might have been due to unrecognised rhesus isoimmunisation, and thus syphilis as a cause of stillbirth might have been even lower than found in Holland's and other examinations on causation of stillbirth.

In the GRMH, women's blood was screened in regards to their and their fetuses' Rhesus status from 1943. Moreover, a list of Rh negative donors in the West of Scotland was established to call on in cases where antibodies in Rh negative women were detected.³¹ From July 1948, 'the laboratory technical staff have provided a 24 hour blood grouping service for transfusion cases. This has proved most successful and has reduced considerably the time lost between admission of the patient and the giving of blood'.³² Here the blood transfusion was not specifically for Rh isoimmunisation cases but it also helped in those cases. In the 1950s, the GRMH included in its annual clinical reports, for the first time, data in regards to their cases diagnosed with rhesus isoimmunisation. Table 4.1 highlights the percentage of stillbirths in cases of Rh incompatibility. As we can see on the table, out of all the cases of Rh isoimmunisation, only a few resulted in stillbirth, between 1.7 to 5.7 per

³⁰ Ibid.

³¹ NHSGGCA, *The GRMH, Medical Reports for the Year 1943*, HB45/3/30(i), 7; NHSGGCA, *The GRMH, Medical Reports for the Years 1944-1947*, HB45/3/31(i)-34(i).

³² NHSGGCA, *The GRMH, Medical Reports for the Year 1948*, HB45/3/35(i), 5.

cent.³³ Then, Rh isoimmunisation was a purely obstetrical cause, which could be largely alleviated by antenatal diagnosis as well as continued research into finding the right treatment. Indeed, in 1951, Stuart Laidlaw, Medical Officer of Health (MOH) in Glasgow, emphasised in the preface of the Report of the MOH of the City of Glasgow that

It is disappointing that little advantage is being taken throughout the city by general practitioners of the clinic and other facilities provided for the examination of the blood from expectant mothers. There is no excuse for the deaths (approximately 12 annually) which are due to failure to ascertain the Rhesus factor during the ante-natal period. Yet only half the mothers are tested for Rh.³⁴

	1950	1951	1952
Percentage of Rh incompatibility cases in all stillbirths	1.7	5.7	3.1

Table 4.1: Percentage of Rh incompatibility cases in all stillbirths, Rottenrow, 1950-52.³⁵

There was also medical debate about appropriate treatment. In 1953, Strachan explained that the most logical treatment was initially seen to be premature induction of labour between the 36th and 38th weeks of pregnancy to protect the fetus from its mother's antibodies, and during delivery transfused the fetus with 'Rh negative blood free from antibodies' by the umbilical vein.³⁶ He then stressed that 'the more the condition has been investigated and elaborated the more confusing has the recommended treatment become'.³⁷ Indeed, Dr Geoffrey Tovey and Dr Timos Valaes from Bristol reported in 1959 that since 'the results of a clinical trial suggested that prematurity increased the risk of death from kernicterus in affected infants ... the practice of premature delivery in women found to have Rh antibodies was temporarily abandoned in many centres'.³⁸ In the late 1950s, new research demonstrated that premature induction of labour in cases diagnosed with Rhesus antibodies was not as risky as the previous research had shown. Tovey and Valaes emphasised that 'Walker (1959) gives the current expected chance of survival in this condition as 84 per cent, and our findings therefore suggest that our policy of a return to premature induction based upon the maternal titres of anti-Rh and the history may be saving lives'.³⁹

³³ NHSGGCA, *The GRMH, Medical Report for the Years 1950-52*, HB45/3/37(i)-39(i).

³⁴ Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow, 1951*, D-HE/1/1/47, 9.

³⁵ Table from data in NHSGGCA, *The GRMH, Medical Report for the Years 1950-52*, HB45/3/37(i)-39(i).

³⁶ Strachan, 'The changing face of obstetrics and gynaecology', 10.

³⁷ Ibid.

³⁸ Geoffrey Tovey, Tomos Valaes, 'Prevention of stillbirth in Rh haemolytic disease', *Lancet*, 274 (1959), 521.

³⁹ Ibid., 524.

According to Tovey and Valaes, the risk of stillbirth increased in proportion to the quantity of Rhesus antibody present in the woman's blood (titre), but also in cases where a woman was in her second pregnancy onwards when Rhesus antibodies were formed during her first pregnancy.⁴⁰ That was why it became important to know the woman's obstetric history in regards to Rh haemolytic diseases to supervise her pregnancy adequately. In a first-affected fetus, premature induction of labour should have been done 21 days before term according to the authors' research, whereas in a subsequently-affected fetus premature induction of labour would have been determined depending on 'the antibody titre during the pregnancy considered in conjunction with the severity of haemolytic disease in the previous child'.⁴¹ Finally Tovey and Valaes stressed that premature induction of labour in Rh haemolytic diseases would only have worked if 'special facilities for nursing and transfusion' were at medical disposition.⁴²

New obstetrical knowledge influenced midwifery practice. In the London City Council Midwives' Handbook of 1959, for example, in regards to Rh isoimmunisation, pupil midwives were now taught to check the Rhesus factor in the woman's blood on her first antenatal visit, and to notify the doctor giving maternity medical services if her blood was Rhesus negative.⁴³ In the last trimester, around the 34th-36th week of pregnancy, the woman's blood should be tested again to check if antibodies were present. The textbook emphasised that '*It is the midwife's responsibility to ensure that the antibody test is carried out*'.⁴⁴ According to the result of that test, two different types of delivery were offered to the woman. If antibodies were present, hospital delivery was required and premature induction of labour prescribed. If antibodies were absent from the woman's blood, she was offered a home confinement. The midwife, however, had to take some of the cord-blood, kept in a special container from the local clinic to be posted to the hospital or laboratory. If the cord-blood was positive after the Coomb's test was carried out, 'the baby must be transferred immediately to hospital'.⁴⁵ Lorraine Sandra Wright, a midwife at the time, explained her experience with Rh isoimmunisation from the 1950s onwards as follows:

⁴⁰ Ibid., 523.

⁴¹ Ibid., 524.

⁴² Ibid.

⁴³ RCM Archive, *The midwives' handbook, 1959-1965*, RCMS/161.

⁴⁴ Ibid., emphasis in original.

⁴⁵ Ibid.

One of the major scourges of that era was that of Rhesus antibodies. The partnership of a woman whose blood group was Rhesus Negative with a man who was Rhesus Positive had an even chance of producing children who would be Rh Positive. Should this happen the escape of fetal blood cells into the maternal circulation at the delivery of the placenta would inevitably start a destructive chain of events. The mother would produce antibodies to fend off the foreign cells which were invading her system. Any future pregnancy in which the baby was Rhesus Positive would find the mother making further antibodies which would then systematically attack the blood cells of the new fetus. As the pregnancy progressed the antibody level could rise and place the baby in a highly dangerous situation. The more pregnancies the mother had the worse the situation would become. Many babies were lost and families had to face all sorts of traumas as the babies who did make it to delivery often needed exchange blood transfusions and on occasions before the birth the babies would require in utero transfusion. These procedures were fraught with danger for the babies and sometimes they did not survive the treatment. I looked after a number of women who had Rhesus antibodies and I remember quite a few lost babies. It seemed at the time that our lives were almost ruled by the problem and my heart always sank when one of my patients turned out to have Rhesus Negative blood.⁴⁶

To conclude, Rh isoimmunisation in the 1950s was just beginning to be understood and treatment for its prevention was to be discovered in the next decade, and therefore this will be discussed in the following chapter.

III) Obstetric X-ray versus obstetric ultrasound: preventive technological developments

From the 1950s onwards, Obstetricians relied ever more on modern devices such as X-ray to make their diagnosis for different conditions. As noted in the first chapter, X-ray was used to diagnose placenta praevia and the technique was called placentography. In the GRMH, an X-ray Department was founded in the mid-1930s. During the 1940s, the number of patients x-rayed increased (Table 4.2).

X-Ray Department, Rottenrow	1941	1942	1943	1944	1945	1946	1947
In-patients	256	317	336	292	292	391	455
Out-patients	152	177	221	255	282	416	450

Table 4.2: X-ray Department, Rottenrow, 1941-1947.⁴⁷

⁴⁶ RCM Archive, *Memoir of Lorraine Sandra Wright*, 1930-90, RCMS/8, 47.

⁴⁷ Table from data in NHSGGCA, *The GRMH, Medical Reports for the Years 1941-1947*, HB45/3/28(i)-34(i).

In the 1950s, the X-ray Department continued to flourish. In a meeting of the GOGS on 15 December 1954, Dr Crawford, consultant radiologist, reported on the improvement that had been made in soft tissue radiology in the previous 20 years. A discussion around x-ray diagnosis followed his presentation. Dr Sutherland highlighted that X-ray diagnosis in suspected cases with antepartum haemorrhage, especially placenta praevia, allowed doctors to identify those cases which did not require hospital treatment and therefore were sent home. Indeed, in the meeting of the GOGS on 13 June 1956, Sutherland emphasised that ‘The use of soft tissue X-rays permitted a definite diagnosis, allowed the patient to get home where the placenta was not praevia and [if placenta praevia] encouraged Caesarean section without prior vaginal examination’, which could worsen the condition of the woman and of the fetus.⁴⁸ Sutherland’s claim, however, was not accepted by all of the obstetric community: it was recognised that soft tissue radiological diagnosis had worked infrequently and only on favourable cases of placenta praevia.

In 1951, however, Dr Alice Stewart and her co-workers in Oxford demonstrated the harmful effect of X-rays on children who had been X-rayed while still fetuses.⁴⁹ She found that, in Britain, ‘about six per cent of children who died of malignant disease during 1953-55 had been X-rayed in utero’.⁵⁰ That was one of the reasons why Professor Ian Donald and his colleagues’ work on obstetric ultrasound in Glasgow from the 1950s onwards appeared as the perfect alternative solution, monitoring the fetus during the antenatal period without putting it at risk. From the mid-1950s onwards, Donald’s team made many improvements to their machine as highlighted in the introduction, and it was used quite frequently in the GRMH. Regarding diagnosis of antepartum haemorrhage by obstetric ultrasound, however, Ian Donald explained, in the Symposium on Medical Applications of Ultrasound, held in London on 14 November 1963, that he had not

yet explored the possibilities of placental localisation in cases of antepartum haemorrhage because of the fact that my major ultrasonic apparatus is situated in [the Western Infirmary which is] at the other side of the town from my maternity unit and it would not be safe to transport bleeding pregnant women about the city in ambulances.⁵¹

⁴⁸ RCPSG Archive, *GOGS, Committee Minutes 1947-1962*, RCPSG 14/1/3.

⁴⁹ M. Nicolson, J. Fleming, *Imaging and Imagining the Fetus: the Development of Obstetric Ultrasound* (Baltimore: John Hopkins University Press, 2013), 14-100; Oakley, *Captured Womb*, 105, 156-58.

⁵⁰ [Anon], ‘Environmental hazards of pregnancy’, 97.

⁵¹ NHSGGCA, *Papers of Prof Ian Donald (1910-1987)*, *British physician, Symposium on medical applications of Ultrasound, London, 14/11/1963*, HB110/2/3, 2.

This quotation underlines the practical difficulties and lack of developed equipment in ultrasound in the late 1950s – early 1960s in Glasgow. It was not before the mid-1960s that Donald and his team realised they had been visualising the placenta with all their devices for quite some time without knowing it, which then allowed the earlier diagnosis of antepartum haemorrhage, and cessation of X-ray placentography in Rottenrow. Nonetheless, ultrasound did not put a complete end to X-ray diagnosis during pregnancy. In 1960, the GRMH's clinical report emphasised that

The year has shown a steady overall increase in the number of X-ray requests which confirms that clinicians, although fully aware of the possible harmful effects of radiation of the foetus in utero, have accepted the fact that possible radiation hazard involved is outweighed by the information obtained from a radiograph. This year the radiation dose to the patient has been reduced by more than half by the use of new fast screens, and the use of faster films and strict coning.⁵²

The increased number of x-ray examinations indicates the clinical scrutiny of the fetus at the time, which emphasised the turn of the medical gaze towards the fetus itself as a patient, and the willingness to diagnose abnormalities by visualising them directly on the fetus. X-rays provided, for example, confirmation of the presence of major neural tube defects, skeletal abnormalities and multiple pregnancies. Furthermore, at the time only Donald and few of his co-workers knew how to scan with the ultrasound device. The clinical report claimed that in 1960 the GRMH x-rayed 2,197 patients, 1,234 in-patients and 963 out-patients, which were largely above the numbers from the late 1940s (Table 4.2). This number rose to 3,441 in 1962, 1,994 in-patients and 1,447 out-patients.⁵³

Obstetric ultrasound allowed Donald and his colleagues to monitor fetal growth and to diagnose any retardation of fetal growth early by measuring the fetal head diameter. Donald emphasised that, in Rottenrow in the late 1950s – early 1960s, a large percentage of intrauterine asphyxia was found in macerated fetuses due to fetal abnormalities such as anencephaly and hydrocephalus, concealed accidental haemorrhage (also called concealed abruptio placentae), toxemias of pregnancy and unexplained causes. The issue was that 'In Dublin and in the West of Scotland, with their dismal climates, anencephaly, hydrocephalus and spina bifida are many times more common than they are in the more favoured East or

⁵² NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1960*, HB45/3/40(i), 33.

⁵³ NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1960*, HB45/3/40(i), 33; NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1962*, HB45/3/42, 38.

in Japan'.⁵⁴ Donald then highlighted that a bad placenta did not only provide a fetus with insufficient oxygen but also insufficient nutrients, which prevented the fetus from growing normally. Donald explained that he had

investigated the problem by measuring the growth with my ultrasonic echo-sounding technique. We need pretty accurate measurements to know the rate at which it is growing and so we measure the width of the baby's head, or the biparietal diameter, as being the most concrete and constantly available diameter for measurement ... We can now measure the width of the head in centimetres to two places of decimals.⁵⁵

The measurement of the biparietal diameter allowed the growth of a fetus to be followed and enable diagnosis of early placental insufficiency, leading to possible interventions before the death of the fetus. This measurement is still in use nowadays as a routine antenatal check-up.

To conclude, from 1948 to 1963, obstetric technologies were developed and in use in Glasgow, obstetric ultrasound in antenatal check-ups soon usurped X-ray in Glasgow but X-ray still remained used in certain cases. Furthermore obstetric ultrasound did not spread throughout Britain for another decade, and therefore antenatal x-ray diagnosis remained a widely used technology in Britain.

IV) Hospitalisation for all deliveries: the solution to the problem?

In the 1950s, despite antenatal care and skilled professionals having been made available to every woman since the establishment of the NHS, the stillbirth rate in Glasgow, as well as in Scotland but also more broadly in Britain, had not decreased as much as expected, as pointed out in the introduction and the first part of this chapter. After having reduced so much during the Second World War, it was felt like a failure by the obstetrical and midwifery profession, even if we now know this was normal to have a slow decrease after a steep decline. Between 1950 and 1963, the Scottish stillbirth rate reduction was not

⁵⁴ NHSGGCA, *Papers of Prof Ian Donald (1910-1987)*, British physician, 'Antenatal Foetal Hazard' Reprinted from the suppl No 1 to Vol XIII (No 60) of the *Journal of the College of General Practitioners*, HB110/2/3, 43.

⁵⁵ *Ibid.*, 45.

even half the reduction in the previous decade.⁵⁶ In an article published in 1952 in the *Lancet*, the author argued that

the main question to be answered in regards to stillbirths may well be not so much whether social conditions are important as whether they are more or less important than those matters of a more technical or strictly obstetrical nature; and there is perhaps some urgency in seeking an answer, because the stillbirth-rate is no longer declining, and because further striking improvements in the technical quality of the obstetric service are improbable – at least such as those we have witnessed in the last 15 years.⁵⁷

In practice, the answer lay in greater medicalisation and raising the percentage of hospitalisation for childbirth to diminish the stillbirth rate. Storrier states that ‘After the implementation of the NHS [in Scotland] there was a gradual increase in the uptake of antenatal care performed by GPs in their surgeries, and, in time, by obstetricians in hospital antenatal clinics’.⁵⁸ This shift happened gradually with several milestones.

Firstly, obstetricians complained of the quality of antenatal care provided by general practitioners, in particular, lack of information given about mothercraft classes and antenatal clinics. The idea of the ignorance of mothers, as underlined in the introduction, had not disappeared and was still seen by the medical community as a cause for some preventable deaths. Hence there was a need to educate women on those issues. In an article published in 1955 on ‘Maternity and child welfare in Glasgow’, Dr Laidlaw, MOH for Glasgow regretted

that attendances at [local authority] antenatal clinics once again fell. Every effort was made to secure the cooperation of the GPs in advising expectant mothers to attend mothercraft classes and special consultant sessions at the clinics, but the response was very poor. Thus, of 2479 expectant mothers who attended these sessions, only 150 were referred by their family doctors.⁵⁹

Laidlaw believed those mothercraft classes under midwives’ supervision along with special consultant sessions might have prevented some stillbirths and neonatal deaths; and thus the help, skills, knowledge or diagnosis available in those classes/sessions were not provided under the general practitioner’s antenatal supervision. For Laidlaw and his fellow Medical Officers of Health, this was worrying: until the early 1960s general practitioner antenatal

⁵⁶ [Anon], ‘Scotland’s health’, *Lancet*, 259 (1952), 771; [Anon], ‘Statistics for Scotland’, *Lancet*, 281 (1963), 613.

⁵⁷ [Anon], ‘Stillbirth and social conditions’, *Lancet*, 260 (1952), 175.

⁵⁸ Storrier, *Scotland’s Domestic Life*, 444.

⁵⁹ [Anon], ‘Maternity and child welfare in Glasgow’, *Lancet*, 265 (1955), 206.

supervision was by far the most frequent type of antenatal care received by women who had had a stillbirth (Figure 4.5).

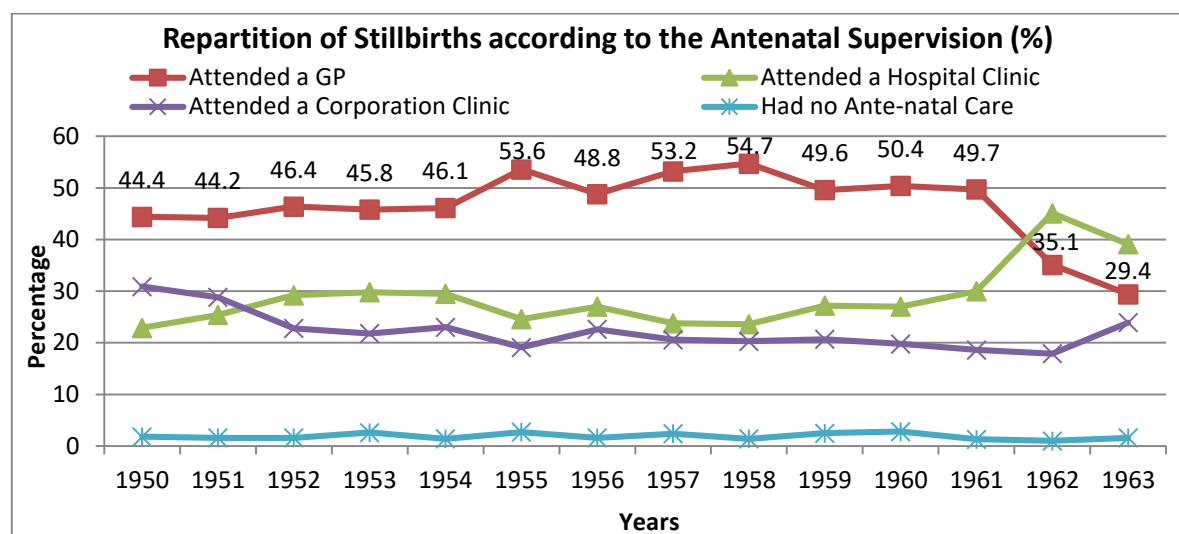


Figure 4.5: Repartition in percentage of Stillbirths according to the Antenatal Supervision, City of Glasgow, 1950-63.⁶⁰

In 1963, criticism of antenatal care provided by general practitioners remained, which highlighted the conflict of interest between the obstetricians and GPs around pregnancy and childbirth. An article about perinatal mortality in Britain stressed that the ‘antenatal care which is so important to prevent foetal loss is not as high in standard when under sole care of GP when compared to the care provided in hospital antenatal clinics’.⁶¹ This was, according to the author, because some tests were not performed in GP surgeries, and there was a better level of equipment and expert staffing in hospitals.⁶² The article argued that antenatal supervision and delivery should both be in hospital as, despite a high percentage of abnormal cases in hospitals, the perinatal mortality rate in hospitals was around the national rate.

In the 1960s, obstetricians began to write articles in medical journals to demonstrate that childbirth was safe only in hospitals. In Glasgow, in 1959, the percentage of pregnant women delivered in hospitals was 60 per cent. Nonetheless, Dr Horne, MOH in Glasgow believed the proportion ‘should not be less than 75 per cent, in order to secure the

⁶⁰ Graph from data in Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1950-63*, D-HE/1/1/46-59.

⁶¹ [Anon], ‘Perinatal mortality’, *Lancet*, 282 (1963), 1207.

⁶² *Ibid.*, 1208.

admission of all women who should be confined in hospital either for medical or for social reason'.⁶³ Horne believed this was a necessity because the perinatal mortality rate in Glasgow (45.5 per 1,000 total births) was the highest rate in all of Britain, and hospital delivery seemed to Medical Officers of Health the obvious solution to reduce that rate.⁶⁴ The following year, the Glasgow Royal Maternity Hospital (GRMH) (its new name since 1960) closed its Domiciliary Midwifery Service. Home confinement was no longer offered by the largest maternity hospital in Glasgow, emphasising the Department of Health for Scotland's (DHS) willingness to bring women into hospitals for childbirth.⁶⁵

In October 1962, the *Lancet* reported on a meeting at the Royal College of Obstetricians and Gynaecologists (RCOG) for general practitioners which endorsed this general view. Attendees concluded that home confinement was safe for only 15 per cent of women in Britain and thus the rest (85 per cent of women) should deliver in hospital, a percentage even higher than what Horne recommended for Glasgow. Nonetheless, in the early 1960s, more than half of all the deliveries across Britain were still home confinements or in facilities without the necessary equipment for unpredicted difficult labour. The professionals at the meeting claimed that 'In spite of the fact that hospitals selected cases of known increased risk, the perinatal death-rate in domiciliary midwifery was as high as in hospital'.⁶⁶ They explained that fact as follows

Over half the cases booked for home delivery already had indications for hospital confinement when booked. These practices not only killed many babies, but were producing so many emergencies that some hospitals were now having to reduce their bookings in order to cope with them.⁶⁷

In conclusion, they suggested that one of the issues regarding perinatal mortality and home confinement was the tripartite system established with the creation of the NHS, and that 'the maternity service would have to be unified', and, more precisely, unified around the hospitals.⁶⁸

⁶³ [Anon], 'Maternity services in Glasgow', *Lancet*, 276 (1960), 1151.

⁶⁴ Ibid.

⁶⁵ Derek Dow, *The Rottenrow, The History of the Glasgow Royal Maternity Hospital 1834-1984* (Lancaster: The Parthenon Press, 1984), 155.

⁶⁶ [Anon], 'Is midwifery safe outside hospital?', *Lancet*, 280 (1962), 876.

⁶⁷ Ibid.

⁶⁸ Ibid.

V) Call for a new era in Glasgow: Time for a new diagnostic Maternity Hospital.

In Glasgow, the willingness to offer more hospital confinement and to provide hospital antenatal care to more women led to more maternity beds. In the late 1950s, the DHS accepted Donald's proposition for the construction of a new maternity hospital next to the Royal Hospital for Sick Children (RHSC). As Dow highlights, 'The advantage to be gained from having a Maternity Unit on the same site as the RHSC – and conveniently near the University and the Western Infirmary – had been recognised for many years'.⁶⁹ The construction of the Queen Mother Hospital (QMH) began in the 1960s and it opened its doors in 1964. Ian Donald intended this hospital to be a modern and diagnostic hospital for Glasgow and the West of Scotland. It was also going to be the first hospital to have an Obstetric Ultrasound Department, dissociated from the X-ray Department. Furthermore, one of its purposes was 'to provide a properly equipped academic department of obstetrics for undergraduate and postgraduate teaching and for research', meaning the most up-to-date teaching hospital.⁷⁰ The QMH began a new era in Glasgow in obstetrics and in the prevention of stillbirths, as the following chapter will show.

Conclusion:

The 1940s and 1950s were eventful decades in regards to stillbirths. The 1940s witnessed a steep decrease in the Scottish stillbirth rate, particularly focused on women's nutrition and social inequality. In the 1950s, however, the Scottish stillbirth rate declined more slowly than the medical community expected, despite the establishment of the NHS. Obstetricians and the Ministry of Health saw the creation of perinatal mortality as a key means of understanding, classifying and preventing deaths within this category. In Scotland, the medical community also demanded a change in the certificate of stillbirth in used in the 1950s and early 1960s. They requested to adopt the international form of certification of stillbirth, already in use in England and Wales from 1960, in order to obtain more insight on causes of stillbirth and thus to help them decrease the stillbirth and perinatal rates further

⁶⁹ Dow, *The Rottenrow*, 118.

⁷⁰ NHSGGCA, *The QMH Glasgow Clinical Report for 1964-65*, QMH 2/1/1(i), 6.

and more rapidly. The new form was put in place in Scotland in 1965 and in used for the rest of the period studied. Hospital confinement was highly recommended to provide the safest environment for childbirth in this context of slow decreasing rate. Furthermore, in Glasgow, obstetric ultrasound was developed and improved from the mid-1950s onwards, and a new era began with the opening of the QMH in 1964. Both factors contributed to increased medicalisation and technological intervention rates around childbirth, in line with the wishes of the obstetric community and medical governmental groups. Finally, the Rhesus factor was discovered in the 1940s, and Rh isoimmunisation during pregnancy started to be better understood in the 1950s. In addition, as the next chapter will show, there was much research to find new treatments and interventions to prevent fetal and neonatal deaths, which came to fruition by the end of the 1960s.

Chapter 5: Stillbirths in a technological-based childbirth, 1964-1976

Introduction:

This chapter will explain how the Queen Mother's Hospital (QMH) opened a new era of obstetrics and prevention of stillbirths in Glasgow, by showing how the QMH affected obstetrics in Glasgow and the path towards higher hospitalisation in the city. Stillbirths will then be compared between the QMH and the Glasgow Royal Maternity Hospital (GRMH).

This chapter will also further analyse the 1958 British Perinatal Mortality Survey (BPMS). As noted previously, the survey aimed to understand the reasons behind the slow decrease in the perinatal mortality rate in the 1950s despite the advent of the National Health Service (NHS) and rising standards of nutrition throughout the country.¹ In 1958, however, as Dugald Baird underlined in 1969, 'before the findings of the survey were made public, the perinatal mortality-rate [and thus the stillbirth rate] began to fall and has continued to do so ever since' (Figure 5.1).² This chapter will explore this downward trend from the mid-1960s to the mid-1970s, focusing particularly on differences between social classes, and the consequences of this survey for the development of obstetrics and childbirth, and the development of the fetal patient bypassing the woman. Using the new classification of perinatal deaths established in relation to the BPMS's results, this chapter will recount medical developments in the diagnosis and prevention of stillbirths, focusing on Rhesus isoimmunisation and other obstetrical conditions discussed in previous chapters, as well as a newly found cause of stillbirth: smoking during pregnancy.

¹ Robert Woods, *Death before birth: fetal health and mortality in historical perspective* (Oxford: Oxford University Press, 2009), 174; [Anon], 'Perinatal mortality', *Lancet*, 280 (1962), 1164.

² Dugald Baird, 'Perinatal Mortality', *Lancet*, 293 (1969), 511.

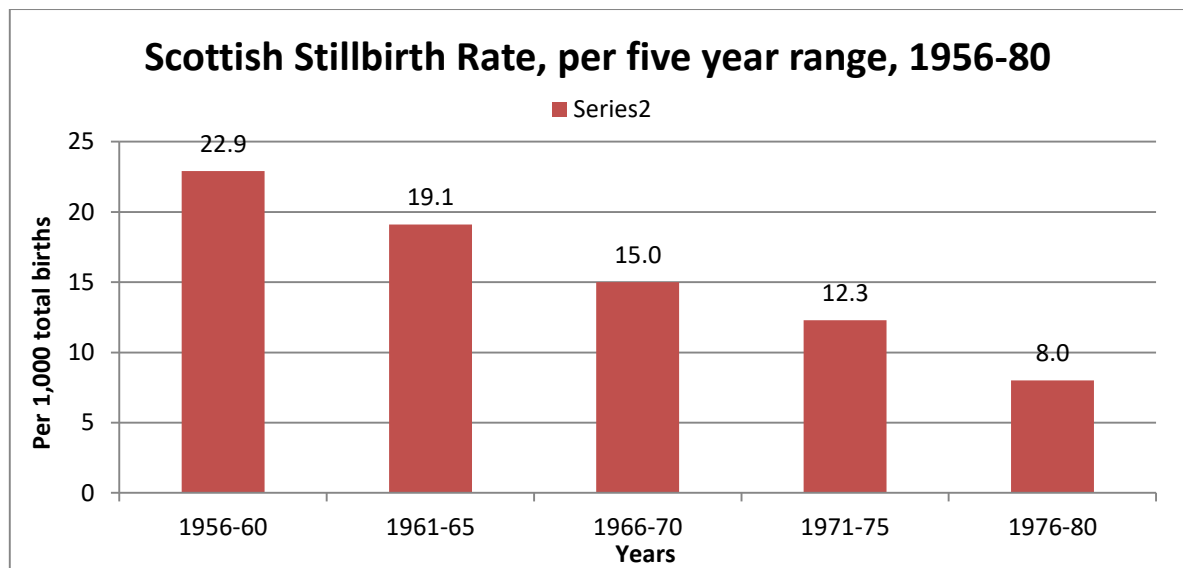


Figure 5.1: Scottish Stillbirth Rate, per five year range, 1956-80.³

Finally, as this chapter will demonstrate, higher medicalisation and hospitalisation rates, and continued recourse to obstetric technologies, meant that childbirth was increasingly monitored and managed such as to follow obstetricians' ideal of the regular pace. From the mid-1970s, however, many women started to complain about such practices and demanded changes in the way childbirth was attended to. Furthermore, in the mid-1970s, due to the expectation of a live birth by obstetricians and parents, perinatal death, when it occurred, was mostly unexpected and the distress felt by the parents started to be voiced. Indeed, a group of bereaved parents began to appear in the public sphere voicing the trauma of their experience and their beliefs that their needs were not met by the medical care provided; and therefore highlighted the necessity for change.

l) The Queen Mother's Hospital, the new Maternity Hospital in Glasgow

As Nicolson points out, Ian Donald agreed to become the new Regius Professor of Midwifery in Glasgow on the condition that, as offered by the Principal of the University of Glasgow Sir Hector Hetherington, a new maternity hospital would be built within five years

³ Graph from data in 'Vital Events Reference Tables 2013 Section 1: Summary, Table 1.1(a): Population and vital events, Scotland, annual averages 1855-60 to 2006-10', *National Records of Scotland*, <<https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/vital-events/general-publications/vital-events-reference-tables/2013/section-1-summary>>, [Accessed 13 February 2017].

of the start of his post and would be under his charge from conception.⁴ Indeed, as explained in the previous chapter, the Medical Officers of Health for Glasgow were pushing for a 75 per cent hospital confinement rate within Glasgow; however, with the poor provision of beds available in the 1950s, this percentage could not be attained. The GRMH was already over-crowded, and was using the Ross Hospital, located in Paisley, as a safety valve. This was due to the increased in-patients received at Rottenrow, after the closure of the Domiciliary Department of the hospital. The other maternity units in Glasgow could not welcome the number of women in childbirth required to reach the 75 per cent of hospital confinement.⁵ Donald emphasised that ‘For a long time Glasgow has been one of the black spots in the country with regard to the provision of maternity hospital services. Bad housing [and environmental] conditions double the hazards of domiciliary midwifery and make it urgently necessary to provide more maternity beds.’⁶ The Montgomery Report on the Maternity Services in Scotland of 1959 only recommended 70 per cent of hospital confinement, and to reach this level Glasgow required an additional 240 beds; the QMH would provide 112 of these beds.⁷ Construction of the new hospital began in 1958 and the hospital opened its doors on 11 January 1964 ‘when the building was only partly complete and [it] was opened officially by Her Majesty, Queen Elizabeth the Queen Mother, on September 23rd, 1964’.⁸

The QMH was quite different from other maternity hospitals but especially from the GRMH, as the planning and construction team led by Ian Donald had a willingness to build a modern hospital. The hospital was built with four main units. The first one was the Out-patient Department and Admission Suite. The Out-patient Department consisted of the antenatal and postnatal clinics, facilities to carry out blood and urine examination for antenatal supervision, as well as the Social Service, Dietetic, Physiotherapy and Mothercraft Training Departments. The Admission Suite included an emergency delivery theatre and it was where the Obstetric Flying Squad’s equipment and premises were, in

⁴ Malcolm Nicolson, ‘The Queen Mother’s Hospital, 1964-2010’, in *Child Health in Scotland, A History of Glasgow’s Royal Hospital for Sick Children*, eds. Hutchison, Nicolson, Weaver (Eskrine: Scottish History Press, 2016), 191-92.

⁵ Derek Dow, *The Rottenrow, The History of the Glasgow Royal Maternity Hospital 1834-1984* (Lancaster: The Parthenon Press, 1984), 163.

⁶ NHSGGCA, *QMH, Ian Donald’s papers*, ‘On Getting a New Hospital’, QMH4/4/1+2.

⁷ Ian Donald, ‘Special series on hospital planning: III. The new Yorkhill Maternity Hospital’, *SMJ*, 6 (1961), 164.

⁸ NHSGGCA, *The QMH Glasgow Clinical Report for 1964-65*, QMH 2/1/1(i), 6.

which the workers waited for emergency calls.⁹ The Obstetric Flying Squad was a form of medical retrieval team that was composed of an obstetrician, anaesthetist, midwife and other healthcare personnel; they were on-call to attend to women with major obstetric complications occurring in the community and, if possible, transport the woman back to be delivered in the emergency delivery theatre.¹⁰ The second unit corresponded to the Patient Areas. Ian Donald, when planning the site, decided this new hospital should not be designed on the Nightingale ward style, considered to be too impersonal and prone to spread infection.¹¹ Indeed, Donald's wish had always been 'to run a hospital as far as possible without rules and with the maximum freedom of visiting, [thus] circulation space for visitors had to be taken seriously and this has been achieved by ample day rooms round which the wards, mostly of four and single bed units, are congregated'.¹² The first annual report for the years 1964-1965 of the hospital described the patient areas as follows

There are three main ward units or Wings on the ground floor. These consist of four-bedded wards and single rooms and ante- and post-natal beds are inter-mingled in each wing. There are no private beds. The three Wings are connected by two large lounges or "Day Spaces" where the patients can meet each other and entertain their visitors. We encourage "Family" visiting and have no rigid visiting hours. The babies spend most of the time with their mothers but in each Wing there is a small nursery to which restless baby may be admitted for short periods, particularly at night. The fourth Wing is situated on the second floor and is the "Isolation Unit" to which patients with possible infections are admitted. It contains 12 single rooms and has its own operating theatre.¹³

Such loose regulation in the Patients' Areas was possible thanks to the severe policy in force of isolating any suspected infectious patients and because the Isolation Unit was located on a different floor from the general Patients' Areas.¹⁴ The third unit was the Paediatric Department, which I will not discuss as it is not the focus of this research.

Where the QMH differed greatly from previous maternity hospitals was the organisation of its last unit: the Labour Suite. Usually the labour suites were divided between the first stage of labour and the second and third stages of labour.¹⁵ In this case,

⁹ Ibid.

¹⁰ D. Liang, 'The emergency obstetric service, Belshill Maternity Hospital: 1933-61', *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 70 (1963), 83-93; G. Chamberlain, J. Pearce, 'The flying squad', *British Journal of Obstetrics and Gynaecology*, 98 (1991), 1067-69; C. Callander, P. Hutton, 'The anaesthetist and the obstetric flying squad. Could complacency creep in?', *Anaesthesia*, 41 (1986), 721-25.

¹¹ Nicolson, 'The Queen Mother's Hospital, 1964-2010', 194.

¹² NHSGGCA, *QMH, Ian Donald's papers*, 'On Getting a New Hospital', QMH4/4/1+2.

¹³ NHSGGCA, *The QMH Glasgow Clinical Report for 1964-65*, QMH 2/1/1(i), 6.

¹⁴ Nicolson, 'The Queen Mother's Hospital, 1964-2010', 194.

¹⁵ Ibid., 193-94.

when planning the hospital, Ian Donald directed that all the abnormal labours, even the most minor intervention such as forceps deliveries, would have to occur in an operating theatre. Donald explained that

Where parturition is normal every opportunity must be given for nature to fulfil its function but any departure therefrom must be met with full surgical facilities and discipline. For too long I have practiced “bathroom” obstetrics, i.e. making dangerous procedures even more hazardous because of unsuitable surroundings.¹⁶

By ‘bathroom’ obstetrics, Donald referred to what could be witnessed in the GRMH in the 1950s due to overcrowding. Nicolson highlights that ‘Pressure on the facilities was so severe that women sometimes gave birth in the corridors while waiting to be admitted to the ... labour rooms’.¹⁷ To come back to the division of labour suites, hence, Donald planned two categories: normal labour suites and operating theatres for abnormal labours, whatever degree of complication. The Labour Suite provided generous operating theatre space, but it was centralised within the labour ward suite and used central sterilising to ensure safety and a completely hygienic environment in the operating theatres.¹⁸

The first annual clinical report described the labour suite as follows:

The labour suite consists of seven single delivery rooms; a day room for the use of patients in early labour and a five-bedded recovery room. Any procedure which deviates at all from a completely normal delivery is carried out in one of the three operations theatres which are a continuation of the labour suite and to which there is access by a “sterile corridor” on one side and a “service corridor” on the other.¹⁹

The women could be brought quickly to the operating theatre due to the fact that all the beds in the delivery rooms were ‘really camouflaged operating tables on large wheels, highly mobile, with rapid, head-down tilt facilities’.²⁰ Furthermore, the QMH was one of the first to encourage husbands to be present in the antenatal period as well as taking care of the baby during the postnatal period. The hospital’s policy even accepted the presence of the husband in the delivery room if it was the woman’s wish.²¹ Donald highlighted that ‘each patient is given a room to herself for the whole of her labour and all stages thereof, in

¹⁶ NHSGGCA, *QMH, Ian Donald’s papers*, ‘On Getting a New Hospital’, QMH4/4/1+2.

¹⁷ Nicolson, ‘The Queen Mother’s Hospital, 1964-2010’, 191.

¹⁸ NHSGGCA, *QMH, Ian Donald’s papers*, ‘On Getting a New Hospital’, QMH4/4/1+2.

¹⁹ NHSGGCA, *The QMH Glasgow Clinical Report for 1964-65*, QMH 2/1/1(i), 6-7.

²⁰ NHSGGCA, *QMH, Ian Donald’s papers*, ‘On Getting a New Hospital’, QMH4/4/1+2.

²¹ Nicolson, ‘The Queen Mother’s Hospital, 1964-2010’, 195.

which she can be visited throughout by her husband if she wishes and for whom amenities are provided'.²² In the 1962 edition of *A Textbook for Midwives* by Margaret Myles, on the question 'Should the Husband be Present at the Birth?', the author gave four opinions as follows:

There is no valid objection if he can be of any assistance to his wife; the British husband usually prefers to remain in the background even when the confinement takes place at home. **Husband are allowed to be present in some countries,** but only in a few hospitals in Great Britain, and in selected cases, are they permitted to be in the labour ward while the baby is being born. **Watching the birth of a baby is an experience which may emotionally upset those who are closely related to the mother** and husbands have been known to faint. The midwife's attention is concentrated on the two lives under her care at this critical moment and should not be diverted. **It is, however, a matter of tradition** as well as opinion, and though the wishes of the parents ought to be given due consideration, the immediate safety of mother and baby should be the deciding factor.²³

Donald's decision, therefore, to have the husband present at birth in the QMH, if the wife wished it, was far from being the standard practice in Britain. Storrier stresses that 'Gradually the presence of a father at births became not just acceptable, but expected. Fathers in Scotland, from the 1970s onwards, have regularly attended parentcraft and preparation for birth classes.'²⁴ We can see, therefore, that the presence of the father during pregnancy and birth had evolved from the mid-1960s onwards to become routine. To summarise, as Nicolson points out, 'Donald emphasised that the new institution was intended to deliver a clinically innovative, yet humane, form of maternity care'.²⁵

Donald was developing obstetric ultrasound in Glasgow from the 1950s; he planned to have an Ultrasonic Department when designing the QMH. This was the first one worldwide. Donald and his co-workers continued to develop the apparatus to make it more efficient and to facilitate its use. The one installed at the QMH was called the Disonograph. Donald trained Mrs Ida Miller to use the Disonograph; she later became the first ultrasonographer in the world.²⁶ Fleming and Nicolson suggest that 'Donald's willingness to delegate scanning to Miller was also a measure of his growing confidence in ultrasonic

²² NHSGGCA, *QMH, Ian Donald's papers*, 'On Getting a New Hospital', QMH4/4/1+2.

²³ Margaret Myles, *A Textbook for Midwives*, fourth edition (Edinburgh & London: E. & S. Livingstone Ltd, 1962), 710, emphasis in original.

²⁴ Susan Storrier, *Scotland's Domestic Life* (Edinburgh: John Donald *et al*, 2006), 448.

²⁵ Nicolson, 'The Queen Mother's Hospital, 1964-2010', 195.

²⁶ M. Nicolson, J. Fleming, *Imaging and Imagining the Fetus: the Development of Obstetric Ultrasound* (Baltimore: John Hopkins University Press, 2013), 165-67.

diagnosis and an indication that it had gained the status of a routine procedure in his clinic'.²⁷ In the first clinical report of the hospital, Donald underlined that

Sonar is not only a research interest in the hospital but is widely used as a practical aid in the clinical management of patients. The hospital has an ultrasonic room adjacent to the X-ray department, where patients can be examined quietly and conveniently. For the patient, ultrasonic examination involves less discomfort than most diagnostic radiology and the clinician is able to get the result of the test immediately ... The apparatus was in almost daily use from the summer 1964 and about a third of the cases examined were from other hospitals in Scotland and England. During 1964 and 1965 the work was mainly concerned with – (a) Diagnosis of early pregnancy and study of its complications; (b) Foetal cephalometry; (c) Gynaecological diagnosis.²⁸

The fact that other hospitals in Britain recommended pregnant women be checked by ultrasound at the QMH, from 1964 onwards, highlights that ultrasound was becoming a trusted and respected antenatal procedure. If medical practitioners wished for a clear clinical confirmation of possible abnormality, they believed it was worth sending a pregnant woman to the QMH to obtain such certainty. In the second annual clinical report, Donald pointed out that 'The use of sonar has increased in both clinical and research fields over the past two years. The number of patients referred to the Department has increased by 50 per cent with 73 being referred from other hospitals.'²⁹ In 1966, 1,214 pregnant women had been scanned by ultrasound in the antenatal period as well as 196 non-pregnant women; in 1967 those numbers were 1,903 and 128 respectively. The numbers for the first two years were not given, but in total for 1966 and 1967 there had been 3,441 women scanned in whom 3,117 were for antenatal check-ups.³⁰

I am now going to compare the stillbirth rates between the QMH and the GRMH. Unfortunately, the NHS Greater Glasgow and Clyde Archive only has the first two annual clinical reports for the QMH covering 1964 to 1966. The clinical records available for the GRMH and Ross Hospital stop at 1969 with some years missing in between. Nonetheless, the reports available present a good picture of the stillbirth rate. The stillbirth rate of the QMH was 17.4 per 1,000 total births in 1964-1965 and 16.9 in 1966-1967.³¹ During those four years, the QMH rates were much lower than the stillbirth rates for Rottenrow and the Ross Hospital. For the year 1964 the combined rate for the GRMH and the Ross Hospital

²⁷ Ibid., 167.

²⁸ NHSGGCA, *The QMH Glasgow Clinical Report for 1964-65*, QMH 2/1/1(i), 84.

²⁹ NHSGGCA, *The QMH Glasgow Clinical Report for 1966-67*, QMH 2/1/2, 98.

³⁰ Ibid.

³¹ NHSGGCA, *The QMH Glasgow Clinical Reports for 1964-67*, QMH 2/1/1(i)-2.

was 21.6, rising to 25.3 in 1965, returning to 21.6 in 1966 and falling to 19.4 in 1967 (Figure 5.2). Ross Hospital was opened for social reasons and welcomed mainly women with normal deliveries who could not be delivered at home. The combined stillbirth rate was therefore much lower than the stillbirth rate for the GRMH. Indeed, for the year 1969, the stillbirth rate of Ross Hospital alone was 2.12 per 1,000 total births compared to 22.32 per 1,000 total births at Rottenrow alone.³² To have a complete picture, the Scottish stillbirth rate for 1964 and 1965 was 17.9 per 1,000 total births, and the stillbirth rate for the entire city of Glasgow was 19.5 per 1,000 total births in 1964 and 20.3 in 1965. The QMH's rate, therefore, was around the national rate but Rottenrow's rate remained higher than the national and city-level rates.³³

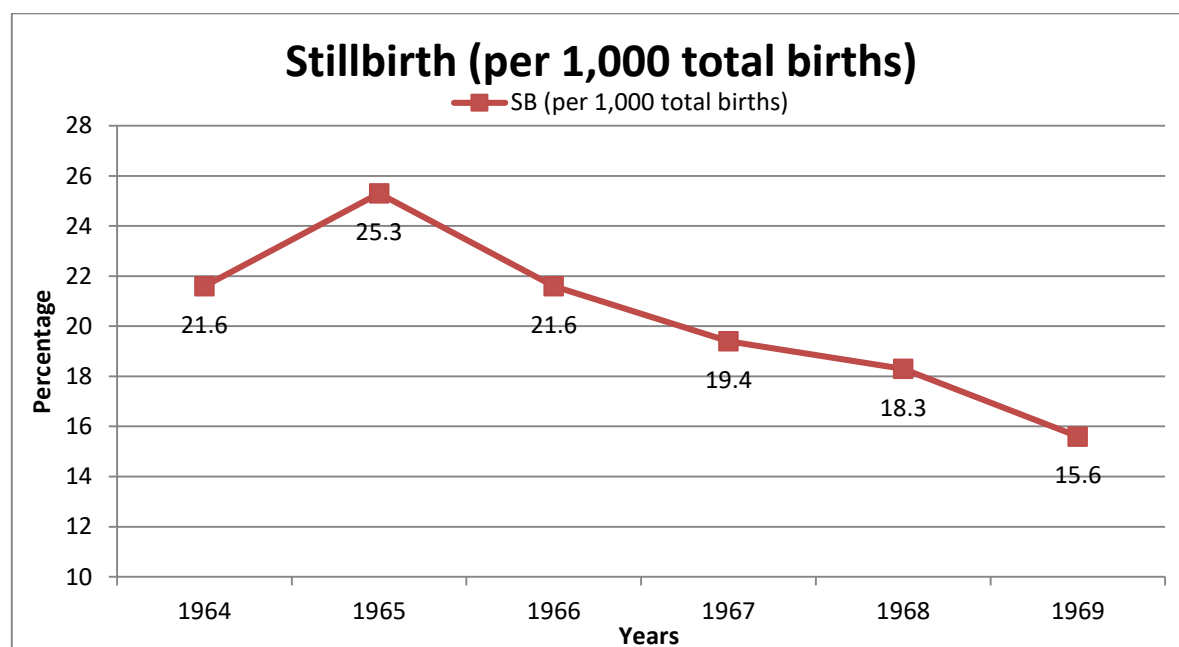


Figure 5.2: Stillbirth rate, Rottenrow and Ross Hospital, 1964-1969.³⁴

The difference in stillbirth rates between the two main maternity hospitals might be explained by the difference of population admitted to the hospitals. Differences in social classes influenced greatly the outcome of pregnancy and the probability of perinatal death. Rottenrow was based in the East End of the city where the population in general was poorer than other parts of the city. On the other hand, the QMH was located in Yorkhill in the

³² NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1969*, HB45/3/43, 10-11.

³³ [Anon], 'Scotland's health', *Lancet*, 287 (1966), 1313; Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow*, 1964, D-HE/1/1/60, 87; Glasgow City Archive, *Glasgow Corporation. Report of the MOH of the City of Glasgow*, 1965, D-HE/1/1/61, 87.

³⁴ Graph from data in NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1969*, HB45/3/43, 8.

West End, which was one of the most upper-middle-class neighbourhoods in Glasgow. As Nicolson underlines:

The overwhelming majority of Rottenrow's patients was ... drawn from the working class. Middle-class women entered the [GRMH] only as a result of complications, actual or anticipated, generally choosing to give birth either in their own houses or in a private maternity home ... The opening of the [QMH] facilitated th[e] shift towards hospital birth, within its catchment area ... Within a few years of the opening of the Queen Mother, the private maternity homes ... began to close, as middle-class women became increasingly willing to accept referrals to the attractive new facility at Yorkhill.³⁵

The opening of the QMH, thus, helped to reach the 70 per cent of hospital confinements in Glasgow across all social classes, recommended by the Montgomery Report on Maternity Services in Scotland, 1959, thanks to its modernity and positive reputation. The GRMH was renovated in the 1970s under the Muirhead Professor Malcolm MacNaughton, to become more modern and attractive, and Ross Hospital was closed in 1973.³⁶ Ross Hospital was no longer a necessity in Paisley, as the town local board opened its own hospital four years before the Ross Hospital closed.³⁷

II) Perinatal mortality and stillbirth rates: the aftermath of the 1958 British Perinatal Mortality Survey.

As noted already, the National Birthday Trust Fund organised the first BPMS to understand why the perinatal mortality rate had not been decreasing as fast as was hoped after the creation of a welfare state. In the 1960s and early 1970s, the medical community still referred to this Survey, as a second survey similar to this one was not conducted before 1970. The 1958 Survey analysed all births in England, Wales and Scotland from March to May 1958, but focused particularly on a single week in March. Findings from the Survey highlighted that social and environmental inequalities played a large part in the perinatal death rate throughout Britain in the 1950s onwards. This was evident, for example, in the height of women, with tall women coming from good social and environmental backgrounds and small women from more difficult social and environment backgrounds, at a population level. The Survey reports underlined that

³⁵ Nicolson, 'The Queen Mother's Hospital, 1964-2010', 197-98.

³⁶ Nicolson, 'The Queen Mother's Hospital, 1964-2010', 198; Dow, *The Rottenrow*, 164.

³⁷ Dow, *The Rottenrow*, 164.

Perinatal mortality-rates were lowest in the South and highest in the North, and the rate in the urban areas was slightly higher than in the rural areas. The percentage of tall women was greatest in the South and least in the North. Women in the rural areas were taller on average than those in the urban areas. In both rural and urban areas tall women had lower perinatal death-rates than short women. There were more upper-social-class women in the South than in the North. The perinatal mortality-rate was lowest (19 per 1000) in tall women (65 inches or more) from the professional classes, and highest (49 per 1000) in short women.³⁸

Indeed, an article published in the *Lancet* in 1969 stressed that ‘Since the survey was made there have been many changes in the pattern of reproduction and in the standard of obstetric care, but certain fundamental influences on perinatal mortality are as relevant today as they were in 1958’; by this the author meant social and environmental influences.³⁹

The BPMS reaffirmed the idea that the perinatal mortality rate was higher in Scotland than other parts of the country due to ‘higher unemployment-rate, lower wages, greater overcrowding, and shorter stature of women’.⁴⁰ This latter point was even more problematic if those women’s fetuses had standard growth which created disproportion. Within Scotland, there were also variations: Glasgow and its outskirts had the highest perinatal death rate as social conditions were worse.⁴¹ Even within Glasgow, variations existed. Comparing the working-class municipal ward, Gorbals, and the middle-class municipal ward, Kelvinside (Figure 5.3) demonstrates that for most of the 1960s, the stillbirth rate was higher in the Gorbals than in Kelvinside.⁴² The social class a woman belonged to, then, played an important part in the outcome of her pregnancy. As Kincaid, an obstetrician in Aberdeen, noted in 1965, ‘the stillbirth rate in the unskilled manual group is about two and half times that experienced by the wives of professional men’.⁴³ Despite more than 50 per cent of women working in the late 1950s and 1960s, no research was based on the women’s working condition but always in relation to the social condition of a male relative, husband or father.

³⁸ Dugald Baird, ‘Perinatal Mortality’, *Lancet*, 293 (1969), 511.

³⁹ [Anon], ‘Perinatal problem’, *Lancet*, 293 (1969), 293.

⁴⁰ Baird, ‘Perinatal Mortality’, 514.

⁴¹ *Ibid.*, 511.

⁴² Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow*, 1964-72, D-HE/1/1/60-68.

⁴³ Kincaid, ‘Social pathology of foetal and infant loss’, *BMJ*, 1 (1965), 1057.

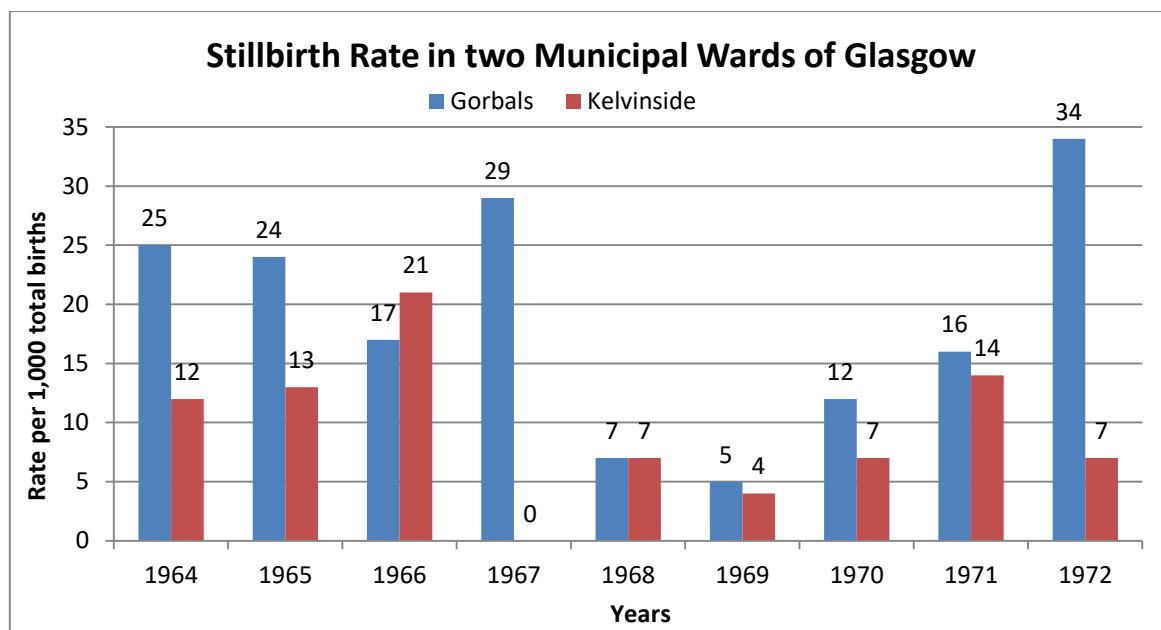


Figure 5.3: Stillbirth Rates in two Municipal Wards of Glasgow, 1964-72.⁴⁴

Furthermore, despite a fall in the stillbirth rate in both Scotland and Britain since 1939, the gap between the stillbirth rate of social class I and social class V had not narrowed significantly.⁴⁵ Kincaid wrote

To those who planned the creation of a Welfare State in Britain such results would seem disappointing, for one explicit objective of the whole programme of legislation and reorganisation was to reduce disparities between large sections of the community in the kind of medical and social factors reflected in the rates of foetal and infant loss.⁴⁶

In the national survey undertaken in 1970, the gap in the perinatal mortality rate between social class I and social class V was still quite wide despite efforts made to narrow it. The report emphasised that ‘while the perinatal mortality rate for social class I was only 7.5 [per 1,000 total births], that for social class II was 15.8 and for classes IV and V no less than 26.8’.⁴⁷ Those rates need to be compared to the national perinatal mortality rate of 1970 which was 23 per 1,000 total births.⁴⁸

The differences in the stillbirth and perinatal mortality rates between women in social class V and women in social classes I and II can be partially explained by differences in

⁴⁴ Graph from data in Glasgow City Archive, *Glasgow Corporation. Reports of the MOH of the City of Glasgow, 1964-72*, D-HE/1/1/60-68.

⁴⁵ Ibid.

⁴⁶ Ibid., 1058.

⁴⁷ [Anon], ‘Born in Britain 1970’, *Lancet*, 307 (1976), 729.

⁴⁸ Ibid.

access to antenatal care and/or pregnancy experiences. Kincaid explained that women in social classes IV and V began receiving antenatal care later in their pregnancy compared to women in social classes I and II. As Butler and Bonham had shown in 1963, women from the professional classes preferred general practitioner or hospital antenatal supervision whereas women from manual social classes relied on mostly antenatal care provided by local authority clinics and/or midwives, if they had antenatal care at all.⁴⁹

Butler and Bonham also noted that most upper-class women delivered in hospitals or GP units and working-class women preferred to book home confinement under the care of a midwife.⁵⁰ In Glasgow, prior to the establishment of the QMH, middle-class women delivered in private maternity homes, but preferred home confinement if they had a normal delivery. Many working-class women in Glasgow delivered in a hospital either for social reasons or due to an abnormal pregnancy/labour. As Helena Joyce explains, however, many Glaswegian women in the 1960s

whose pregnancy condition warranted a hospital confinement, called the midwife at the last minute to avoid going into hospital. The reasons for doing this were varied. Mainly they did not want to be away from their home turf as they were the glue that held the family together and they held the strings of the family purse; also they received a Government home confinement grant if their baby was delivered at home!⁵¹

Thus experiences were quite different throughout the country. Nonetheless, Kincaid believed clearly that many working-class women ‘who were the most at risk of having a difficult labour or of losing their babies, as the outcome indicates’ refused hospital confinements when, for certain of those women, it could have prevented a perinatal death.⁵²

Moreover, Kincaid added that working-class women were more likely to be working during their pregnancies than middle-class women, or at least continued to work further along their pregnancy. Additionally, working-class families were on average larger than middle-class ones, and therefore working-class women appeared in a greater proportion in the high parity group. But what Kincaid wanted to really emphasise was that

⁴⁹ Kincaid, ‘Social pathology of foetal and infant loss’, 1058.

⁵⁰ Ibid.

⁵¹ Helena Joyce, *The Green Lady, Memoirs of a Glasgow Midwife* (Ladysmith: Circle 49 Publications Association, 2009), 28.

⁵² Kincaid, ‘Social pathology of foetal and infant loss’, 1058.

All these factors are, so to speak, specific to the reproductive situation, and presumably affect the outcome of pregnancy in different ways. But they are not to be thought of as isolated items of behaviour and culture. A woman who is working or who already has several children to look after finds it more difficult to attend the antenatal clinic. Women who conceive before marriage tend to postpone attendance at the clinic until they can register under their married names ... In effect, what we are dealing with are not isolated factors but whole patterns of behaviours.⁵³

Thus, causes of the difference in stillbirth and perinatal death rates between women from different social classes was explained holistically and not by isolated factors which could hide the larger picture.

Furthermore, the NHS could not completely reverse years of malnutrition and a history of ill-health apparent during women's childhoods. In 1969, Baird reminded his readers in relation to perinatal mortality that 'many of the present generation of mothers were born during the serious industrial depression in the early 1930s and were reared in conditions of poverty'.⁵⁴ Similarly, Kincaid emphasised that the medical profession and the members of the Ministry of Health should not expect 'great social inequalities to yield overnight to State Welfare legislation. It will be some years before we have large numbers of women reaching childbearing age who have lived all their lives in a "Welfare State"'.⁵⁵ Additionally, many primiparae women were relatively newlywed; hence the environment of their parents' home was more likely to have influenced their health than the environment of their new home.⁵⁶ Finally, an article published in the *Lancet* in 1966 emphasised that 'Postneonatal deaths are more closely correlated with such factors as housing; stillbirths and neonatal deaths reflect more on health and physique and depend on the earlier environmental experience of the mother'.⁵⁷ That was why the perinatal mortality rate should not only be studied in regards to the women's husbands' social class but also according to women's fathers' social class: the development of the fetus would have been linked to the direct environment the woman was in, but also the environment she grew up in which had influenced her health and physique.⁵⁸

⁵³ Ibid.

⁵⁴ Baird, 'Perinatal Mortality', 511.

⁵⁵ Kincaid, 'Social pathology of foetal and infant loss', 1060.

⁵⁶ Illsley, 'Social class selection and class differences in relation to stillbirths and infant disease', *BMJ*, 2 (1955), 1520.

⁵⁷ [Anon], 'Regional and social factors in infant mortality', *Lancet*, 288 (1966), 274.

⁵⁸ Clare Hanson, *A Cultural History of Pregnancy: Pregnancy, Medicine and Culture, 1750-2000* (Houndmills, Basingstoke, New York: Palgrave Macmillan, 2004), 134-35.

As noted above, the stature and height of the women played a role in the outcome of the pregnancy, and the taller a woman the less likely she was to have a perinatal death. Moreover, the Survey pointed out that within each social class, the tallest women had a lower perinatal mortality rate than the smallest.⁵⁹ Already in 1955, Illsley had shown in Aberdeen that the height of a woman influenced her choice in a husband. He explained that 'Women who married into a higher social class were usually taller and in better health, were better educated, and came from smaller families than those who remained in the same class or who married into a lower social class'.⁶⁰ Those social decisions at marriage, therefore, kept the healthiest women in the upper social classes and the women with the poorest health in the lower social classes. That was why the gap in the stillbirth and perinatal mortality rates between classes remained virtually similar across the period studied in this chapter as even in the aforementioned 1970 National Survey perinatal mortality rate, it was stressed that the gap in the perinatal rates between social classes I and V remained wide.

Kincaid pointed out that the number of siblings a woman had also played a part. He underlined that the BPMS 'indicates that the more brothers and sisters a woman grew up with the more likely she is to experience a stillbirth. This holds good, even when women are divided into three social classes according of their father.'⁶¹ There were, nevertheless, differences between the three social classes at which the number of siblings began to influence the future outcome of her pregnancies. Indeed, in the unskilled manual group if a woman had even one sibling it lowered her chance of having a live birth and it was further worsened if she had two or three siblings. On the other hand, a woman in the middle class was not more likely to have a stillbirth unless she had four or more siblings. The 1958 BPMS looked at women born before or during the Second World War, and therefore, even if there was a declining birth rate, large parities were still common and thus for a vast majority, those women looked at during the BPMS must have been born within large families. The influence of siblings in relation to stillbirth was explained as follows:

⁵⁹ Kincaid, 'Social pathology of foetal and infant loss', 1058.

⁶⁰ Illsley, 'Social class selection and class differences in relation to stillbirths and infant disease', 1520.

⁶¹ Kincaid, 'Social pathology of foetal and infant loss', 1059.

as family size rises, scarcity of resources begins to have a long-term effect on the growth of the children. The middle-class need at least four children before the decrease in the standard of food intake and of maternal care ... results in a long-term lowering of reproductive efficiency. In the working-class this degree of scarcity appears as early as the second child.⁶²

To summarise, a woman's height, social class (based on her husband and father, but never on her own work) and the number of siblings she had influenced to a certain degree the outcome of her pregnancy. External influences did play an important part in the likelihood of having a live or stillbirth; however, they were not the only factors.

On the other hand, Baird underlined that 'Although Aberdeen mothers are much shorter than those in the urban areas of the North of England, the perinatal mortality-rate in 1953-62 was 25 per cent lower'.⁶³ Despite being shorter, which as we have just seen negatively influenced the perinatal mortality rate, Aberdeen women had a better chance of a live birth than taller women living in the urban areas of the North of England. This was explained in an article published in the *Lancet* in 1969, which highlighted the 'good organisation of the maternity services and by obstetric care of high quality' in Aberdeen.⁶⁴ With 85 per cent of confinements taking place in a well-staffed hospital, Aberdeen had one of the lowest perinatal mortality rates in Britain despite being in Scotland. The number of available maternity beds at the time, nevertheless, was not sufficient to welcome all pregnant women in Aberdeen and hence 'as the demand has grown, the length of postpartum stay in hospital has been shortened gradually from 10 days to the present average of seven days for primigravidae. An increasing number of multiparae now choose to go home after 48 hours.'⁶⁵ In Glasgow, where the number of beds available was higher and close to the number of beds required by the Montgomery Report on the Maternity Services in Scotland of 1959, women could remain in hospital for approximately the previously normal number of postpartum resting days. Indeed, in the QMH in 1964-65, the average length was 9.9 days and it fell to nine days for the years 1966-67.⁶⁶

Given the results of the BPMS and the results in Aberdeen, obstetricians increasingly stressed the importance of accessing well-staffed and well-equipped maternity hospitals or

⁶² Ibid.

⁶³ Baird, 'Perinatal Mortality', 511.

⁶⁴ [Anon], 'Perinatal problem', 293.

⁶⁵ Baird, 'Perinatal Mortality', 513.

⁶⁶ NHSGGCA, *The QMH Glasgow Clinical Reports for 1964-67*, QMH 2/1/1(i)-2.

units throughout the country, even in rural areas which lagged behind in that regard, as well as an ever higher rate of hospital confinement. In the 1960s, throughout Britain provisions were made for more hospital beds. The national survey undertaken in 1970 by both the National Birthday Trust Fund and the Royal College of Obstetricians and Gynaecologists (RCOG) found that the ‘trend towards hospital has continued with home confinements falling from 36.1 per cent in 1958 to 12.4 per cent in 1970’.⁶⁷ This represented a diminution of 39 per cent in the stillbirth rate between 1958 and 1970.⁶⁸ Oakley stresses that between 1963 and 1972, Britain experienced its biggest growth in hospital delivery with the rate rising from 68.2 per cent to 91.4 per cent, meaning an increase in the involvement of obstetricians in childbirth.⁶⁹ The 1970 report, nevertheless, emphasised that still a large majority of hospital deliveries were under the care of midwives, and not obstetricians, even if the percentage had decreased since 1958 (in 1958, 80.2 per cent of the hospital deliveries had been undertaken by midwives compared to 76 per cent in 1970).⁷⁰

This decrease of the stillbirth rate could be explained by the medical profession because of the higher percentage of hospital confinements and a more medicalised response to childbirth in maternity hospitals. Indeed, in Aberdeen, the Caesarean section rate rose from 2.9 per cent in the period 1948-52 to over 5 per cent in the period 1959-1966.⁷¹ In Glasgow, at the GRMH, the percentage of Caesarean sections had always been higher than in other cities in Britain due to the high percentage of patients with contracted pelvis and as the patients mostly delivered in this hospital either for social reasons or due to complications of pregnancy or labour. As Figure 5.4 shows, the percentage of Caesarean sections fell between 1948 and 1952 then rose again in the 1960s. As could be expected, the percentage of Caesarean sections was much higher in non-booked cases than in booked ones. A lower percentage of Caesarean sections was performed in the Ross Hospital: 0.5 per cent compared to 12.4 per cent for the GRMH *per se*.⁷² In the QMH, in the first two years the percentage of Caesarean sections was 7.1 per cent and then it fell to 6.3 in the following two years.⁷³ The difference of percentages between the two maternity hospitals in

⁶⁷ [Anon], ‘Born in Britain 1970’, 729.

⁶⁸ Ibid.

⁶⁹ Ann Oakley, *The Captured Womb, A History of the Medical Care of Pregnant Women* (Oxford: Blackwell, 1984), 215.

⁷⁰ [Anon], ‘Born in Britain 1970’, 729.

⁷¹ [Anon], ‘Prolonged labour in Aberdeen’, *Lancet*, 292 (1968), 837.

⁷² NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1969*, HB45/3/43, 10-11.

⁷³ NHSGGCA, *The QMH Glasgow Clinical Reports for 1964-67*, QMH 2/1/1(i)-2.

Glasgow (disregarding the Ross Hospital) can be explained once again by the difference of population admitted in the hospitals. Throughout Britain, between the 1958 survey and the 1970 survey, the percentage of Caesarean sections increased by 66 per cent, representing 2.7 per cent of all hospital deliveries in 1958 to 4.5 per cent in 1970.⁷⁴ While the percentage of Caesarean sections may have varied from one hospital to another, the national trend underlined an increase in Caesarean sections and highlights the increased involvement of obstetricians in hospital deliveries.

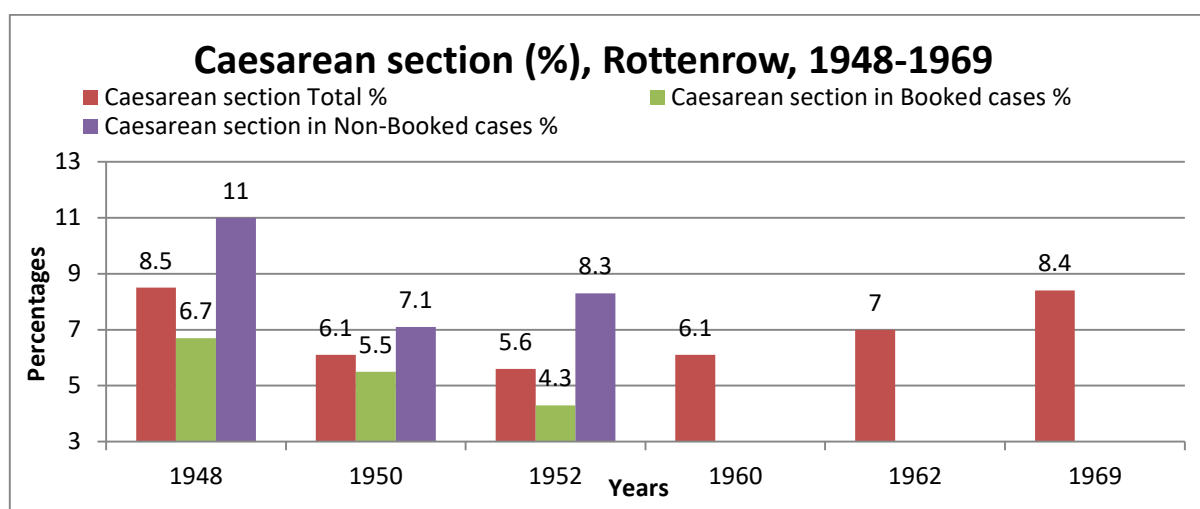


Figure 5.4: Percentage of performed Caesarean section, Rottenrow and the Ross Hospital, 1948-69.⁷⁵

In 1967-68, Sir John Peel, surgeon-gynaecologist to the Queen and president of the RCOG at the time, undertook a survey on Caesarean sections between the years 1949 and 1964 to investigate its increasing use. Peel contacted 29 teaching hospitals but only 11 replied: Hammersmith, Queen Charlotte's, University College Hospital, King's College Hospital for London, Mill Road and the Maternity Hospital for Liverpool, National, Rotunda and Coombe for Dublin, and Newcastle and Leeds. He also used reports from the Simpson (Edinburgh), Belfast and Manchester which could be accessed from the library records. The data catalogued from the reports of the 11 teaching hospitals and the reports accessed at the library is reported in Table 5.1. The Caesarean section rate decreased in the 1950s but rose steeply in the 1960s, similar to experience in Glasgow. Peel pointed out, however, that for 1964, the Ministry of Health's figure was lower than the one found from the reports. Indeed, it was 4.9 per cent compared to 7.5 per cent. He wondered if it were due

⁷⁴ [Anon], 'Born in Britain 1970', 729.

⁷⁵ Graph from data in NHSGGCA, *The GRMH, Medical Report for the Years 1948 to 1952*, HB45/3/35(i)- 39(i); NHSGGCA, *The GRMH & the Ross Hospital, Clinical Reports 1960-1969*, HB45/3/40(i)-43.

to the fact that he drew his data only from teaching hospitals.⁷⁶ In regards to the stillbirth, neonatal mortality and perinatal mortality rates associated with Caesarean section, they are described in Table 5.2. The neonatal death rate following Caesarean section had been slightly increasing between 1949 and 1964; however the stillbirth rate following Caesarean section decreased during the same period. Peel believed this could be due to ‘speedier action, better anaesthesia or even just better diagnosis of [imminent] intra-uterine death’ and fetal distress.⁷⁷

	1949	1954	1959	1964
Number of Hospitals	10	12	11	12
All Deliveries	21,349	32,290	37,439	38,398
Caesarean Sections	1,083	1,396	1,668	2,891
Caesarean Section Rate %	4.9	4.3	4.4	7.5

Table 5.1: Peel's Caesarean section survey, total figures, 1949-64.⁷⁸

	1949	1954	1959	1964
Caesarean section	1,083	1,396	1,668	2,891
Stillbirths	25	28	24	40
Stillbirth rate % Caesarean section	2.3	1.9	1.4	1.4
Neonatal Deaths	43	60	68	117
Neonatal Deaths rate % Caesarean section	3.7	4.3	4.1	4.1
Stillbirths + Neonatal Deaths	68	88	92	157
Stillbirth + Neonatal Death rate % Caesarean section	6.0	6.2	5.5	5.5

Table 5.2: Peel's Caesarean section survey, stillbirth and neonatal deaths, 1949-64.⁷⁹

In an editorial published in the *British Medical Journal (BMJ)* in 1976 entitled ‘Caesarean section and respiratory distress syndrome’, the author stressed that perinatal mortality in infants born by Caesarean section was higher than those born by vaginal deliveries and this was demonstrated by the perinatal mortality survey of 1970. Indeed, the author explained that the survey used a standard mortality ratio (SMR) of 100, and it ‘found that when section was done before the woman was in labour the SMR was 275 and when done during labour it was 181’.⁸⁰ The question then was to know if the perinatal deaths were due to the Caesarean section *per se* or because of the abnormality/ies that required the woman to go through a Caesarean section. The article pointed out that it was the work of

⁷⁶ RCOG Archive, *Records of Sir John Peel relating to Caesarean Section survey, 1967-68*, ‘Preliminary Report on Caesarean Section Survey’, RCOG/M5.

⁷⁷ Ibid.

⁷⁸ Ibid.

⁷⁹ Ibid.

⁸⁰ [Anon], ‘Caesarean section and respiratory distress syndrome’, *BMJ*, 1 (1976), 978.

Gluck *et al* in 1971 that demonstrated a key element in the survival or death of a fetus delivered by Caesarean section: fetal lung maturity. Indeed, the author underlined that ‘It is precisely at 35 weeks of gestation that pulmonary maturity is attained, and more depends on this than anything else’.⁸¹ Most of the Caesarean sections were performed after 35 weeks gestation, when the fetus had reached pulmonary maturity and this explained why in the second perinatal mortality survey’s conclusion it was emphasised that ‘respiratory distress syndrome could not be firmly associated with Caesarean section but was mainly associated with pre-eclampsia, placenta praevia, other ante-partum haemorrhages, and some elective sections.’⁸² To conclude, as long as Caesarean section was performed after the 35th week of pregnancy, Caesarean section itself was not the cause of the perinatal death as the fetus was mature enough, but it was linked to the condition/abnormality that required Caesarean section. If not for that condition/abnormality, and if born by Caesarean section, the fetus would have survived.

What really changed from the 1960s onwards was the proportion of induced labours. In an article entitled ‘Prolonged labour in Aberdeen’, the author reminded their readers that ‘Surgical induction was introduced in 1953, and between 1958 and 1962 oxytocin was used when amniotomy failed; lately oxytocin has been used earlier and at whatever dose is needed to stimulate uterine contraction’.⁸³ The percentage of labours surgically induced in Glasgow had been slowly rising from 1950 onwards (Figure 5.5). Once again when the statistics for the Ross hospital are joined with the GRMH, the percentage of performed induction is decreased by the lower proportion of inductions performed at the Ross. Indeed, in 1960, the annual clinical report pointed out that the joint percentage of surgical induction of labour was 15 per cent but that for the GRMH itself it was 19.3 per cent.⁸⁴ Throughout Britain, between the 1958 and the 1970 surveys, obstetricians resorted much more to induction of labour. In 1958, the Survey found that 13 per cent of labours were induced but it rose to 29.5 per cent in the 1970 Survey’s findings.⁸⁵

⁸¹ Ibid., 978-79.

⁸² Ibid., 979.

⁸³ [Anon], ‘Prolonged labour in Aberdeen’, 837.

⁸⁴ NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1960*, HB45/3/40(i), 19-20.

⁸⁵ [Anon], ‘Born in Britain 1970’, 729.

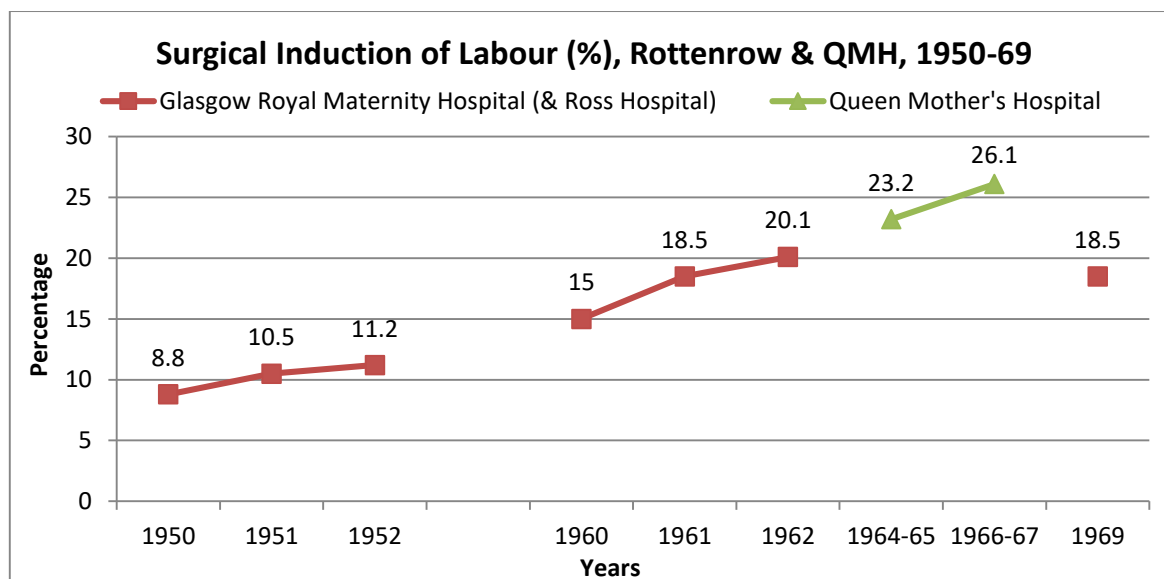


Figure 5.5: Percentage of Labours Surgically Induced, GRMH, Ross Hospital & QMH, 1950-69.⁸⁶

This tendency to resort to medical intervention in the 1960s and 1970s was justified by the medical community by the fact that the stillbirth and other mortality rates in Scotland, and more broadly Britain, kept on falling (from 17.9 per 1,000 total births in 1965 to 13.9 per 1,000 total births in 1970).⁸⁷ Surgical induction of labour and Caesarean section thus must have played an important role in this fall as it increased the chance of survival of many fetuses when a pregnancy had developed certain conditions or that the fetus was distressed during pregnancy/labour. The medical profession, therefore, believed that high levels of medicalised intervention, especially when an abnormality arose, helped the decrease of the stillbirth and perinatal mortality rates, and hence should be continued and encouraged. Furthermore, high levels of medicalised intervention could also be explained by the development of the fetal patient and its monitoring; indeed the obstetrician, not the mother, decides to deliver when fetal well-being is at stake.⁸⁸ That is why Robert Woods suggests that if the stillbirth rate had decreased so much in the second half of the twentieth century it was ‘partly because both mother and fetus have become patients in their own separate rights.’⁸⁹ These, to conclude, were how the obstetric community justified the continuous augmentation in medical intervention. Nonetheless, as shown earlier, the gap in stillbirth rate between from different social classes persisted.

⁸⁶ Graph from data in NHSGGCA, *The GRMH, Medical Report for the Years 1950 to 1952*, HB45/3/37(i)- 39(i); NHSGGCA, *The GRMH & the Ross Hospital, Clinical Reports 1960-1969*, HB45/3/40(i)-43; NHSGGCA, *The QMH Glasgow Clinical Report for 1964-67*, QMH 2/1/1(i)-2.

⁸⁷ [Anon], ‘Mortality in Scotland’, *BMJ*, 1 (1972), 190.

⁸⁸ Rosalind Pollack Petchesky, ‘Fetal Images: The Power of Visual Culture in the Politics of Reproduction’, *Feminist Studies*, 13 (1987), 274; Oakley, *Captured Womb*, 187, 207.

⁸⁹ Woods, *Death before Birth*, 248.

III) Perinatal Mortality Survey's new Classification of Perinatal Death

Baird, in his article 'Perinatal Mortality' published in 1969, listed all the causes of perinatal deaths as established in the 1958 BPMS as follows

Environmental, where it was thought that the cause was related mostly to unfavourable influences in the mother's environment. The main subgroups were:

Unexplained low-birth weight.

Antepartum haemorrhage.

Malformations

A small miscellaneous group

Obstetrics, where death was associated primarily with obstetrical complications which a high standard of obstetrical care might prevent. The main subgroups were:

Toxaemia, where the primary cause of death was pre-eclampsia.

Mechanical complications, such as disproportion, malposition of the foetus, and cord complications

Unexplained death of a baby weighing more than 5½lbs, sometimes referred to as due to placental insufficiency.

Rhesus Incompability.⁹⁰

This categorisation into two main groups was named the clinico-pathological classification of focus, because, as Woods highlights, Baird who believed in obstetrics as social medicine, wanted the classification to 'focus on "why" rather than just "how" death had occurred', and that was why there was a distinction between the environmental causes and the obstetric ones.⁹¹

Furthermore, before looking into details of certain causes of perinatal deaths, in regards to parity and perinatal deaths, as Walker and Henderson, obstetricians in Dundee and St Andrews, underlined in 1967:

It is not clearly realised that nearly 60 per cent of all pregnancies are first and second and that real improvement in perinatal deaths can be fastest and most easily achieved by improved results in these parities. A high perinatal mortality in high parities contributes singularly little to the overall picture and is often wrongly used as an excuse for poor results.⁹²

In regards to 'unexplained low-birth weight', we have already seen in a previous chapter that prematurity was an important cause of perinatal deaths. In an article published

⁹⁰ Baird, 'Perinatal Mortality', 512.

⁹¹ Woods, *Death before birth*, 175.

⁹² James Walker, John Henderson, 'A review of perinatal mortality in Dundee', *SMJ*, 12 (1967), 45.

in the *Lancet* in 1968 on ‘Birth-weight and perinatal mortality’, the author concluded that ‘The finding that birth-weight below 2500g and perinatal mortality are related ... is interesting’.⁹³ The unexplained low-birth weight category in the 1960s became explained for some cases by the fact women were smoking during their pregnancy. The link between smoking and illnesses began from the 1950s with the discovery of the cause-and-effect between smoking and developing lung cancer. From that point onwards, the medical profession looked for other ill-effects of smoking, which was a common habit throughout the British population, such as ill-effects on fetuses. In the 1950s in Britain, four women out of ten smoked, without any class distinction, which was why research on the effect of smoking on fetuses was important.⁹⁴ As an article published in the *Lancet* in 1968 highlighted: ‘It is now widely accepted that babies born to mothers who have smoked during their pregnancy will be smaller than those born to non-smokers.’⁹⁵

This link was reported for the first time in 1957 by W. J. Simpson and was much researched from the late 1950s onwards. In the mid-1960s, Prof Scott Russell, an obstetrician in Sheffield, studied the blood-pressure in both women smokers and non-smokers. He found that ‘4.1 per cent of 1462 pregnancies where the mother was a non-smoker ended in abortion, stillbirth, or neonatal death: the figure for smokers was 7.9 per cent – a “highly significant” difference’.⁹⁶ Not only did smoking cigarettes in pregnancy reduce the birth-weight of the fetus but it also increased the risk of a woman having a stillbirth. This went hand in hand, as Butter, Goldstein and Ross, obstetricians in Bristol and London, highlighted: ‘In the 1958 [BPMS] birth weight was reduced by 170g in the offspring of smokers, with a corresponding rise in late fetal and neonatal mortality, the excess of deaths being mainly accounted for at necropsy by causes associated with low birth weight.’⁹⁷

Butter, Goldstein and Ross studied the effect of smoking in pregnancy taking the 1958 BPMS data because of its large scale but also because ‘though the present study is retrospective in that pregnancy smoking habits were inquired into at the time of the child’s

⁹³ [Anon], ‘Birth-weight and perinatal mortality’, *Lancet*, 291 (1968), 601.

⁹⁴ Hilary Graham, *Hardship and Health in Women’s Lives* (New York: Harvester Wheatsheaf, 1993), 179.

⁹⁵ [Anon], ‘Smoking and pregnancy’, *Lancet*, 292 (1968), 905.

⁹⁶ *Ibid.*

⁹⁷ N. Butter, H. Goldstein, E. Ross, ‘Cigarette smoking in pregnancy: its influence on birth weight and perinatal mortality’, *BMJ*, 2 (1972), 127.

birth, it is unlikely that a bias was introduced thereby, since at the time of the inquiry there had been no publicity concerning the effects of smoking in pregnancy'.⁹⁸ As women from all classes smoked in the 1950s, looking at the 1958 data would have also allowed an assessment of the ill-effects of smoking on fetuses without a social class bias.⁹⁹ In regards to perinatal deaths, smoking before the fourth month of pregnancy did not influence the outcome of the pregnancy. On the other hand, the fetal death rate was much higher in women who were steady smokers throughout pregnancy with no reported change in the average daily consumption of cigarettes (Table 5.3). Women smoking after the fourth month of pregnancy without changing their habit had 30 per cent more risk of having a stillbirth than non-smokers.¹⁰⁰ In regards to their results from the 1958 BPMS, the authors concluded that

If we assume that the difference in perinatal mortality between smokers and non-smokers in the UK has remained constant and that at least 30 per cent of women currently smoke regularly after the fourth month of pregnancy, an estimate can be made of the potential saving in newborn lives per year if all these women could be persuaded to stop smoking during pregnancy. With the present (1970) overall live, fetal and neonatal mortality rates, this might amount to a saving of approximately 1,500 babies each year in England, Scotland, and Wales.¹⁰¹

	Smoker	Non-Smoker	Total
Late fetal death	1,492	2,486	3,978
Livebirth	5,398	12,412	17,810
Total births	6,890	14,898	21,788
Estimated late fetal death rate	25.2	19.4	21.2

Table 5.3: Stillbirths by smoking after the fourth month of pregnancy, 1958.¹⁰²

Finally, the more cigarettes a woman smoked daily after the fourth month, the more likely she was to have a perinatal death.¹⁰³ Indeed, Butter, Goldstein and Ross's research demonstrated that, after the fourth month of pregnancy, the stillbirth and neonatal mortality rate 'was lowest where the mother was a non-smoker [32.0 per 1,000 total births], intermediate in those smoking one to four cigarettes daily [38.5], and highest in those smoking over four cigarettes daily [≥ 41.2]'.¹⁰⁴

⁹⁸ Ibid., 129.

⁹⁹ Graham, *Hardship and Health in Women's Lives*, 179.

¹⁰⁰ Butter, Goldstein, Ross, 'Cigarette smoking in pregnancy', 128.

¹⁰¹ Ibid., 130.

¹⁰² Ibid., 128.

¹⁰³ [Anon], 'Perinatal problem', 293.

¹⁰⁴ Butter, Goldstein, Ross, 'Cigarette smoking in pregnancy', 128.

The increased risk of stillbirths in women who smoked during pregnancy can be explained by the low birth-weight, which was influenced by the carboxyhaemoglobin (CoHb) levels found in the fetus. In the 1970s, the medical profession researched the link between smoking cigarettes and the CoHb level in the fetus. CoHb, as the word suggested it, is the formation of carbon monoxide with haemoglobin. It hinders the normal circulation in the blood of oxygen and carbon dioxide. The higher the level, the more likely the fetus would end up hypoxic. When a woman smoked, the level of carbon monoxide rose in her blood. Early in the 1970s, Cole *et al* found that the CoHb in the maternal blood was three times higher in smokers than non-smokers and that ‘the fetal concentration of carboxyhaemoglobin was about twice that of the mother, though other workers had been unable to find a significant difference between maternal concentrations’.¹⁰⁵ Later research demonstrated that smoking cigarettes increased the CoHb up to 16 per cent, which was not as bad as Cole *et al* found but was still a harmful increase.

Cole *et al* also highlighted that

[CoHb] in fetal blood shifted the oxygen dissociation curve to the left, which result that at an oxygen saturation of 35 per the P_{O_2} [oxygen partial pressure (tension)] was reduced from 18 to 13 mm. Hg. ... there can be little doubt that the fetal oxygen reserve is diminished. This hypoxic effect is further enhanced firstly by the reduced blood P_{O_2} of mothers who smoke, and secondly because ... the concentration of [CoHb] is higher in the fetus than in the mother ... Almost certainly intrauterine hypoxia is responsible for the growth retardation of smokers’ babies.¹⁰⁶

Where there is hypoxia, hence, there is an increased risk of stillbirth and neonatal deaths.

The article ‘Smoking hazard to the fetus’ published in 1973 concluded that smoking in a normal pregnancy increased the risk of perinatal death, but also emphasised that, in an abnormal pregnancy ‘the additional hazard of smoking could seriously jeopardize the fetus’.¹⁰⁷ Indeed, in 1975, Dow, Rooney and Spence, obstetricians at the GRMH, studied the effects of smoking when the woman was anaemic during pregnancy. They asked their group study to not smoke for a given period of time before the study. They found that after women were given one cigarette each to smoke at the time of the research, ‘In the non-

¹⁰⁵ [Anon], ‘Smoking hazard to the fetus’, *BMJ*, 1 (1973), 369; T. Dow, P. Rooney, Marion Spence, ‘Does anaemia increase the risks to the fetus caused by smoking in pregnancy?’, *BMJ*, 4 (1975), 254.

¹⁰⁶ [Anon], ‘Smoking hazard to the fetus’, 369; Dow, Rooney, Spence, ‘Does anaemia increase the risks to the fetus caused by smoking in pregnancy?’, 254.

¹⁰⁷ [Anon], ‘Smoking hazard to the fetus’, 369.

pregnant group the mean rise in CoHb concentration ... was 2.1 ... A significantly greater increase was found in the normal pregnant group (mean rise 3.9...). The effect was more pronounced in the anaemic women, who had a mean rise of 5.0'.¹⁰⁸ Those results showed that smoking even one cigarette during pregnancy increased the CoHb levels and therefore the risk of fetal asphyxia, but in anaemic pregnancy the CoHb level rose even higher after just one cigarette and hence put the fetus in even greater danger. The authors, nevertheless, underlined that the level of CoHb did not depend only on smoking a cigarette but was also influenced by other factors such as 'the type of cigarette smoked, the depth of inhalation, and the physical activity of the person'.¹⁰⁹ Dow, Rooney and Spence concluded as follows:

When anaemia is present the relatively greater increase in maternal CoHb levels after smoking could well mean that more carbon monoxide is passed on to the fetal pool of CoHb. Thus the effects on the fetus of smoking in pregnancy could be increased. This enhanced response to cigarette smoking in pregnancy, and in anaemic pregnancy in particular, gives support to the use of prophylactic iron, which raises the haemoglobin concentration in pregnancy, and suggests that the so-called physiological anaemia of pregnancy may place the fetus of a smoking mother at great risk.¹¹⁰

The reason behind all the research on the ill-effects of smoking on the fetus and the level of CoHb the fetus received in utero can be understood by the fact that from the 1960s, after the discovery of the ill-effect on the fetus from the drug thalidomide prescribed to the woman during pregnancy, the medical community came to question anything the woman could take that could be toxic and that could be passed into the fetus' system.¹¹¹ Indeed, Martin and Holloway stress that

In the immediate post-thalidomide climate, the so-called "monster drug" opened up vast new areas for experimental and comparative studies of potential teratological agents. It also instigated a new kind of alarmist rhetoric among researchers and doctors: the placental barrier is not a barrier, at least with regards to chemicals and pharmaceuticals.¹¹²

Finally, it was from that time on that the fetus came to be seen as vulnerable and that 'mothers became a risk to fetal well-being rather than a party deeply invested in and caring about their child's healthy development'.¹¹³

¹⁰⁸ Dow, Rooney, Spence, 'Does anaemia increase the risks to the fetus caused by smoking in pregnancy?', 253.

¹⁰⁹ Ibid., 254.

¹¹⁰ Ibid.

¹¹¹ Aryn Martin, Kelly Holloway, "'Something there is that doesn't love a wall': Histories of the placental barrier", *Studies in History and Philosophy of Biological and Biomedical Sciences*, 47 (2014), 300-09.

¹¹² Ibid., 306.

¹¹³ Ibid., 307.

In the conclusion to the article entitled ‘Smoking hazard to the fetus’, the author emphasised that ‘If these hazards to the fetus are to be avoided, real efforts should be made to educate women on the dangers of smoking, so that at least if they cannot be dissuaded from smoking at other times they will be prepared to give it up as soon as they become pregnant.’¹¹⁴ As was highlighted in an article published in the *BMJ* in 1976, for some people cigarette smoking was an addiction and hence difficult to quit even for just the pregnancy period. That was why the author believed ‘It would be an advance if her craving could be met by a cigarette free from dangers to the baby.’¹¹⁵ Researchers made their goal to discover what substance within the cigarette affected the fetus. Some tobacco companies, themselves, searched for a harm-reduced cigarette from the 1960s onwards.¹¹⁶ Despite promising research and results, a ‘safer cigarette’ was never marketed, because that would have given a negative image to other cigarettes on the market and because those cigarettes were not as satisfying for the customers and hence would not have been bought.¹¹⁷ Scientific studies seemed to point towards nicotine as the ill-effect of smoking in the development of the fetus. Indeed the 1976 *BMJ* article explained that

fetal breathing movements are reduced in association with cigarette smoking in normal and abnormal pregnancies. The reduction was related to the rise in maternal plasma nicotine levels. Non-nicotine (herbal) cigarettes produced similar rises in [CoHb] to those caused by tobacco cigarettes but without a reduction in fetal breathing.¹¹⁸

According to the results of such studies, it would seem that nicotine was more harmful to the fetus than carbon monoxide. The author, nevertheless, stressed that as long as the medical and scientific communities were not completely sure nicotine was the sole harmful substance to the fetus nor that the harmful effect came from the combination of several substances including nicotine, women should be persuaded to either quit smoking during pregnancy or at least diminish their daily consumption.

¹¹⁴ [Anon], ‘Smoking hazard to the fetus’, 370.

¹¹⁵ [Anon], ‘Cigarette smoking in pregnancy’, *BMJ*, 2 (1976), 492.

¹¹⁶ Philip Hiltz, ‘Method to Produce Safer Cigarette Was Found in 60's, but Company Shelved Idea’, *New York Times*, (1994), <<http://www.nytimes.com/1994/05/13/us/method-to-produce-safer-cigarette-was-found-in-60-s-but-company-shelved-idea.html?pagewanted=all>>, [Accessed 16 February 2017].

¹¹⁷ Ibid.

¹¹⁸ [Anon], ‘Cigarette smoking in pregnancy’, 492.

Finally, the author emphasised that, by this time, more women from the lower social class were smoking compared to higher social class women. As Graham points out, from the 1960s onwards, the smoking rate among British women as a whole started to decrease; but the decrease was not equal across social classes. The rate for women in higher social classes decreased much faster than for women in lower social classes, and especially in class V, as class culture and level of education affected the smoking rate. Graham explains the highest smoking rate in the poorest group of women as follows: 'Qualitative studies of women's smoking suggest that tobacco is a necessity as well as a luxury because smoking helps mothers with heavy caring responsibilities keep going when their personal and material resources are overstretched'.¹¹⁹ Smoking then had given those women a safety valve in order to contain frustration and anxiety. The author of the article entitled 'Cigarette smoking in pregnancy' stressed that every effort should be made to bring women from the lower social classes who smoked to

special clinics so that maximal effort could be concentrated on them. Whatever his detailed approach, the obstetrician must take pains not to be so critical as to drive the patient away from the antenatal care which he offers but show compassionate understanding of a common human frailty.¹²⁰

Indeed, by being patronising, the obstetrician would have only made the woman completely unwilling to follow the doctor's indication and advice which would have been unbeneficial for both the woman and the growing fetus.

Another important perinatal cause of death was Rhesus isoimmunisation, as highlighted in the previous chapter. Only a small portion of women of childbearing age developed Rhesus isoimmunisation. Indeed, Robertson, an obstetrician in Edinburgh, pointed out that in the 1960s, in the South-Eastern Region of Scotland, the number of women within childbearing age was 180,000. Of these 180,000 women, 'only some 500 to 600 might be expected to develop antibodies at some time during their child-bearing lives.'¹²¹ Furthermore, for a woman, the risk of developing Rhesus isoimmunisation was

¹¹⁹ Graham, *Hardship and Health in Women's Lives*, 181, 179; Hilary Graham, *Women, Health and the Family* (New York: Harvester Wheatsheaf, 1984), 172.

¹²⁰ [Anon], 'Cigarette smoking in pregnancy', 492.

¹²¹ John Robertson, 'Some problems of Rhesus Isoimmunisation', *SMJ*, 9 (1964), 282.

very small during the first pregnancy. The percentage of women, therefore, to develop Rhesus isoimmunisation was of only around 3.1 per cent.¹²²

Haemolytic disease of the newborn, a consequence of Rhesus isoimmunisation, was nonetheless an important cause of death in stillborn and neonatal infants. According to the Registrar-General for Scotland for the year 1961, haemolytic disease had been the cause of 4.8 per cent of stillbirths. However, Robertson noted that 'As Rhesus isoimmunisation is a very uncommon condition in primigravidae, when only parous patients are considered, the figure is 7.1 per cent of all stillbirths, and in women who have had three pregnancies, the percentage rises to 15.3'.¹²³ In the Simpson Memorial Maternity Pavilion, Edinburgh, between 1956 and 1962, 532 babies had been delivered, whose mothers had Rhesus isoimmunisation. Robertson gave the percentage of mortality for that series according to the number of previously affected infants as follows

there is an 8.7 per cent mortality among the infants in apparently first affected pregnancies. If there has been an affected infant previously, the foetal mortality rate is 13.2 per cent. Where there has been at least one stillbirth or neonatal death due to haemolytic disease, the results are better (33 percent) than those in most reports, presumably as a result of the induction of labour before term and of skilled paediatric care.¹²⁴

Those results show how important it was to find a way to prevent such perinatal deaths as they represented quite a substantial percentage, as well as to make sure that the population was informed about what Rhesus isoimmunisation was and its consequences so that women received the best obstetric care if needed.

After Rhesus isoimmunisation was diagnosed, the obstetrician had to predict the degree of severity of the haemolytic disease in the fetus. Prediction is beneficial because as Robertson highlighted, if an affected baby survived its first few hours of life, its chance of survival was 95 to 98 per cent.¹²⁵ When a prediction was made by the obstetrician that the fetus was in great danger of *in utero* death, Caesarean section was sometimes performed as early as the 32nd week of pregnancy. Indeed, Robertson emphasised that 'it is presumably

¹²² Ibid.

¹²³ Ibid., 285.

¹²⁴ Ibid., 283-84.

¹²⁵ Ibid., 285.

better to be alive and immature (within limits) than to be stillborn'.¹²⁶ Many improvements had been made in the care of and apparatus for premature babies in maternity hospitals from the 1960s onwards. Keirse *et al* from Oxford, nevertheless, highlighted in 1976 that 'Whereas preterm delivery did not contribute to perinatal mortality in terms of stillbirths, it outweighed all other causes in terms of early neonatal deaths'.¹²⁷ Caesarean section or even induction of labour for cases of Rhesus isoimmunisation might have prevented stillbirths but did not prevent all perinatal deaths.

The degree of danger for the fetus could be predicted based on the obstetric history if a woman had already had Rhesus isoimmunisation.¹²⁸ Indeed, Robertson underlined that supposedly a fetus was more likely to be mildly affected if the previous sibling had been mildly affected, and to be severely affected if the previous sibling had been severely affected. He, nevertheless, also highlighted that 'In some families ... the disease becomes progressively worse' at each pregnancy.¹²⁹ In the mid-1960s, the antibody titre was still used as a key indicator: the higher the titre was the more severe the haemolytic disease was likely to be.¹³⁰ Robertson, however, explained that

in a first affected pregnancy this is frequently the case. Unfortunately it is not always certain which is the first affected pregnancy, either because blood has not been examined for antibodies during a previous pregnancy, or more important, after delivery, or because weak antibodies have not been detected previously. In subsequent pregnancies the titres are definitely unreliable.¹³¹

The antibody titre, therefore, was not the most reliable indicator. The medical profession, then, turned their gaze to the absence of breakdown products of fetal red cells by testing the amniotic fluid. To obtain the liquor amnii, an amniocentesis had to be performed between the 33rd and the 35th week gestation when the test would have provided the best result. In the 1970s, amniocentesis was carried out even earlier, between the 29th and 31st week gestation, and in cases where the woman had already had a stillbirth or neonatal death, amniocentesis was first done during the 25th week gestation and then

¹²⁶ *Ibid.*, 286.

¹²⁷ R. Rush *et al*, 'Contribution of preterm delivery to perinatal mortality', *BMJ*, 2 (1976), 965.

¹²⁸ [Anon], 'Intrauterine transfusion', *SMJ*, 12 (1967), 293.

¹²⁹ Robertson, 'Some problems of Rhesus Isoimmunisation', 283.

¹³⁰ [Anon], 'Intrauterine transfusion', 293.

¹³¹ Robertson, 'Some problems of Rhesus Isoimmunisation', 283.

repeated two or three times in the following weeks.¹³² Nowadays, amniocentesis still carries a risk for the fetus as it increases the risk of miscarriage, neonatal respiratory problems and orthopaedic postural deformities; but in the 1960s, when the use of obstetric ultrasound was not yet extended to most maternity hospital or units in Scotland, nor Britain, amniocentesis carried even more risk to the fetus as the obstetrician had no way to see inside the womb while manipulating the needle, and thus could directly hurt or disable the fetus.¹³³ Indeed, despite local anaesthesia which was meant to momentarily immobilise the fetus, the practitioners could inadvertently puncture the placenta, which would have accentuated the connection between fetal and maternal bloods and worsen the condition.¹³⁴ Amniocentesis then was not the ideal practice to diagnose the degree of Rhesus isoimmunisation/haemolytic disease, as it could have put the fetus in more risk than if no tests had been done, nevertheless, the medical profession believed in some cases it was worth the risk.

If when examining the fluid sample in a spectrophotometer and constructing a graph of optical density, there was a 'bulge' in the graph between 400 and 500 mμ, the fetus was affected, and the greater the 'bulge' the more affected it was. In 1962, Simpson started using a 'diazotisation' solution which showed the presence or absence of indirect bilirubin (orange/yellow bile pigment) in the liquor. This technique became the standard test around that time throughout Scotland and elsewhere in Britain, and as MacDougall, Black and Dempster, from Carluke, South Lanarkshire, emphasised in 1972, 'the optical density of the bilirubin in the liquor amnii was considered most significant' in the treatment of haemolytic disease.¹³⁵ The presence of the bilirubin in the liquor was an indicator of the fetus being affected. If the test results predicted a severely affected fetus, induction of labour was considered to prevent an intrauterine death. Robertson concluded that '[t]he results obtained by testing liquor have been encouraging and about 86 per cent of the predictions made have been correct'.¹³⁶ Robertson's conclusion hence explained why obstetricians continued to test to diagnose the degree of haemolytic disease despite risks for the fetus by testing the amniotic fluid.

¹³² Jean MacDougall, M. Black, W. Dempster, 'Intra-uterine transfusion in a country obstetric service', *SMJ*, 17 (1972), 299.

¹³³ Oakley, *Captured Womb*, 173.

¹³⁴ Robertson, 'Some problems of Rhesus Isoimmunisation', 285.

¹³⁵ [Anon], 'Intrauterine transfusion', 293; MacDougall, Black, Dempster, 'Intra-uterine transfusion in a country obstetric service', 299.

¹³⁶ Robertson, 'Some problems of Rhesus Isoimmunisation', 285.

In an article published in the *Scottish Medical Journal (SMJ)* in 1967, the author pointed out that

By judicious employment of exchange transfusion and selection of cases for treatment based on the levels of haemoglobin and bilirubin in the cord blood at birth, a steady decline in the neonatal death rate due to Rh haemolytic disease has been achieved over the past 15 years. This has not been matched by any similar decline in the stillbirth rate, and therefore our main efforts are now directed towards preventing stillbirth.¹³⁷

In the late 1960s – early 1970s, the medical profession believed intrauterine transfusion could be the solution to stillbirths due to haemolytic disease of the newborn. Intrauterine transfusion had succeeded in a case of Rhesus isoimmunisation for the first time in 1963 by Liley in New Zealand, since then, scientists and practitioners had been trying to employ this technique. Intrauterine transfusion in cases of haemolytic disease was not prescribed as a cure but as a way of prolonging pregnancy in cases where high risk of *in utero* death had been diagnosed early in the third trimester. As the author of the ‘Intrauterine transfusion’ article emphasised, induction and even Caesarean section carried risk. One of them was prematurity, and as highlighted earlier, prematurity could prevent stillbirth but still carried high risk of early neonatal deaths. The intrauterine transfusion would have then allowed the fetus to continue its development until the 36th week of pregnancy with reduced risk of intrauterine death and it would be delivered at that time when it would be mature enough to have a high chance of survival.¹³⁸ MacDougall, Black and Dempster concluded that ‘intra-uterine transfusion has proved to be a life saving measure in a percentage of fetuses severely jeopardised by isoimmunisation of the mother and who would not have survived in the era before Liley introduced the procedure.’¹³⁹

To transfuse blood to the fetus, the technique and its risk were described by the author of the ‘Intrauterine transfusion’ article as follows

Before embarking on intrauterine transfusion the placental site must be identified ... The various modifications of technique of transfusion ... now basically involve the use in the x-ray department of image intensifier, television screen and video-tape for control of insertion of the Tuohy needle into the foetal peritoneal cavity. There is no doubt that this procedure is potentially dangerous and

¹³⁷ [Anon], ‘Intrauterine transfusion’, 293.

¹³⁸ Ibid.

¹³⁹ MacDougall, Black, Dempster, ‘Intra-uterine transfusion in a country obstetric service’, 304.

there are reports of accidental puncture of sites other than the foetal peritoneal cavity ... and it is reasonable to assume that not a few infants may have been killed by the procedure ... It seems clear that some cases certainly benefit from [intrauterine transfusion]. However, it ... requires a skilled team of workers ... and specialised facilities not readily available in all centres. This procedure should certainly be carried out only in a few selected centres where the facilities and staff are available.¹⁴⁰

The GRMH and QMH were two of those selected centres. During the years 1964-65, in the QMH, 29 patients were referred to have amniocenteses carried out. On those 29 patients, 51 amniocenteses were performed as well as 4 intra-uterine transfusions.¹⁴¹ For the years 1966-67, 75 patients were referred to undergo amniocenteses. On those 75 patients, 153 amniocenteses and 10 intra-uterine transfusions were performed.¹⁴² The annual clinical reports underlined that 'Decisions as to premature induction or intra-uterine transfusions in the severely affected babies are made in consultation largely upon the results of amniocentesis but also taking all other relevant factors into consideration'.¹⁴³ For the year 1969, the Rottenrow and Ross Hospital annual clinical report pointed out that out of its 80 cases of Rhesus isoimmunisation, the hospital performed 51 amniocenteses during the antenatal period on the 77 women diagnosed with Rhesus isoimmunisation, five of these cases received an intrauterine transfusion and labour was surgically induced in 39 cases. Out of the 5 fetuses which were transfused, three were stillbirths and one died in the neonatal period.¹⁴⁴ Within the 80 cases of Rhesus isoimmunisation, there were six stillbirths (all in booked cases) and three neonatal deaths, hence nine perinatal deaths (Table 5.4). For both hospitals, intra-uterine transfusion was carried out only in a very small number of cases where the fetus was severely affected. Intra-uterine transfusions were not a widely used course of treatment even in well-equipped and staffed centres. As the reports of the Rottenrow underlined, furthermore, intrauterine transfusion still did not result in a miracle treatment regarding the survival of fetuses.

¹⁴⁰ [Anon], 'Intrauterine transfusion', 293-94.

¹⁴¹ NHSGGCA, *The QMH Glasgow Clinical Report for 1964-65*, QMH 2/1/1(i), 27.

¹⁴² NHSGGCA, *The QMH Glasgow Clinical Report for 1966-67*, QMH 2/1/2, 35.

¹⁴³ NHSGGCA, *The QMH Glasgow Clinical Report for 1964-65*, QMH 2/1/1(i), 26.

¹⁴⁴ NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1969*, HB45/3/43, 31.

	Births	SB	Rate/1000	NND	Rate/1000	Perinatal Loss	Rate/1000
Booked	77	6	77.92	2	28.16	8	103.9
Unbooked	3	0	0	1	/	1	/
Total	80	6	75.00	3	40.54	9	112.5
Parity							
0	1	0	0	0	0	0	0
1-3	53	5	94.33	0	0	5	94.3
4 & over	26	1	38.46	3	120.0	4	153.8
Total	80	6	75.00	3	40.54	9	112.5

Table 5.4: Rhesus Isoimmunisation cases, Rottenrow and Ross Hospital, 1969.¹⁴⁵

In the 1970s, the means of preventing Rhesus isoimmunisation was discovered: anti-D gamma globulin. In the 1970 edition of the textbook *Obstetrics Illustrated*, on the chapter of ‘Rhesus Incompatibility’, in cases where the woman is Rhesus negative and the husband is Rhesus positive and there was no Rhesus isoimmunisation developing during the pregnancy (especially if it was a primipara), the authors explained:

Immediately after birth of the baby the cord blood is tested for ABO and Rhesus groups. If the blood is Rhesus positive and ABO compatible with that of the mother, then the mother’s blood is examined for the presence of foetal red cells. If they are present the mother is given an injection of anti-D hyper-immune globulin. This will coat the foetal cells and block the D factor. Antibody formation will be adverted and the subsequent pregnancy will not be affected. The treatment, of course, has to be repeated at the end of each pregnancy thereafter.¹⁴⁶

This treatment generally meant the end of amniocentesis and intrauterine transfusion as Rhesus isoimmunisation rarely developed in the first pregnancy and if the woman was given the anti-D gamma globulin after each delivery; her following pregnancies would generally be free from the risk of Rhesus isoimmunisation.

I am now going to discuss two of the other causes of perinatal deaths. Firstly, toxæmia of pregnancy, which had been seen previously, remained an important cause of perinatal deaths, still divided between essential or sustained hypertension, pre-eclampsia and eclampsia. Sustained hypertension was defined by Walter, an obstetrician in Aberdeen, in 1966 as follows: ‘a diastolic blood-pressure of 90mm. Hg or more before the 20th week of pregnancy which remained at or above this level throughout pregnancy, irrespective of

¹⁴⁵ Ibid., 30.

¹⁴⁶ M. Garrey *et al*, *Obstetrics Illustrated* (Edinburgh, London: E & S Livingstone, 1970), 159.

the nature and duration of therapy employed'.¹⁴⁷ A healthy blood pressure was 80mm. Hg, thus 90mm. Hg was a sufficient level to be referred to hospital and be followed closely throughout their pregnancy. In 1969, the GRMH and Ross Hospital annual clinical report recorded 322 patients diagnosed with hypertension during their pregnancy, which represented a prevalence of 5.5 per cent.¹⁴⁸ The stillbirth, neonatal and perinatal mortality rates due to hypertension in Rottenrow and Ross hospital for 1969 highlighted a high rate and the importance for more regular supervision throughout pregnancy (Table 5.5).

	Births	SB	SB Rate	NND	NND Rate	Perinatal Loss	PL Rate
Booked	228	5	17.36	1	3.53	6	20.83
Unbooked	69	1	/	1	/	2	/
Total	297	6	20.20	2	6.87	8	26.93
Parity							
0	144	2	13.88	2	14.08	4	27.77
1-3	124	4	32.25	0	0	4	32.25
4 & over	29	0	0	0	0	0	0
Total	297	6	20.20	2	6.87	8	26.93

Table 5.5: Hypertension, Rottenrow & Ross Hospital, 1969.¹⁴⁹

In a study on stillbirth due to severe hypertension made in 1942, Browne and Dodds found that 68 per cent of the births ended up in a fetal death. We can see quite a large diminution between the results of 1942 and those found in the GRMH in 1969. That was why Walter underlined that 'The great improvement in foetal survival in hypertensive women since 1942 is almost certainly due to better antenatal care and more frequent use of induction and operative delivery as illustrated by the increased incidence of obstetric interference ... reported by Gate (1960)'.¹⁵⁰ Once again, we can see that the medical profession supported the ever higher antenatal care rate as well as the increasing medicalisation and intervention regarding childbirth, which they reckoned were the main reason for the diminution of the stillbirth rate in many conditions and here more precisely in hypertensive cases.

In regards to pre-eclampsia, it was defined as 'a blood pressure reading of 140/90 mm. Hg. or more, with either oedema or proteinuria on two or more occasions on or after the

¹⁴⁷ W. Walter, 'Effects of sustained maternal hypertension on foetal growth and survival', *Lancet*, 288 (1966), 1214.

¹⁴⁸ NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1969*, HB45/3/43, 36-37.

¹⁴⁹ NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1969*, HB45/3/43, 36.

¹⁵⁰ Walter, 'Effects of sustained maternal hypertension on foetal growth and survival', 1216.

26th week of pregnancy'.¹⁵¹ In the QMH, cases of pre-eclampsia were divided into two categories: mild and severe. The mild cases had a blood pressure equal or above 140/90 mm. Hg. but under 160/100 mm. Hg., and therefore severe cases had a blood pressure equal or superior to 160/100 mm. Hg. The most important point was the difference between the stillbirth rates in the QMH when comparing mild (under 20 per 1,000 total births from 1964 to 1967) and severe pre-eclampsia cases (above 80 per 1,000 total births in 1964-67).¹⁵² As the adjective indicated, in the QMH, when pre-eclampsia was diagnosed as severe, the chance of survival of the fetus was substantially less than when pre-eclampsia was diagnosed as mild. As Redman, Beilin, Wilkinson and Bonnar, obstetricians in London for the first three and in Dublin for the last, emphasised in 1976, delivery was the only treatment for pre-eclampsia and therefore

Early bed-rest, monitoring of fetal wellbeing in utero, and anticipation of maternal problems related to pre-eclampsia [in well-equipped and staff hospitals] then ensure the best chances for bringing the pregnancy to a stage where planned delivery both prevents serious maternal complications and gives the best possible chance of fetal survival.¹⁵³

Once again, we see that from the mid-1960s to the mid-1970s, medicalisation of labour, and mostly induction of labour, planned in regards to fetal vital reading due to an increased fetal monitoring during pregnancy, but also in regards to the woman's condition, was the main means of treatment of pre-eclampsia. This highlights the importance of the fetal patient was taking in parallel of the woman as a patient.

Finally, when looking at the cases of eclampsia, its rate had been decreasing in the 1960s as highlighted in an article on eclampsia published in the *SMJ* in 1966. As the article stressed, eclampsia 'should be considered as an obstetric emergency comparable, in requiring urgent treatment, with haemorrhage and calling for a more frequent use of the obstetric flying squad when severe toxæmia occurs in the patient's home'.¹⁵⁴ In the mid-1960s, in Britain, the incidence rate of eclampsia was 1.2 per 1,000 total deliveries. The author of the 'Eclampsia' article, however, pointed out that

¹⁵¹ NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1969*, HB45/3/43, 38.

¹⁵² NHSGGCA, *The QMH Glasgow Clinical Reports for 1964-67*, QMH 2/1/1(i)-2.

¹⁵³ C. Redman, L. Beilin, R. Wilkinson, J. Bonnar, 'Plasma-urate measurements in prediction fetal death in hypertensive pregnancy', *Lancet*, 307 (1976), 1373.

¹⁵⁴ [Anon], 'Eclampsia', *SMJ*, 11 (1966), 218.

On reading Maternity Hospital reports one is struck by the numbers of unbooked cases admitted with eclampsia compared with those booked, the ratio being 3:1. This in itself suggests that eclampsia is largely preventable and could be reduced further by adequate care and by prompt recognition and treatment of pre-eclampsia.¹⁵⁵

Indeed, eclampsia being a disease of pregnancy was mostly found in antenatal cases. Diagnosing pre-eclampsia early during antenatal supervision, therefore, could prevent toxæmia developing into eclampsia.

In the QMH, for the years 1964-65, most cases of eclampsia were booked and had visited frequently the hospital antenatal clinic (9 out of 12 cases). The percentage of stillbirths for those two years was around 16.7 per cent.¹⁵⁶ For the years 1966-67, the number of cases was even smaller with only seven cases, all of which had been booked patients. The percentage of stillbirths for those two years had diminished slightly to around 14.3 per cent.¹⁵⁷ In the GRMH and Ross Hospital, regarding the cases of eclampsia, for 1969, there were eight diagnosed cases in which none resulted in a perinatal death.¹⁵⁸ Those data highlighted that despite being the most dangerous stage of toxæmia of pregnancy, and being extremely dangerous for the mother, in regard to the fetus, the latter was quite likely to survive the condition if delivered on time, meaning induction of labour performed as soon as the fetal monitoring indicated it was no longer safe for the fetus.

The last cause of perinatal death I am looking at is abruptio placentæ. It used to be called accidental haemorrhage and was included in the antepartum haemorrhage as cause of perinatal death. Antepartum haemorrhage was divided into two categories: abruptio placentæ and placenta prævia. Antepartum haemorrhage was defined specifically as vaginal bleeding after the 28th week gestation. In the QMH, antepartum haemorrhage had been diagnosed in 247 women in 1964-65, 352 women in 1966-67, and it resulted in a perinatal loss of 28 (11.3 per cent) in 1964-65, and of 47 (13.1 per cent) in 1966-67, 'which was almost entirely due to abruptio placentæ & prematurity'.¹⁵⁹ In the GRMH and Ross Hospital, in 1969, the annual clinical report explained that 'Mothers in whom abruption was diagnosed had the highest foetal loss of any group in the report. This is especially evident

¹⁵⁵ Ibid.

¹⁵⁶ NHSGGCA, *The QMH Glasgow Clinical Report for 1964-65*, QMH 2/1/1(i), 16-17.

¹⁵⁷ NHSGGCA, *The QMH Glasgow Clinical Report for 1966-67*, QMH 2/1/2, 17.

¹⁵⁸ NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1969*, HB45/3/43, 40.

¹⁵⁹ NHSGGCA, *The QMH Glasgow Clinical Report for 1964-67*, QMH 2/1/1(i)-2.

among the unbooked mothers; a 45.8 per cent foetal loss, and those whose parity was 4 or over with a 55.5 per cent foetal loss.’¹⁶⁰ In total for 1969, the stillbirth rate in abruptio placentae was of 260.9 per 1,000 births; and by adding the neonatal deaths, the perinatal mortality rate was 326.1 per 1,000 total births.¹⁶¹ According to the medical profession then, antepartum haemorrhage, and especially abruptio placentae, was in urgent need to be diagnosed early, and therefore it was a necessity for women to come to hospital more regularly for antenatal supervision so that this condition could be diagnosed if possible and labour induced if necessary for the fetus’ survival, in order to reduce the perinatal mortality rate.

Explained in the previous chapter, antepartum haemorrhage, and particularly placenta praevia, was ever more diagnosed by placentography using X-ray. In the QMH, in 1964-65, the report pointed out that ‘In 1964 and 1965 placentography was largely done by soft-tissue X-ray, although experiments with ultrasonic placentography were beginning’.¹⁶² In the following report, it pointed out that ‘At the time of the previous report, ultrasonic placental localisation was in its infancy but it is now seen to have a place from the 30th week onwards’.¹⁶³ Indeed, as Oakley stresses, before 1967, Donald’s ‘team had not yet cracked ... the localization of the placenta by ultrasound. By 1967 they were more hopeful on this score, and in 1968 they reported on 675 cases exposed to ultrasonic placentography for a variety of indications including antepartum haemorrhage, amniocentesis, and “high free presenting part”’.¹⁶⁴ Placentography in Glasgow, for antepartum haemorrhage but also in combination with amniocentesis in cases of Rhesus isoimmunisation, was now done by ultrasound and thus diminishing the use of X-radiation which was less accurate and more dangerous for the fetus. The better accuracy allowed obstetric intervention in more cases when the fetus was at risk due to antepartum haemorrhage by inducing premature labour when believed necessary for the survival of the fetus. The use of ultrasound scanning in the antenatal period was developed for many tests and diagnoses in addition to its use for antepartum haemorrhage or Rhesus isoimmunisation cases, and its use was increased from the mid-1970s onwards when most hospitals in Britain were equipped with a real-time

¹⁶⁰ NHSGGCA, *The GRMH & the Ross Hospital, Clinical Report 1969*, HB45/3/43, 43-47.

¹⁶¹ *Ibid.*, 46.

¹⁶² NHSGGCA, *The QMH Glasgow Clinical Report for 1964-65*, QMH 2/1/1(i), 17.

¹⁶³ NHSGGCA, *The QMH Glasgow Clinical Report for 1966-67*, QMH 2/1/2, 22.

¹⁶⁴ Oakley, *Captured Womb*, 161.

scanner. Until that time ultrasound scanning and its different uses were located in a minority of British and international hospitals.

IV) The rise of discontentment

As shown throughout this chapter, obstetricians resorted to medical interference techniques, such as Caesarean section and induction of labour, more often than ever before. I highlighted that in the two maternity hospitals in Glasgow in the late 1960s, the induction rate was around 20 per cent of all births. In England and Wales between 1966 and 1974 the rate of the induction of labour went from 12.7 per cent to 38.9 per cent.¹⁶⁵ The rate of Caesarean section also increased but not to the same extent. Induction of labour was carried out by artificial rupture of the membranes by amniotomy or/and an injection of oxytocin (which would have reduced the length of labour).¹⁶⁶ Oxytocin was synthesised in 1953, and it began to be used from that date onwards.¹⁶⁷ As Oakley explains, ‘The synthesis of oxytocin and the later addition of prostaglandins to chemical techniques for controlling labour have enabled obstetricians to add a new concept to their professional vocabulary: the active management of labour ... The essence of active management is that no labour is allowed to last beyond 12 hours.’¹⁶⁸ Indeed, prolonged labour was a cause of perinatal death and the medical profession believed active management of labour would allow fewer fetuses to die in the intrapartum period by making labour shorter especially when fetal distress was diagnosed during labour thanks to continuous fetal heart rate monitoring introduced in the 1960s; and therefore active management of labour was regarded as a progress in the care of childbirth.¹⁶⁹

Induction of labour is an elective method of delivery, with the active management of labour; they constituted what Oakley stresses ‘represents the dominance of the obstetrical empire’ as both were a choice made by the obstetrician and not the pregnant woman.¹⁷⁰ Nevertheless, on the subject of accelerated labour or active management of labour, as

¹⁶⁵ Ibid., 207.

¹⁶⁶ John MacVicar, ‘Acceleration and augmentation of labour’, *SMJ*, 18 (1973), 201.

¹⁶⁷ Ibid., 203.

¹⁶⁸ Oakley, *Captured Womb*, 207.

¹⁶⁹ Ibid., 179.

¹⁷⁰ Ibid., 187.

minutes from the meeting of 7 June 1972 of the Glasgow Obstetrical and Gynaecological Society exemplify, not all obstetricians agreed on the subject. Indeed, Dr Torbet and Dr Bradford supported such practice because it helped anticipate dangers and so reduce perinatal mortality and it helped manage the pain of the women. On the other hand, Dr Walter Paterson and Dr Garrey disagreed with the practice because it had a negative impact on the fetus and it was meant to finish labour faster, which was more for the obstetrician than the woman who might not have desired such swiftness.¹⁷¹ According to obstetricians supporting induction of labour, that last statement was untrue, as they believed it was also a relief for women. Indeed, MacVicar, practising in the QMH in the 1960s-1970s, highlighted that the advantages of accelerated labour for the women was that labour was now plan for a set of time deemed reasonable. He stressed that ‘It must have been very demoralising for a patient to embark, happy and emotionally prepared, on her labour, only to achieve delivery four days, and many painful contractions later. Now delivery is always assured the same day as induction.’¹⁷² MacVicar underlined that he knew induction of labour carried a risk both for the woman and the fetus, but emphasised that labour itself carried a risk and therefore induction of labour, at least, allowed women to deliver within 24 hours and thus reduced the danger of intrauterine infection, and that was why it was to be promoted.¹⁷³ MacVicar, nevertheless, did emphasise that for a few conditions induction of labour was contradicted: those were malpresentation (except for breech presentation), high degree of contracted pelvis, placenta praevia and pelvic obstruction from ovarian cysts or fibroids.¹⁷⁴

A Scottish midwife described the early to mid-1970s as follows: ‘There was no caring. It was just like a sausage factory. They were short of midwives and great emphasis was put on what the doctor said and what he wanted. The women and what they wanted were not considered. Nobody said they didn’t want to be induced. They even did inductions on Christmas Day.’¹⁷⁵ We can see that some midwives were also not always agreeing with the practice regarding childbirth in the 1970s. This midwife was not the only one to look back on those days with a pejorative perspective. Indeed, Elizabeth Carson explained that she

¹⁷¹ RCPSG Archive, *GOGS, Committee Minutes Book 1971-83*, RCPSG 14/1/6.

¹⁷² MacVicar, ‘Acceleration and augmentation of labour’, 206, 209.

¹⁷³ *Ibid.*, 205, 206.

¹⁷⁴ *Ibid.*, 207.

¹⁷⁵ Lindsay Reid, *Scottish Midwives, Twentieth-Century Voices* (East Linton: Tuckwell Press, 2000), 129.

worked in Stobhill in the days of induction. We did four inductions per day every day in the 1970s and 1980s. Inductions were “progress”. With retrospect that was not progress. Patients with one or two children were having induced and accelerated labour and they told us afterwards that this was more traumatic than having their first baby, born with no problems. They found induction quite devastating. But that was what happened.¹⁷⁶

By the mid-1970s, women started to complain about their experience as a whole in maternity hospitals/units and started to demand some change in the way childbirth was managed, to return to a more natural process.

Regarding stillbirths, complaints also started to rise in the same period in regards to its management or lack thereof. Joan Spence, a Scottish midwife, emphasised:

A big difference nowadays is the way they handle stillbirths. We didn’t know, we thought we were doing the right thing – whipping these babies away. Wrapping them up, out the door and the mother never saw it again. We didn’t do it maliciously. We did it because we thought that was the best way.¹⁷⁷

Indeed, in the mid-1970s throughout Britain, ‘most parents were not allowed to see or hold their [stillborn] babies, no photographs were taken, parents were not told where their [stillborn] babies were buried, and they could not put their baby’s name on the stillbirth certificate’.¹⁷⁸ Two women in the 1970s helped change the way perinatal deaths are nowadays understood and managed; those women were Bel Mooney and Hazeltanne Lewis. The former was a journalist and the latter a psychiatric social worker. In the mid-1970s, both had a stillbirth, and they lived this experience with much trauma and without the recognition they felt they were entitled to. Mooney wrote an article published in the *Guardian* telling about her experience while Lewis published in different national journals a classified advertisement asking parents who had had a stillbirth to contact her and share their own experiences. ‘An avalanche of replies from all over Britain revealed a vast unrecognised need for support and information for parents and families.’¹⁷⁹ From that point onwards, things started to change in regards to stillbirth and its management.

¹⁷⁶ Ibid., 151-52.

¹⁷⁷ Ibid., 172-73.

¹⁷⁸ SANDS, History, *SANDS*, <<http://www.uk-sands.org/about-us/aims-and-objectives/history>>, [accessed 27 February 2014].

¹⁷⁹ Ibid.

Conclusion:

In this chapter, we have seen that the 1958 BPMS and the continued fall in the perinatal mortality rate, but the persistent gap between social classes, pushed the medical profession to highlight the need for hospital confinement for most women as well as an increased resort to medical interference such as Caesarean section and induction of labour in the interest of the fetus, who had become a patient in its own right. Obstetrical decisions, then, were taken according to the fetus primarily and what was considered best for it. Perinatal mortality was studied from two angles, one from an environmental perspective, which included the women's husband's and father's social classes, and the second from a purely obstetric perspective which underlined the importance of improvements in the obstetric care. Regarding the latter, the 1960s and 1970s were spent understanding Rhesus isoimmunisation and its consequences such as haemolytic disease of the newborn resulting in the discovery of the effective preventive measure to such a condition: the anti-D gamma globulin. In regards to the former, smoking in pregnancy had been highly researched to understand all the harmful effects to the developing fetus and future child. Finally, in the mid-1970s, a feeling that things needed to change in regards to the management of stillbirth grew. Indeed, parents who had been through a stillbirth wanted society to realise that stillbirth was still death, and therefore, they had been through a traumatic event and their grief deserved to be recognised. This will be explored in the following chapter.

Chapter 6: 'Stillbirth is still death', Changes around the management of stillbirth, 1977 onwards

Introduction:

In the late twentieth century, the size of family was mostly planned through the use of contraceptive methods and, therefore, many pregnancies were desired and the woman/couple saw herself/themselves as mother/parents before the birth of the baby.¹ Ultrasound had helped develop this feeling of motherhood/parenthood during the pregnancy as the prospective parents could see their unborn child and thus begin to bond with him/her.² Even more so from the mid-1970s onwards, most hospitals in Britain had acquired an ultrasound device thanks to the development of the real-time scanner created by the American company Advanced Diagnostic, which Prof Ian Donald described as “the development of the future”.³ This meant that most women and their partners had seen their unborn child and received a picture from the technician, which Donald came to institutionalise as a rite of passage. Indeed, from the 1970s, it became a norm to put the ultrasound image into the family photograph album.⁴ This proved that the unborn fetus was seen by parents as already part of the family before its birth, thus the parents had already bonded with their future child. Indeed, in 1976, Stuart Campbell, an obstetrician famous for his work on ultrasound, declared that ‘A final, perhaps unexpected, benefit of the real-time revolution was that parents on seeing their fetus moving on the screen were informed and delighted and indeed the ultrasound session became a family event. Maternal-fetal bonding was accelerated’.⁵

¹ See for example Eva-Maria Silies, ‘Taking the Pill after the “sexual revolution”: female contraceptive decisions in England and West Germany in the 1970s’, *European Review of History: Revue Européenne D’histoire*, 22 (2015), 41-59: ‘The rising number of Pill users since the late 1960s even led to stagnating numbers of pre-marital pregnancies and births between 1967 and 1971, compared to a steady rise in these numbers before and after these years.’

² M. Nicolson, J. Fleming, *Imaging and Imagining the Fetus: the Development of Obstetric Ultrasound* (Baltimore: John Hopkins University Press, 2013), 231, 263-64; Clare Hanson, *A Cultural History of Pregnancy: pregnancy, medicine and culture, 1750-2000* (Houndmills, Basingstoke, New York: Palgrave Macmillan, 2004), 137; Ann Oakley, *The Captured Womb, A History of the Medical Care of Pregnant Women* (Oxford: Blackwell, 1984), 184; Sonia Meyers, ‘Invisible Waves of Technology’, *Medicine Studies*, 2 (2010), 203.

³ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 231.

⁴ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 1, 244, 264; Meyers, ‘Invisible Waves of Technology’, 199; Clare Williams, ‘Framing the fetus in medical work: rituals and practices’, *Social Science & Medicine*, 60 (2005), 2086.

⁵ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 231, 263-64; Hanson, *Cultural History of Pregnancy*, 137.

Moreover, feminist academics such as Rosalind Petchesky and Eugenia Georges record that for a majority of mothers at the end of the twentieth century, they really acknowledged their pregnancies only when they first saw their fetus on the screen while being scanned.⁶ To summarise, ‘it is undoubtedly true that the development of the ultrasound has enabled women and men to make links with their unborn children in ways once unimaginable’.⁷ That is why in this chapter I will refer to the women and their partners as mothers and fathers as that was how they saw themselves from the moment they knew the woman was pregnant, regardless of the outcome of the pregnancy (live birth, stillbirth or miscarriage).

Moreover, as John Kelly, a practitioner in Birmingham, pointed out in 1990, ‘The tragic effects of stillbirth on parents and nursing and medical staff are probably greater now that the expectations of a safe delivery of a healthy baby are so high’.⁸ Furthermore, thanks in part to Bel Mooney and Hazelanne Lewis and the number of responses from the advertisement in which they asked parents who had had a stillbirth to contact them and to share their own experiences, from the late 1970s onwards, society in general and the medical profession had started to recognise the trauma that bereaved women/partners go through and the need for a change in the management of those stillbirths. Furthermore, also influenced by second wave feminism, management of stillbirth now focused on woman-centred care, as much as possible. Indeed, Dr Burnett Lunan, an obstetrician in Glasgow remembered that when he became a consultant in the mid-1980s, ‘a lot more attention was being given to women’s wishes, until then there had be[en] a very sort of-sort of [sic] “doctor knows best” type attitude ... telling women what was going to happen with them ... There became much more involvement of patients in ... how things were dealt with’.⁹

Throughout this chapter, I will highlight the different advice and guidelines the medical profession and organisations believed would help improve the management of stillbirth and the support provided to mothers/parents who had a stillbirth. However, there was a lack of resources (financial and human) in most centres throughout the country, due to changes of policy and politics from the late 1970s onwards, which will be underlined in the following chapter. This meant that advice and guidelines have not always been

⁶ Nicolson, Fleming, *Imaging and Imagining the Fetus*, 264.

⁷ Ibid.

⁸ John Kelly, ‘A difficult delivery’, *Lancet*, 335 (1990), 861.

⁹ Interview with Dr. C. Burnett Lunan, 4 June 2015.

respected or applied and this needs to be kept in mind. This chapter highlights the ideal route. Nevertheless the reality was frequently different from what the medical profession and organisations wished to be the standard management and support offered everywhere in the country.

l) Management around the diagnosis of the stillbirth

In the late 1970s, as explained in the previous chapter, women started to show their discontentment about their experience when they had a stillbirth and the medical community began to realise they needed to change the practice and management around stillbirths and neonatal deaths. The aim was ‘for a taboo to be broken, for stillbirth to be recognised as a common crisis which calls for immediate and long-term support for the family. A stillbirth may be hard to forget but, unfortunately, it is even harder to bring into clear focus.’¹⁰ That was why, in 1978, the Royal College of Obstetricians and Gynaecologists (RCOG) organised a Working Party on Stillbirth and Neonatal Death and Management of Perinatal Deaths in collaboration with general practitioners, midwives, health visitors, paediatricians and psychiatrists. In the introduction of the report of the Working Party published in 1985, the President of the RCOG, Sir Rustam Feroze, explained the purpose of the Working Party as follows:

Maternity Services in the United Kingdom have been subjected to severe criticism in the past few years and it should be acknowledged that there have been significant improvements following this. However, the management of the perinatal death, a desperately unhappy event, has not changed in many units and largely remains unsatisfactory. It is hoped that these guidelines will help to improve the situation and that more emphasis will be placed on compassion for, and proper communication with, bereaved parents than has previously existed.¹¹

Moreover, from 1977 onwards, many articles and editorials were written on the management of perinatal deaths in medical journals such as the *British Medical Journal* (BMJ) and the *Lancet*, especially by psychotherapists and social workers to inform and help the medical community to improve their practices in this area. Many professionals had worked on the issue; however, two psychotherapists working in London had been

¹⁰ [Anon], ‘The abhorrence of stillbirth’, *Lancet*, 309 (1977), 1190.

¹¹ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, ‘Correspondence and papers 1984-86’, RCOG/M16/3, 1.

researching on the management of and trauma around stillbirths longer than others: Stanford Bourne and Emanuel Lewis. For example, in 1968, ‘Bourne studied [general practitioners’] answers to a questionnaire about reactions of mothers to normal birth and stillbirth and concluded that, in cases of stillbirth, doctors are compulsively reluctant to know, notice, or remember anything about these patients...’¹²

The Working Party report and medical articles looked at many areas regarding stillbirths and neonatal deaths. Firstly, the management around stillbirth that was diagnosed before labour commenced had to be improved. Indeed, Peggy Grieve, a midwife in Glasgow in the 1940-50s, remembered ‘I have heard the obstetrician say “Now don’t worry, you can have another baby next year”’ and this practice had continued up to the late-1970s, which had always been felt as unbearable for parents to hear and began to say so.¹³ As explained in the introduction of this chapter, most pregnancies were planned and the parents had already started to bond with their unborn child. Both the Working Party report and articles on stillbirth and its management highlighted the difficulties staff faced telling parents but the importance of doing it properly and sensitively. Indeed in a *BMJ* editorial entitled ‘Grief and stillbirth’, published in 1977, the author pointed out that many women had felt dissatisfied by their general practitioner’s or obstetrician’s reaction and response to the stillbirth and that was why they decided to change doctor subsequently. The editorial underlined that doctors’ reactions were most of the time neither sympathetic nor sensitive towards the parents because they felt like they had failed in their jobs as they had been unable to prevent suffering. The editorial explained that

Telling the mother and the father is a horrid task, and however sympathetically done there is a feeling of incompetence in relieving the distress and helplessness in the face of heartbreak. The essential motivation of medicine is to relieve suffering, and here is a denial of that possibility. The response of all is usually to withdraw and not communicate, the well-known phenomenon of rejection. The various attendants may discuss the reason for the stillbirth and rehearse what went wrong, partly as a means of reducing their own tensions. But often the persons most affected emotionally are unwittingly ignored and left to their own devices.¹⁴

This editorial showed what was common at the time and what the medical community had to change to improve the management of stillbirth and perinatal deaths in general.

¹² [Anon], ‘The abhorrence of stillbirth’, p. 1189; [Anon], ‘Grief and Stillbirth’, *BMJ*, 1 (1977), 126.

¹³ Lindsay Reid, *Scottish Midwives, Twentieth-Century Voices* (East Linton: Tuckwell Press, 2000), 77.

¹⁴ [Anon], ‘Grief and stillbirth’, 126.

The Working Party report emphasised that the committee members knew how difficult it was for the medical professionals to acquire the art and skill necessary for announcing such news and that even senior doctors could still feeling uneasy and unprepared as to how to tell the parents. The report then went on underlining that, even if the father was not present at the moment the fetal death was diagnosed, the doctor should not wait for him to arrive before telling the mother as she should not be kept in the dark even for a couple of hours. The father, however, needed to be told too as soon as he arrived at the hospital. In regards to the way to deliver the bad news, the report believed the best way was as follows:

Whoever undertakes this onerous task of breaking the sad news should allow plenty of time so that the information does not have to be given in a hurried fashion. Often it is better to sit the patient when telling her the situation and the interview should be in private and without interruption ... A mother will often sense that she is about to be given bad news and if the baby's father is not available she should be asked if she would like a friend or a relative of her choice to be with her.¹⁵

When the report said that the mothers often knew when they were going to be given bad news, this can be explained by the demeanour of the staff, but also by the fact that some women knew before being told that something was wrong, or at least when rethinking about their pregnancy later on believed they had signs to indicate the death. Indeed Liz Standish, a psychiatric social worker in Oxford, interviewed 32 women in the early 1980s who had had a stillbirth or a neonatal death, six and 14 months after the death of their babies, and some of them said they had felt really tired during their pregnancy. One told Standish that 'I was so very tired all the time, I didn't think it could be right. But the doctor just said, "You're pregnant, you're bound to be tired"'.¹⁶ Others felt changes within them, for example one remembered that her fetus' movements started to feel different at the end of her pregnancy. She explained to Standish that 'In the last week the movements were vigorous and "twangy". I felt it wasn't right, the movements seemed desperate. But how can you comfort a baby inside of you?'¹⁷ Another felt cold from the inside, she said that 'I knew the baby was dead because my tummy was so cold. I kept standing against a radiator

¹⁵ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 9-10.

¹⁶ Liz Standish, 'The loss of a baby', *Lancet*, 319 (1982), 611.

¹⁷ Ibid.

trying to warm my tummy up, as though that might make it all right.’¹⁸ Some had kinds of premonitions about their baby’s death. One dreamt that ‘the baby was in a bucket and wanted to get out and be cuddled, but it wasn’t ready. We took it out and cuddled it, but we knew we shouldn’t.’¹⁹ Many others only realised the loss when they were told so.

The report stressed that ‘No attempt should be made to make light of what has happened. Statements such as “You are still young and there is no reason why you should not be able to have a live baby in due course” are inappropriate and minimise the importance of the loss the parents have suffered’.²⁰ The report, therefore, underlined that what had been the norm for so long was no longer acceptable, and the medical community had to break with that past habit and learn a new and, it was believed, better way to deal with and respond to bereaved parents having a stillbirth. The report indicated that parents would usually be in shock and understandably upset. Certain information might need to be repeated later on and again women/parents asked as to what they wished for in regards to the delivery.²¹ Indeed, as an article entitled ‘A difficult delivery’ published in 1990 highlighted, ‘It is a mistake to think that every woman wants immediate delivery – as if the dead baby, just because it is dead, had suddenly become abhorrent and needing to be disposed of as soon as possible’.²² The article went on to explain that, except in cases of rhesus isoimmunisation and for some specific patients, no risk would have come to the mother’s health as long as the fetus was delivered within four weeks and as 90 per cent of women delivered spontaneously within three weeks, the choice of elective or spontaneous delivery should be offered to the mother. The latter option had been preferred by 53.6 per cent of women.²³

Catriona Hendry explained how she was taught to respond to a stillbirth when she was training to be a midwife in Glasgow in 1976-77, when the stillbirth was diagnosed in the antenatal period. She remembered that the mother

¹⁸ Ibid.

¹⁹ Ibid.

²⁰ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, ‘Correspondence and papers 1984-86’, RCOG/M16/3, 10.

²¹ Ibid.

²² [Anon], ‘A difficult delivery’, *Lancet*, 335 (1990), 385.

²³ Ibid.

should have some decisions whether we induced labour at that time or whether we waited for nature to take its course. But we were also taught you could only leave it for a certain length of time ... I think it was about 10 days if I remember correctly was the kind of window that we left ... so if labour hadn't started within maybe 10 to 14 days they would be induced.²⁴

As we can see, the time given to women to go into spontaneous labour after a stillbirth had been diagnosed between the late 1970s and 1990 was prolonged, however their blood was checked to make sure they did not need to be induced for their own benefit.

John Kelly, furthermore, emphasised that spontaneous 'labours will be quick and "easy" compared with labours following induction' and he added that 'Immediate delivery may initially seem the ideal answer, but even if it were available without accompanying drawbacks it may seem disrespectful to the couple if the baby is got rid of in unseemly haste'.²⁵ That was why the Working Party recommended the consultant obstetrician or the midwife to see the mother/parents again before she returned home as they would be the one delivering the woman, thus 'they are to [the parents] the most responsible members of the team', and the parents needed to build a trusting relationship with them.²⁶ The hospital team, furthermore, must have informed the woman's general practitioner of the intrauterine death, especially if the mother decided to have a spontaneous delivery and therefore returned home after the diagnosis.²⁷

When a stillbirth was diagnosed, the member of staff responsible to deliver the news to the parents could also ask them if they wished to see a chaplain or their own minister of religion. When the National Health Service (NHS) was established in 1948 in Scotland, it provided chaplains to all hospitals. Those chaplains were Church of Scotland ministers, Episcopal Church ministers and Roman Catholic priests; they were not employed by the NHS but it was a partnership between the Churches and the NHS.²⁸ Hospital chaplains, therefore, only had their training as ministers/priests and 'it was assumed that people who've been trained for ministry were therefore trained for chaplaincy'; and thus did not receive any formal training to become hospital chaplains but learnt on the job.²⁹ People

²⁴ Interview with Catriona Hendry, 18 June 2015.

²⁵ Kelly, 'A difficult delivery', 861.

²⁶ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 10.

²⁷ *Ibid.*, 10, 14.

²⁸ Interview with Rev. Blair Robertson, 20 March 2015.

²⁹ *Ibid.*

training to become ministers or priests, however, were not taught anything regarding funeral rites for stillborn babies, which is a main component of the role of chaplains. If the parents wished for a chaplain, one could come directly after the diagnosis, but could also be called after labour, to meet the parents and see what they wanted in terms of ceremonies, which I will return to later on.

Chaplains have been playing more and more of an important role when a perinatal death, late miscarriage or termination of pregnancy occurred. Indeed, from the late 1990s onwards, hospitals began to employ more and more full-time chaplains instead of part-time ones as it had been the case since the creation of the NHS. Moreover, ministers/priests based in communities had encountered fewer and fewer stillbirths, if any, in the late twentieth century. Indeed, Reverend Robertson, chaplain at Glasgow Southern Hospital when I interviewed him, explained that ‘In my almost eight years as a parish minister I only encountered once or twice a situation of a stillbirth’ and both times it was under his function of part-time chaplain in Falkirk Hospital in the mid-1990s. Since becoming a full time chaplain in Glasgow he had encountered many fetal deaths.³⁰ Furthermore, as society in general had become more secular, many parents who had a stillbirth did not have a minister or priest and relied completely on the chaplain provided by the hospital in regards to the religious ceremonies and services for their stillborn babies. In the unusual case when parents called their own minister/priest, the latter could feel lost in the kind of pastoral care to provide for such an event. Rev Robertson remembered a time when he was already working at the Southern General Hospital ‘where [a] couple had a stillbirth and they contacted their own minister, Church of Scotland minister, to come in and give the baby a blessing. And the minister was on the phone saying to me: “Blair, what do I do?”’ He said: “Blair in 35 years of ministry I’ve never had to do this. What do I do?”’³¹ He then emphasised that this experience indicates ‘the distance between what we do in chaplaincy and kind of Church to faith communities. We’re doing this quite regularly but I’m pretty sure that many ministers, parish priests, other faith communities they[’re] just not taught to deal with it. They don’t encounter it.’³² To conclude, since the creation of the NHS, chaplains had been playing a bigger and bigger role in the spiritual and religious care of stillbirth. A chaplain working in Scotland, nevertheless, underlined that if the parents

³⁰ Ibid.

³¹ Ibid.

³² Ibid.

belong to a church and they have their own minister then that is by far the best for that family ... In other faith communities [non-Christians] would have their own way of burial ... so again we wouldn't be involved in that. It's probably the ones where there maybe isn't any kind of community connection to a faith group, and they don't have somebody to facilitate the funeral, then it would be those ones that we would be kind of likely to be involved in, to offer ... support them in that way.³³

II) Management in the labour ward and postnatal period

When the time of delivery came, either elective or spontaneous, a lot had to be thought through in regards to its management. Indeed, in the case of a diagnosed stillbirth, in the late 1970s and before, 'A dull, sad, quietness pervades the labour ward as the baby emerges, and its floppy body is hurriedly wrapped in a sheet and whisked away'.³⁴ On the other hand, in the case of an intrapartum stillbirth, which thus had not been diagnosed, anxiety could have been much higher as the mother was left without any explanation in the labour ward as attendants were busy trying to save the baby on the resuscitation table and therefore 'again the baby is usually hurried away'.³⁵ From the late 1970s onwards, wrapping the baby and taking it away from the mother still in the labour ward began to be considered intolerable and harmful for the parents' emotional and psychological recovery. From that point onwards, parents were offered the opportunity to see and hold their stillborn baby. First, however, I will explain how labour was managed in the late twentieth century and the options given to mothers. As explained earlier, for stillbirths diagnosed in the antenatal period, mothers had a choice between spontaneous or induced delivery. In regards to the delivery *per se*, except for a few cases which would require Caesarean section, most women delivered vaginally. Caesarean section was mainly for abnormal cases, and even if stillbirth is a traumatic and dreaded event, for most stillbirths, labour was not regarded as abnormal *per se* and therefore should not require surgical interventions.

The Working Party report pointed out that

The doctor and midwife should work out the labour plan as usual and this should be discussed with the mother, stressing wherever possible that the labour will be normal, as will the delivery. It

³³ Interview with Chaplain., 2 June 2015.

³⁴ [Anon], 'Grief and stillbirth', 126.

³⁵ Ibid.

is important for the mother to feel that she still has some control of the situation. Many women who are to have a stillbirth fear that they will be unable to have a normal delivery and they should be reassured on this point. Although the baby is dead, a mother can still feel some sense of achievement at a normal delivery ... and it is helpful if the staff acknowledge it.³⁶

Lewis and other psychotherapists and medical professionals wrote a leaflet in 1978 entitled 'Leaflet for Parents whose Child was Stillborn'. Considering the question 'is it more difficult to give birth to a stillborn baby?', the authors recognised that even if delivery was similar for a livebirth and a stillbirth, women could feel a sense of waste giving birth to a dead baby.³⁷ That was why women were offered more drugs during labour to alleviate the pain and as the fetus was already dead there would not be any worries of fetal distress. Standish explained that most women she interviewed who were offered drugs during labour felt thankful for the management of labour they received in order for them to avoid some of the suffering and discomfort.³⁸ The Working Party report, however, recommended not to overindulge in the provision of drugs as it was important mothers could feel and make the delivery part of the memory of their stillborn child.³⁹ On the other hand, no unnecessary medical interventions were required, as it would have only made labour more distressing.⁴⁰ Indeed, as Catriona Hendry pointed out, at that time 'nearly every woman had an episiotomy ... but if you were dealing with a stillbirth we would try not to do an episiotomy because you didn't want her to have the additional discomfort, pain and memory of all that associated with this unhappy time'.⁴¹ To conclude, natural vaginal delivery was recommended but drugs could be administered according to the wishes of the woman.

Secondly, when came the time of the delivery, attendants were also affected by the tragedy and, as I highlighted earlier, might have already been distressed at the moment of the diagnosis if the stillbirth was an antepartum one. The Working Party report stressed that 'Parents often find it comforting if staff show their distress at the time of the death of their baby. It is important for the parents that their loss is acknowledged by the staff.'⁴² Indeed, Rev Robertson explained that he was told by midwives how important it was to recognise

³⁶ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 12.

³⁷ Emmanuel Lewis *et al*, 'Help for parents after stillbirth', *BMJ*, 1 (1978), 172.

³⁸ Standish, 'The loss of a baby', 612.

³⁹ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 13.

⁴⁰ [Anon], 'Grief and stillbirth', 126.

⁴¹ Interview with Catriona Hendry, 18 June 2015.

⁴² RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 12.

the loss felt by the parents and to say so when he meets them for the first time, and that is why he always starts by saying ‘I’m very sorry about your loss’.⁴³ Standish underlined how difficult the event was for midwives as they had to announce the death if it was not diagnosed before labour or reiterate the announcement, and hand the dead baby to the parents if wanted. Midwives usually witnessed and took part in happy events and giving a healthy living baby, ‘a bundle of joy’ to the parents, but in cases of stillbirths they represented the person who took the ‘last shred of hope’ away as most parents/mothers still hoped despite knowing.⁴⁴ Indeed, a mother interviewed said ‘You go on hoping. Maybe it’ll come alive somehow ... Afterwards, when the nurse brought the baby in and we were able to spend a few minutes alone with him, I suddenly felt this great sense of loss.’⁴⁵

I asked obstetricians and midwives who worked in Scotland in the second half of the twentieth century ‘how did you respond to the bereaved mother/parents and how did you deal with a stillbirth emotionally?’ Dr Mary Hepburn began her training to be an obstetrician in 1978. To this question she replied:

With regards to talking to the women ... I don’t think ... that I felt that I needed to bring somebody else in, I’ve never felt that I couldn’t talk to the women and I’ve always felt that was my human responsibility as well as my medical one, is to talk through – no matter how painful it is for me, whatever’s happened is going to be an awful lot more painful for the woman and it isn’t about my feelings, it’s about hers. So always felt that I could cope with that but it was very nice that there were one or two people that you could talk with, talk it through with, a trainee. And once you became a consultant then it was good to be able to talk to other consultants about ... “would you have done this? Should I have done this differently?” And it became a much more constructive thing, and actually a lot of support then you get from outside, from family and friends ... without breaching confidentiality ... and I guess if you’re deeply religious then you probably get a lot of support from your religion, that’s never one that I’ve used, so.⁴⁶

Ann Glenesk, a midwife at Rottenrow in the 1970s, explained that

The word midwife means “with woman” and I guess ... what I would try to do as a labour ward sister is be with her, to console her. Knowing that you’re fleeting with her this woman has to live with that for the rest of her life, you only see her for a very, very, very short time. But all you can do is let her know you care for her and her family and ... you know thinking about ... she’s got to go home and all this expectation of her coming home with a live baby and she hasn’t got that. She’s to face all the family, extended family, the neighbours and God knows who else, so, all you tried to be was be compassionate ... you would be that woman’s midwife but ... there’s a lot of

⁴³ Interview with Rev. Blair Robertson, 20 March 2015.

⁴⁴ Standish, ‘The loss of a baby’, 611.

⁴⁵ Ibid.

⁴⁶ Interview with Dr Mary Hepburn, 22 January 2016.

other people around so we didn't have any sort of debriefing or ... counselling or what. But I suppose you might say we had informal peer support that we would share. And usually there'd be two midwives, a student and a midwife, and even within that the two of you would talk about it ... Rarely do I remember the doctors maybe, cause they'd have maybe their peer support with other doctors, but as midwives you kind of supported one another.⁴⁷

Those quotations are only two examples but we can see similarities; professionals did not have a proper counselling service but they helped one another when a difficult situation arose. The most important point seemed that during delivery the obstetrician or the midwife only was concerned for the mother, and the father if he was present, and their needs. They would cope with their own feelings later on thanks to peer support, faith or support from friends and family.

Another important person during the delivery was the father, if present; indeed as Standish underlined, during labour, the father's role was felt to be supporting his wife/partner and to make sure she was safe. His own feelings, therefore, seemed to not really have a place in the labour ward as he had to remain strong for the mother. The Working Party committee members believed such a representation had to be changed as the father's feelings also had a place in the labour ward and needed to be recognised. That was why the report emphasised that 'Doctors and midwives should be aware that the father may need help in this difficult situation. He should not be placed in such a position that he feels he should support the mother and suppress his own grief. It should be remembered, however, that he may want to adopt a protective role at this time.'⁴⁸

As underlined previously, before the late 1970s, the stillborn baby was wrapped and hurried out of the labour ward. Attendants believed they were sparing the parents; however, Emanuel Lewis and other psychotherapists believed holding and seeing the dead baby helped the parents to mourn, because in the case of a stillbirth the family was not grieving over a person, but only over a potential person. He compared the feeling to the grief felt by young widows 'who mourn the loss of the future with their husbands rather than the past'.⁴⁹ In the 1978 'Leaflet for Parents whose Child was Stillborn', on the question 'should you see and hold your baby?', the authors stressed that they knew it was a difficult decision to make

⁴⁷ Interview with Ann Glenesk, 3 June 2015.

⁴⁸ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 13.

⁴⁹ [Anon], 'Grief and stillbirth', 126.

but an important one to really think about to make the right choice for the couple/mother. They underlined that ‘The experience of holding your baby even though he is dead may make him a more real person to remember and in this way may help you and your husband’.⁵⁰ Moreover, Ann Glenesk highlighted that

in order to grieve you needed to really know that the baby was dead and for that to happen you had to be able to handle the baby, touch the baby, see that the baby was dead. It’s one thing somebody telling you that your baby is dead but if you’ve never actually seen it that must be very hard to deal with, and take you longer actually to get into the grieving process.⁵¹

Seeing and holding the dead baby would therefore give the parents memories to remember their baby by, as well as the certainty that the baby had been a reality and was dead, and thus might have helped the mourning period.

The Working Party report emphasised that when the baby was delivered

The staff should create an atmosphere which encourages the parents to see and hold their baby. It may help them if the baby is described first by one of the staff. Some may not want to see their baby immediately, but will want to do so later, whereas others will want to see their babies several times. Parents need to be informed that if they do not see their baby they may regret it as it could make mourning more difficult. Those who do not wish to see their baby when asked should be asked again later as they may change their minds. If the baby is macerated or has a severe abnormality the staff should prepare the parents for this.⁵²

The women Standish interviewed who had held or seen their babies did not regret doing so and some were even relieved to have done so as they had imagined much worse than what it really was. That was why the report recommended describing the baby to the parent first. As Catriona Hendry underlined, parents also had a choice on how to see their child, for example they could see him/her directly after delivery or ask the staff to bathe him/her, and they could decide if they wanted the child naked, wrapped in a blanket, or dressed. In that way, if the child had a gross deformity, for example, it could appear less frightening.⁵³ One mother interviewed explained that ‘Although it was dead, your whole maternal instinct of love for that little squashed-up body came out, yet you couldn’t do anything for it’.⁵⁴ Some mothers who had refused to see or hold their baby did not regret this decision, but others

⁵⁰ Lewis *et al*, ‘Help for parents after stillbirth’, 172.

⁵¹ Interview with Ann Glenesk, 3 June 2015.

⁵² RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, ‘Correspondence and papers 1984-86’, RCOG/M16/3, 13.

⁵³ Interview with Catriona Hendry, 18 June 2015.

⁵⁴ Standish, ‘The loss of a baby’, 611.

did. One of the latter highlighted that the only picture she had of her baby was the one from the ultrasound she had during the antenatal period and ‘that’s the only picture I have in my head, and I can still see it’.⁵⁵ Finally, the report emphasised that if the parents/mother decided to see and hold the child, the staff should allow her/them to remain in the labour ward with the child for as long as they wanted, in as much privacy as possible.⁵⁶

Mothers/parents were also offered photographs of their stillborn babies if they so wished. The Working Party report believed a photograph should always be taken so that if parents/mother asked for one, the hospital staff could provide them with one. The photograph, furthermore, should be kept in the file so that even if the parents/mother asked for it months after returning home, the staff could provide the wanted photograph. The report recommended that the photograph should be taken ‘while the baby is still with the parents if they so wish, otherwise it should be taken later’.⁵⁷ The parents/mother could also be given their child’s identity bracelet if they/she so desired.

Maureen Hamilton, a Scottish midwife in the late twentieth century, remembered that ‘I noticed when I came back to work in 1980 there was quite a change from the late 1960s. It was definitely more woman centred then. They were asked their opinions and they were told everything, from start to finish.’⁵⁸ In regards to seeing and holding the stillborn babies, even if it was intended to be a decision taken by the mother or the parents, from the mid-1980s, some psychotherapists urged obstetricians and midwives to strongly encourage, rather than simply suggest, that the parents see and hold their dead baby, supposedly to make sure the mourning process would be easier.⁵⁹ They based their opinion of encouraging family to see and hold their dead baby on surveys of experiences of perinatal death. One of them occurred in Glasgow ‘of seven Glasgow mothers who had not been offered a memento of their dead baby, two had taken something by stealth – a lock of hair and a name band’.⁶⁰ This showed that most women, who had not been given the option to see or

⁵⁵ Ibid.

⁵⁶ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, ‘Correspondence and papers 1984-86’, RCOG/M16/3, 13.

⁵⁷ Ibid.

⁵⁸ Reid, *Scottish Midwives*, 161.

⁵⁹ Stanford Bourne, Emanuel Lewis, ‘Delayed psychological effects of perinatal deaths: the next pregnancy and the next generation’, *BMJ*, 289 (1984), 148; Stanford Bourne, Emanuel Lewis, ‘Perinatal bereavement’, *BMJ*, 302 (1991), 1168.

⁶⁰ Bourne, Lewis, ‘Delayed psychological effects of perinatal deaths’, 148.

hold their baby, desperately needed something to remember that baby by. That was why, then, psychotherapists believed it was better to strongly encourage the mother to see and hold her baby, which they reckoned would prevent them regretting it later if they had not done so.

When Dr Hepburn was asked ‘looking back do you feel that there was a real change regarding stillbirth from a medical perspective in general in the second half of the twentieth century, and in your own practice?’, she replied

I don’t know that there was a huge change in my own practice, but the changes that I did see, and that was nothing particularly to do with changes in legislation, was ... the changing from allowing women a choice of whether they saw the baby, or held the baby, or photographed it... And feeling that they all *ought* to see it and they all *ought* to have photographs and they used to – and Medical Illustration then routinely took photographs of all the babies and they took handprints and footprints and if they’d any hair, they’d save a bit of that. So it was formalised and I think, I’m not sure that it was necessarily an improvement to say that every mother had to see their dead baby ... so I went through three phases: one where they were offered it and they could say yes or no; the phase where they said you will feel better in the future if you have done and therefore you should, and they were very positively encouraged to see the baby; and then when it reverted back to ... probably a much more sensible attitude where they said “it’s entirely up to you what you do.” So, yeah I think there were changes, who knows which were for the better or for the worse?⁶¹

As we can see with what Lewis and Bourne recommended in 1984 and what Dr Hepburn relayed when I interviewed her, the medical practice in the 1980s was not always that woman-centred as medical professionals pushed their agenda, believing they knew better what was best for the woman and her family. Nowadays, there has been a return to the practice from the late 1970s – early 1980s and it is all about what is better for a woman/couple according to that said woman/couple. This can be seen from what the chaplain working in Scotland emphasised:

The most important thing is that ... the mum, the parents of a stillborn are receiving the very, very best of care that’s appropriate to their needs ... what all the staff of NHS really adhere to is to make sure that care is person centred before the family, and that the needs of those families are met with the best of all our ability, whoever actually does meet ... the needs of the family.⁶²

Other aspects around the management of stillbirth changed from the late 1970s onwards without as many variations as occurred for the ‘seeing and holding’ part. For

⁶¹ Interview with Dr Mary Hepburn, 22 January 2016. Emphasis in original.

⁶² Interview with Chaplain., 2 June 2015.

example, just after the delivery, still in the labour suite, if the parents did not know about the stillbirth beforehand or had not yet met a chaplain before labour, the midwife would ask the parents/mother if they/she wanted to have a chaplain to come to give a blessing or perform a naming ceremony. If the mother/parents accepted, the chaplain was called and performed the blessing or naming ceremony. The chaplain working in Scotland explained the difference between the two ceremonies as follows:

A naming ceremony what we would be doing would be valuing the child, valuing the fact that the child has lived in the womb all that time and is here. We would be recognising the loss of the dreams and hopes for the one in the future ... plans that the parents maybe had, had already started ... planning towards the wee ones being there. So a naming ceremony ... we would name the child with whatever name the family has chosen, we would say the child's name, we would say this child is precious and this child was made in love and was very much loved and we're saddened because of hopes and dreams for that child that are not going to become fruition but we recognise just the preciousness of the wee one. So in the naming ceremony there would have no mention of God or heaven or future ... If it was a blessing ceremony, a Christian blessing ceremony, then it would be ... similar in some ways to the naming ceremony but you would recognise the wee one who was brought together in love and we would also recognise in God's love for the wee one we would be recognising that ... the wee one will go to be with God and there's a heaven and there's an afterlife and there's togetherness again We would do, if it's a Christian one, ... a kind of Trinitarian blessing, bless them in the name of the Father, the Son and the Holy Spirit, "we give this wee one over to God".⁶³

As Rev Robertson highlighted, moreover, a blessing ceremony helped 'the parents to say "hello", and giving the baby a name and a blessing it's like we're saying "hello"'.⁶⁴ Psychotherapists believed it was important in order for parents to mourn properly that they should name their stillborn child, thus a naming or blessing ceremony was something to always propose to parents in order to help their mourning process. Furthermore, at the time the Working Party report was published, parents could finally 'register a first name for their baby, but they will need to know that they have to ask specifically for this to be done'.⁶⁵ This was due to the Stillbirth and Neonatal Death Charity (SANDS) who 'successfully campaigned to change the Stillbirth Registration Certificate [in 1982] so that parents could now include the name of their baby'.⁶⁶

⁶³ Ibid.

⁶⁴ Interview with Rev. Blair Robertson, 20 March 2015.

⁶⁵ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 4.

⁶⁶ SANDS, 'History', SANDS, <<http://www.uk-sands.org/about-us/aims-and-objectives/history>>, [accessed 27 February 2014].

When the mother/parents decided to leave the labour ward, the baby was brought to the morgue where an autopsy could be performed if the mother/parents agreed to one and if the reason of the stillbirth was uncertain or unknown. Indeed, Gillian Gau, a pathologist in London, underlined in an article published in 1977 that ‘as high a proportion as 88.5 per cent of diagnoses was largely confirmed may well indicate that necropsy should be undertaken only when the clinical diagnosis is in question’.⁶⁷ I will explain this in more detail in the following chapter, however, the causes of stillbirth in the late twentieth century tended to be less obvious than had once been the case, and therefore, most of the time, obstetricians were unable to explain the reason behind the stillbirth, whether it was antepartum or intrapartum. Both parents and medical attendants wanted to know the reasons, and thus an autopsy could have sometimes given the cause or at least clues to the cause of death, but even after autopsy, the diagnosis for the stillbirth could remain unknown or uncertain. Stillbirth was not the only infant death with probable causes of death that eluded the medical profession, Sudden Infant Death Syndrome (SIDS) was mostly unexplained, and thus autopsy was seen as the only means to provide at least part of the answer for the death of the infant. Indeed, Ferguson underlined that ‘SIDS was solely a post-mortem diagnosis’, and still it did not provide a clear answer for the reason of the death.⁶⁸

Furthermore, Iain Chalmers, the well-known British Health Services Researcher based in Oxford, stressed in an article entitled ‘Inquiry into stillbirths and infant deaths’ in 1989 that, in order to give the parents, as well as the medical community and the Department of Health and Social Security (DHSS), the best possible picture of what went wrong, each region should have had at least one paediatric pathologist by 1990 who would provide a more specialised pathology service. Those findings would have also allowed obstetricians to keep an eye particularly on those specific causes and their symptoms in the subsequent pregnancies of their patients, and other medical professionals on those symptoms in the general pregnant female population and infants with regards to stillbirth and SIDS.⁶⁹

⁶⁷ Gillian Gau, ‘The ultimate audit’, *BMJ*, 1 (1977), 1580-81.

⁶⁸ Angus H. Ferguson, ‘Ignored Disease or Diagnostic Dustbin? Sudden Infant Death Syndrome in the British Context’, *Social History of Medicine*, 28 (2015), 504-05.

⁶⁹ Iain Chalmers, ‘Inquiry into stillbirths and infant deaths’, *BMJ*, 299 (1989), 339-40.

The Working Party report, on the question of autopsy, explained that

It can be very upsetting for the doctor or midwife as well as for the parents when the question of an autopsy is raised; the timing of this discussion is very important and undue pressure should not be put upon parents regarding consent for such an examination. It is often helpful to bring up the possibility of an autopsy when discussing the cause of death with them. It is very important for religious and ethnic views to be respected and Jewish and Muslim parents may refuse an autopsy on religious grounds unless required for medico-legal reasons. A truthful explanation as to why an autopsy is desirable usually results in permission being given particularly if it is pointed out that information obtained may help the management of a future pregnancy ... A limited post mortem examination may give valuable information as to the cause of death and might be acceptable to those parents who do not wish to give permission for full examination. Certain procedures may be done without permission for a post mortem such as the collection of heart blood or cerebro-spinal fluid for culture, but it is wise and respectful to obtain consent wherever possible as such actions can give offence and may be interpreted as a post mortem examination.⁷⁰

A mother interviewed by Standish remembered that ‘They asked me if I wanted a post-mortem, and then, later, if I wanted to see the baby. I thought, would they bring her to me all cut up in a bucket, or in a plastic bag?’⁷¹ This fear was not uncommon, especially since mothers/parents could see their baby as much as they wanted, and that meant in theory that they could visit the morgue to see and hold their baby after the post-mortem had been done, if they had agreed for a post-mortem. Mother/parents could, thus, be worried about the appearance of their baby after the necropsy. That was why the Working Party report believed that the autopsy should be made by a paediatric or perinatal pathologist who would be able to find more information, but moreover the report added that ‘such specialists take great care over the repair of the body so that it can be seen and even held after the examination’.⁷² As mentioned earlier, Chalmers reckoned each region should have a paediatric pathologist by 1990, meaning that at the time the report was published many areas did not have such a pathologist as there were only 10 such pathologists, and as the report underlined, they might not want to come to the hospital where the baby had been delivered. They preferred working in their own facilities where they had access to the specialised tools necessary to perform the best autopsy on an infant. That was why parents could have been asked if they accepted that their baby was sent to another hospital to have the post-mortem done by a specialist.⁷³

⁷⁰ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, ‘Correspondence and papers 1984-86’, RCOG/M16/3, 7-8.

⁷¹ Standish, ‘The loss of a baby’, 611.

⁷² RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, ‘Correspondence and papers 1984-86’, RCOG/M16/3, 8.

⁷³ Ibid.

Autopsy on a stillborn baby, therefore, was most of the time desired by the medical team but should only be done if the mother/parents agreed. Furthermore, specialist perinatal pathologists were more skilled for such necropsies. The lack of such pathologists, nevertheless, sometimes required the baby to be taken away from the hospital at which he/she was delivered. If parents/mother refused the transfer of their baby to the perinatal pathologist's hospital, the post-mortem was carried out by a regular pathologist who might not have been able to find as much information as well as not repair the body as neatly possibly adding to the anxiety and grief of the mother/parents. When the obstetrician received the results, those had to be given to the mother/parents. Those could be given before the mother left the hospital or during a returning visit to the hospital. Whenever, the discussion occurred, the obstetrician must use a non-technical language anyone could understand. Indeed, a mother interviewed by Standish complained that 'They used the words without explaining what they meant'.⁷⁴

In regards to the location within the hospital where a mother who had a stillbirth was placed after delivery, it used to be a decision made by the hospital staff but became a choice made by the mother from the late 1970s onwards. It is still a choice to be made by the woman today. Indeed, a Scottish midwife told Lindsay Reid of an experience she had in the mid-1970s that made her leave midwifery for years before returning in the mid-1980s. She explained that

The only stillbirth that I remember was one that happened to a girl who I had gone to school with ... I was working in the postnatal ward and there she was. I remember treating her kindly but I don't remember anybody else doing so. She was put in a single room and she cried. But then everybody cried. I was told, "Leave her to cry. She needs to cry. She does her crying here and then she won't cry when she goes home". I made a point of going in and talking to her ... Nobody liked what I was doing. I was kept busy so that I would be kept out the way and she went home in a few days ... She was treated just as other girls were treated.⁷⁵

Around the same time as that experience, Rev. David Keddie, a minister in the Church of Scotland, remembered a woman in his congregation who had a stillbirth 'was put into a ward with mothers who'd just had their babies, which was insensitive in the extreme'.⁷⁶

⁷⁴ Standish, 'The loss of a baby', 612.

⁷⁵ Reid, *Scottish Midwives*, 133.

⁷⁶ Interview with Rev. David Keddie, 16 October 2014.

As those two memories show us, mothers were placed where the hospital staff believed was best for both the mother and the staff. From the late 1970s onwards, on the other hand, as the Working Party report underlined, mothers decided where to be placed postnatally; the report stated it would be easier if someone spent the first night with the mother, the father or a close relative or friend, but that it would be wherever the mother wanted to be. If the stillbirth was diagnosed that decision was made before labour, and in the case of an intrapartum stillbirth, women were asked after the delivery. The report recommended that

Wherever possible the mother should be offered the choice of where to be cared for in the maternity unit after the baby's death. Although she may feel apprehensive about going to a postnatal ward, she may find it easier to manage at home if she is not able to cope with meeting other mothers and their babies in hospital. Most mothers, however, prefer to go into a single room initially ... Other mothers will however prefer to share a ward and wherever possible they should be offered the choice. They should always be able to change their minds ... Where there are no overriding medical reasons, mothers should be allowed to decide how long they stay in hospital.⁷⁷

To summarise, in the late twentieth century, it was finally recognised that women were different and therefore there were many different opinions regarding the best place for them postnatally. Thus, the staff should not force women into the place that was thought best for them from a professional point of view.

At the time, usually, mothers would stay in the hospital postnatally for around 10 days. Catriona Hendry explained that in the 1970s for 'a normal delivery of a first baby, you could expect to be in [hospital] for seven to 10 days, if it was a second baby you could maybe be out within about five to seven days, and if you had a Caesarean section you'd be in for a fortnight'.⁷⁸ She then emphasised that 'getting out earlier than that was quite special. You've had to have some very good reason to get out earlier than that'. A mother, who had a stillbirth, thereby, was 'discharged from hospital, as soon as reasonable, to ... "return to normality"'.⁷⁹ Hendry said most of the time those mothers would leave after three days, which 'in those days was regarded as a bit weird'.⁸⁰ The Working Party report

⁷⁷ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 11.

⁷⁸ Interview with Catriona Hendry, 18 June 2015.

⁷⁹ [Anon], 'The abhorrence of stillbirth', 1189.

⁸⁰ Interview with Catriona Hendry, 18 June 2015.

underlined that mothers could return home whenever they wished to. Some might want to return soon after; others preferred to stay for a certain length of time.

Sometimes a mother may need to be helped and encouraged before she will see her family and friends, but occasionally the converse may be true and she may need protection from them. Open visiting creates difficulties in some units, but should be made available. Care should be taken not to put pressure on mothers about when to go home.⁸¹

Mothers, then, should have decided themselves when it was the right time for them to return home without any pressure from their medical team or their family.

Finally, all the management of a stillbirth in this part was based on hospital delivery as the vast majority of births occurred in hospital in the late twentieth century. Home delivery, nevertheless, still occurred in a small percentage of cases. The Working Party report also wrote a short paragraph on stillbirths at home:

When a baby is stillborn at home, apart from the distress felt by the parents and the professionals, there may be other problems. The question will always be asked “Could the tragedy have been avoided had the delivery taken place elsewhere?” It is important for the professionals to help prevent the parents from blaming themselves.⁸²

It would seem that most stillbirths delivered at home were undiagnosed stillbirths, and were most infrequent. Management of a stillbirth was therefore planned around hospital deliveries, and mothers who delivered a stillborn baby at home might have been offered to be transferred to the hospital with their stillborn child.

III) Registration, funerals and changes in religious perspectives

Fetal deaths from 28 weeks’ gestation onwards were required legally to be registered since 1939 in Scotland and since 1926 in England and Wales as explained in the first and second chapters. This had to be done within 21 days of the stillbirth in Scotland and therefore, most of the time this responsibility fell on the father’s shoulders. Indeed, Standish highlighted that ‘Some husbands felt overcome by grief early on and were then bewildered

⁸¹ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, ‘Correspondence and papers 1984-86’, RCOG/M16/3, 11.

⁸² *Ibid.*, 15.

by the process of registering the baby and organising the funeral'.⁸³ Regarding the funeral, an editorial published in the *Lancet* in 1977 emphasised that

Mourning may also be hampered if well-meaning hospital administrators take over all decisions about disposal of the body. Sometimes parents are not consulted about the burial or cremation ... Participation in these arrangements is important for bereft families and also provides an occasion for the hospital staff to meet the family and to talk.⁸⁴

Funerals were considered extremely important for the process of mourning because as SANDS and Rev Robertson emphasised, whereas a blessing ceremony is to say “hello” to the baby, the funeral is to say “goodbye”. Rev Robertson explained that ‘I often begin a funeral service by saying “we’re here to say goodbye, but we are saying goodbye when we’ve barely said hello” and there’s that sense of saying “hello” but it’s “goodbye” at the same time’.⁸⁵

That was why the Working Party report emphasised the importance of each maternity ward or unit having a bereavement officer and a bereavement deputy in order to assist, not decide for, parents in the legal procedures and the options available to them in regards to funerals. The officer or deputy had to know about all the possible options available around the location where they were based to help parents choose the best option for them and their stillborn baby.⁸⁶ Parents might not know what the options were nor know what they consisted of and therefore make rushed decisions, which they later regret. Indeed, one of the fathers Standish interviewed in the early 1980s, who had a stillborn baby, explained that ‘I didn’t know in asking for a hospital burial what exactly I was arranging, and whether we would regret it in six months’ time.’⁸⁷

Parents who had a stillbirth usually had two main options, either having a funeral arranged by the hospital or making private arrangements. The first option did not cost anything to the parents because, as the Working Party report underlined, ‘unit administrators are directed by the [DHSS] to meet the cost of any stillborn baby’s funeral if

⁸³ Standish, ‘The loss of a baby’, 611.

⁸⁴ [Anon], ‘The abhorrence of stillbirth’, 1189.

⁸⁵ Interview with Rev. Blair Robertson, 20 March 2015.

⁸⁶ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, ‘Correspondence and papers 1984-86’, RCOG/M16/3, 3.

⁸⁷ Standish, ‘The loss of a baby’, 611.

arranged by the hospital'.⁸⁸ Hospital funerals for stillborn babies consisted of 'a plain white coffin, proper transport to a local cemetery and burial or cremation'; however, if the parents picked this form of burial, the stillborn babies would be buried in a common grave.⁸⁹ Indeed, the Working Party report emphasised that 'It should be made clear to the parents that the grave is a common one in which adults may also be buried; this is particularly important in order that they may know what to expect. The grave may in fact have to be left open for some considerable time as it may have to accommodate several babies'.⁹⁰

Surprisingly, when compared with the feeling towards stillbirth at the time this article was published and hence what I have been highlighting throughout this chapter, Dr Sunderland, practising in Sheffield, stressed in 1981 that

Neonatal deaths are more common among young parents of low social class. Such parents often have considerable financial problems in preparation for the arrival of a baby, yet they may be unwilling to have a common grave for their child. An awareness of these problems may have encouraged some doctors to register some early neonatal deaths as stillborn⁹¹

as they 'would find it easier to accept a stillbirth than the death of a liveborn baby', they would therefore have accepted more easily to have the hospital arrange the funeral of the baby and thus have the baby buried in a common grave.⁹² This belief is quite unusual for the 1980s and was contested. In response to this article, Emanuel Lewis pointed out that

If Dr Sunderland is correct and some very early neonatal deaths are being incorrectly registered as stillbirths to avoid emotional distress or financial loss to the parents, this practice is to be deplored. Stillbirths are very difficult to mourn: even a fleeting life after birth may give a baby a reality to the bereaved parents which facilitates mourning.⁹³

Indeed, as the Stillbirth and Perinatal Death Association (later SANDS) had advocated since the late 1970s, stillbirth provoked an emotional distress for parents that should not have been regarded as less important or less distressing than the one felt by parents who had a neonatal death. As Rev Robertson pointed out, 'In a sense the experience

⁸⁸ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 4.

⁸⁹ *Ibid.*, 5.

⁹⁰ *Ibid.*

⁹¹ R. Sunderland, 'Depressing effect of burial charges on vital statistics', *Lancet*, 318 (1981), 309.

⁹² *Ibid.*

⁹³ Emanuel Lewis, 'Depressing effect of burial charges on vital statistics', *Lancet*, 318 (1981), 421.

of the parents is all the same whether it's at 20 weeks or 28 weeks or 30 weeks'.⁹⁴ That was why Lewis suggested that parents who had a stillbirth might prefer to privately arrange the funeral of their stillborn baby. He believed that this would help the parents to mourn.⁹⁵ Privately arranged funerals, however, did not receive any financial help from the Government and parents were made aware of this as the cost of a funeral could be quite expensive.⁹⁶ Indeed, Dr Sunderland highlighted that 'Stillbirths or neonates can be buried privately in a marginal grave for about £25, but this means no mourners, no cars, no church service, and a [plain] coffin. Even a simple burial with two cars, a church service, a marked grave, and a small gravestone will cost £280.'⁹⁷ The Working Party report explained that for a stillbirth, a private funeral would have cost between £25 and £500 according to the kind of funeral the parents had chosen as well as whether or not the undertakers chosen by the parents were sympathetic towards the stillbirth.⁹⁸ To conclude, parents needed to know about every aspect of both options in order to make a decision on the best option for them and their stillborn baby, and that was why the presence of a bereavement officer and/or deputy was essential to help parents.

Furthermore, the funeral, whether arranged privately or by the hospital, could have a service either conducted by a religious representative chosen by the parents according to their faith or conducted by the hospital chaplain.⁹⁹ Hospital chaplains, despite being employed by a church during the period studied, nevertheless, could also provide a non-religious service if parents wished.¹⁰⁰ Chaplains could also help parents in their choice for the funeral by giving 'advice regarding undertakers who are willing to provide a funeral at low cost'.¹⁰¹ Finally, when I asked Rev Robertson if parents tended to choose burial or cremation when they had a stillbirth, he replied as follows:

⁹⁴ Interview with Rev. Blair Robertson, 20 March 2015; Rosemary Elliot, 'Miscarriage, abortion or criminal feticide: Understandings of early pregnancy loss in Britain, 1900-1950', *Studies in History and Philosophy of Biological and Biomedical Sciences*, 47 (2014), 248.

⁹⁵ Lewis, 'Depressing effect of burial charges on vital statistics', 421.

⁹⁶ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 4.

⁹⁷ Sunderland, 'Depressing effect of burial charges on vital statistics', 309.

⁹⁸ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 6.

⁹⁹ *Ibid.*, 5.

¹⁰⁰ *Ibid.*

¹⁰¹ *Ibid.*, 6.

Oh now ... it is possibly slightly more cremation ... We had a [lead] midwife here [at the Southern General Hospital] some years ago ... who handled the vast majority of the losses, and she would always encourage couples to go for a cremation and not burial and that's all that remained with me. Couples who're unsure about cremation or burial, I will explore with them what the options might mean for them. And one of the things there is that, with a burial, mums particularly find hard to leave the baby behind if they need to move away from the city or if they emigrate or get a job elsewhere in Scotland, there's a real sense of 'I can't leave my baby behind, my baby's in that cemetery there.' And that bond is really powerful ... With cremation it's not the same because the couples can get the ... remains after cremation if they want ...¹⁰²

Indeed, cases of parents having to move but refusing to leave behind their child happened and that was why there was a possibility to plead in front of a court for the disinterment of a body. In Glasgow, for example, in 1981, Mr Hugh MacAskill Noble and Mrs Frances Noble had a stillbirth. It was their first child as a couple, but each had children from previous marriages. They buried the stillborn baby in the Western Necropolis. In 1983, they pled to have the corpse removed from the Western Necropolis in order to have it cremated at the Maryhill Crematorium as they were leaving Glasgow and did not want to leave the child behind. The court statement highlighted that 'The female Pursuer has suffered from emotional and nervous depression since said stillbirth and it is considered that the course proposed would benefit her health. After such cremation the Pursuers would propose to uplift the ashes of said child to be scattered at some appropriate place of family associations still to be decided.'¹⁰³ The Court granted them their demand.

As we can see with this example, burying a stillbirth could make moving more difficult for parents than cremation does. For certain faiths, nevertheless, such as Judaism and Islam, cremation has never really been an option by tradition or according to the scriptures, and for Judaism even more so since the Holocaust, and thus for them burial remains the option of choice for any funeral, even for a stillbirth.¹⁰⁴ Most Scottish towns with a strong Jewish community have a reserved area within one or several cemeteries for Jews. Those, then, are under the local authority's jurisdiction as they are located within local authority's cemeteries. Indeed, Rabbi Kate Briggs explained that in Glasgow the Reform Jewish Movement had bought their own lands within the cemetery but the cemetery

¹⁰² Interview with Rev. Blair Robertson, 20 March 2015.

¹⁰³ NAS, *Hugh MacAskill Noble and Mrs Frances Noble*, SC36/9/1983/345.

¹⁰⁴ Interview with Rabbi Kate Briggs, 25 June 2015; Ahmed Kuuty, 'What is Islam's viewpoint on cremation?', *Islam Stack Exchange* (originally on *Islam Online*), <<http://islam.stackexchange.com/questions/1729/is-cremation-permitted-in-islam>>, [Accessed 04 April 2017]; [Anon], 'Where to bury dead fetus?', *Islam Web*, <<http://www.islamweb.net/emainpage/index.php?page=showfatwa&Option=FatwaId&Id=86376>>, [Accessed 03 April 2017].

itself is a Council cemetery. In Glasgow, there are Jewish sections in several cemeteries; for the Glasgow Reform Congregation, it is located in Cardonald cemetery, while for the Orthodox Congregation it is located in Glenduffhill cemetery.¹⁰⁵

To return to the Nobles' case, it also shows how important it was for parents to properly mourn their stillborn child, as hampering the mourning process could leave the parents in a state of constant depression. That was why from the diagnosis until years after the stillbirth, mothers/parents should be able to speak with the team that followed her/them whenever they desire, but the members of staff could also refer the mother/parents to a psychotherapist if they felt it would be beneficial or could propose her/them to join a support group such as the ones organised by SANDS. The latter started with two women who had had a stillbirth, as explained previously, but by 1991 SANDS had more than 200 self-help groups throughout Britain.¹⁰⁶ Mourning for a stillbirth had similarities with 'regular' mourning but also had some aspects unique to stillbirth, perinatal death and intrauterine death. Indeed, as explained earlier, the difference with other kinds of mourning is that the mother, parents and family have not been grieving for a loved one after a long and happy life but for a little one that was going to be, for whom they had plans and wishes. On the other hand, people, as for other kinds of mourning, mourned differently from one another.

Hand in hand with the funeral, if the parents had a faith, came the questions of where the baby's soul was going or what was happening to the soul. The change of attitude towards stillbirths in the late-1970s onwards also influenced some of the religious pastoral care and theologies. Indeed, Rev. Malcolm Cuthbertson from the Church of Scotland highlighted that there has been in the late twentieth century an evolution of the doctrine in regards to 'the Will of God'. He pointed out that nowadays parents would no longer accept the theory of the 'Will of God' when they had lost an infant or had a stillbirth.¹⁰⁷ This idea sounds inhumane and unbearable to bereaved parents or families and hence is no longer used when families seek religious counselling. The idea of the Will of God/Allah, on the other hand, has remained a practiced and accepted theory. Indeed, in January 2003, a man

¹⁰⁵ Interview with Rabbi Kate Briggs, 25 June 2015

¹⁰⁶ Bourne, Lewis, 'Perinatal bereavement', 1167.

¹⁰⁷ Interview with Rev. Malcolm Cuthbertson, 24 October 2014.

asked on the *Islam Web* what he could say to his sister for comfort after she lost a baby in the neonatal period. The answer began as follows:

No doubt that what happened to your sister is among the many trials from Allah on His believing servants. So, if the person remains calm and patient for the sake of Allah ... no doubt Allah will raise his rank and will grant him something better than what He took. But when they get angry from what Allah predestined for them, Allah gets angry them with ... On the other hand, the person's opposition to what Allah predetermined does not change anything as Allah does what He wishes.¹⁰⁸

We can see, therefore, Muslim beliefs in the Will of Allah and that even in the early twenty-first century this theory was used to explain stillbirth and neonatal deaths.

To return to the Church of Scotland, as Rev. Keddie highlighted, in this Church's belief, God is love. He explained as follows:

I would say that the position of the Church of Scotland has been that God's love is unconditional and no matter when a child dies they will be looked after by God, and I think that's all we can say. That's all I would want to say. I don't think you can say it's going to Heaven or it's not going to Heaven, I don't think you can say that about infants ...¹⁰⁹

As God is love, it would seem that for the Church of Scotland, God welcomes stillborn babies into His realm. Regarding Islam, stillborn babies have always been believed to join Allah in the afterlife. Indeed, in the case aforementioned, the Muslim authority figure replying to the man emphasised that several verses mentioned that stillborn babies and neonates are sent directly to paradise, and moreover, their mothers are also granted paradise through the umbilical cords.¹¹⁰

On the other hand, for Roman Catholics, the place of stillborn infants in the afterlife is quite different. In 1995, Raymond Mills from Edinburgh wrote to the *Lancet*, 'In the case of stillbirths (I have had two) the [Catholic] Church does not recognise the stillborn child as a human being. It gives no blessing and makes no ceremony or ritual – in short, will have

¹⁰⁸ [Anon], 'Fate of the stillborn', *Islam Web*, <<http://www.islamweb.net/emainpage/index.php?page=showfatwa&Option=FatwaId&Id=85445>>, [Accessed 04 April 2017].

¹⁰⁹ Interview with Rev. David Keddie, 16 October 2014.

¹¹⁰ [Anon], 'Fate of the stillborn', *Islam Web*, <<http://www.islamweb.net/emainpage/index.php?page=showfatwa&Option=FatwaId&Id=85445>>, [Accessed 04 April 2017].

nothing to do with it.’¹¹¹ Those babies were therefore believed to go to Limbo that is ‘understood as a state which includes the souls of infants who die subject to original sin and without baptism’.¹¹² It was not until 2007 that the Roman Catholic Church changed their theology after an international commission on the question and declared that ‘there are reasons to hope that God will save these infants precisely because it was not possible ... to baptise them in the faith of the Church and incorporate them visibly into the Body of Christ’.¹¹³

Many of the other faiths/religions present in Glasgow in the twentieth century, such as Judaism or Unitarianism, do not have a set theology on the afterlife, thus there has been no need to change the theology regarding the place of stillbirth in that afterlife.¹¹⁴ Indeed, Dr. Kenneth Collins explained to me that for Judaism the afterlife is not where life is lived. The idea of afterlife in the Jewish tradition, therefore, is not as well developed as in the Christian faith; it is not regarded as a better place, and as Rabbi Briggs emphasised, the belief in the afterlife is a personal one in Judaism; some believe in an afterlife, others do not.¹¹⁵ Since the seventeenth century, a movement within the Jewish faith has been created, Hasidism, which has had a more joyful perspective regarding the afterlife. Indeed, it believes in the recycling/transmigration of souls, meaning a soul has several lives.¹¹⁶

The aforementioned movement, Hasidism, has similarities with Buddhism that also believes that a soul has many lives and that one should prepare for one’s future life during the present life. After one’s death, the soul does not die but transfers, and it either waits or is directly reborn for a new life according to one’s karma. In Buddhism, furthermore, stillbirths are no different than other deaths; indeed for them, life begins at conception, and therefore a stillborn baby has just had a really short life but would be reborn as anyone else. Gen Kelsang Machig, a Buddhist nun/teacher, explained that

¹¹¹ Raymond Mills, ‘Crossing the threshold of credibility’, *Lancet*, 345 (1995), p. 729.

¹¹² International Theological Commission, ‘The Hope of Salvation for Infants who Die without Being Baptised, 19 January 2007’, *Vatican*,
<http://www.vatican.va/roman_curia/congregations/cfaith/cti_documents/rc_con_cfaith_doc_20070419_un-baptised-infants_en.html>, [Accessed 21 April 2016].

¹¹³ *Ibid.*

¹¹⁴ Interview with John Clifford, 3 February 2015; Interview with Dr Kenneth Collins, 14 May 2015.

¹¹⁵ Interview with Dr Kenneth Collins, 14 May 2015; Interview with Rabbi Kate Briggs, 25 June 2015.

¹¹⁶ Interview with Dr Kenneth Collins, 14 May 2015.

The life begins at conception I believe, and in the womb, so a stillborn baby has obviously had a very short life. But we don't see it as ... different from a death after year, two years, it's a very short life. Now the reason for that short life, we don't know, it is beyond our understanding. It is a karmically defined lifespan. So, some people might think that for that child is that negative karma ripening because it's had a short life. But you could think, it's maybe a short life ... that's difficult and it could be going sooner to a better life...¹¹⁷

Gen Kelsang Machig, thus, prefers believing that a stillbirth was to prevent suffering and the child was spared that suffering, instead of explaining it on the lines that in a past life that soul had cultivated such a strongly negative karma that when it was ripened it resulted in a stillbirth. Moreover, she underlined that 'I mean Buddhist teachings although it's 2,500 years old it doesn't change. I mean we have to move with the times ... and speak and counsel in appropriate way ... but the basis of Buddhist philosophy doesn't change'.¹¹⁸ Buddhist theology, therefore, has been the same since its creation; the pastoral care on the other hand has been evolving according to the society and culture of the country where this faith has been practised.

This has also been the case for other religions and faiths. Indeed, Dr Collins pointed out that social attitudes evolved towards stillbirth in Jewish communities as the perspective on this matter has evolved in the general society. In the case of stillbirth, a medical/rational explanation is given to the bereaved family as the reason for this tragic event, and thus there is no mention of any will of God.¹¹⁹ Traditionally, according to the Jewish Law, a life was not a life before it had reached 30 days and thus a stillbirth, for example, should not be mourned. With the development of medical technologies and the progress involved, nevertheless, stillbirth has been felt highly emotive and mourning has been felt a necessity for congregants in both Orthodox and Reform Judaism. Jews now defined life on the following line: life is a life as soon as half the body of the child has emerged, as it is found in the Torah and Jewish Law. Jewish stillborn children, hence, are allowed a funeral and, compared to what has been frequently seen in Scotland, Jewish stillborn children have always been buried in a private grave instead of communal grave.¹²⁰ Rabbi Briggs, finally, who is also a hospital chaplain in Glasgow, stressed that the fixed phrase any Jew would say to another when a death happens, 'may their memory be for a blessing', fit perfectly for a stillbirth and is a really powerful phrase, and she always tells it to parents in the hospital

¹¹⁷ Interview with Gen Kelsang Machig, 28 November 2014.

¹¹⁸ Ibid.

¹¹⁹ Interview with Dr Kenneth Collins, 14 May 2015.

¹²⁰ Interview with Rabbi Kate Briggs, 25 June 2015.

she works in or in her congregation.¹²¹ In regards to the Church of Scotland, Rev Keddie highlighted that

I had a wee look at the Church of Scotland website and I looked back through some reports after you were in touch with me and the issue [of stillbirth] is hardly ever touched on, other than in terms of pastoral care. And ministers [nowadays] are better I think, at understanding where mothers go through and the sense of bereavement and postnatal depression that they can have.¹²²

The training to become a Church of Scotland minister used to not mention stillbirth at all; nowadays, future ministers are at least trained to provide proper pastoral care in the event of a stillbirth.¹²³

Islam's definition of a stillbirth have always been: a fetus who had at least reached four months in his/her mother's womb but never breathed, meaning they have always acknowledged stillbirth as any other deaths. Therefore most Muslim scholars agree that stillborn babies should be offered a proper burial, but some disagree regarding the prayers and washing done for other Muslims' deaths.¹²⁴ According to most Muslim authorities, nevertheless, those should be performed, in accordance with some of their texts and verses.¹²⁵ Finally, in 2014, in an answer to the question 'What is done with a fetus if it died before it was born?', the respondent stressed that condolences should be offered to parents of a stillbirth and that those parents should give a name to their stillborn child, aspects which were not mentioned in replies on the same theme in the early 2000s.¹²⁶

¹²¹ Ibid.

¹²² Interview with Rev. David Keddie, 16 October 2014.

¹²³ Interview with Rev. Blair Robertson, 20 March 2015.

¹²⁴ [Anon], 'Burial of Stillborn Children', *Islam Web*, <<http://www.islamweb.net/emainpage/index.php?page=showfatwa&Option=FatwaId&Id=84998>>, [Accessed 04 April 2017].

¹²⁵ [Anon], 'Burial of Stillborn Children', *Islam Web*, <<http://www.islamweb.net/emainpage/index.php?page=showfatwa&Option=FatwaId&Id=84998>>, [Accessed 04 April 2017]; [Anon], 'What is done with a fetus if it died before it was born?', *Islam Web*, <<http://www.islamweb.net/emainpage/index.php?page=showfatwa&Option=FatwaId&Id=154491>>, [Accessed 04 April 2017].

¹²⁶ [Anon], 'What is done with a fetus if it died before it was born?', *Islam Web*, <<http://www.islamweb.net/emainpage/index.php?page=showfatwa&Option=FatwaId&Id=154491>>, [Accessed 04 April 2017].

IV) Management of the mourning, other children and subsequent pregnancy

To return to the management of stillbirth *per se*, mothers/parents may blame the medical team for the stillbirth but they, especially mothers, frequently blamed themselves for the death of their child. Indeed, the authors of the 1978 'Leaflet for Parents whose Child was Stillborn' highlighted that 'Some feel angry; others reproach themselves, and many women after a stillbirth feel inadequate and a failure as a woman'.¹²⁷ As the editorial 'the abhorrence of stillbirth' stressed, moreover, 'the wound to self-respect can precipitate depression, frigidity, and phobic states'.¹²⁸ As the 1978 leaflet pointed out, some mothers/parents might need to talk about their stillborn baby while others refuse to mention it or speak about it, and that was why the Working Party report believed that, especially for parents/mothers who did not feel able to speak, they 'sometimes need to talk about the plans they made for a live baby before they can bring themselves to talk about the one that has died'.¹²⁹ The mourning process could be helped if mothers/parents talk about it, but if they could not face to speak about it, Bourne and Lewis underlined that parents 'are helped if staff can share in th[e] process and thereby help to initiate mourning'.¹³⁰ That was why being able to see and hold their baby, to give her/him a name, and to have a funeral were options available to parents but Bourne and Lewis believed if parents chose to see, hold, name and organise a funeral, those could also help the process of mourning.

After a stillbirth was diagnosed at or after delivery, the Working Party report emphasised the importance 'that the mother's case notes are clearly marked that the baby has died so that mistakes are not made when she returns to the hospital'.¹³¹ The mother's case note, furthermore, needed to be shared with the mother's general practitioner as well as the mother's domiciliary medical team. Mistakes could easily happen, as it is apparent from some of the testimonies collected by Standish. One woman described as plump

¹²⁷ Lewis *et al*, 'Help for parents after stillbirth', 173.

¹²⁸ [Anon], 'The abhorrence of stillbirth', 1189.

¹²⁹ Lewis *et al*, 'Help for parents after stillbirth', 172; RCOG Archive, *Working Party on stillbirth & neonatal death & management of perinatal deaths, 1978-1986*, 'Correspondence & papers 1984-86', RCOG/M16/3, 13.

¹³⁰ Bourne, Lewis, 'Perinatal bereavement', 1167.

¹³¹ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 12.

was particularly hurt when, shortly after her baby's death, a staff nurse appeared and said "Now, when are we going to deliver this baby?" A health visitor arrived two weeks after this mother's return home "to check on the baby" and months later after sending a donation to the S.C.B.U. [Special Care Baby Unit], she received a letter of thanks with the postscript, "Hope your baby son is doing well".¹³²

In order to prevent such painful experiences, the medical team surrounding the mother, both in the hospital and on the district, needed to know about the stillbirth to avoid any mistakes and thus to sound insensitive.

When the mother was to leave the hospital, the guidelines emphasised that the hospital team should try their best to keep contact with her/them as the mourning process was to be a long one and it was the hospital team's duty to be sure the mother/parents were physically, emotionally and mentally healthy. The team should have made it clear to the mother/parents that they could come back whenever they felt the need to. The Working Party report, furthermore, emphasised that 'It is helpful if contact can be kept with the person the mother knew best in the unit, for example, the midwife who delivered her baby'.¹³³ The hospital team should pay attention to both the mother and the father, if there was one in the picture. Bourne and Lewis underlined that 'the father may be more affected than the mother and become overburdened by the expectation that he must be a support to his wife' when in hospital and when she returned home.¹³⁴ His feelings and mourning process, therefore, should not be overlooked and should be given as much attention as the mother's, as it was a necessity for both parents to mourn properly in order to prevent further psychiatric problems. The Working Party report highlighted that mothers/parents might have found it extremely difficult to go to the outside world where they would have to answer questions about the absence of their baby, as well as where they would see mothers and babies, and therefore might require someone to support them, especially for the mother's first excursion.¹³⁵

¹³² Standish, 'The loss of a baby', 612.

¹³³ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 12.

¹³⁴ Bourne, Lewis, 'Delayed psychological effects of perinatal deaths', 147.

¹³⁵ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 12.

The hospital team should have been there for the mother/parents; and they should have also recognised when the mother/parents needed more help. Indeed the Scottish chaplain explained that they would offer counselling but

I would not say that I'm doing that as *a* counsellor but I'm doing that as a hospital chaplain who offers grief and bereavement support following a death. I would refer people on because obviously I couldn't sustain bereavement support for every funeral person I have done but I would always try and have some kind of follow up after a death to provide some bereavement support. Normally it would maybe be meeting once afterwards is enough, sometimes people might need maybe two or three occasions, but if it was getting where they weren't coping and I couldn't sustain support and I would be saying to them maybe their GP service could be able to refer you to a counselling service or something, which we're not professionally.¹³⁶

This quotation shows us how it is done today, but it was similar in the late twentieth century, except parents might have been advised to be referred to a psychotherapist or to join a self-help group more frequently by their obstetrician or midwife than the hospital chaplain. Mother/parents, therefore, could have had the possibility of talking to a specialist or people who went through the same experience if they seemed to require it or wished for it. Bourne and Lewis highlighted that if during the subsequent visits, the medical team witnessed 'danger signals such as persistent self reproach, marital discord, or an impression of clinging to the loss and to grievances', the mother/parents had to be referred to psychotherapeutic support as her/their mourning process had become unhealthy and ineffective and thus were getting deeper in her/their grief instead of getting better.¹³⁷ Bourne and Lewis, however, did not provide a time frame as to when mourning stopped being healthy and had turned into an unhealthy process, meaning it was different for each person, the medical team should judge according to the mother's/parents' personality and individual case.

Finally, even if the mourning process was going quite 'normally', the 1978 leaflet underlined that 'It can help to make a marriage deeper and stronger if parents share their grief'.¹³⁸ Furthermore 'When parents feel depressed, talking to another parent who has suffered a stillbirth can help'.¹³⁹ That was why the Working Party report stressed that 'Many parents have found great comfort and support from members of local self-help

¹³⁶ Interview with Chaplain., 2 June 2015. Emphasis in original.

¹³⁷ Bourne, Lewis, 'Perinatal bereavement', 1167.

¹³⁸ Lewis *et al*, 'Help for parents after stillbirth', 172.

¹³⁹ Ibid.

groups. Many maternity hospitals have links with SANDS ... Parents should be given the address of any local self-help group' when the mother was going back home.¹⁴⁰ Parents/mothers, moreover, could have found comfort in the self-help groups and other services offered from SANDS even if the stillbirth occurred years ago. Indeed, some parents/mothers who had a stillbirth before the late twentieth century, and thus had their stillborn baby swept away from the labour ward just after delivery and the burial organised by the hospital without consulting them, felt an emptiness because the mourning process had been jeopardised due to the questions left unanswered about the stillborn baby. SANDS in the 1980s helped those parents by requesting to trace unmarked graves if possible so that parents/mothers could know where the corpses of their stillborn babies lay.¹⁴¹

Another service offered by SANDS as well as other organisations opened to all that went through a stillbirth or a neonatal death was a remembrance service. Those are still practised nowadays every two years in partnership between SANDS and hospital chaplains throughout Britain. Rev. Robertson told me about the first remembrance service he led in the 1990s and the SANDS services he has been organising as follows:

When I got involved ... in Falkirk, my first involvement really was when the Co-Operative Funeral Society donated a memorial headstone to the cemetery in memory of babies ... who were stillborn, and there was a desire for a headstone in the cemetery to be dedicated in a religious service, so myself as a hospital chaplain was asked to go along and do that. So I created a ceremony, a service for that, and honestly about 60-80 people came to the cemetery for the marking of this headstone there, a very public acknowledgment that these losses happened. This would've been about 1995-1996 perhaps. What strikes me was there were a number of older women there, women in their 60s, 70s, 80s, some of whom said to me "I lost my baby you know 40 years ago, I've had nowhere to go until now." It broke my heart! "I've nowhere to go to until now to say goodbye or to remember." Every two years we do a SANDS service here in Glasgow. SANDS make it happen; we help it to happen by organising the service and leading the service. One of the powerful things we do in that service is that parents are about to come forward and lay a rose on the steps at the front of the church inside, the chancels steps, and again you see people coming forward who are older people, older women, you know laying their rose down, like what's their story? Here they are remembering a loss they had maybe 50-60 years ago, and in that time there were no ways they could mark that loss, no knowledge at all.¹⁴²

SANDS, therefore, offered services that helped both parents/mothers who just had a stillbirth but also mothers/parents who had been traumatised by the stillbirth they went

¹⁴⁰ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 12.

¹⁴¹ Bourne, Lewis, 'Delayed psychological effects of perinatal deaths', 148.

¹⁴² Interview with Rev. Blair Robertson, 20 March 2015.

through years ago but could not mourn properly as their traumatism and loss had not been recognised.

All the guidelines and advice mentioned throughout this chapter could work for both single and multiple pregnancies. Emanuel Lewis and Elizabeth Bryan, psychotherapists in London, nevertheless, highlighted that, in the case of a stillbirth in a multiple pregnancy where the other sibling or siblings survived, the management of stillbirth should be slightly different than for a single pregnancy. Indeed, in the case of a twin pregnancy, the mother/parents have to deal with the mixed feeling between the joy they felt for the live birth but at the same time the grief for the stillbirth. Indeed, Lewis and Bryan pointed out that

When one twin survives and the other dies, not only the bereaved but also those who care for them are faced with contradictory psychological processes. The celebration of the birth of the live baby and the increasing emotional commitment of the mother contrast with the opposing processes of sorrowful relinquishment and of coming to terms with the painful emptiness of stillbirth.¹⁴³

Due to that mixed feeling, the mourning process could be compromised in two different ways. Either the mother/parents, giving all her/their energy to the live baby in order to provide effective nurturing, could have unintentionally postponed the mourning process for the stillborn child and, as Lewis and Bryan underlined, ‘if not resumed later they may give rise to the various syndromes of failed mourning’.¹⁴⁴ Or the mother/parents could have been unable to postpone the mourning process and therefore had been unable to nurture the live baby.¹⁴⁵

The stillbirth in a multiple birth should, also, not be minimised. Indeed, Lewis and Bryan stated that

Trite comments such as “At least you have one healthy baby” will cause pain and resentment. No parents can be expected to find comfort for the death of one child in the survival of its healthy sibling. Yet parents of a surviving twin are often made to feel guilty about their grief. They should be helped to voice this guilt and to acknowledge their confused feeling.¹⁴⁶

¹⁴³ Emanuel Lewis, Elizabeth Bryan, ‘Management of perinatal loss of a twin’, *BMJ*, 297 (1988), 1321.

¹⁴⁴ *Ibid.*

¹⁴⁵ *Ibid.*

¹⁴⁶ *Ibid.*, 1322.

The two psychotherapists also stressed that even if the death of one of the babies helped the other(s) survive until delivery, this should not have been implied to the mother/parents as it was too painful to hear. They shared the story of a ‘mother who had lost one of her triplets [who] made particular efforts never to look harassed or untidy as she dreaded people saying “Well, three would have been too much to cope with”’.¹⁴⁷

Bryan and Lewis highlighted that mothers who had a multiple pregnancy felt a sense of pride (conscious or unconscious) for succeeding to conceive two or more babies when most women only had one. When one of the babies was stillborn, then, ‘there can be a fall from grace into a deep sense of shame’.¹⁴⁸ On the other hand, those mothers, despite having lost one of them, still considered themselves ‘a mother of twins (or more)’.¹⁴⁹ Indeed Bryan and Lewis shared the story of a mother of twins, of whom one was stillborn. Two years later, she said ‘to a group of similarly bereaved mothers, almost as a confession, “I think I am coming to terms with S’s death; I shall never come to terms with not being a mother of twins.” All present agreed.’¹⁵⁰ Lewis and Bryan, thus, emphasised that ‘Many mothers who had a higher order birth deeply resent the labelling of their surviving children as, say, triplets when they were born members of a quadruplet set’.¹⁵¹ That was why Lewis and Bryan believed photographs of all the babies should be taken, separately as well as together, ‘to give as satisfactory and complete a memory as possible of the [stillborn] baby and of the multiple birth’.¹⁵² That allowed parents to have tangible proof of the baby they lost but also that the surviving sibling had a twin brother or sister with whom he/she had shared a womb and/or placenta for around nine months and that it had not gone unnoticed.

Furthermore, in order to prevent the two scenarios mentioned above of inadequate mourning, Prof John Davis emphasised the importance for the mother/parents to ‘have a “good enough” experience of her[/their] dead twin, sufficient to establish as clearly as possible in her[/their] mind the reality of the life and the death of the baby’.¹⁵³ Similar to single stillbirths, the mother/parents should be offered the possibility to hold and see the

¹⁴⁷ Ibid.

¹⁴⁸ Ibid.

¹⁴⁹ Ibid.

¹⁵⁰ Ibid.

¹⁵¹ Ibid.

¹⁵² Ibid.

¹⁵³ Emanuel Lewis, Elizabeth Bryan, ‘Management of perinatal loss of a twin’, *BMJ*, 298 (1989), 184.

stillborn child, but she/they should also be able to hold the two babies together, as well as to have photographs, to have a blessing or naming ceremony and organise/attend a funeral. Prof Davis believed those experiences would have helped the mourning process and the mother/parents could 'then try to give the live baby her[/their] unhampered attention, to return periodically later to her[/their] work of mourning'.¹⁵⁴ He also highlighted that 'Sometimes fathers and mothers can alternate their tasks of caring and grieving. Sometimes a grandmother, sister, or friend can help care for the live twin to provide the necessary time and space for grief.'¹⁵⁵ This shows that once again there was not one way to mourn for the stillborn child of a multiple pregnancy, but that mothers/parents should find the way that worked for them. Nevertheless, as for a single stillbirth, mourning was an important step not to be overlooked or bypassed. Finally, Lewis and Bryan also pointed out the possibility that not long after the stillbirth or years later, the mother/parents could idealise the stillborn baby, "the angel baby", 'especially if the surviving twin is difficult to handle or worrying because of behaviour or illness'.¹⁵⁶ That was why those families should be followed on the long-term as mourning was a long process and if not properly done, issues like that one could emerge soon or long after the tragic event. The links death/birth and joy/grief that came with a stillbirth in a multiple pregnancy had deep roots and could be more complicated to manage and mourn properly.

Siblings also needed to be taken into account when a stillbirth occurred. Many families who had a stillbirth already had children; of the 32 women Standish interviewed, 19 already had children.¹⁵⁷ However young they were, most children knew something was wrong, especially when the baby they expected was not brought back home when the mother returned. Indeed, the 1978 leaflet emphasised that 'Children are often less afraid of death than adults and are more upset by disappearance'.¹⁵⁸ That was why the leaflet believed it was better for parents to explain with a really simple vocabulary what happened and to give them the space and possibility to tell how they feel about the situation. The leaflet pointed out that 'It is less frightening for children to be told the truth than to leave them in ignorance at the mercy of their imagination.'¹⁵⁹ They just needed to be reassured of

¹⁵⁴ Ibid.

¹⁵⁵ Ibid.

¹⁵⁶ Lewis, Bryan, 'Management of perinatal loss of a twin', 1321.

¹⁵⁷ Standish, 'The loss of a baby', 611.

¹⁵⁸ Lewis *et al*, 'Help for parents after stillbirth', 172.

¹⁵⁹ Ibid.

their parents' love. The Working Party report gave suggestions of how to formulate the explanation given to the other children. Their examples were as follows:

“Our baby died because he/she didn’t grow properly like you did” may be helpful. Children may need reassuring that their own angry or nasty thoughts had nothing to do with the death of the baby. They may be comforted by statements from their parents that they are still dearly loved. “It was nobody’s fault”, is often a good line to take with young children.¹⁶⁰

Children were becoming more and more welcome to visit their mothers at the hospital from the late 1970s, and hence, if they were welcome and the parents agreed, the children could see the stillborn baby. The Working Party report, nevertheless, highlighted that the sight of the dead baby could be difficult and traumatising for the other children. On the other hand, once again, the children’s imagination could be worse than reality. That was why it said ‘it will be easier for the parents to contemplate this if they see that their baby will be dressed and looks virtually normal. Sometimes failure to show the other children the baby may create for them unnecessary fears, distress and unpleasant fantasies.’¹⁶¹ Once again, there was not a best option to force on each family but each family should decide what was best for them and their children according to the situation and their children’s age and personality.

Both the 1978 Leaflet and the Working Party report explained that the children’s behaviour may change after being told of the stillbirth. They underlined that ‘They may become extremely tearful, depressed, very naughty or sometimes “too good”’.¹⁶² One of the families Standish interviewed had a four-year-old boy and when asked how he felt, he answered that ‘Nobody in this house loves me except my baby sister, and she’s gone back to Jesus’.¹⁶³ In another family, a six-year-old girl had become really sensitive, Standish explained that

Jane, cuddling her mother the morning before I interviewed her, had indicated the space by her mother’s other arm and said “That’s the place for Lucy isn’t it Mum?” (Lucy had been still-born). This sensitivity seemed to leave the child vulnerable. The next time I saw this mother, she told me that Jane was being teased at school.¹⁶⁴

¹⁶⁰ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, ‘Correspondence and papers 1984-86’, RCOG/M16/3, 14.

¹⁶¹ Ibid.

¹⁶² Ibid., 15.

¹⁶³ Standish, ‘The loss of a baby’, 611.

¹⁶⁴ Ibid.

If parents felt they could not face their children's grief alone and believed their children might benefit from medical help, the 1978 Leaflet emphasised that parents should ask their family doctor to whom they should turn for help. The latter could refer them to 'a paediatrician, a medical social worker at the hospital, or to a child guidance clinic'.¹⁶⁵

Children's behaviours, therefore, differed according to the child's own personality and his/her own grief but were also influenced by the parents' grief and reactions towards their other children. Indeed, the Working Party report stressed that parents would surely have mood swings and they would have oscillated between feeling overprotective over their children to rejecting them by telling them, for example, "Go away, leave me alone" when they were struggling with their own grief.¹⁶⁶ The report highlighted that the medical personnel surrounding the families would need to inform them this could happen and that it was a natural reaction, and thus parents could always turn to their team for guidance.

Bourne and Lewis also underlined that a stillbirth might also have long-term consequences on the other children such as personality problems or when they too would have become parents. In regards to the latter, they emphasised that 'the processes of childbirth have an uncanny way of re-enacting the past'.¹⁶⁷ In regards to the former the two consultant psychotherapists explained that 'Survivors guilt is one such problem, or the children may have an uncertain sense of identity owing to their parents' bewilderment and confused expectation'.¹⁶⁸ To conclude there were short- and long-term consequences for other children in a family who went through a stillbirth and that was why guidelines emphasised the importance of the medical team surrounding the family to keep contact with the family even years after the tragedy to help if it was required. Nevertheless, this was mainly theory and not frequently put into practice given that medical provision was already over-stretched, as will be underlined in the following chapter.

¹⁶⁵ Lewis *et al*, 'Help for parents after stillbirth', 172.

¹⁶⁶ RCOG Archive, *Working Party on stillbirth and neonatal death and management of perinatal deaths, 1978-1986*, 'Correspondence and papers 1984-86', RCOG/M16/3, 15.

¹⁶⁷ Bourne, Lewis, 'Delayed psychological effects of perinatal deaths', 148.

¹⁶⁸ *Ibid*.

As explained previously, obstetricians and other medical professionals used to tell women not to worry when they had a stillbirth as they could have another baby within a year. According to the editorial 'Grief and Stillbirth' published in 1977, 'more of the mothers who had had a stillbirth became pregnant again quite quickly, and they attended antenatal clinics earlier in the pregnancy than other multiparae'.¹⁶⁹ In the late twentieth century, however, psychotherapists and the medical community in general believed that couples who had a stillborn child should not become pregnant too soon after the stillbirth as it could have entailed emotional and mental risks for the family. Indeed, first of all, Bourne, Lewis and other psychotherapists highlighted that during the subsequent pregnancy, mothers/parents could have mixed feelings between the stillborn baby and the new one growing inside them. They pointed out that 'Unexpected puerperal reactions are often severe, and the danger seems to be greatest when the reactions to the previous perinatal death appeared minimal and another pregnancy follows quickly.'¹⁷⁰ Medical professionals, hence, stopped telling parents they could have another child within a year; firstly because it was inappropriate, but it was also not good for the mother's/parents' mourning process and mental health.

The 1978 leaflet for the questions 'What about another pregnancy? When to have another baby?', the authors advised

Your obstetrician or family doctor will advise you about this, but it is advisable to wait a few weeks or even longer before starting another baby. Don't let yourself be pushed into having another baby but wait until you are ready. People are often unaware of how deeply and for how long some parents can mourn a stillborn child.¹⁷¹

Bourne and Lewis, furthermore, added that

Mourning is temporarily painful and may be disabling, but it is necessary for recovery from bereavement. Time and room are necessary, but often lacking especially if the process is cut short by another pregnancy ... Pregnancy should be postponed until the main mourning period has passed, for the mother cannot complete the mourning process when she becomes preoccupied with her growing baby and the impending birth. Of course, it is all too easy to be depressed in pregnancy, but depression is not the same as mourning.¹⁷²

¹⁶⁹ [Anon], 'Grief and stillbirth', 126.

¹⁷⁰ Bourne, Lewis, 'Delayed psychological effects of perinatal deaths', 148.

¹⁷¹ Lewis *et al*, 'Help for parents after stillbirth', 172.

¹⁷² Bourne, Lewis, 'Delayed psychological effects of perinatal deaths', 148.

To summarise, mothers/parents were strongly advised to wait until they had properly mourned for their stillborn baby before considering another pregnancy. Mourning was an important stage and should not be cut short as it would confuse the mother's/parents' feelings between the stillborn baby and the next one even more.

When mothers had become pregnant again after a stillbirth, the 1978 leaflet emphasised that 'You should discuss with your family doctor where to have your next baby. You may be happier to return to the obstetrician you already know, but do not feel guilty if you find you prefer to go elsewhere if you have unpleasant memories of the events surrounding your loss.'¹⁷³ To conclude, women/parents decided who were going to follow them on the following pregnancy according to the way the team acted and according to the memories and feelings of the mothers/parents in regards to the location and the team.

Whoever was chosen by the woman/couple, the team should have been made aware of the stillbirth. As highlighted previously, furthermore, most women who had a stillbirth attended antenatal clinics earlier than other women. This was a good thing as Bourne and Lewis underlined that it was better that parents/mothers were followed during the subsequent pregnancy by the antenatal medical team rather than a psychotherapist with whom they might not connect and might not want to open up. Indeed, they pointed out that

Patients are often guarded, hard to engage in formal psychotherapy, and may do better if members of the obstetric team themselves can listen and understand. Their sympathetic support helps patients to put together a conscious and more accurate awareness of their family histories ... and the process of history taking helps to clarify the issues. It may be helpful to include the father and other children in these discussions.¹⁷⁴

As the 1978 leaflet stressed, parents/mothers would have surely felt anxious during the subsequent pregnancy, as they would have been worried that that new pregnancy would also end as a stillbirth.¹⁷⁵ That anxiety would have been even greater if the stillbirth was due to genetic anomalies. That was why Bourne and Lewis believed that for those cases mothers/parents should be offered genetic counselling in order for them to open up and to share their fears so that they could be reassured and receive the proper care they required.¹⁷⁶

¹⁷³ Lewis *et al*, 'Help for parents after stillbirth', 172.

¹⁷⁴ Bourne, Lewis, 'Delayed psychological effects of perinatal deaths', 148.

¹⁷⁵ Lewis *et al*, 'Help for parents after stillbirth', 172.

¹⁷⁶ Bourne, Lewis, 'Delayed psychological effects of perinatal deaths', 148.

Regarding the latter, Bourne and Lewis emphasised how important the obstetric team surrounding the mother/parents was to providing the best care available. They explained to the medical profession that

Community of care is also important, and reliable standards of continuity, warmth, and tact must be maintained – despite our overstretched obstetric service – for in these pregnancies better than average care is required. Flaws in the system, gaps in concern, and muddles and mistakes are disproportionately disturbing to these families.¹⁷⁷

According to Bourne's 1968 research, doctors had been known to forget clinical details especially in patients who went through a loss, as mentioned earlier. It does not seem surprising, hence, that psychotherapists highlighted the necessity for the medical team to know about the mother's/parents' case and to be extremely attentive to their needs and demands. In regards to anxiety, moreover, the 1978 leaflet also recommended parents/mothers not only to seek medical reassurance when they worried, but that they should also turn to their family and friends. The leaflet wrote 'Explain to friends and relatives that you may need them any time you feel worried. The right company or even a chat on the telephone can calm fear.'¹⁷⁸ If there were other children, those should also have been included in some of the discussions with the medical team in order to calm their own fears and worries about their mother's new pregnancy and the safety of that new baby growing inside of her.¹⁷⁹

Finally, when the new baby was born alive and healthy, Bourne and Lewis absolutely advised against naming that new baby with the name which had first been chosen for the stillborn baby. Indeed, if the two children shared a name the confusion mothers/parents might have felt between their stillborn child and their new baby could be exacerbated. The new child could be seen and considered as a "replacement child", whose identity is permanently confused with a different and dead baby'.¹⁸⁰ The new baby is a different child and should be seen that way by the parents and giving him/her a name that was his/her own helped mothers/parents to differentiate their two babies. On the other hand, as the 1978 leaflet underlined, 'Most people are delighted when you have your next baby and often

¹⁷⁷ Ibid.

¹⁷⁸ Lewis *et al*, 'Help for parents after stillbirth', 172.

¹⁷⁹ Ibid.

¹⁸⁰ Bourne, Lewis, 'Delayed psychological effects of perinatal deaths', 148.

assume that you will then forget that you ever had a stillbirth'.¹⁸¹ Indeed, it is further emphasised by Dr Lunan during his interview:

Whereas others, even family, have stopped talking about [the stillborn child], they think that ... she's got other children to think about, she's got other things in her life, you know, get over it. Whereas for the woman herself it can be a still ... a very profound experience that really never leaves her.¹⁸²

The two babies were different, parents should not confuse the two, but the new one should also not be seen as erasing the life of the other. The birth of the new baby, furthermore, could revive grief and bewilderment for parents and the 1978 leaflet emphasised this fact to reassure parents that it was a normal feeling and that they should not be worried about their confused emotions. Those mixed feelings could fade away but parents should speak to someone – health visitor, psychotherapists, obstetrician, or someone else – if they were worried and wanted some help.¹⁸³

Conclusion:

To conclude, from the late-1970s, the medical community and society in general realised the urgent need to change the way a stillbirth was managed, influenced by second wave feminism pushing for woman-centred care and the importance of patient advocacy, which was an essential part demanded by SANDS and its members. From that point onwards, the management of a stillbirth – short and long-term management – had been rethought to be more person-centred for both the mother and the father, even if, once more, some doctors pushed parents to see and hold their babies, as they believed it was for the best. The importance of the mourning process for families who went through a stillbirth highlighted throughout this chapter was part of a general trend of accepting death and dying, the psychological mourning process. Indeed, Elisabeth Kübler-Ross in her book *On Death and Dying* published in 1969 was the first to emphasise the need of accepting death and dying with the five stages of mourning, which became widely accepted and used in the field of psychotherapy.¹⁸⁴ SANDS was not the only parent support group charity with

¹⁸¹ Lewis *et al*, 'Help for parents after stillbirth', 172.

¹⁸² Interview with Dr C. Burnett Lunan, 4 June 2015.

¹⁸³ Lewis *et al*, 'Help for parents after stillbirth', 172.

¹⁸⁴ Elisabeth Kübler-Ross, *On Death and Dying* (New York: Simon & Schuster, 1969).

regards to perinatal and infant deaths established in late twentieth century Britain. One example of this would be the creation of the diagnosis SIDS ‘facilitated the development of parent support groups and the raising of money for research’, such as the Foundation for the Study of Infant Deaths in 1971.¹⁸⁵ Finally, as I highlighted, there was some similarities between stillbirth and SIDS with regards to the need of post-mortem and the growth of parent support group, but in more recent years, the medical community has been researching ‘link between obstetric conditions and particular cases of sudden infant death’, therefore implying a connection between stillbirth and SIDS.¹⁸⁶

To return to stillbirth, once again, while many points were followed and applied in maternity hospitals/wards throughout the country, the practice might have differed from those guidelines and advice from time to time because of the over-stretched maternity service and health care system that was characteristic of late-twentieth-century Britain. Siblings born before the stillbirth as well as subsequent children were also to be looked after as the stillbirth also influenced them directly or in the long-term. Changes in the medical management of grieving parents around stillbirth also changed the religious perspective in regards to stillbirth from a theological as well as a pastoral point of view.

On the other hand, the medical and technological improvements of the late twentieth century, which allowed for the reduction of stillbirths, rendered the perinatal death rate a less reliable tool and forced the Government to modify the definition of stillbirth in 1992, which will be covered in the following chapter. Finally, despite those changes and improvements done in the late twentieth century around the definition and management of stillbirth, stillbirth and neonatal awareness weeks are still necessary in the present day to recognise the trauma of still such taboo events, as well as to always improve care for better prevention and management of stillbirths and neonatal deaths.¹⁸⁷

¹⁸⁵ Ferguson, ‘Ignored Disease or Diagnostic Dustbin?’, 488, 506.

¹⁸⁶ Ibid., 492; see for example Caroline Blackwell, ‘The role of infection and inflammation in stillbirths: parallels with SIDS?’, *Frontiers in Immunology*, 6 (2015), 248; Gordon C. S. Smith, Jill P. Pell, Richard Dobbie, ‘Risk of SIDS and Week of Gestation of Term Birth’, *Paediatrics*, 111 (2003), 1367-71.

¹⁸⁷ See for example ‘Baby Loss Awareness Week’, *Baby Loss Awareness*, <<http://babyloss-awareness.org/>>, [Accessed 03 November 2016].

Chapter 7: Stillbirth (Definition) Act, 1992: Issues and debates surrounding perinatal mortality in the late twentieth century

Introduction:

In the late twentieth century, obstetrics and paediatrics have become more and more advanced and able to prevent perinatal death, for example thanks to the diffusion of intensive care nurseries and the use of ultrasound mentioned in previous chapters and antenatal test screening to detect abnormalities. The development of prenatal genetic testing before the third trimester (analysis of chromosomes from amniotic fluid), the Abortion Act of 1967 and the continuing development of what could be seen by ultrasound scanning (for example Stuart Campbell diagnosed an anencephalic fetus at 17 weeks in 1972 by ultrasound scanning) promoted therapeutic abortions.¹ Those therapeutic abortions helped reduce the stillbirth rate as those fetuses were for the vast majority aborted before the age of viability (28 weeks gestation), and thus many stillbirths were avoided and its rate was decreased further but on the other hand the medical abortion rate rose. This reduction of the perinatal mortality rate changed the main causes of such deaths in the late twentieth century.² The main focus turned to the relationship between birth-weight and perinatal death; and the medical profession demonstrated that the perinatal mortality rate, as it was, was no longer deemed a good tool, as it will be demonstrated in this chapter. Moreover, the focus on birth-weight and the improvement of obstetrics and early neonatal care hand in hand made the medical profession and later the Government rethink the boundary of viability, and thus the definition of stillbirth and time limit for therapeutic abortion, in the late 1980s.

¹ See for example Mark Steele, Roy Breg, 'Chromosome analysis of human amniotic-fluid cells', *Lancet*, 287 (1966), 383-85; Stuart Campbell, F. Johnstone, E. Holt, Pamela May, 'Anencephaly: early ultrasonic diagnosis and active management', *Lancet*, 300 (1972), 1226-27.

² Northern Regional Health Authority Coordinating Group, 'Perinatal mortality: a continuing collaborative regional survey', *BMJ*, 288 (1984), 1717.

l) The Short Report and its consequences

In 1979, the House of Commons organised a Select Committee on Social Services chaired by Mrs Renée Short, Labour MP for Wolverhampton North East, to investigate perinatal and neonatal mortality in Britain. Investigating perinatal and neonatal mortality was crucial as Iain Chalmers emphasised, ‘infant mortality is a key indicator of the nation’s health’.³ After a six month investigation interviewing ‘obstetricians, midwives, paediatricians, and many groups representing special interests’, the Committee presented to the House of Commons their report.⁴ The *British Medical Journal (BMJ)* published an editorial, entitled ‘Perinatal and neonatal mortality: a welcome report’, on the report pointing out that it was welcome because the obstetric services under the National Health Service (NHS) had not been re-thought for a little while. Firstly, the report highlighted that ‘Between 3,000 and 5,000 deaths of babies each year could be avoided, and so could 5,000 handicaps, if Britain spent more money on antenatal and neonatal care and reorganised gynaecological and obstetric services’.⁵ As explained in previous chapters, Britain had been known to have had worse mortality rates than most Western countries and that was still the case at the time of the report despite the reduction in the national perinatal mortality rate. The report underlined that the Committee knew Britain could not reach the rates of the countries with the lowest perinatal mortality rates overnight and it would require long term changes. Indeed, the author of the *BMJ* editorial pointed out that

At times ... critics have claimed to see simple ways to improve the British results, such as following the French example and giving women financial incentives to attend early for antenatal care: but Mrs Renée Short’s Parliamentary Social Services Committee ... has avoided the pitfall of instant solutions.⁶

³ Iain Chalmers, ‘Inquiry into stillbirths and infant deaths’, *BMJ*, 299 (1989), 339.

⁴ Hansard 1979-80 (663) V, *House of Commons Second Report from the Social Services Committee Session 1979-80 Perinatal & Neonatal Mortality Together with the Proceedings of the Committee, the Minutes of Evidence (including evidence taken by the Social Services and Employment Sub-Committee of the Expenditure Committee in Session 1978-79) and Appendices*, 1-174; [Anon], ‘Perinatal and neonatal mortality: a welcome report’, *BMJ*, 281 (1980), 255.

⁵ Hansard 1979-80 (663) V, *House of Commons Second Report from the Social Services Committee Session 1979-80 Perinatal & Neonatal Mortality Together with the Proceedings of the Committee, the Minutes of Evidence (including evidence taken by the Social Services and Employment Sub-Committee of the Expenditure Committee in Session 1978-79) and Appendices*, 1-174; [Anon], ‘Report on perinatal and neonatal mortality’, *Lancet*, 316 (1980), 156.

⁶ [Anon], ‘Perinatal and neonatal mortality: a welcome report’, 255.

The report believed that a long-term “well-applied medical intervention” could make all the difference, especially in areas such as concentration of medical and community care on the high-risk mother, improved care of the sick baby, and persuading people to smoke less.’⁷

The report wished to prioritise high-risk women, which were defined as firstly ‘socially disadvantaged mothers’, but also women with a poor obstetrical history and women with higher genetic risks such as elderly primigravida.⁸ This definition of high-risk women, even if not always so-called, had remained constant throughout the twentieth century in spite of the ever-decreasing perinatal mortality rate. The report prioritised this group because, obviously, the reduction had not been equal throughout the population. Indeed, the report emphasised that the perinatal mortality rate was ‘twice as high in the lowest income groups as in the highest’ income groups.⁹ In the *BMJ* editorial, the author emphasised that ‘Britain cannot hope to achieve parity with Swedish health statistics so long as the gap remains so wide between the socioeconomic standards in the two countries’.¹⁰ That difference of mortality rate between the social classes in Britain, however, has remained similar even nowadays.

At the time of the report, the Committee believed that if the Department of Health and Social Services (DHSS) were to collect information throughout the country on a systematic basis, it would reveal where and what required changes or more financial, medical and human resources in order to diminish the perinatal mortality rate. The report described the DHSS system at that time as “fragmented and uninformative”.¹¹ The report also emphasised that ‘A small input of financial resources could bring a large reduction in mortality, but money should be carefully and selectively allocated at first, because “it is difficult to ensure that central recommendations affecting the NHS are quickly and effectively applied”’.¹² As underlined in the previous chapter, the creation of guidelines and the application of such guidelines were two different issues, especially in an over-stretched

⁷ [Anon], ‘Report on perinatal and neonatal mortality’, 156; [Anon], ‘Perinatal and neonatal mortality: a welcome report’, 255.

⁸ [Anon], ‘Perinatal and neonatal mortality: a welcome report’, 255.

⁹ [Anon], ‘Report on perinatal and neonatal mortality’, 156.

¹⁰ [Anon], ‘Perinatal and neonatal mortality: a welcome report’, 255.

¹¹ [Anon], ‘Report on perinatal and neonatal mortality’, 156.

¹² Ibid.

health care system. The DHSS, therefore, should collect the information about short- and long-term results of implemented policies in order to reduce the perinatal mortality rate, and then it should make sure money, equipment and staff were sent and used where they were required.

To return to the three areas the report believed the DHSS should focus on by increasing the medical interventions, I will not look at the improvement of the care of sick babies as my thesis deals with stillbirths and not early neonatal deaths, even if they sometimes have similar causes. In regards to concentration of medical and community care on the high-risk mother, the committee decided to promote larger units of care such as big hospital centres rather than isolated and small hospitals, GP units or home delivery. They explained that decision because ‘it is impossible to give 24 hour care’ of the highest standard in small units, and every woman deserved to be given the best of care.¹³ Big hospitals, however, needed to be spread equally throughout the country and throughout the different counties, and that was why the Short report recommended that ‘standards of equipment and of staffing have to be improved so that deprived areas are no longer underprovided’.¹⁴ The best care had to start from the antenatal care provided to women. Resulting from the Committee’s investigation, much had to be done in order to improve the services offered, in accordance to the women’s wishes.

As explained in the previous chapter, women who had a stillbirth tended to attend antenatal clinics really early in their subsequent pregnancies. Many women, however, did not attend antenatal clinics until their pregnancies were quite advanced. This was despite the relentless effort of the medical profession to explain to the population the importance of antenatal care as soon as the pregnancy was diagnosed. Oakley believes that antenatal care has been used in the twentieth century by the medical profession, and especially the obstetricians/gynaecologists who had been mostly men (still four out of five in 1982 Britain), to control women’s body and to control them socially. That is why she highlights that in the late twentieth century but even before, on ideological ground, ‘it would be reasonable to surmise the evidence that women seek antenatal care when they consider that the benefits of antenatal care outweigh any possible personal disadvantage associated with

¹³ Ibid.

¹⁴ [Anon], ‘Perinatal and neonatal mortality: a welcome report’, 255

its use'.¹⁵ According to Oakley, therefore, women attended antenatal clinics quite late in their pregnancies compared to what the medical profession had been recommending as the best for pregnant women and the fetus they were carrying. On the other hand, if we follow Oakley's theory, women who had a stillbirth visited the antenatal clinics much earlier as they believed the benefits of antenatal care was really high in that new pregnancy and for the safety of that new baby.

The Short report pointed out that women had been reluctant to go to their antenatal visits and had been postponing them until late in their pregnancies because they disliked the non-woman-centred “cattle-market conditions” of the antenatal service offered by the NHS.¹⁶ It, thereby, reckoned the DHSS could partner with the Trade Union Council, the Health Education Council and the Confederation of British Industry in order to ‘help tell women about the importance of antenatal care and their entitlement to paid time off to attend clinics’, or to help organise the antenatal classes directly at the workplace so that it was more handy for women.¹⁷ In the late 1970s, at the same time as the Short Committee was established, the Royal College of Obstetricians and Gynaecologists (RCOG) also pondered on the maternity service offered at the time and thus organised a Working Party on antenatal and intrapartum care. Its aim was ‘To consider the provision and standards of Antenatal and Intra-partum Obstetric Services and to make recommendations for possible improvements in necessary standards in the future’.¹⁸ On finding a way to promote antenatal supervision earlier in pregnancy, the first draft of this Working Party report written in 1981, following the Short report lines, recommended that, for women who already had children, antenatal clinics should offer facilities to welcome children. Finding time between work and/or child care may have been one of the reasons, on a practical ground, why women did not attend antenatal clinic sooner in their pregnancy. The first draft of the report emphasised that ‘Facilities in clinics should make whatever waiting period is necessary as pleasant as possible and take account of existing children who have to accompany their mothers to the clinic. Provision of a crèche for such children is not a new

¹⁵ Ann Oakley, *The Captured Womb, A History of the Medical Care of Pregnant Women* (Oxford: Blackwell, 1984), 250-54, 270-71.

¹⁶ [Anon], ‘Report on perinatal and neonatal mortality’, 156.

¹⁷ [Anon], ‘Report on perinatal and neonatal mortality’, 156; [Anon], ‘Perinatal and neonatal mortality: a welcome report’, 255.

¹⁸ RCOG Archive, *Working Party on antenatal and intrapartum care, 1978-83*, ‘24 November 1981’, RCOG/M33/15.

idea' but one that has never materialised.¹⁹ If antenatal clinics, therefore, were to prepare for both women who worked and women who had children under school age, it might help women to be able and more willing to attend antenatal supervision earlier in their pregnancy.

The Short report, furthermore, highlighted that 'If women at high risk are to be urged to attend they must not be discouraged by delays or impersonal treatment; so the overall quality of these clinics will have to be improved' and be more woman-centred.²⁰ Indeed, the first draft of the Working Party on antenatal and intrapartum care report highlighted that 'The waiting time at the clinic is frequently too long. This has been a problem for over 50 years and only good organisation and realistic staffing will correct this. The commonest cause of waiting in many antenatal clinics is late arrival of the doctors. This should not be too difficult to correct!'²¹ That was why the Short report stressed that 'Every effort must be made to increase attendance at antenatal clinics, whose staffing should be set on a new basis related to the numbers of mothers attending'.²² Increasing the numbers of staff should come hand in hand with recognising which cases were low risk and which ones were high risk, thereby the hospital could reduce the visits for the low-risk cases in order to provide more time slots for the high-risk cases. The first draft of the Working Party on antenatal and intrapartum care report, nevertheless, underlined that time was precious to anyone, especially when one had many other responsibilities, and obstetricians/midwives should not take too much of the women's time if it could be prevented. It read: 'The time women take in attending clinics is very great and sometimes elaborate arrangements have to be made by the woman so that she can attend the clinic. Extra attendance should not therefore be requested lightly unless there is a very good reason.'²³

The Short report believed hospitals should also work in partnership with general practitioners when it came to the antenatal care especially for low-risk cases or should

¹⁹ Ibid.

²⁰ [Anon], 'Perinatal and neonatal mortality: a welcome report', 255.

²¹ RCOG Archive, *Working Party on antenatal and intrapartum care, 1978-83*, '24 November 1981', RCOG/M33/15.

²² [Anon], 'Report on perinatal and neonatal mortality', 156.

²³ RCOG Archive, *Working Party on antenatal and intrapartum care, 1978-83*, '24 November 1981', RCOG/M33/15.

establish neighbourhood clinics to encourage women to attend antenatal care earlier.²⁴ Regarding shared care with GP units, the first draft of the Working Party on antenatal and intrapartum care report highlighted that ‘Care from the G.P. in surveys done seems to the patient to be more satisfactory in relation to their medical and nursing treatment but more particularly in the way they are treated as people. Hence the use of shared care on a wider basis as suggested should be of help.’²⁵ As long as antenatal care in hospital had not been improved on the human relationship side, shared care as it used to be when the NHS was established, hence, could have been an advantage as it might have allowed women to expose their doubts and ask questions to their GPs with whom they felt more comfortable. Neighbourhood clinics were clinics on the districts opened on specific days and were run by hospital staff. Neighbourhood clinics were therefore intended to be closer to the women but were well-equipped and well-staffed and women had all the advantages of the hospital without the impersonal treatment, or so it was hoped.

Regarding delivery, as highlighted earlier, the report believed that in order to provide the best medical care and supervision, hospital delivery in big centres was the safest and was to be promoted compared to home delivery, GP units or small and/or isolated centres. Home delivery, as demonstrated in Chapter 4, had started to be criticised as unsafe from the late 1950s onwards and the Department of Health and hospitals had started to shut down some of the district services, for example the Rottenrow domiciliary service was closed in 1962. The Department of Health, furthermore, had been encouraging women to deliver in hospital. In the late twentieth century, the hospital delivery rate increased drastically in Scotland and it ‘reached a peak in 1981 with 99.5 per cent of Scottish babies being born in hospital’.²⁶ That was why the editorial on ‘Home, hospital, or birthroom?’ published in 1986 started by asking ‘Why is there so much discussion of home delivery in the United Kingdom when the numbers are so small?’, and it then continued ‘Like the titanic, the subject still interests a small number of people intensely and the rest of us rather more distantly’.²⁷

²⁴ [Anon], ‘Perinatal and neonatal mortality: a welcome report’, 255.

²⁵ RCOG Archive, *Working Party on antenatal and intrapartum care, 1978-83*, ‘24 November 1981’, RCOG/M33/15.

²⁶ Susan Storrier, *Scotland’s Domestic Life* (Edinburgh: John Donald *et al*, 2006), 441.

²⁷ [Anon], ‘Home, hospital, or birthroom?’, *Lancet*, 328 (1986), 494.

In 1986, the debate opened up again on the question of safety of home delivery. On the side supporting home delivery, there were Rona Campbell (medical research council research student at the time, in London), Alison Macfarlane (medical statistician in Oxford) and Marjorie Tew (medical statistician in Glasgow). Tew argued at the 1986 Faculty of Community Medicine and its annual scientific meeting held in Cardiff that ‘In her opinion, the increase in perinatal mortality rate associated with a home birth is spurious because the adverse experience of a small minority with overriding social problems has obscured the greater safety of normal midwifery for normal women’.²⁸ Campbell and Macfarlane published a report in 1987 based on the research of the National Perinatal Epidemiology Unit in Oxford. They concluded that the policy to favour hospital delivery to provide the best safety had been based on a misunderstanding. They emphasised

that the excess perinatal mortality associated with home birth (21.7 per 1000 births in 1985, compared with an overall rate of 9.8 per 1000) is explained by the rising proportion of unplanned home births in relation to the fall in the total number of home births (from 19000 in 1975 to less than 6000 in 1985). Planned home births – those at low risk of obstetric complications – had a very low perinatal mortality rate (4.1 per 1000 in 1975).²⁹

From a quantitative point of view, therefore, low risk obstetric cases that had planned their delivery at home had very low stillbirth and neonatal mortality rates; the issue came from the unplanned home deliveries that increased drastically the perinatal rate in home delivery statistics. Home delivery, it would seem, did not need to be chastised as it had always been planned for normal pregnancies, and thus policies to prevent home delivery did not really influence the higher risk unplanned home delivery rate as, in most of those cases, those women had booked a hospital delivery, but had been unable to get there.

Taking a qualitative perspective on the question, on the other hand, Campbell and Macfarlane interviewed women who delivered at least once in the hospital and at least once at home on their experiences and feelings. Most interviewed women seemed to have had more positive memories of their home delivery than their hospital one. That was why the two researchers concluded that ‘there seems no reason why those at low risk should not be allowed to [deliver at home]’.³⁰ Articles published in the *British Journal of Obstetrics and Gynaecology* in favour of home delivery reckoned that ‘Having a baby is a high point of

²⁸ Ibid.

²⁹ [Anon], ‘The safest place to be born?’, *Lancet*, 329 (1987), 1388.

³⁰ Ibid.

many parents' lives and they may well feel more satisfied if this event takes place in the familiar surroundings of their home'.³¹ Finally, those authors stressed that the women/parents preferring home delivery did not belong only to the vocal middle class but were 'spread over the spectrum of social class and age'.³² Despite all of those arguments in favour of home delivery, as expressed in the editorial, Macfarlane and Campbell 'cautiously point out, however, that the relative safety of home births and the different types of hospital delivery has yet to be rigorously compared'.³³ Furthermore, as Prof Geoffrey Chamberlain, an obstetrician in London, highlighted, 'to re-establish a full, safe domiciliary service would be too expensive for most health services in the Western world'.³⁴ Even if, therefore, home delivery was safer, it was too late to return to how it used to be due to cost implications, and hospitals were to remain the main place for deliveries. Prof Chamberlain's claim was backed up by the members of the Committee for the Working Party on antenatal and intrapartum care in 1981. Indeed, 'The Committee felt that financial resource was the reason why home deliveries are not further encouraged'.³⁵

Lastly, the reason behind the choice for deliveries in large hospitals was, therefore, the Committee's reservations in regards to home delivery and general practitioner units, even if that was the women's wish, as well as their willingness to provide the best medical supervision and intervention all year long.³⁶ The *BMJ* editorial emphasised that 'this is a detailed, authoritative report which comes down unequivocally on the side of specialist skills and the setting of minimum standards. The committee recognises that there is an "unresolvable dilemma that the understandable preferences of mothers in regards to place of delivery may not be compatible with the requirements for the maximum lowering of perinatal and neonatal mortality."' ³⁷ This quotation showed the gap between the medical profession's wish to offer as many choices and options to mothers/parents who had a stillbirth as shown in the previous chapter and the Government and obstetric profession's wish to keep women in hospitals to deliver without leaving a choice to the women because they believed it was safer. Those two practices seemed quite contradictory, nevertheless as

³¹ [Anon], 'Home, hospital, or birthroom?', 495.

³² Ibid.

³³ [Anon], 'The safest place to be born?', 1388.

³⁴ [Anon], 'Home, hospital, or birthroom?', 494-95.

³⁵ RCOG Archive, *Working Party on antenatal and intrapartum care, 1978-83*, '24 November 1981', RCOG/M33/15.

³⁶ [Anon], 'Perinatal and neonatal mortality: a welcome report', 256; [Anon], 'Perinatal and neonatal mortality: a welcome report', 255.

³⁷ [Anon], 'Perinatal and neonatal mortality: a welcome report', 256.

underlined in Chapter 6, the medical profession's guidelines for the management of stillbirth were mainly planned around a hospital delivery and hence most choices and options were built to fit around the hospital delivery.

The favoured hospital delivery option could be explained, as the 'Home, hospital, or birthroom?' editorial stressed, that 'The obstetrical profession opines that a labour cannot be considered normal until it is viewed in retrospect.'³⁸ The editorial, nevertheless, emphasised that in 5 per cent of what were considered normal pregnancies, an unexpected hazard occurred during labour.³⁹ The Short report, thus, recommended that 'Continuous recording of fetal heart-rate during labour should become the universal practice. Births should all be attended by a resuscitation specialist when difficulties are expected.'⁴⁰ Obstetricians, therefore, were reluctant to give women their endorsement for home delivery, even for what were believed to be riskless pregnancies/labours, because even if antenatal supervision had improved, even more since the introduction of antenatal screening tests, those screening tests had limits and not every hazard could be diagnosed antenatally. Until such hazards could be diagnosed and prevented and could assure the survival of the fetal patient, obstetricians would prefer to play the card of safety and the Short report agreed with them, once again even if women would have preferred otherwise.⁴¹ Women felt uneasy about continuous fetal-heart recording because it meant that they had to remain lying on their bed throughout their labour. The first draft of the Working Party on antenatal and intrapartum care report explained that 'Fetal monitoring is a *bête noir* but where explanation of the reason for this is given and a degree of flexibility is present, the objections are minimised. Here again technical improvements such as telemetry have obviated objections such as the necessity to stay in bed.'⁴² Improvement in fetal-heart monitoring was therefore helping both sides: women as it would not have been as uncomfortable as it used to be, and the obstetric profession as it allowed an increase in the use of the monitor during labours, which subsequently helped them improve their standard of care and knowledge of each specific case and of the fetal patient.⁴³

³⁸ [Anon], 'Home, hospital, or birthroom?', 495.

³⁹ Ibid.

⁴⁰ [Anon], 'Report on perinatal and neonatal mortality', 156.

⁴¹ [Anon], 'Home, hospital, or birthroom?', 495.

⁴² RCOG Archive, *Working Party on antenatal and intrapartum care, 1978-83*, '24 November 1981', RCOG/M33/15.

⁴³ Ibid.

Finally, the last point the Short report dealt intensively with was smoking during pregnancy. I already demonstrated in Chapter 5 that the medical profession had discovered the dangers of cigarette smoking during pregnancy and had begun a campaign of education to try to encourage women to quit smoking when they learnt they were pregnant as the ill-effects of cigarette smoking crossed the placenta and affected the fetus. That was in the 1960-70s, and little had changed in the early 1980s. That was why the Short report highlighted that ‘every means should be used to discourage smoking, including raising tax on tobacco. All cigarette packets should carry warnings about the effect of smoking on the fetus.’⁴⁴ It was not the first governmental report to recommend such actions, and, as anti-cigarette campaign advertisements on packets were not established before the twenty-first century, it has not been the last to recommend such measures.

Many actions were taken outside that report against smoking in general as well as smoking during pregnancy. These were much needed as in the article ‘Health in Scotland’ published in 1985, the author pointed out that “‘Scotland spent more per household on tobacco ... than any other area of Britain.” This has been so for the past ten years, according to a report from the Scottish Home and Health Department.’⁴⁵ In 1983, in Scotland, one of such actions was the Joint Anti-Smoking Initiative, renamed Glasgow 2000 project, which planned to have literally no smoking in Glasgow by 2000. This initiative was planned under the partnership of the Scottish Health Education Group (later the Health Education Board for Scotland), Glasgow District Council, Strathclyde Regional Council and Greater Glasgow Health Board.⁴⁶ As we know nowadays, this project failed as, according to the Scottish Household Survey of 2013, revised in October 2015, 23.1 per cent of the participants replied that they smoked.⁴⁷ According to the survey done at the start of the Glasgow 2000 project, the percentage was 44 per cent of the Scottish population.⁴⁸ The

⁴⁴ [Anon], ‘Report on perinatal and neonatal mortality’, 156.

⁴⁵ [Anon], ‘Health in Scotland’, *Lancet*, 325 (1985), 235.

⁴⁶ Linda Bauld *et al*, *Tackling Smoking in Glasgow: Final Report*, Report to the Glasgow Centre for Population Health, November 2005 (Revised January 2006), <http://www.gcph.co.uk/assets/0000/0441/Tackling_Smoking_in_Glasgow_Final_report.pdf>, [Accessed 16 May 2017].

⁴⁷ ‘Scotland’s People Annual Report: Results from 2013 Scottish Household Survey: Revised October 2015’, *Scottish Government*, <www.gov.scot/Publications/2014/08/7973/downloads>, [Accessed on 30 August 2016], File Tables and charts, Chapter 9 Health and caring, Figure 9.1 Whether respondent smokes by year.

⁴⁸ [Anon], ‘Health in Scotland’, 235.

Glasgow 2000 project, as well as other actions, certainly did not eradicate smoking but they played a role in cutting the percentage of smokers in Scotland to around half.

Other actions, such as posters and leaflets, had been used to campaign for the prevention of smoking generally and during pregnancy. Those posters were designed to tell women about the risks to the fetus when smoking during pregnancy as well as giving them steps towards quitting smoking. Those posters, however, were designed to catch the mothers' attention by playing on their guilt. The two following posters (Figure 7.1) were examples of the campaigns launched in the late twentieth century. As we can see, the two catch phrases 'Do you want a cigarette more than you want your baby?' and 'Is it fair to force your baby to smoke cigarettes?' did not focus on making women stop smoking by playing the card of common sense or quantitative data but by making them feel guilty. Those catch phrases had the subtext that if their child were born with a medical condition or died at or around birth, it would be their fault as it could have been prevented by quitting smoking. Hilary Graham explains, in an article published in 1976, that in the 1970s, there were two ways to encourage mothers to stop smoking when pregnant: either factual information or moral persuasion. The former provided the facts to prevent ignorance about the dangers around smoking. The latter focused on the irresponsibility and selfishness of women who smoke when pregnant as it is shown on the posters. Graham explains moral persuasion as follows:

Moral persuasion, the second component of antismoking literature, works upon the backcloth of factual information to develop, in the place of selfishness and thoughtlessness, a sense of responsibility and self-sacrifice in the expectant mother. Thus one practitioner recommends that those who, even when told "the facts" are reluctant to give up smoking can be "helped along" by saying "Now Mrs. Smith I'm sure we want to do the best for your baby". The themes of unselfishness and responsibility are more forcefully evoked in the H.E.C. campaign in such slogans as "Do you want a cigarette more than you want a baby?"⁴⁹

Laury Oaks emphasises that "quit smoking" campaigns in the 1980s and 1990s most of the time combined a 'health message with a moral directive about the demands of motherhood during, and even before, pregnancy'.⁵⁰ This, thus, put a high focus on first moral persuasion but also including some factual information, because it was the most effective incentive

⁴⁹ Hilary Graham, 'Smoking in Pregnancy: the Attitudes of Expectant Mothers', *Social Science & Medicine*, 10 (1976), 400.

⁵⁰ Laury Oaks, *Smoking and Pregnancy The politics of Fetal Protection* (New Brunswick, New Jersey, London: Rutgers University Press, 2001), 67.

way to encourage women to stop smoking and therefore to provide the best chance for their fetus.

The back of the posters pointed out what the harmful effects of cigarette smoking were to the growing fetus, i.e. the factual information, and it also explained to women ways to quit smoking. The *Community Care* report written in the late 1980s in Scotland, however, stressed that if a woman tried to stop smoking but failed to succeed, her doctor should not make her feel guilty for failing.⁵¹ There was, therefore, quite a difference in the method used by the medical community between the early 1980s and the late 1980s, surely as they realised, inducing guilt did not always help their agenda.



Figure 7.1: Posters for the prevention of smoking during pregnancy, early 1980s.⁵²

Also, in this report, on the section ‘Smoking in pregnancy’, the authors pointed out that

⁵¹ NAS, *Community Care: Community/Child/Public Health, 1989-92, Infant Mortality: Report regarding decline in maternal and perinatal deaths in Scotland in early 1980s and government response*, HH102/1703, 21.

⁵² RCOG Archive, *Working Party on antenatal and intrapartum care, 1978-83*, RCOG/M33/22.

A forthcoming article by Dr [Iain] Chalmers, Director of the National Perinatal Epidemiology Unit, argues persuasively that the professions and women themselves are united in knowing that smoking in pregnancy is harmful, that health professionals have ‘majored’ on this issue above all others, and that the result is almost universal knowledge of the dangers, coupled with little by way of actual change of habit. More than exhortation is needed: emphasis should be how to give up smoking.⁵³

This quotation shows that in the late 1980s and 1990s, knowledge was not the issue but the medical profession believed women needed to be informed of the different ways to quit smoking as that seemed to be what women required and not being told again the harmful effects of smoking.

Moreover, as Markens, Browner and Press highlighted, in an article entitled ‘Feeding the Fetus: On Interrogating the Notion of Maternal-Fetal Conflict’ published in 1997, despite being told what was best for the fetus during antenatal classes and having heard of the harmful effects of cigarette smoking for some years by then, some of the American women interviewed continued to smoke during their pregnancies. They explained why as follows:

These women were concerned about the effects of their habit on the fetus/baby, yet this did not prompt them to quit. Instead ... women attempted to negate the effects of smoking by cutting all other “bad” habits ... and/or decreasing the amount they smoked while pregnant. Laura Givens's strategy for smoking illustrates the way in which a high-risk behavior is approached very similarly to the accommodations made to the “low-risk” behavior of dietary intake: “I am a smoker, I smoke about three cigarettes a day and I'm not giving them up! ... I've cut back from like not quite a pack to three a day. And sometimes I don't even smoke three a day. That's my limit.”⁵⁴

The last two quotations underlined that women would have done what *they* believed was best for them and their fetuses, and whatever the amount of knowledge and guilt thrown at them. At the end of the day women would have made choices according to them and their circumstances, even if it contradicted the medical discourse. That is why, even nowadays after a half century knowing about the harmful effects of smoking, some women still smoke during their pregnancy.

⁵³ NAS, *Community Care: Community/Child/Public Health, 1989-92, Infant Mortality: Report regarding decline in maternal and perinatal deaths in Scotland in early 1980s and government response*, HH102/1703, 18, emphasis in original.

⁵⁴ Susan Markens, C. Browner, Nancy Press, ‘Feeding the Fetus: On Interrogating the Notion of Maternal-Fetal Conflict’, *Feminist Studies*, 23 (1997), 366-67.

To come back to the report itself, it was published under the Thatcher government; it was from that point onwards that the health and equality gap between the poor and the rich got wider for the first time in the twentieth century, in part because that Government and the following ones cut expenditures in regards to social health policies and the unemployment rate increased, especially within the working class. It was at that period that private care came back in force and Renée Short stressed in an interview that she wondered ‘whether it was a case of private practice raising its ugly head. After all, if consultants were off dealing with private patients [mostly upper classes] they could not be in hospital dealing with patients [mostly lower and middle classes] as required by their NHS contracts.’⁵⁵ That was why William Russell, political correspondent to the *Glasgow Herald*, pointed out in his article about Secretary of State for Social Services Mr Patrick Jenkin’s disappointing response published in December 1980, that ‘Though the tenor of his reply ... was hardly unexpected in these cash-conscious days’.⁵⁶ Directly after the publication of the Short report in July 1980, the *Lancet* editorial concluded by saying that ‘The Government’s response to the committee’s report will have to be diplomatic, since most of its recommendations involve expenditure which – if Ministers mean what they say – there is simply no money to pay for’, but it can be said the same for some of the RCOG’s Working Party reports.⁵⁷ The DHSS’s response to the report, therefore, accepted some of the recommendations, but put a veto on most of the major ones which would have necessitated some consequent financial investments.⁵⁸

Mrs Short’s feeling about the Government’s response was as follows

Mrs Short ... blamed the tone of the reply on attitudes at the [DHSS]. “It is quite clear they are not prepared to give the reduction of perinatal mortality – that is, saving babies’ lives – the priority it needs,” she said. “I think they allowed their own prejudices to colour their attitude to our report.” She reckons that the Department’s priorities remain ... the elderly, mental health, and the disabled.⁵⁹

Mr Jenkin did highlight that, as the money meant for health care could not be extended, there was a dilemma between the willingness to help to continue the decrease of the

⁵⁵ William Russell, ‘Minister’s discouraging response to perinatal report’, *BMJ*, 281 (1980), 1653.

⁵⁶ *Ibid.*

⁵⁷ [Anon], ‘Report on perinatal and neonatal mortality’, 156.

⁵⁸ Hansard 1980-81 (8084), *DHSS Reply to the Second Report from the Social Services Committee on Perinatal and Neonatal Mortality Presented to Parliament by the Secretary of State for Social Services by Command of Her Majesty*, 1-73.

⁵⁹ Russell, ‘Minister’s discouraging response to perinatal report’, 1653.

perinatal mortality rate and the wish to continue providing the same level of care in all other aspects of health care. Both sides could not be made possible on the budget given to the Department. Indeed, ‘again and again he says that something is for the health authorities to decide, and since they are not going to get any extra money the chances of a decision favouring the report would seem remote’.⁶⁰

Jenkin, furthermore, found the estimated cost recommended by the Short report unrealistic and did not reckon that 5,000 perinatal deaths and 5,000 handicapped babies per year could be prevented. He quoted Dr Peter Dunn who believed that ‘They are preventable by perfect medical management, but it is rather like saying that all road accidents are “preventable” – it is one thing to say in theory that they are preventable, it is another to have no road accidents and no deaths’.⁶¹ On both arguments, Mrs Short disagreed with the Government. The estimated cost seemed fair and the proposed measures would indeed prevent those 10,000 deaths/handicaps and maybe even more.⁶² Mr Jenkin accepted only 40 out of the 152 proposals made by the report and it was only those that would not have required any extra money. The Short report, then, had not been such a success, as many of the previous reports before this one around the same period; but, as Russell highlighted, the membership composing the Short Committee was an all-party one, and therefore on that fact it was quite different from previous Governmental-commanded-report Committees. That was why he stressed that the members of the Short Committee ‘will be using every parliamentary opportunity, something denied to the authors of the previous reports, to keep their recommendations alive’.⁶³

To conclude, the Short Report and RCOG Working Party on antenatal and intranatal care highlighted that perinatal mortality rate and its decline remained a high priority for the medical profession and society whatever their political ideal, nevertheless, policy makers in those harsh economic times could not afford to prioritise costly improvements towards further reduction of the perinatal mortality rate than what was already in place. There are still some truths to it nowadays and that is why during stillbirth and neonatal awareness

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Ibid.

⁶³ Ibid.

week, MPs from all parties raised their voices for the still needed improvements in care, management and support within the maternity services throughout the country.⁶⁴

II) The perinatal mortality rate and its limitation

From 1977 onwards, the perinatal mortality rate in Scotland as well as elsewhere in the Western world has been declining regularly. Indeed, Prof Geoffrey Chamberlain highlighted that ‘The perinatal mortality rate has fallen steadily since the Second World War. When comparing data from different countries, rates are falling in most of them at about the same rate, though some countries start worse off and stay there.’⁶⁵ In England and Wales, from 1933 to 1979, the perinatal mortality rate declined from 63.4 per 1,000 total births to 15.0 per 1,000 total births (Figure 7.2 and Table 7.1); this decline was quite similar in Scotland even if the national rate remained most of the years higher than for England and Wales.⁶⁶ The perinatal death rate in Scotland went from 36 per 1,000 in 1961 to 18 in 1976, then to 15 in 1978. It then fell to 13.1 in 1980 and 10.6 in 1983.⁶⁷ Within Scotland the perinatal rate varied quite widely for the years 1976 and 1978 (Table 7.2). For both years, Orkney had the lowest perinatal mortality rate with 4 per 1,000 total births compared to the West of Scotland, the most industrial part of Scotland, which had for both years the highest rates in between 18 to 24 per total births in 1976 and in between 14 to 18 per 1,000 total births in 1978.⁶⁸ Orkney had the lowest rate because it is the most affluent rural area in Scotland which still relied heavily on community-based care and services, which were factors protecting against perinatal deaths.

⁶⁴ ‘MPs debate baby loss – baby loss awareness week’, *Baby Loss Awareness*, <<https://babyloss-awareness.org/mps-debate-baby-loss/>>, [Accessed 16 May 2017].

⁶⁵ Geoffrey Chamberlain, ‘Vital statistics of birth’, *BMJ*, 303 (1991), 179.

⁶⁶ [Anon], ‘Neonatal mortality’, *BMJ*, 280 (1980), 261.

⁶⁷ [Anon], ‘Health in Scotland’, p. 235; [Anon], ‘Perinatal and infant mortality’, *BMJ*, 2 (1977), 527; [Anon], ‘Perinatal and infant mortality (Scotland)’, *BMJ*, 1 (1979), 1716.

⁶⁸ [Anon], ‘Perinatal and infant mortality (Scotland)’, 1716; [Anon], ‘Perinatal and infant mortality’, 527.

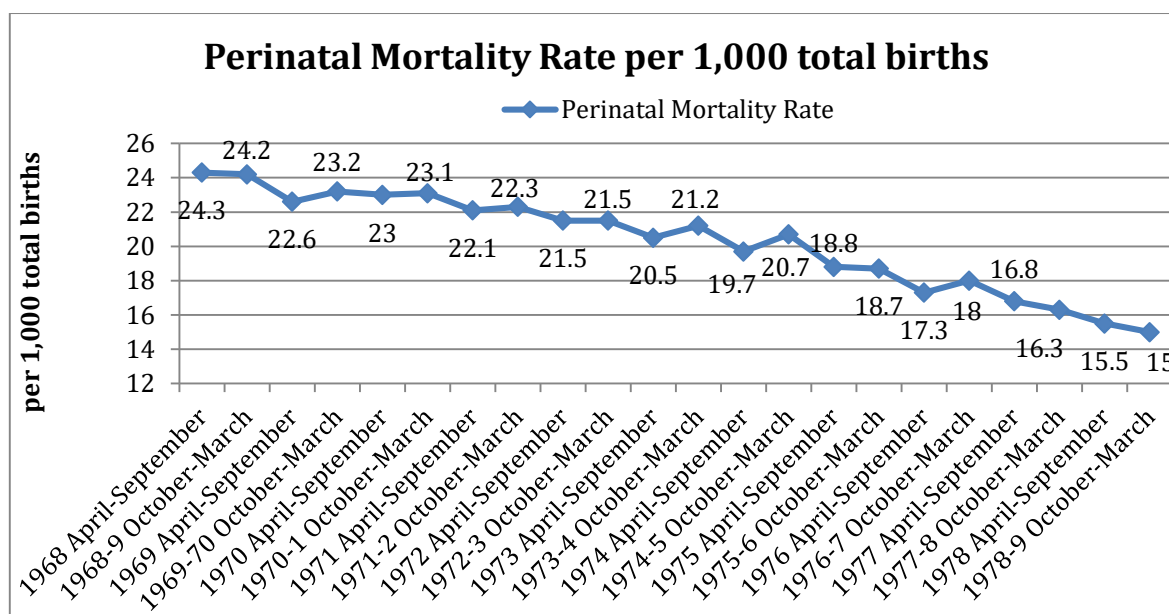


Figure 7.2: Perinatal Mortality Rate (per 1,000 total births), England and Wales, 1968-1979.⁶⁹

Years	Perinatal Mortality Rate (per 1,000 total births)	Percentage fall in five year period
1933	63.4	7.6
1938	58.6	18.3
1943	47.9	19.6
1948	38.5	4.2
1953	36.9	5.1
1958	35.0	16.3
1963	29.3	15.7
1968	24.7	15.0
1973	21.0	26.7
1978	15.5 (estimated)	/

Table 7.1: Perinatal Mortality Rate and percentage fall in each five year period, England & Wales, 1933-78.⁷⁰

⁶⁹ [Anon], 'Neonatal mortality', 261.

⁷⁰ Alison Macfarlane, 'Perinatal mortality', *Lancet*, 314 (1979), 255-56.

	Perinatal Mortality Rate 1976	Perinatal Mortality Rate 1978
Scotland	18	15
Highland	19	9
Orkney	4	4
Shetland	13	11
Western Isles	21	17
Grampian	14	17
Tayside	14	13
Fife	15	15
Lothian	17	17
Borders	13	10
Forth Valley	22	14
Argyll and Clyde	24	14
Greater Glasgow	20	16
Lanarkshire	18	18
Ayrshire and Arran	22	18
Dumfries and Galloway	21	16

Table 7.2: Perinatal Mortality Rate (per 1,000 total births), Scotland, 1976 & 1978.⁷¹

The perinatal mortality rates in the West of Scotland, the industrial area of Scotland, for those two years, were equal or higher than the national perinatal mortality rate. This could be explained by the fact that, as those districts were mainly industrial, they had a large working-class population. As highlighted earlier, it has been known since the mid-twentieth century that the perinatal mortality rate varied enormously according to social class (Figure 7.3). That is why when I asked Dr Hepburn, who had been working with multiple disadvantaged women in Glasgow for a long part of her career (she referred to them in this quotation), ‘what do you think make the stillbirth rate go down in the second half of the twentieth century?’, her perspective was as follows

Well, I’m not sure, but they didn’t really go down ... in my population ... And that is the difficulty that the gap ... between the rich and the poor is getting wider and the bad outcomes amongst the disadvantaged are getting more marked, and in a way the non-socially disadvantaged are getting better at the expense of the poor because the wider it gets, the more marked those differences ... the big, big division occurred in the 80s under Thatcher, I mean huge gap started, but it is continued under Labour.⁷²

⁷¹ [Anon], ‘Perinatal and infant mortality’, 527; [Anon], ‘Perinatal and infant mortality (Scotland)’, 1716.

⁷² Interview with Dr Mary Hepburn, 22 January, 2016.

In 1977, the Scottish national perinatal mortality rate was 18.3 per 1,000 total births. For groups IV and V, however, the perinatal mortality was higher than the average whereas the perinatal death rate for group one was below the national rate.⁷³

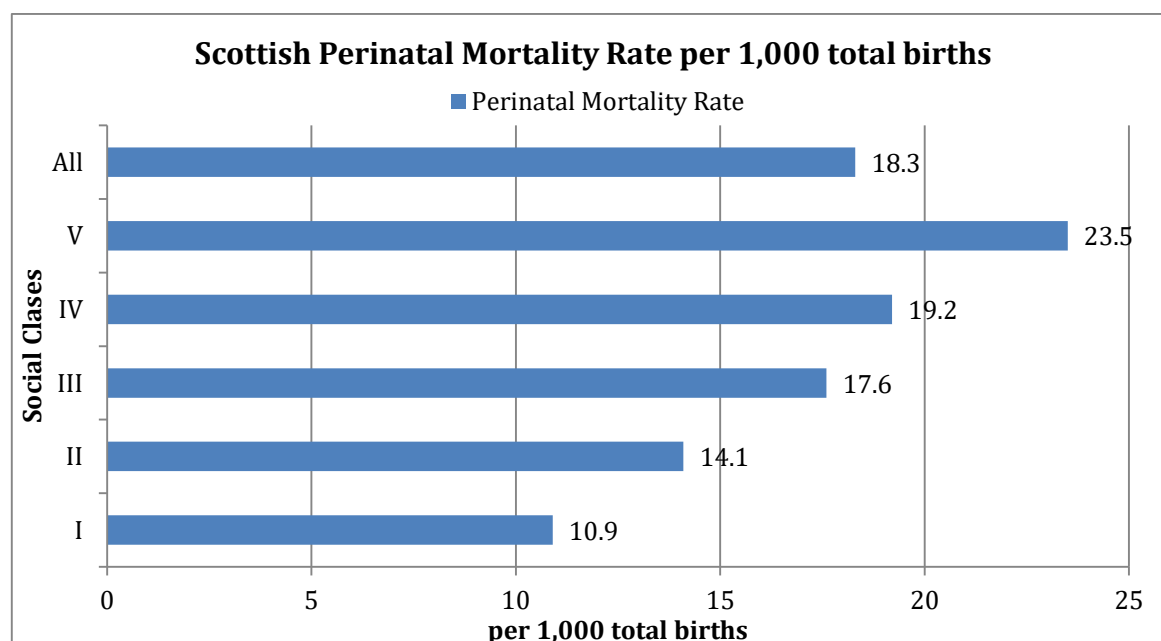


Figure 7.3: Scottish perinatal mortality rates (per 1,000 total births) according to social classes, 1977.⁷⁴

As explained earlier, the perinatal mortality rate has been used since the 1950s because of the similarities in the causes of death between the stillbirths and the early neonatal deaths; nevertheless, in the late twentieth century, the medical profession began to point out the limits of the perinatal mortality rate. Indeed, McIlwaine *et al* from Glasgow explained that between 1966 and 1976 ‘there were many changes in obstetric and neonatal practice – for example, screening for central nervous system deformities, increased use of fetal monitoring during labour and Caesarean section; and, on the neonatal side, increased use of ventilator support and blood-gas monitoring despite little increase in medical and nursing staff’.⁷⁵ Following a new report on perinatal, neonatal and infant mortality ordered by the Social Services Committee, thus, the Government believed it was important for hospitals to always propose to parents to do an autopsy on stillborn babies or those who died during infancy. From the information collected from those autopsies, the hospitals should compile surveys, classifying, according to a definite format, the causes of perinatal death in each region. The Government ‘asked the National Health System Management

⁷³ [Anon], ‘Scottish perinatal and infant mortality’, *BMJ*, 2 (1979), 448.

⁷⁴ *Ibid.*

⁷⁵ Gillian McIlwaine *et al*, ‘The Scottish perinatal mortality survey’, *BMJ*, 2 (1979), 1103.

Executive to ensure that all regions have surveys in place by April 1991'.⁷⁶ Chalmers, moreover, emphasised that 'Regional epidemiological surveys are seen by the government to be not only invaluable for surveillance and a guide to where action is needed but also an essential precursor to introducing a multidisciplinary confidential inquiry into particular categories of stillbirths and infant deaths'.⁷⁷ Regional surveys, therefore, would help the medical community, as well as the Government, to establish an up-to date classification of the causes of perinatal deaths, allowing them to spend more time and funds on the areas that really required them.

The Government believed those surveys should have been completed at the regional level and not at the hospital or national level for several reasons, as Alison Macfarlane underlined in an article entitled 'Perinatal mortality surveys' published in 1984. Hospital based surveys could have had advantages as pointed out:

Most routine statistics are collected as by-products of legal or administrative processes, which range from the registration of births, marriages, and deaths to the administration of health services. This naturally affects their nature, strengths, and limitations ... the registration system does not contain any clinical information or in most cases any indication of the sequence of events leading to a stillbirth or death. Even when the revised forms of stillbirth and neonatal death certificates are introduced the statements of "causes" of death will not be full enough for those wishing to do an in depth study. Much of this information may be found in clinical notes, but the data collected and the way they are recorded vary from place to place. This makes them difficult to merge for population based analyses. The consequence is that analyses are often confined to deliveries in individual hospitals⁷⁸

This quotation, thus, explained that national surveys were too generic and did not possess all the information necessary to give the proper picture regarding perinatal mortality, whereas hospitals kept all clinical information for every case they followed and/or delivered. Therefore surveys at the hospital level would provide a more adequate picture or at least would provide more adequate data.

Hospital level surveys, nevertheless, also had limitations. Indeed Macfarlane underlined that

⁷⁶ Chalmers, 'Inquiry into stillbirths and infant deaths', 339.

⁷⁷ Ibid., 340.

⁷⁸ Alison Macfarlane, 'Perinatal mortality surveys', *BMJ*, 289 (1984), 1473.

Hospital based studies ... always suffer from the difficulty of assessing the trends in mortality without hard evidence that there has been no change in the selection factors for delivery in specialist centres. Another deficiency ... is that this excludes both planned home delivery and also ... those women at high risk who inadvertently give birth in places other than hospitals. Given all these problems it is not surprising that there have been so many special perinatal mortality surveys which have been based on births to women living in a defined geographical area and have contained clinical information.⁷⁹

This quotation showed that hospital level surveys would have been too limited as they would have only included hospital deliveries, and even if around 90 per cent of deliveries happened in hospitals, perinatal mortality surveys should look at all types of deliveries to provide the clearest picture of the situation. Hospital level surveys, furthermore, would have had too narrow a perspective and would have missed changes in clinical practice. That was why regional level surveys were considered the best option as they would have a larger perspective, including all deliveries, as well as showing changes in trends, and would also be able to have access to clinical information from hospital case notes.

In the late twentieth century, those kinds of surveys had been done quite regularly to a high quality in Northern England and in Scotland. Three surveys were published around 1980. In 1979, the Scottish perinatal mortality survey was published, then the Mersey region published theirs in 1982 and the last one was published in 1984 by the Northern Regional Health Authority. I am going to focus more on the Scottish perinatal surveys but I will mention the conclusion of the two other surveys. The two English surveys looked at all births whereas the Scottish one only focused on singleton births. The Northern Regional Health Authority succeeded 'to obtain the information on 99 per cent of all the registered deaths among babies born in 1981-2 to mothers resident in the region'.⁸⁰ For the Mersey region survey, 'The area covered by the inquiry was determined by the mother's place of residence and related to 58 per cent of total births ... and 61 per cent of perinatal deaths in the region'.⁸¹ The Scottish perinatal mortality survey explained its aim as follows:

(1) To determine the feasibility of obtaining information on all perinatal deaths during one year [1977]; (2) to analyse the case record of each perinatal death and classify that death according to [an extended version of] the Aberdeen classification; and (3) to analyse area differences in perinatal death rates with reference to maternal characteristics, type of care, and cause of death.⁸²

⁷⁹ Ibid.

⁸⁰ NRHACG, 'Perinatal mortality: a continuing collaborative regional survey', 1717.

⁸¹ Mersey Region Working Party of Perinatal Mortality, 'Confidential inquiry into perinatal deaths in the Mersey region', *Lancet*, 319 (1982), 491.

⁸² McIlwaine *et al*, 'The Scottish perinatal mortality survey', 1104.

Those three surveys came to similar results as regards causes of perinatal deaths. For the Scottish perinatal mortality survey, 1,012 perinatal deaths were studied, in 1977; there were 1150 perinatal deaths, representing a perinatal mortality rate of 18 per 1,000 total births. However, as they analysed only the singleton births, the number dropped to 1012.⁸³ In the Northern region, for the years 1981 and 1982, the perinatal mortality rate was 12.4 per 1,000 total births.⁸⁴ The Scottish survey highlighted that ‘The largest single cause of death was low birth weight in normally formed babies whose mothers had no complications of pregnancy (302 cases). Of these babies, 103 (34 per cent) were growth-retarded.’⁸⁵ This was also the case for the Mersey region survey and the Northern region one. The former report pointed out that ‘Low-birthweight infants ($\leq 2500\text{g}$) with no maternal complications comprised the largest category, with 86 cases [out of 309 perinatal deaths] of which 52 (60 per cent) had avoidable factors.’⁸⁶ The latter report found that ‘36 per cent of the antepartum stillbirths among non-malformed singleton fetuses were associated with poor fetal growth (weight below the fifth centile at birth)’.⁸⁷

As those numbers underlined, low birthweight became the obstetricians and paediatricians’ new bugbear to fight in order to diminish the perinatal death rate. The Scottish perinatal mortality survey stressed that low birthweight in babies was due to preterm/prematurity or growth-retardation. Regarding low birthweight due to prematurity, ‘three-quarters of the babies were born alive and presented problems in the neonatal period, requiring specialised paediatric care. In the growth-retarded group the problem was that of intrauterine death, and if such babies are to survive the obstetrician must be able to detect that the fetus is compromised and deliver it before fetal death occurs.’⁸⁸ Detection in the antenatal period of fetal distress in growth retarded fetuses was done monitoring the fetal heartbeat.

The second main cause of death was congenital malformations. In the Scottish perinatal mortality survey, out of the 1012 single perinatal deaths, ‘265 were due to fetal

⁸³ Ibid.

⁸⁴ NRHACG, ‘Perinatal mortality: a continuing collaborative regional survey’, 1717.

⁸⁵ McIlwaine *et al*, ‘The Scottish perinatal mortality survey’, 1103.

⁸⁶ MRWPPM, ‘Confidential inquiry into perinatal deaths in the Mersey region’, 491.

⁸⁷ NRHACG, ‘Perinatal mortality: a continuing collaborative regional survey’, 1717.

⁸⁸ McIlwaine *et al*, ‘The Scottish perinatal mortality survey’, 1106.

abnormality, which in 140 cases was malformation of the central nervous system'.⁸⁹ This demonstrated that even if folic acid was recommended to pregnant women as pre-pregnancy advice to reduce the risk of neural tube defects in the fetus, some women who had planned their pregnancy did not take the recommended folic acid. Furthermore, even if ever more antenatal screening tests were done, some women refused the test for different reasons or were too late to have it done, or refused to terminate a pregnancy when it was diagnosed or despite those screening tests some congenital malformations slipped through the net. Indeed, the Scottish perinatal mortality rate claimed that 'Earlier antenatal attendance, so that screening for central nervous system abnormality could be carried out and the patient offered termination of pregnancy, would reduce the number of abnormal births, although clearly would not prevent the occurrence of the abnormality'.⁹⁰ Terminations of pregnancy were considered as late abortion and did not fall under the stillbirth group and thus its rate. Indeed, as Peter Bromwich, clinical lecturer in obstetrics in Oxford, highlighted, for England and Wales only 'the 1929 Infant Life Preservation Act makes it a criminal offense to cause a child "capable of being born alive" to die and presumes viability at 28 weeks' gestation.'⁹¹ Abortions, hence, were made legal until the 28th week of pregnancy as stated in the Abortion Act, 1967 for the entire country except Northern Ireland. This was amended in 1990 by the Human Fertilisation and Embryology Act, so that abortion was only legal if

the pregnancy has not exceeded its twenty-fourth week and that the continuance of the pregnancy would involve risk, greater than if the pregnancy were terminated, of injury to the physical or mental health of the pregnant woman or any existing children of her family or that the termination is necessary to prevent grave permanent injury to the physical or mental health of the pregnant woman; or that the continuance of the pregnancy would involve risk to the life of the pregnant woman, greater than if the pregnancy were terminated; or that there is a substantial risk that if the child were born it would suffer from such physical or mental abnormalities as to be seriously handicapped.⁹²

Bromwich, moreover, pointed out that 'In 1985, 7.4 per cent of abortions after 20 weeks' gestation were performed under the section of the Abortion Act dealing with fetal abnormality ... The advent of chorionic villus sampling, umbilical blood sampling, and

⁸⁹ Ibid., 1103.

⁹⁰ Ibid., 1106.

⁹¹ Peter Bromwich, 'Late abortion', *BMJ*, 294 (1987), 527.

⁹² 'Abortion Act, 1967', *Legislation*, <<http://www.legislation.gov.uk/ukpga/1967/87/section/1>>, [Accessed 07 April 2017]; Human Fertilisation and Embryology Act, 1990, *Legislation*, <http://www.legislation.gov.uk/ukpga/1990/37/pdfs/ukpga_19900037_en.pdf>, [Accessed 07 April 2017].

placental biopsy should lead to earlier diagnosis of abnormality.⁹³ Advances in screening and other tests did permit the diagnosis of some fetal abnormalities earlier in pregnancy, and thus offering women termination of pregnancy earlier. Many fetal genetic abnormalities nevertheless remained difficult to diagnose before the 16th week of pregnancy. By the time the test was done, diagnosis given to the mother, and the time lapse given to allow the mother to make a considered decision on the course of her pregnancy, it explained the changes in the Abortion Act in 1990 in reducing the legal gestational age to 24 weeks, but still allowing therapeutic abortions to be performed after the 24th week gestation. Any fetuses aborted even after the 24th week according to this Act, then, were regarded as abortuses and not stillborn babies.

Furthermore, due to the improvements in obstetric and paediatric care, especially in neonatal paediatric care, many babies survived the early neonatal period, despite being premature or being born with a congenital abnormality or having been anoxic during birth, only to die later in the neonatal or post-neonatal period. Prematurity and congenital abnormalities as causes of perinatal deaths, therefore, decreased in regards to the perinatal mortality rate but did not disappear; they just influenced the later period of infant death rates.⁹⁴ That was why Prof Geoffrey Chamberlain claimed that ‘There is some degree of dissatisfaction with the use of perinatal mortality rates as an index of obstetric performance’.⁹⁵ This belief was also underlined by McIlwaine *et al* in their article on the report of the Scottish perinatal mortality survey. They pointed out that ‘changes in neonatal paediatric practice resulting in improved intensive care for babies of low birth weight changed the outlook for the small babies. The inadequacies of using crude perinatal mortality statistics to study the effectiveness of the perinatal health services have long been recognised’.⁹⁶ Chamberlain, hence, reckoned it would be better to separate the stillbirth rate from the neonatal mortality rate as it used to be done in the first half of the twentieth century.⁹⁷

⁹³ Bromwich, ‘Late abortion’, 527.

⁹⁴ [Anon], ‘Perinatal mortality rates – time for a change?’, *Lancet*, 337 (1991), 331.

⁹⁵ Chamberlain, ‘Vital statistics of birth’, 179.

⁹⁶ McIlwaine *et al*, ‘The Scottish perinatal mortality survey’, 1104.

⁹⁷ Chamberlain, ‘Vital statistics of birth’, 179.

First of all, even if the medical profession decided to keep the perinatal mortality rate as the current measurement, certain changes were necessary. Indeed, as Wigglesworth, paediatric pathologist in London, underlined, perinatal mortality is so closely related to birth-weight that ... [a] breakdown of perinatal mortality by birth-weight should thus constitute the first stage of any analysis.⁹⁸ Ronald Gordon, an obstetrician in Sheffield, also emphasised the importance of studying perinatal mortality in relation to birthweight in 1977. He said that

The national number of stillbirths has fallen continuously since 1955 ... Although affecting all weights it has been more pronounced in those over 2500g and in the higher subgroup of those weighing 2500g or less. Thus for stillbirths of all weights in England and Wales the fall in 1955-75 was 54.49 per cent, for those weighing 2500g or less it was 52.49 per cent; and for those weighing 1500g or less it was 49.26 per cent.⁹⁹

This quotation underlined why the medical community further turned their gaze towards the low birth-weight perinatal deaths as they were those deaths that the improvements in obstetrics and paediatrics in the mid-twentieth century did not succeed in preventing as much as in the normal weight infants.

Wigglesworth explained the differences in the perinatal mortality rates per weight categories for the Hammersmith Hospital as follows:

[Hammersmith Hospital's] figures suggest that the main impact of modern methods of perinatal care (caesarean section for preterm breech presentation, selective delivery of high risk cases at regional centres) may be on low-birth-weight infants of intermediate groups rather than on the VLBW infants about whom there has been so much argument. The figures also indicate that the perinatal mortality in infants above 2500g was higher than might be expected of a well-staffed regional centre. This has already been recognised at the clinical level and has led to reorganisation of some aspects of management. Thus the elementary examination of perinatal mortality rate in terms of birth-weight subgroups provides information of direct relevance for monitoring the efficiency of obstetric and paediatric care.¹⁰⁰

Gordon also believed that the increase in medical intervention preventing prolonged labour was the improvement of the perinatal mortality rate for low-birth-weight infants but did not help reduce the rate in VLBW babies.¹⁰¹ Wigglesworth and Gordon's arguments, similar to those of many other doctors, stressed why the classification of the perinatal deaths created

⁹⁸ J. Wigglesworth, 'Monitoring perinatal mortality, a pathological approach', *Lancet*, 316 (1980), 684.

⁹⁹ Ronald Gordon, 'Neonatal and "perinatal" mortality rates by birth weight', *BMJ*, 2 (1977), 1203.

¹⁰⁰ Wigglesworth, 'Monitoring perinatal mortality, a pathological approach', 684.

¹⁰¹ Gordon, 'Neonatal and "perinatal" mortality rates by birth weight', 1203-04.

by Baird appeared obsolete, not so much in the causes *per se* but by putting all the perinatal deaths together. They believed such classification should be done in two levels: per birth-weight, and then in each birth-weight category, per cause of deaths.¹⁰²

Other medical professionals reckoned the perinatal mortality rate should be completely restructured by including more types of deaths. This was the case of an obstetrical team from the Queen Mother's Hospital (QMH), Glasgow led by Professor Charles Whitfield in the 1980s. They published in July 1986 in the *British Journal of Obstetrics and Gynaecology* their proposed new structured perinatal mortality rate. They believed the perinatal mortality rate should be replaced by the total perinatally related wastage. It comprised perinatal deaths (stillbirths and first week deaths) but also late miscarriages (from 20 to 28 weeks gestation) 'except terminations of pregnancy for foetal abnormalities', all neonatal deaths and finally all infant deaths 'due or partly due to a primary perinatal complication or its treatment'.¹⁰³ Whitfield *et al* were not the only ones to think that late miscarriages and infant deaths should also be included in the 'perinatal mortality rate' in order to give a better picture and further improve the offered obstetric and paediatric care. Indeed, in an editorial published in the *Lancet* in 1984, the author introduced it as follows

The suggestion that perinatal mortality should now encompass all deliveries from 20 weeks of gestation onwards has highlighted our ignorance of the causes of fetal loss between 20 and 28 weeks. In this period even Down's syndrome can be hard to recognise on morphological grounds alone.¹⁰⁴

To know about the causes of fetal loss before the 28th week of pregnancy as well as the ones for perinatal deaths was important because 'Data from Scotland suggest that the numbers of late spontaneous abortions between 20 and 27 weeks are roughly equal to the numbers of registered stillbirths that are delivered after 28 weeks'.¹⁰⁵ The medical profession, therefore, wished to understand those deaths too in order to prevent late miscarriages as much as perinatal deaths, and that was why they believed the perinatal mortality rate and its classification should also include late spontaneous abortion. This implies that the medical

¹⁰² Gordon, 'Neonatal and "perinatal" mortality rates by birth weight', 1204; Wigglesworth, 'Monitoring perinatal mortality, a pathological approach', 685-86.

¹⁰³ C. Whitfield *et al*, 'Perinatally related wastage – a proposed classification of primary obstetric factor', *British Journal of Obstetrics and Gynaecology*, 93 (1986), 695.

¹⁰⁴ [Anon], 'Perinatal pathology', *Lancet*, 323 (1984), 431.

¹⁰⁵ [Anon], 'Perinatal mortality rates – time for a change?', 331.

profession regarded with high importance the causes of death for late miscarriages, and this focus towards late miscarriages increased even further with the debate around the change of definition of stillbirth, lowering the viability age of fetuses, and thus the mean viability weight.

III) Stillbirth: debate around and change of definition

The other reason behind the willingness to include the late spontaneous abortions in the perinatal mortality rate came from the debate around gestational age and viability as mentioned above. Using gestational age to define viability could be hazardous. In the late twentieth century, with the improvements in obstetric and neonatal care I highlighted earlier, some babies were born alive before the 28th week of pregnancy, meaning before the legal age of viability, and were therefore registered as live births even if they died in the (early) neonatal period. Indeed, in the early 1990s, ‘About 30 per cent of infants dying in the early neonatal period are less than 28 weeks’ gestation.’¹⁰⁶ On the other hand, a fetus dying in utero before 28 weeks’ gestation was marked as a late abortion/miscarriage, as just explained, meaning that those fetuses had no recognition, as abortions at whatever gestational age had never been required to be registered and thus to be named and recognised as a person *per se*. Funerals for late abortuses have not been a legal necessity but have been done more frequently from the late twentieth century onwards, as the evolution around the management of perinatal deaths and support to families highlighted in the previous chapter were also extended to families going through miscarriages and/or therapeutic abortions, as was emphasised by the interviews with the hospital chaplains.¹⁰⁷

That double standard about those infants (live birth before 28 gestation weeks versus late miscarriages before 28 weeks of pregnancy) was debated within the medical community at the national level but also the international one. In 1981, Dr Sunderland, practitioner in Sheffield, explained his dissatisfaction towards the current legal system. He pointed out that fetuses that spontaneously aborted before 28 weeks’ gestation were not registered as they were considered as miscarriages, as explained above. On the other hand,

¹⁰⁶ [Anon], ‘Perinatal mortality rates – time for a change?’, 331.

¹⁰⁷ Interview with Rev. Blair Robertson, 20 March 2015; Interview with Chaplain., 2 June 2015.

a fetus who had died before the 28th week of pregnancy but who was delivered at 28 weeks' gestation or later in an advanced level of maceration *was legally considered* as a stillbirth and hence was registered as such. Finally livebirth had no gestational age limit as long as the baby breathed; even if the baby was born under the 28th week of pregnancy that baby was considered a livebirth and thus needed to be registered.¹⁰⁸ This underlined all the ambiguities around the definitions between miscarriage, stillbirth and livebirth.

That was why Sunderland wished to change to a system based on birthweight.¹⁰⁹ This made sense, in the context of birthweight becoming an important variable in the study of perinatal deaths as highlighted in the previous part. Indeed, on his analysis of the three main causes of perinatal mortality, Prof Chamberlain underlined that 'Low birth weight is currently one of the biggest problems in the Western world.'¹¹⁰ Sunderland believed a focus on birthweight would help international comparison and he was not the only one to reckon so. Indeed, the World Health Organisation (WHO) 'recommended the introduction of a weight definition for perinatal mortality rates – live or dead born infants of 500g or more would be included within [countries' comparison of the perinatal mortality rate within their national borders], and [live or dead born infants] of 1000g or more for international comparisons'.¹¹¹ Definitions by weight then seemed the perfect solution to prevent the ambiguities cited above. The *Lancet* editorial 'Perinatal mortality rates – time for a change?', nevertheless, pointed out that there were also some limitations to the weight-based definition of perinatal mortality. The authors stated that 'These recommendations may well overcome some of the difficulties, but not all infants are weighed at birth, especially those most seriously ill and thought likely to die'.¹¹² Furthermore, full term fetuses could weigh less than the average for its gestational age for different reasons such as placental insufficiency, and thus be classified as premature when it was a full term pregnancy. Classifying perinatal deaths in regards to weights, therefore, also had limitations. Indeed, a perfect way to define mortality does not exist, as each variable would always have limitations or problems.

¹⁰⁸ R. Sunderland, 'Abortion and perinatal mortality rates', *Lancet*, 317 (1981), 896.

¹⁰⁹ Ibid.

¹¹⁰ Chamberlain, 'Vital statistics of birth', 180.

¹¹¹ [Anon], 'Perinatal mortality rates – time for a change?', 331.

¹¹² Ibid.

Britain preferred to define perinatally related mortality regarding to gestational age, as it had been done since the creation of the stillbirth rate in the nineteenth century. That was why, in the late 1980s – early 1990s, there were discussions into reducing the gestational age from 28 to 24 weeks for the definition of stillbirths in England, Wales and Scotland.¹¹³ This proposal was supported and even campaigned for by the RCOG and SANDS.¹¹⁴ This change of gestational age made sense because ‘Most of the fetuses that now go unregistered and weighing 500g or more fall into this gestational age group [between 24 and 28 weeks gestation]’.¹¹⁵ Furthermore, in choosing the new gestational age, this was done in parallel with the aforementioned amendment of the Abortion Act, 1967 in 1990 and the Human Fertilisation and Embryology Act, 1990. After 1990, stillbirth could deliberately not be defined with a gestational age under 24 weeks, as it is the case in New Zealand for example where the legal gestational age for stillbirth has been fixed at 21 weeks of pregnancy, because most therapeutic abortions because of fetal genetic abnormalities were still performed between the 20th and the 24th week of pregnancy, and social abortion was allowed up to 24 weeks’ gestation. The new viability age, 24 gestational weeks, thus had to fit with the legal gestational age limit for abortion, and prevent confusion and create a harmonisation between the two categories, for the most part as a small number of therapeutic abortions was occurring after the 24th week. The link with the Abortion Act, 1967 and the Human Fertilisation and Embryology Act, 1990, then, explains Parliament’s approval to pass the Still-birth (Definition) Act in 1992 changing the definition of stillbirth in regards to the viable gestational age for England, Wales and Scotland, which came into force on 1 October 1992.¹¹⁶ It said: ‘in the definition of “stillborn child” for the words “twenty-eighth week” there shall be substituted “twenty-fourth week”’.¹¹⁷ This definition still stands nowadays: a stillbirth is a fetal death from the 24th week of pregnancy onwards.

¹¹³ Chamberlain, ‘Vital statistics of birth’, 179.

¹¹⁴ [Anon], ‘Perinatal mortality rates – time for a change?’, 331; SANDS, ‘History’, SANDS, <<http://www.uk-sands.org/about-us/aims-and-objectives/history>>, [accessed 27 February 2014].

¹¹⁵ [Anon], ‘Perinatal mortality rates – time for a change?’, 331

¹¹⁶ United Kingdom, ‘Still-Birth Definition Act 1992 [16 March 1992]’, *Current Law Statutes Annotated*, 2 (1992), 29-33, <<http://ovidsp.tx.ovid.com.ezproxy.lib.gla.ac.uk/sp-3.24.1b/ovidweb.cgi?&S=EFGIFPAHKADDEBHENCHKBDJCCJJEEAA00&Complete+Reference=S.sh.47%7c1%7c1>>, [accessed 10 April 2017]; Still-birth (Definition) Act, 1992, *Legislation*, <http://www.legislation.gov.uk/ukpga/1992/29/pdfs/ukpga_19920029_en.pdf>, [accessed 27 March 2015].

¹¹⁷ Still-birth (Definition) Act, 1992, *Legislation*, <http://www.legislation.gov.uk/ukpga/1992/29/pdfs/ukpga_19920029_en.pdf>, [accessed 27 March 2015].

Conclusion:

In the late twentieth century, even if women could be offered more options in regards to the labour/delivery such as episiotomy, the medical profession, as well as the DHSS, still believed high medical intervention and surveillance was the key to lowering further the still declining perinatal mortality rate and offer the best chance to their fetal patient. That was why they continued to always push more women to deliver in well-equipped and well-staffed hospitals where they could be offered continuous fetal-heart rate monitoring, and be delivered in emergency by Caesarean section or induction of labour if required, as well as having the best resuscitation equipment or intensive neonatal care available if needed. Those recommendations were listed and promoted by the Short report in the early 1980s. However, the Conservative Governments under Margaret Thatcher of that time were more in favour of privatisation than expending their budget towards the NHS. Therefore, the report and its recommendations were heard but not supported or applied and the gap in the perinatal mortality rate between the social classes continued to expand even if the national rate kept on declining. We see here, as in the previous chapter, the distinction between what was highly recommended or suggested in guidelines and what was done in practice, highlighting the political and financial barriers to the implementation of guidelines and recommendations.

The stillbirth rate, moreover, began to be contested in the way it was constructed and classified, and birthweight was seen by medical professionals as a key factor in defining and classifying perinatal deaths due to the improvement in obstetric and neonatal care. However, in 1992, when the Government changed the stillbirth definition for England, Wales and Scotland, they did not adopt birthweight as the new indicator of viability but kept gestational age as the way to define viability. Gestational age was then reduced from 28 to 24 weeks as most very-low-birth-weight babies who survived birth were aged 24 weeks' gestation onwards, and because abortion could be performed until the 24th week of pregnancy.

Conclusion

I) Summary

This thesis provides a significant contribution to the historiography of maternal and infant welfare, by explaining and analysing medical developments in the understanding, prevention and management of stillbirths in Scotland through the twentieth century, within a context of social change. This thesis is set more broadly in Britain, with a special reference to Scotland, and therefore the findings are relevant and important in this regard. Key findings include how and why the fetus came to be viewed as a patient in its own right, and the implications for antenatal and obstetric practice as the medical community sought to reduce the stillbirth rate. At the most basic level, understanding stillbirth relied on being able to classify different causes and pull out specific issues, which influenced pregnancy outcome. Attempting to prevent stillbirth and treat conditions which threatened the fetus were much more complex, as medical and public health professionals examined physiological, environmental and clinical factors and their interactions. As my thesis has also shown, the medical attention towards the understanding and prevention of stillbirths interacted in multiple ways with legislation throughout the twentieth century, and societal and religious views, especially in the late twentieth century.

As Chapter 1 shows, the period prior to the introduction of registration of stillbirth in Scotland in 1939 was one in which medical practitioners turned their gaze towards the fetus. Crucially, from the 1900 onwards, practitioners began to refer to the fetus as an ‘unborn child’, which positioned the fetus as a being, which the medical profession ought to protect and give the best chance in life. This development took place within a context of fertility decline and fears about the overall fitness and health of the British population, following defeats in the Boer Wars, expressed in the language of degeneracy and the ‘state of the nation’. Such concerns were reaffirmed during and after the First World War, given the high levels of male mortality. All those events meant that if there were fewer babies, those needed to be given the best opportunity to be born alive, healthy and strong in order to prevent perceived ‘Racial Degeneration’, and especially within the working class.

A key outcome of this increased attention to the fetus was emphasis on antenatal and intranatal care, regardless of the social and economic status of the pregnant woman. As I demonstrated, this was evident in the development of antenatal care with reference to stillbirth prevention, adding to the current historiography on antenatal care. Antenatal supervision allowed medical practitioners to know the woman, and essential elements about her and her pregnancy, before labour, which could potentially affect her delivery and the unborn child. I argued that antenatal care provided the medical profession more control over the women, especially in the interwar period when antenatal care developed and the number of women going for antenatal supervision increased exponentially. Nevertheless, many women still refused or could not afford to visit antenatal clinics at all or as frequently as the obstetricians recommended, and hence many pregnant women were seen for the first time by a midwife or a doctor while in labour. At the same time, there was greater regulation of midwives under medical direction through relevant Parliamentary Acts, and establishing obstetrics as the core medical specialty in respect of childbearing and childbirth.

As I showed in Chapter 1, antenatal care aimed at preventing stillbirths and early neonatal deaths. The obstetric community sought to understand what caused those deaths as well as to improve their knowledge on stillbirths and prevention thereof. This meant first defining stillbirth in order to standardise and allow comparison to be done throughout the country. Second, it meant improving knowledge of pregnant women's bodies and stillbirths through study of the maternal bodies and autopsies of stillborn babies. Prior to registration, known causes of stillbirths were contracted pelvis, toxæmia of pregnancy, breech presentation, antepartum haemorrhage and the much-feared syphilis. The knowledge and methods of prevention for such conditions are recounted in this chapter at the national level but also at the level of Glasgow. Finally, the Scottish medical community believed that the best way to help them understand the causes of stillbirths, and thus prevent them, was for stillbirths and the (probable) causes of death to be registered, which was granted to them by a Parliamentary Act in 1938.

While there was much gained in terms of medical knowledge of stillbirths prior to the outbreak of war in 1939, the circumstances of the War threw up unexpected consequences. Chapter 2 highlighted the steep decline of the stillbirth rate in Glasgow, Scotland and Britain in general between 1939 and 1949. The medical community believed the stillbirth rate would

either remain at the 1939 level during the war or rise due to the hardship that accompanied the war effort. As analysis of the stillbirth rate and causes in the annual reports published by the Registrar-General for Scotland from 1939 to 1944 showed both the falling rate and how it was explained and where more knowledge and tools needed to be developed to diagnose conditions earlier in order to further reduce the rate. The impossibility of diagnosing certain main conditions causing stillbirth in the 1940s explained some medical and technological developments in the second half of the twentieth century to diagnose those conditions during the antenatal period instead of at the time of labour. This unexpected decline was thus much researched at the time, but has not been previously explored by historians in relation to stillbirth. The medical profession turned their gaze towards the importance of nutrition. Medical and public health professionals believed that the increased standard of nutrition within the female population because of rationing during the war explained the steep decline. Nutrition was a main, but not the only, focus of obstetricians in understanding the decline of the stillbirth rate, and this is studied in this chapter with the case of Glasgow in the 1940s. Finally, the period also saw the great reduction of syphilis as a cause of stillbirth, due to the introduction of penicillin.

Thus, nutrition was thought to have played a major part in the reduction of the stillbirth rate in the 1940s and 1950s, but I also showed that the obstetric causes of stillbirth were not forgotten. As Chapter 3 identifies and explains, much research and attention was given to those causes at the national level in order to reduce them further. This chapter highlighted the fact that rising standards of nutrition and of living reduced (and soon after put an end to) the occurrence of contracted pelvis in women, even if this happened later in the Scottish industrial belt. The focus of obstetricians shifted to prematurity, and, to a lesser extent, postmaturity. Those issues caused stillbirths by themselves but were also frequently linked to other conditions, which increased the risk of stillbirths further. The emphasis which had emerged in the early decades of the twentieth century on antenatal care was reinforced as practitioners consistently recommended that women attend earlier and more regularly throughout their pregnancy. There was a shift towards greater standardisation within an overall context of increased medicalisation. This was evidenced by the development of routine check-ups, and the increased use of Caesarean section and induction of labour as the recommended methods of prevention of stillbirth. Throughout this period, as previously, the aim was to provide the fetus with the best chance of life possible.

With the advent of the NHS in 1948, as Chapter 4 showed, there was a strong belief in the medical community that the welfare state offered great potential for increasing live births. Throughout the first three chapters, I demonstrated that time, resources and other commitments often prevented women from accessing antenatal care as well as medical attention during pregnancy and delivery. The NHS offered medical care free of charge at the point of delivery for all women for the first time in British history, and the level of care offered had never been more efficient, skilled and technological. When this greater potential was not obviously realised, the medical profession perceived it as a failure. While we now know it is normal for the rate to slow down after a period of steep decline, this perceived failure spurred activity to understand the declining rate of improvement in the stillbirth rate.

A key development in understanding the perinatal mortality rate was the 1958 enquiry set up by the National Birthday Trust. This was called the British Perinatal Mortality Survey (BPMS), and set out to report on all the perinatal deaths within three months of that year; the point was to aid medical understanding of where to focus to reduce perinatal mortality more sharply. The BPMS put in place a new classification of the causes of perinatal deaths based on the one created by the leading obstetrician Dugald Baird. In Scotland, furthermore, the medical community and Procurator Fiscal Society campaigned to Parliament in the early 1960s to update the Scottish form of the causes of stillbirths to the standardised international form, already in place in England and Wales. This form registered all the causes that played a role in a stillbirth. This new form promoted better understanding of all the conditions and abnormalities that could cause stillbirths. It also allowed national and international comparisons, highlighting where the medical profession had to focus more carefully to improve. It was brought into force in the mid-1960s and was used for the rest of the period studied.

The BPMS and the new form for the causes of stillbirth were two means to understand better the major causes of stillbirth and where medical attention needed to be. One of the causes the medical practitioners began to focus on was what Rhesus isoimmunisation was, which was causing much worry to doctors and midwives during that period as they had little means to prevent fetal death when the woman's body had started creating antibodies rejecting the fetus. At the same time, obstetricians began to blame general practitioners'

antenatal care provision and surgery unit as well as home delivery for the slow decline in the stillbirth rate. Obstetricians claimed that hospital antenatal care and delivery offered the best chance of survival to the fetus; hospital care offered the latest obstetric technologies (X-ray imaging, and in Glasgow at that period ultrasound was being developed and tested for obstetrical cases) and provided the best environment to perform surgical intervention even in the case of an emergency. In Scotland, the Department of Health for Scotland supported the obstetricians' claim and encouraged hospital deliveries, asking for a percentage of 75 of hospital confinements.

From the 1960s onwards, as Chapter 5 showed, there was a high level of technological medicalisation and hospitalisation of pregnancy and childbirth in the interest of the new patient in itself, the fetus, bypassing the woman and her wishes. The obstetric technologies allowed the medical community to see and monitor the fetus directly, making it a patient in its own right. In 1964, the Queen Mother's Hospital (QMH) opened in Glasgow, indicative of this focus. The analysis of the BPMS in this period and renewed steep decline of the perinatal mortality rate from the mid-1960s onwards were taken by the obstetricians as the sign that high medicalisation and hospitalisation rates were effective and hence to be further encouraged. Caesarean section and induction of labour rates increased rapidly during the period as obstetricians referred many women to such procedures as soon as their pregnancy was not following its normal course or if the obstetricians believed it was beneficial for the fetus' survival.

In Glasgow, this highly medicalised era was supported with the opening of the QMH in 1964, which increased drastically the number of maternity hospital beds in Glasgow to help reach the required percentage of hospital deliveries. The QMH, moreover, was built in a modern way pleasing to the middle- and upper-class women who came to deliver at the QMH instead of private nursing homes. The QMH was also the first maternity hospital in Britain to have an ultrasound department, underlining the importance ultrasound was taking in Glasgow in antenatal care and the detection of abnormalities.

During that period Rhesus isoimmunisation was still receiving high attention from the medical community but the discovery of the anti-D immunoglobulin put an end to most

stillbirths due to this condition as long as the women were given this treatment during and at the end of their pregnancy.

Whilst environmental factors had been a concern in the early twentieth century, in the latter part of the century public health attention shifted to lifestyle behaviours. Maternal smoking during pregnancy was seen to increase the risk of stillbirth through both anoxia of the fetus and reducing the fetal birthweight, factors which lowered the chance of fetal survival. Women were recommended to quit smoking, at least during their pregnancy, as this habit could harm their fetus. While working-class women had been targeted by medical practitioners in order to be educated around all the aspects of the care of infants and children, in the 1960s onwards, there was a renewed emphasis on working-class women, who were already more likely to have a stillbirth as the 1958 BPMS emphasised, about lifestyle behaviours and especially smoking in pregnancy. Therefore, the medical profession felt it was its duty to put an emphasis on reducing more steeply the perinatal mortality rate in the working-class female population.

By the mid-1970s, in the era of second wave feminism, highly medicalised childbirth was contested vocally by women who sought more woman-centred care. The continued fall of the stillbirth rate, furthermore, meant that a live birth became the expected norm; stillbirth then when it occurred was felt even more unexpectedly and felt like a tragic shock for those women/families. This raised issues around the complete absence of management and recognition from the medical community, which was seen as inappropriate and unbearable. Two women played a large part in patient advocacy for better management and recognition of stillbirth: Bel Mooney and Hazelanne Lewis, the founder of what is now known as the Stillbirth and Neonatal Death Charity (SANDS).

This patient advocacy led to improved guidance around the management and recognition of stillbirth during pregnancy, childbirth and the mourning process. Chapter 6 argued that many changes were made in the guidelines and advice in hospitals and the medical community in large. Nevertheless, the medical care of the late twentieth century was over-stretched and lacked human and financial resources thus guidance could not apply all the recommendations. This chapter, therefore, recounted how the management of stillbirth and support for the mothers/families ought to be, but there were limits as not all aspects of

guidelines were or could always be applied. This chapter underlined how mothers/families received, in most places, most of the time, person-centred care and had options offered to them in all aspects of the management of their stillbirths from the diagnosis to the funeral. This chapter explained how the mourning process came to be seen as essential in a stillbirth, being part of a general trend of the psychological mourning process begun in the late 1960s with the identification of the five stages of acceptance of death and dying.

Chapter 6 also introduced consideration of religious perspectives on stillbirth, explaining the impact of medical advance and patient advocacy on the role and place of religious explanations of fetal death. Medical advances had resulted in a low stillbirth rate, which, in tandem with changes around the management of stillbirth, prompted bereaved mothers/families to ponder what happened to the souls of their stillborn babies if they were religious. This resulted in some religions/faiths reconsidering this issue and for some religions/faiths in theological debate, and then change, around the place of stillborn babies in the afterlife or around the Will of God. Furthermore, the possibility of performing funerals for stillborn babies also pushed religions/faiths to adapt their pastoral care and funeral rites to the mothers'/families' wishes. As the Scottish population became more and more secular, the role of hospital chaplains in providing pastoral care increased, so much that they now have the same status as any other NHS employees, personally employed by the NHS. Finally, SANDS started organising remembrance ceremonies to remember all stillborn babies and neonates, and those ceremonies were especially welcomed by women who had a stillbirth before the acknowledgement of need for recognition and thus were never given the opportunity to know and say goodbye to their stillborn babies. Those memorials gave them the chance to do so. It highlights that, even if women accepted their stillbirth and/or were never vocal about the absence of management of stillbirth and time spent with their stillborn baby, they had wished for such recognition and the opportunity to at least properly say goodbye to their stillborn child. SANDS gave them this opportunity, even if years after the event.

Finally, the period from the mid-1970s to 1992 was characterised by a relative fall in public spending for the medical system, meaning the NHS services became always more over-stretched both financially and in terms of human resources. While the perinatal mortality rate continued to fall during this period, the rate for high risk women, including

social class IV and V women, remained higher than the national rate, and even threatened to increase. The Government and the Department of Health and Social Security (DHSS) asked for a report on perinatal mortality in the late 1970s, known as the Short Report, after the Committee Chairwoman, Renée Short. This report was requested because, while the British perinatal mortality rate had been continually declining since stillbirths had been registered, the British perinatal mortality rate had always remained higher than the rate in many Western countries with similar medical and socio-economic circumstances. The report's aim was then to recommend ways to reduce the British perinatal mortality rate to the same level as, say, the Swedish perinatal rate.

This report did not wish to change the entire obstetrical service. The committee believed all deliveries should take place in well-equipped and well-staffed maternity hospitals/wards to help reduce further the perinatal mortality rate everywhere in Britain, and thus condemning small delivery units and home delivery, thought to increase risk for the fetus. The report highlighted that women did not attend antenatal care as early or as often as the medical profession recommended. I argued that this was due both to ideological grounds, as was believed by Ann Oakley and other feminist academics, but also to practical grounds owing to the non-accommodating nature of the service especially for women who worked and/or had children under school age, and the impersonal experience. The report recommended antenatal care to be more woman-centred and flexible (in the location and according to the women's pregnancy and situation), and underlined the importance of antenatal care: everything should be done to encourage women, and especially high-risk women, to come earlier and more frequently throughout their pregnancy. Finally another main point of the report was the continuation of the fight against smoking in pregnancy. This was done by any means available such as factual information but also playing on guilt, stressing that if a woman was smoking and had a stillbirth she was partly to blame as she could have prevented the tragedy. I argue that women had known the facts for decades but still smoked during their pregnancy despite knowing. At the end, women did what they judged was beneficial for their own circumstances, even if it was not exactly what was recommended.

The Short report was a failure, as all the expensive recommendations were rejected on the grounds of lack of funds that the Government could inject into the NHS. The report,

nevertheless, was unique as its committee members came from many different political parties, which was a first, and therefore, their recommendations did not die when the committee was dissembled. Some of those recommendations have been brought back to Parliament's attention since then, as well as new ones, and new recommendations are frequently brought to Parliament even today, and especially during the annual Baby Loss Awareness Week.

By the late twentieth century, there was consensus within the medical profession that classifications of perinatal mortality were outdated, among other problems. Many obstetricians thought classifications should be reviewed and renewed based on birthweight, as low birthweight came to be the major cause of stillbirths in otherwise normal cases. Furthermore, more and more babies under the legal viability age were born alive due to the constant attention towards the fetal patient and ever-improving obstetric and paediatric technologies. The medical profession turned its gaze, then, towards the similarities in the causes of deaths between late miscarriages and stillbirths and the need to include them in the same mortality rate or to change the age of viability. This was done in parallel with the changes in the Abortion Act, 1967 in 1990, and the viability age – and thus the definition of stillbirth, as well as the gestational age until which abortion could be provided – was now defined at 24 weeks' gestation in 1992. In Britain, gestational age as legal definition of stillbirth was kept despite long debates around changing the definition based on weight.

II) Reflection

This thesis has convincingly demonstrated that, during the twentieth century, the medical profession, and especially the obstetric community, put considerable effort into understanding the reasons behind stillbirths and developing treatments and methods to prevent such deaths. Many factors, from fears of 'the state of the nation' to advanced technological developments, influenced these evolutions, leading to significant changes in practice over the period, which have been clearly detailed. There were also legislative changes, which the medical profession advocated for and benefitted from, including the registration of stillbirths and changes in the classification of stillbirths. Crucial within this was the significant shift towards seeing the fetus increasingly as a patient in itself.

Technologies, mostly X-rays, ultrasound (mostly used only in Glasgow until the mid-1970s) and fetal monitoring, made the fetus visible to medical practitioners. This encouraged the profession to turn its gaze completely towards this being, making it a patient in itself, bypassing the woman and her rights as a patient. This trend had begun with concerns about the 'unborn child' in the early twentieth century, but accelerated within the second part of the century. Finally, with the establishment of the NHS, providing medical care free of charge, the expectation of live births increasingly encouraged the medical belief that everything possible should be done for the well-being and survival of the fetal patient. As a result, pregnancy and childbirth became ever more medicalised, technological and hospitalised. This was the case until the late twentieth century, albeit with some concessions to women's own wishes from the late 1970s onwards, as long as the well-being and survival of the fetus were not compromised.

As my thesis clearly demonstrates, medical attention towards the understanding and prevention of stillbirths influenced both legislations and religious views in diverse ways. From a legislative perspective, in the early twentieth century, parliamentary Acts were passed to regulate midwifery and midwives, to protect women and their offspring (fetuses and children), and to register stillbirth. The interaction between medical developments and legislations continued throughout the century, evident, for example, in changes in the form for registering the causes of stillbirth, and changes in the definition of stillbirth when the previous one was no longer adequate. However, as I have also shown, societal views on stillbirth influenced the legislations; it was SANDS that succeeded in having a first name included on the form for the registration of stillbirth in 1982. Finally, as Chapter 6 emphasised, it was because of the medical advances and the change in the societal perspective on stillbirth that changes in religious views on stillbirth were apparent at both the theological and pastoral care levels in the late twentieth century. While the NHS had previously had chaplains related to a specific religion/faith from 1948 onwards, it was notable that the NHS in the present day employed chaplains under no religious denominations to offer pastoral care. This is remarkable given the recognised secularisation of society, as it shows the continued need of parents for pastoral and faith support, regardless of religious belief.

Given the volume of material covered in this thesis, it is notable that the voices of mothers and parents are absent. Their experiences are apparent in the discussion of material from SANDS and through the testimony of those who ministered to them in religious terms and looked after them medically. But it is clear that further research is needed to analyse their side of the story and compare it to the discourses discussed here. Further, this thesis has focused principally on Scotland, with a special reference to Glasgow, and this raises questions about the comparability with other countries. Further research could be done, for example, about Northern Ireland, where the legal system was quite different from the rest of the United Kingdom (for example, registration of stillbirths was not required before the 1960s, and the Abortion Act, 1967 does not apply to Northern Ireland) and religion played a more active role in society and with regards to the policy makers. Nevertheless, given the broader contextual discussion of Britain, this thesis demonstrates that even if Glasgow always had, and still has, a higher stillbirth rate than the rest of Scotland and Britain, and bonding with the fetus through ultrasound scanning began earlier, experiences regarding stillbirth are arguable very much representative of the rest of Great Britain. Nonetheless, as it stands, my thesis makes a considerable and significant contribution to understanding the multiple and complex reasons behind the developments around stillbirths in Scotland in the twentieth century from a medical perspective, with an impact on legislation throughout the century, and on societal and religious views in the late twentieth century.

Appendix 1: Registration of Stillbirth form, England and Wales, 1926

Source: Births and Deaths Registration Act, 1926, *Legislation*, <http://www.legislation.gov.uk/ukpga/1926/48/pdfs/ukpga_19260048_en.pdf>, [accessed 27 March 2015].

SCHEDULES.

FIRST SCHEDULE.

FORM OF REGISTER OF STILL-BIRTHS.

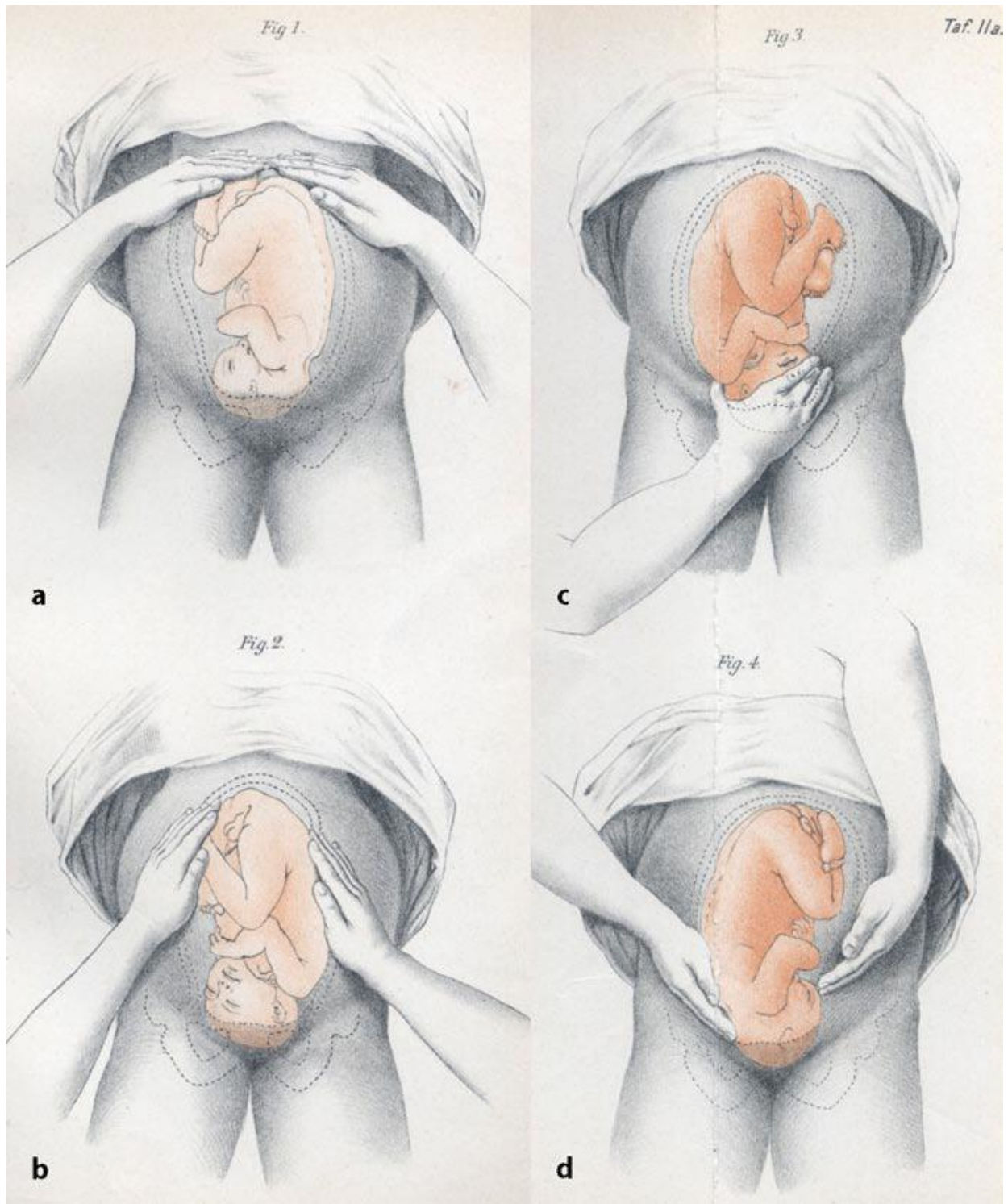
No.	When and Where Born.	Sex.	Name and Surname of Father.	Name and Maiden Name of Mother.	Rank or Profession of Father.	Signature, Description, and Residence of Informant.	When Registered.	Nature of Evidence upon which registered as Still-born.	Signature of Registrar.

[16 & 17 GEO. 5.] *Births and Deaths Registration Act, 1926.*

[CH. 48.]

A.D. 1926.
Section 7.

Appendix 2: Christian Gerhard Leopold's Maneuvers



Source: Leopold, Spörlin, 'Die Leitung der regelmäßigen Geburt nur durch äußere Untersuchung', *Arch Gynäkol*, 45 (1894), 337–368, Reprinted in: H. Ludwig, 'Christian Gerhard Leopold (1846–1911). Nicht nur der Lehrmeister der Geburtshilfe', *Der Gynäkologe*, 37 (2004), 961–966.

Figure 3/C: Pawlik Grip.

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Interview with Dr Kenneth Collins, 14 May 2015
Interview with Dr Mary Hepburn, 22 January 2016
Interview with Rabbi Kate Briggs, 25 June 2015
Interview with Rev. Blair Robertson, 20 March 2015
Interview with Rev. David Keddie, 16 October 2014
Interview with Rev. Malcolm Cuthbertson, 24 October 2014
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