POSTNATAL ILLNESS: A QUALITATIVE ANALYSIS OF MATERNAL EXPERIENCES OF ATTACHMENT AND RESEARCH PORTFOLIO

VOLUME ONE

(VOLUME TWO BOUND SEPARATELY)

Fiona A Smith M.A

August 2007

Submitted in partial fulfilment of the requirements for the degree of Doctor of Clinical Psychology (D Clin Psy).

ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 – 1346

ACKNOWLEDGEMENTS

I would like to take this opportunity to thank Dr Andrew Gumley for his support and guidance throughout the research programme, Dr Roch Cantwell for his assistance in the development and implementation of the major research project, and Dr Gavin Richardson for his help and support with conceptualising the single case design.

I would also like to thank all of the staff at the Perinatal Mental Health Unit at the Southern General Hospital for their help and support throughout the project. I would like to extend very special thanks to all the mothers who took the time to participate in the major research project and to the mother who participated in the single case design - without you this research would not have been possible.

Many thanks to all of the clinical supervisors who have contributed to my development over the past three years - their advice and guidance are much appreciated. Also, to the fifteen other trainees who were the cohort of 2004 - thanks for your camaraderie. To the study (wine) group (Ailish, Becky, Lisa and Wendy) - I am indebted to you for your friendship and will miss all the chat, coffee and wine and to Hayley and Marie - thanks for your friendship and support throughout this process - without all of you this would have been much harder.

Finally, I would particularly like to say a huge thank you to my husband John for his continuous support, for believing in me and because he never complained despite living in separate cities for three years. Also, very special thanks to my Dad who was continually encouraging and cajoling me along and to my Mum who has always supported me throughout my life. John, Mum & Dad - you lived through this with me – this is dedicated to you.

Faculty of Medicine Graduate School "Declaration of Originality Form"

You have a responsibility to the University, the Faculty, your classmates, and most of all to yourself, to act with integrity in your academic work. In particular, the work that you submit for assessment, other than for team exercises, *must be your own.* Just as cheating in examinations is a serious offence, so any form of collusion or plagiarism in assessed exercises is dishonest and unacceptable to the University.

The following is an extract from the University's Statement on Plagiarism. Please read it carefully and sign the declaration below.

Plagiarism is defined as the submission or presentation of work, in any form, which is not one's own, without acknowledgement of the sources. Plagiarism can also arise from one student copying another student's work or from inappropriate collaboration. Allowing someone else to copy your work is just as bad as copying someone else's work yourself. It is vital that you do not allow anyone else to copy your work. Take care when discarding work and do not leave copies of your own files on a hard disk where others can access them. If you have any doubt as to what level of discussion is acceptable, you should consult your lecturer or the Course Director.

The incorporation of material without formal and proper acknowledgement (even with no deliberate intent to cheat) can constitute plagiarism.

With regard to essays, reports and dissertations, the rule is: if information or ideas are obtained from any source, that source must be acknowledged according to the appropriate convention in that discipline; and any direct quotation must be placed in quotation marks and the source cited. Any failure to acknowledge adequately or to properly cite sources of information in submitted work constitutes an act of plagiarism.

Plagiarism is considered to be an act of fraudulence and an offence against University discipline. Alleged plagiarism will be investigated and dealt with appropriately by the University.

The University Plagiarism statement is available from:
http://senate.gla.ac.uk/academic/plagiarism.html

Please complete the information below in BLOCK CAPITALS.

Name **FIONA A SMITH** .....

Matriculation Number **0403479** .....

Course Name **DOCTOR OF CLINICAL PSYCHOLOGY** .....

Assignment Number/Name **RESEARCH PORTFOLIO VOLUME ONE** .....

DECLARATION:

I am aware of the University's policy on plagiarism and certify that this assignment is my own work.

Signed..... Fiona A Smith ..... Date..3/8/2007.....

TABLE OF CONTENTS

Volume One (*this bound volume*)

Chapter 1: Small Scale Service Related Project

An evaluation of the effectiveness of "Stress–Control" anxiety management groups in the east end of Glasgow: what factors affect attendance?

Prepared in accordance with requirements for submission to the Journal of Mental Health (Appendix 1.1)

Fiona A Smith*
Section of Psychological Medicine
Division of Community Based Sciences
University of Glasgow
Academic Centre
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow G12 0XH
+44 141 211 0607 (tel)
+44 141 357 4899 (fax)
fiona.redmoss@googlemail.com

* author for correspondence.

Submitted in partial fulfilment of the requirements for the degree of Doctorate In Clinical Psychology (D. Clin. Psy)

ABSTRACT

Background: The model of 'stress-control' by White and his colleagues (1990, 1995, 1997) has been used effectively in the treatment of Generalised Anxiety Disorder and latterly in the treatment of other anxiety disorders. It involves treating patients in large-scale didactic Anxiety Management groups. This model is currently being used by the east end of Glasgow psychology services with patients who have an anxiety disorder.

Aims: To investigate the outcome of the stress control anxiety management groups using the CORE-OM (Clinical Outcomes in Routine Evaluation - Outcome Measure) and HADS (Hospital Anxiety Depression Scale). Further, to investigate factors that may affect attendance at these groups.

Method: Data from 240 patients were collated from the CORE-OM, HADS measures and case notes. Patients were categorised into groups of those who had completed sessions, defaulted and who had not attended. Of the 57 patients who had completed, full outcome data were available for 37 patients.

Results: Statistical significance was found on the total scores of the CORE-OM and 3 subscales (well-being, problems and risk) and the HADS Anxiety and Depression subscales. However, reliable and clinically significant change was only observed in a small percentage of the patients. A recovery rate of 19% was found on patients on the HADS subscale of Anxiety and 27% on the Depression subscale. A recovery rate of only 13.5 % was found for patients on the CORE-OM.

Conclusions: The results of the patients who completed the session's show modest support for the overall effectiveness of the stress-control groups. It remains unclear why so few patients take up the opportunity to attend. Other factors that may affect attendance are discussed.

Keywords: **Stress-control, CORE-OM, HADS, anxiety management**

INTRODUCTION

Anxiety is one of the two most common disorders in primary care patients, second in prevalence only to depressive disorders (Thase, Kroenke, Trivedi and Ward 2004; White 2000). At the primary care level in the UK it is estimated that up to 70 percent of patients referred by General Practitioners (GPs) to Psychological services could be classified as having anxiety problems, one of the most prevalent being generalised anxiety disorder (GAD) (Stein, 2004; Espie and White, 1986; Turvey, 1997 cited in White, 2000). As a result of this a number of authors have considered the implications of the prevalence of GAD on healthcare services (e.g. Stein, 2004; Lang, 2004; White, 1997; White, Brooks and Keenan, 1995) in an endeavour to establish a protocol for successful treatment. Pilot work carried out by White and Keenan (1990) investigated how to improve therapeutic gains in patients with GAD resulting in the development of structured "Stress-Control" Anxiety Management evening classes. Subsequent controlled comparative investigations of this therapy have shown evidence of improvement in patients with GAD which have been maintained at follow-up (White, 1998; White, Keenan and Brooks, 1992; White et al 1995). This therapy will be outlined further in subsequent paragraphs.

In considering the treatment of anxiety disorders however, although GAD is one of the most prevalent, it has been shown that there is a high incidence of comorbidity, both within and between the anxiety disorders and mood disorders (Stein, 2004; Kessler, Nelson, McGonagle, Lui, Swartz & Blazer 1996; Erickson, 2003; Brown, Campbell, Lehman, Grisham and Mancill, 2001). These high levels of comorbidity have been found in both clinical and community studies

perhaps therefore challenging the notion that patients diagnosed with an anxiety disorder can necessarily be treated as a homogenous group (Erickson, 2003; White, 2000; Kessler et al, 1996). Given the realities of everyday clinical practice where patients form a heterogeneous group of mixed disorders it may be appropriate therefore to consider treatment packages which provide for the range of symptoms found in the various anxiety and mood disorders. It has been suggested that certain key features of anxiety disorders (e.g. panic attacks, social anxieties, worry and intrusive thoughts) may exist in some form in most anxiety patients (Sanderson and Barlow cited in White, 2000). This has led to various authors positing that merging patients with different anxiety disorders into a single group format may lead to greater efficiency and cost-effectiveness for the services as a whole (e.g. Erickson, 2003; White, 2000).

Waiting lists are a primary concern for the mental health services and although one-to-one therapy may be seen as the best approach in terms of treatment, it may be that group treatment can help a larger number of patients in a shorter time span (Chambless and Hollan, 1998). Group therapy is in widespread use in primary care settings and has been used as an approach to help reduce waiting lists (White, 2000) as well as providing a large amount of information to a larger quantity of people in one setting. This has led to the development of a model by White and colleagues which although initially directed towards patients with GAD has now generalised to a wider population of patients suffering from anxiety disorders, given the heterogeneous nature of this group.

As indicated above, White and Keenan (1990) undertook pilot work on a programme they termed the "Stress-Control" method. This programme

comprises six sessions of evening class based within a cognitive behavioural therapy framework. This large group didactic therapy has been considered an effective form of therapy in primary care settings. The purpose of the "Stress-Control" programme is to provide education and information on stress and the management thereof to patients who have been referred to the service with anxiety related problems. Furthermore it aims to teach self-assessment skills to provide patients with the necessary tools to enable them to effectively "become their own therapists" (White, 2000).

The "Stress-Control" programme is currently being implemented by the Psychology service in the east end of Glasgow although it has been adapted to encompass a broader range of patients. The programme run in the east targets a range of patients suffering from various disorders such as GAD, panic disorder, mood disorders, stress, trauma, irritability and/or anger and stress-related difficulties. This group has been run for approximately nine years by the consultant clinical psychologist and counselling psychologist. Participants are generally invited to attend for an initial assessment to introduce them to the group programme. The programme, run over a six-week period, consists of an introduction to stress, how the body reacts to it, the cognitive and behavioural aspects of stress, the nature of panic attacks and related clinical problems.

The data collected for the "Stress-Control" groups in the east end of Glasgow has been subject to previous audits by Harvey (1998) and Adam (2002). The findings of the former study revealed one patient showing a clinically significant change on the anxiety subscale of the HADS. There was no clinically significant change on the depression subscale. The CORE-OM was not administered at that

time but has since been implemented after the later study by Adam (2002) found patient perceptions of the CORE-OM to be favourable. This latter study therefore included analysis on both the HADS and CORE-OM. The findings revealed that although improvement was seen in all the subscales and scores of both measurements, clinically significant change was not observed in the group means apart from in the well-being subscale of the CORE-OM. However following analysis of the individual patient's scores it was established that approximately 42 % of patients showed clinically significant change on the CORE-OM, and 50 % on the HADS.

It is important to consider the effectiveness of services provided within the NHS mental health care system and therefore this audit aims to provide the east end of Glasgow psychology department with ongoing and up-to-date information on the continued usefulness of the "Stress-Control" evening classes. Non-attendance and subsequent dropout rates have previously been high within this sector and the team are therefore interested in considering what variables may affect attendance (e.g. gender, travelling distance to clinic). This information will be used to ascertain whether further action requires to be taken in order to achieve higher attendance in future groups. Further, the findings will provide the current team with additional information regarding the effectiveness of these groups for patients with anxiety related problems.

This audit aims to address three main questions:

1. Do patients' scores on the psychometric tests, used for evaluating potential change, improve after they complete the sessions of stress management?

2. Does gender impact on attendance rates? Is there a difference in patterns of attendance between men and women?
3. Is the locality of the clinic affecting dropout rates? Is travelling distance having a negative impact on patients' attendance?

METHODOLOGY

Participants

A total of 240 patients were referred to the stress control group from a number of sources including GPs, Psychologists and via the Community Mental Health Teams (CMHT) - Psychiatrists and Community Psychiatric Nurses (CPN's). All patients had been referred with a primary anxiety disorder such as Generalised Anxiety Disorder, Panic Disorder with and without Agoraphobia and Social Phobia.

In line with previous audits the data for the 240 patients were collated from four groups. The data were combined as assessment and treatment procedures for each group were effectively identical. The groups differed only by what month in the year they were conducted. However as the programme is presented by the same two psychologists, using the same format each time, it was considered that there would be no confounding variables across the groups and the data were therefore combined. As indicated above the programme is very didactic and leaves little scope for individual style.

Measures

The outcome of these groups is formally evaluated using the Hospital Anxiety and Depression Scale (Zigmond and Snaith, 1983) and the Clinical Outcomes in Routine Evaluation – Outcome Measure (CORE - OM) devised to determine core components relating to the patients well-being, functioning, problems and risk (Core Systems Group, 1998). The importance of outcome measures in routine clinical practice is central to developing and maintaining evidence based practice and ensuring that services provided are relevant to the National Health Service (NHS) edict of ensuring high-quality, effective psychological therapies. Furthermore, outcome measures enable therapists to consider the treatment being provided, reflect on its effectiveness and allow for the improvement of services where necessary (Sperlinger, 2002). The reliability and validity of both the HADS and the CORE - OM have been established in multiple settings (e.g. Crawford, Henry, Crombie and Taylor, 2001; Evans, Connell, Barkham, Margison, Mcgrath, Mellor-Clark and Audin, 2002) both being user-friendly for patients and therapists.

The Hospital Anxiety and Depression Scale (HADS, Zigmond and Snaith, 1983) is a 14 item self report instrument used for measuring anxiety and depression. It comprises 2 subscales including 7 questions on each construct. Patients rate each question based on how they have been feeling for the past week. This questionnaire is used because it is user-friendly and requires minimal time for completion making it easier for the patients to undertake.

The Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM) comprises 34 items which measure four domains being; subjective well-being (4

items), problems/symptoms (12 items), life functioning (12 items) and risk - to self/others (6 items). The items are answered on a 5-point scale ranging from 'not at all' to 'most or all the time' (e.g. 'I have felt tense, anxious or nervous'). This is a standardised outcome measure which is used to assess efficacy and effectiveness across multiple disciplines. It has also been found to be a reliable and valid instrument with good sensitivity to change (Evans et al 2002).

Details of patients presenting problems, gender and postcode were gathered from available case notes.

Design and Procedures

A repeated measures (within subjects) design was used. Procedures were identical for all four groups. Patients who had been referred were assessed for the group by one of the Clinical Psychologist's who undertakes the group sessions. Letters were sent out to those being invited to attend the group and they were asked to complete a return slip to indicate whether they wished to attend the group setting or not.

At the first stress control session the patients who had attended were administered the HADS and CORE-OM at commencement of the group. The Psychologists explained the instructions for completing the questionnaires verbally to ensure that each patient understood the requirements.

The remaining sessions were conducted weekly in line with the stress control programme outlined by White (2000). These were delivered by two psychologists using PowerPoint presentation and weekly handouts given to each

patient. To supplement the presentation additional information was provided verbally. Patients were advised that they were not required to contribute verbally to the session but could if they wished to do so.

During session six patients were again administered the HADS and CORE-OM in order to assess the outcomes for those who had completed the programme. In line with previous audits patients were divided into three separate categories; completers (patients who attended three or more sessions), defaulters (patients who had attended one or two sessions) and non-attenders (patients who did not attend any sessions).

The data gathered from both the HADS and CORE-OM, in the first and sixth session, were then analysed to establish whether there had been any significant change in patients functioning and symptoms. The scores were analysed to determine whether these changes were statistically significant. However due to the potential limitations of statistical significance in determining the variability of individual patient outcomes in treatment, reliable and clinically significant change was also calculated (Jacobson and Truax, 1991; Evans et al 2002). Reliable change is considered to be when the difference can not be attributed to measurement error or insensitivity of the instrument (CORE Systems Group, 1998).

Clinical significance "refers to the practical or applied value or importance of the effect of an intervention - that is, whether the intervention makes a real (e.g., genuine, palpable, practical, noticeable) difference in everyday life to the clients or to others with whom the client interacts" (Kazdin, 1999, p. 332). In other

words, the client's scores will have moved to a point more representative of the general rather than a clinical population (CORE Systems Group, 1998; Fisher and Durham, 1999). This is considered to be a better measurement of change than statistical significance. For the purposes of this study, reliable and clinically significant change on the CORE-OM was determined using normative data supplied by the CORE Systems Group (see CORE System User Manual, p14 for full details of cut off scores). Briefly, using the standard cut-off data, in order for reliable and clinically significant change to have occurred, a patient's mean score has to have started above the cut-off score, ended up below this score and changed by ±0.48. If the score was not above the cut-off but there was change of ±0.48, then reliable change is said to have occurred but it is not significant. Minus scores show deterioration (see Jacobsen & Truax, 1991; Evans et al, 1998; CORE Systems Group, 1998 for summary of calculation methods and normative data).

For the HADS, the reliable change index (RCI) proposed by Jacobsen et al (1984) was used to calculate whether change was statistically reliable. This was determined by the patient's final score (after treatment) being deducted from their first score (before treatment) which was then divided by the standard error of difference between the two scores (see Jacobsen & Truax, 1991 for full details of method). Normative data for the HADS were drawn from the large sample analysed by Crawford et al (2001) and cut-off scores were derived from clinical caseness (SIGN Guidelines, 2002). Using the above, for change to have occurred in the HADS Anxiety scale the patient's scores had to have changed by ±1.04 and in the Depression scale by ±1.12. Again, scores that had moved in a minus direction indicated deterioration.

Question one aimed to address whether a patient's scores improved after *completion* of the stress management class. For the purposes of this study therefore only those where before and after treatment data were available were subjected to RCI analysis using the above methods (37 patients – Table 1).

For question two, details on gender were established via the register taken at the commencement of each group. For ease of comparison and analysis the groups were divided into completers (completed 3 sessions or more) and a new category, being non-completers (defaulters and non-attenders, see above). This format was also applied to question three.

For question three, the postcodes for the latest group (group 4 - April 2005) were divided into the following two categories: postcodes 0 to 3 miles from the clinic and 4 miles and over. The postcodes for the remaining three groups were not analysed as there were insufficient data to establish the required information. To control for potential confounding variables the DEPCAT scores for each postcode was checked using the latest census prepared by the Social and Public Health Sciences Unit, Glasgow (2001).

RESULTS

Sample

Although the sample was combined, for ease of reference the 240 patients were divided into the groups they attended, the details being as follows (Table 1):

Insert Table 1 Here

As in all groups, a number of patients did not wish to attend a group setting and they have therefore been included as non-attenders. Furthermore, occasionally final measures were not obtained for some patients even although they had completed three or more sessions. This may be due to them not attending the final session when the psychometric measures were administered, or for other valid reasons. As it is unclear why they did not attend or what change may have occurred their data were not subjected to further analysis.

Due to the missing measures as outlined above, outcome data were available on 37 completers. This represents only 15% of the overall number referred. As indicated above however and due to the small scale of this audit those patients who had not completed both sets of HADS and CORE-OM (before and after treatment) were excluded from the data set.

Question 1

Do the scores on the psychometric tests, used for evaluating potential change, improve after completion of the six sessions of stress management?

Prior to formal analysis, data were checked to ensure they met the assumptions for parametric statistical analysis using the Kolmogorov-Smirnov test for goodness-of-fit. Following this paired sample t-tests were undertaken to test the difference between the means of the two sets of scores for significance in both the CORE-OM and the HADS (before and after). In the CORE-OM the total

score showed statistically significant change (t (36) = 3.10; $p<0.05$, d = 0.47). As reflected, the effect size was medium, (Table 2) (Cohen, 1988). In the HADS, the anxiety subscale showed statistically significant change (t (36) = 2.49; $p< 0.05$, d = 0.41), the effect size was medium. In the HADS depression subscale statistically significant change was also shown (t (36) = 2.53; $p< 0.05$, d = 0.40). The effect size was also medium (Table 2).

Insert Table 2 Here

Subsequently, reliable and clinically significant change was calculated for the total score on the CORE-OM of each patient using the calculations outlined in the design and procedures section. Of the 37 patients 5 (13.5%) achieved reliable and clinically significant change, 7 (18.9%) achieved reliable change (improvement), although this was not clinically significant and 1 (2.7%) patient deteriorated. Furthermore, 24 (64.8%) patients showed no change. In the HADS Anxiety subscale, of the 37 patients, 7 (18.9%) achieved clinically significant change and 14 (37.8%) showed reliable change although this was not clinically significant. Deterioration was found in 11 (29.7%) of patients and 5 (13.5%) showed no change. On the depression subscale 10 (27 %) achieved clinically significant change and 14 (37.8 %) showed reliable change. However, 10 (27%) deteriorated and 3 (8.1%) showed no change. The mean and standard deviations for the CORE-OM pre and post scores are presented below (Table 3) and HADS (Table 4).

Insert Table 3 Here

Insert Table 4 Here

Question 2

Does gender impact on attendance rates? Is there a difference in patterns of attendance between men and women?

Due to missing details, the data from Group 2 were excluded from this calculation resulting in data being available for analysis on 185 patients.

Figure 1 shows the reported attendance rates of those who completed three or more sessions (completers) and those who did not (non-completers). A 2 x 2 Chi Square was carried out to discover whether there was a significant association between gender and attendance rates. The results showed ($p = 0.07$) (χ 2 (1) = 3.44, NS). The value of Cramer's V was found to be 0.13 – thus showing that the relationship between gender and attendance was almost zero. The conclusion is therefore that there is no evidence to suggest an association between gender and attendance rates.

Insert Figure 1 Here

Question 3

Is the locality of the clinic affecting dropout rates? Is travelling distance having an impact on patients' attendance?

The data from the latest Group (4) were analysed for this question. Of the 66 patients referred, information was available for the postcodes of 53 patients (Table 5).

Insert Table 5 Here

A 2 x 2 Chi Square was carried out to discover whether there was a significant association between the distance a patient travels to the clinic and attendance rates. The results showed ($p = 0.962$) (χ 2 (1) = 0.002, NS). The value of Cramer's V was found to be zero – thus showing that there was no relationship between travelling distance and attendance.

DISCUSSION

The main aim of this study was to explore whether the stress-control programme run by the clinical psychologists in the east end of Glasgow was effective in producing change in patients' anxiety symptoms if they complete the class. Statistically, significant improvement was found in both the HADS anxiety and depression subscales and the effect sizes were medium. Significant improvement was also seen in the total scores and three of the subscales of the CORE-OM (well-being, problems and risk), although the scores on the subscale functioning failed to reach statistical significance.

Notwithstanding the above, as indicated by a number of authors (e.g. Jacobson and Truax, 1991; Evans et al 2002; Kazdin, 1999), it is important to consider whether an intervention makes any *actual* change in the everyday life of the

patient. When individual patient scores were analysed, 13.5% of patients in total showed reliable and clinically significant change on the total scores of the CORE-OM after the completion of the class. This is a somewhat lower finding than shown in the review by Fisher and Durham (1999) who found overall post-treatment recovery rates of 23% in group CBT. However, their review concentrated solely on GAD, used different measures and does not clarify whether the sample were mild/moderate or moderate/severe patients. It may be therefore that the lower findings in this study were due to the heterogeneous nature of the current sample and the difficulties in making comparisons where methodological and sampling differences are found. Furthermore, comorbidity was not investigated in this sample and this may also have impacted on the lower recovery rates found herein. Perhaps of interest was the finding that approximately 19% of patients achieved reliable change, in other words their anxiety levels were reducing even although they could not be considered to have recovered. In the sample studied one patient (2.7 %) showed deterioration on the total scores of the CORE-OM, in other words their distress levels had increased after completion of the six-week programme. There may be a number of explanations for this however it is outwith the scope of this study to speculate why this may have occurred. Twenty-four patients showed no change. Further work would have to be undertaken to investigate why the remaining patients who attended the anxiety management class and completed the CORE-OM showed no improvement.

When individual scores on the HADS were analysed the levels of significant reliable clinical change were higher overall. When improvement on the anxiety subscale was considered 18.9% of patients achieved clinically significant change.

However, a further 37.8 % of patients had reduced their anxiety levels and it would be useful to establish whether this trend would continue if longer group contact was available. Although it can not be ignored that overall 43% showed no change, or in fact deteriorated, these findings do show a trend towards improvement in anxiety levels in over fifty percent of patients who completed the group. The depression subscale showed that 27 % achieved clinically significant change, 37.8 % reliable change and three patients (8.1 %) showed no change. A total of ten patients (27 %) deteriorated. Overall, the recovery rates in the east end of Glasgow continue to be lower than found in other similar studies (e.g. Erikson, 2003). However, the outcome of the stress control group was more positive than that found in the previous audit undertaken by Harvey (1998), where only one (4.7%) patient showed clinical significant change on the HADS anxiety subscale. The larger sample studied in this audit may have helped to provide better results. In general it appears that the evening classes are effective for a small percentage of people although there was significant improvement in anxiety levels in over a third of the patients on both measures used.

In evaluating a service it is also important to consider whether the treatment programme is meaningful in the context of patient improvement. Studies on group treatment programmes have shown limited but consistent reductions in levels of anxiety (White 2000). If a treatment makes a difference in the daily lives of the service user then it can be said to be worthwhile (Sperlinger, 2002). In the sample studied herein approximately a third of patients achieved a reduction in their anxiety levels as measured by the CORE-OM and over fifty percent as measured by the HADS. Although these levels were not all clinically significant it would be useful for future studies to follow-up whether these

changes were maintained or improved upon in the longer term and whether the patients' quality of life had improved as a result. In this respect user consultation would influence the judgement as to whether a service was worthwhile continuing, as would an analysis of the cost benefits by the service managers.

If a patient achieves any reduction in anxiety levels and this improves their quality of life then can the group format be said to be a worthwhile service? In order to fully evaluate this it would be useful to ascertain how many of the patients who attended and showed improvement were re-referred back to the service at a later date and why. In many cases, in the groups analysed, symptom severity was within the moderate to severe range. Although symptoms remained, as reflected by the final self-report measures, a reduction in anxiety was being achieved thus lowering levels of caseness. It can be difficult to measure the quality of change within an individual however changes were occurring for a percentage of those who attended. Many factors impinge upon the decision of whether to continue with a service or not and these can be equivocal. For example factors such as economic viability, benefits of minimal intervention, impact on patient engagement with the service, attrition rates in comparison to one-to-one treatment, treatment integrity and personal judgement all impact on the service provision. It was outwith the scope of this study to fully evaluate these factors but it would be beneficial for the service to consider these matters further.

Overall, clinically significant change on the HADS Anxiety and Depression subscales yielded slightly higher recovery and improvement rates than the CORE-OM. The differences may simply be due to the CORE-OM covering

different factors. For example, it covers a person's social functioning abilities, their subjective wellbeing, what problems or symptoms they are currently experiencing and indicates the level of risk they are to themselves and others (CORE System group, 1998). The HADS is designed to detect the presence and severity of mild degrees of mood disorder, anxiety and depression (SIGN, 2002). Perhaps therefore the smaller change found using the CORE-OM is due to it measuring the global distress of the patient rather than just two of the factors that play a role in a person's 'wellness'. Further analysis into the correlation between the two measures could be undertaken if this was to be investigated further.

From the above findings it appears that the six-week programme is not, in general, *clinically* effective and this may be due to a number of reasons. For example it is possible that the duration of the intervention is simply not long enough. Erickson (2003) considered group CBT sessions over a twelve-week period, his sample being heterogeneous in nature as in this study. His findings revealed that 32% of his sample had achieved clinically significant change post-group compared to the smaller percentages found herein. However, as indicated his anxiety management group ran for twelve weeks, twice the length of the one studied herein and this may have had an impact on the results. Furthermore, there was a degree of demonstrable reliable change on a number of measures although it is acknowledged that these changes need to be larger in order for clinical change to have occurred.

A number of patients who are considered to have completed the programme (three sessions or more) may have only attended three sessions and further improvement may have been found if they attended all six. If the group run in

the east end of Glasgow was to be amended perhaps the programme could be extended. However, patients are invited to attend later groups if they miss sessions and can effectively extend the duration of their interaction with the stress-control programme at that stage. Although research has shown that individual therapy produces a faster recovery rate (e.g. Fisher and Durham, 1999), it would undoubtedly take considerably longer to achieve even the lower recovery rates found herein if one-to-one therapy was the only option available.

Finally, with regard to whether the group is effective, it can not be ignored that a large percentage of patients referred to the service failed to attend and a further 16% failed to attend more than two sessions. It is unclear why so few patients take up the opportunity to attend a group setting. It may be due to it being a group rather than one-to-one therapy, the nature of the patient's anxiety, relatively higher deprivation levels in the east end of Glasgow, that it's held in an evening or any other number of factors. Attrition rates continue to be particularly high in the east end of Glasgow, even in one-to-one therapy and this matter would need to be investigated further to establish why this might be so. However, it is notable that of the ninety-five patients who actually attended any sessions, sixty percent of them were classed as completers (Table 1). This suggests that once involved with the group many are prepared to continue attending, even if not for all six sessions.

Previously attendance at the stress control groups has been poor and the preceding audits have considered what factors might predict attendance. Adam (2002) suggested that 'gender may be an important variable mediating attendance'. The current study considered this factor using data spanning three

groups (185 patients). The findings revealed that there was no relationship between gender and predicted attendance. It would appear therefore that this is not a mediating factor.

In terms of assessing attendance this study followed the format outlined in previous audits as some of the earlier data had been analysed therein. However, a more detailed analysis of attendance may be of interest. For example it would be useful to explore the pattern of attendance in order to establish whether any particular session or combination thereof were significant for improvement. A number of patients completed three sessions or more and were therefore regarded as 'completers'. However which sessions they attended were not analysed and this might have been useful to assess when considering the overall findings. Furthermore, this study only considered two factors potentially affecting attendance, gender and distance. In order to further assess attendance future studies could consider other factors such as social deprivation. The East End of Glasgow is a high deprivation area and often the population referred to the group are in the moderate to severe caseness range. The impact of these factors on attendance levels would be useful to establish. Furthermore, the impact of social stressors may also be important when assessing attendance. White (2000) indicates that those patients with chronic social stressors are more likely to do poorly in group settings. It would be beneficial for the service to explore these matters further.

Programme content was not assessed herein but has been well evaluated by White and his colleagues in the West of Scotland and there is some degree of confidence in the stress-control package overall (e.g. Main, Elliot & Brown,

2005; White & Keenan, 1990; White et al, 1992; White et al,1995; White, 1997; White, 1998; White, 2000). Content included psycho- education, relaxation training together with cognitive and behavioural elements, all of which are of a similar format found in other CBT groups. It was considered to be a suitable package for the East End of Glasgow following a meeting with the author, J. White. However, which sessions were actually attended was not assessed, as outlined above, and as this may have impacted on the findings this factor should be considered further.

In a comparison between her work and that of White et al (1990, 1992, 1995) Harvey (1998) observed that the group of patients attending White and colleagues classes were geographically close to the place they were referred from (i.e. GP). In the east end of Glasgow the classes were held in a Health Promotion Centre and referrals were taken from three sub-sectors within the east Glasgow catchment area. In an endeavour to consider whether locality was affecting dropout rates the geographical distance from the clinic was considered. The findings revealed no significant association between distance from the clinic and whether people attended. It would appear from the sample studied that distance is not one of the factors that mediates attendance and does not therefore help to account for the high attrition rates found. It was outwith the scope of this study to fully investigate this further.

CRITICAL ANALYSIS

There are a number of weaknesses in the present study. Although the sample size was larger than in previous audits there were missing data that had it been

available might have contributed to gaining more positive findings for the effectiveness of the stress control group. Also, only investigating outcome data on patients who have completed before and after measures has an impact on the data analysis and the ability to generalise the findings beyond the current sample studied. However, for the purposes of this audit it was decided to exclude the data of patients who had not completed both forms.

Furthermore it has been well-established that comorbidity is high in patients with primary anxiety disorder (Stein, 2004; Kessler et al 1996; Erickson, 2003; Brown et al, 2001). It may be that the patients included within the sample are more complex cases than perhaps the group setting allows for. It may be that some of these patients would benefit from one-to-one therapy. This was not investigated in this study.

Also, the anxiety measurements were based on self-report questionnaires. There is a risk that several of the patients may have wished to give socially desirable answers to some of the questions (i.e. the demand characteristics of the situation). Finally, limited data was available for the third question explored and this may have had an impact on the findings. As only one group were included these findings could not be generalised beyond the sample investigated.

CONCLUSION

In conclusion the findings of this study extend the results of previous audits (Harvey 1998; Adam 2002). Statistical improvement was found in both the CORE-OM and HADS and reliable and clinically significant change was

established in a small percentage of patients. Reliable change was also found in the CORE-OM and HADS in 19% and 38% of patients respectively. Overall however only a small percentage of patients can be said to have recovered. Further, potential factors such as medication, re-referral rates for example, were not taken into account. One-to-one therapy is said to be more effective (Fisher and Durham, 1999) but there is little doubt that group therapy is more cost effective for most services (White, 2000). Further investigation into high attrition rates is needed to facilitate improvement of attendance rates in the east end of Glasgow.

Furthermore, it can be seen from the results that neither gender nor distance from the clinic appears to affect the attendance rates. It may be worthwhile for the service to consider devising a questionnaire for subsequent groups should these issues require to be addressed further.

In summary the above findings have added to the previous two research studies undertaken on the stress-control groups run in the east end of Glasgow, both of whom investigated outcomes of the stress group and the impact of various demographic variables on attendance. Future studies could be undertaken to fully assess the implication of these findings.

ACKNOWLEDGEMENTS

I would like to thank Mr Mike O'Neill and Dr Anna Stallard for their supervision of this project. I would also like to thank Dr Andrew Gumley for his further advice.

References

Adam, C. (2002). A study of the "Stress Control" group in the east end of Glasgow, evaluating outcome, demographic factors affecting attendance and patient perceptions of the CORE-OM. Unpublished paper prepared for East end of Glasgow Psychology Services.

Brown, T. A., Campbell, L. A., Lehman, C. L., Grisham, J. R. & Mancill, R. B. (2001). Current and lifetime comorbidity of the DSM-IV anxiety and mood disorders in a large clinical sample. *Journal of Abnormal Psychology,* **110 (4),** 585 – 599.

Chambless, D.L. and Hollan, S. D. (1998). Defining empirically supported therapies. *Journal of Consulting and Clinical Psychology,* **66**, 7-18.

Cohen, J (1988). *Statistical power for behavioural sciences (*2nd Ed). New York: Academic Press.

Core System Group (1998). *CORE system (information management) handbook.* Leeds: Core System Group.

Crawford, J. R., Henry, J. D., Crombie, C. & Taylor, E. P. (2001). Brief report: Normative data for the HADS from a large non-clinical sample. *British Journal of Clinical Psychology,* **40,** 429 – 434.

Erikson, D. H. (2003). Group cognitive behavioural therapy for heterogeneous anxiety disorders. *Cognitive Behaviour Therapy, Vol* **32,** *No. 4,* 179 – 186.

Espie, C.A. & White, J. (1986). The effectiveness of psychological intervention in primary care: a comparative analysis of outcome ratings. *Journal of the Royal College of General Practitioners,* **36**, 310-312.

Evans, C., Connell, J., Barkham, M., Margison, F., McGrath, G, Mellor-Clark, J., & Audin, K. (2002). Towards a standardised brief outcome measure: psychometric properties and utility of the CORE-OM. *The British Journal of Psychiatry,* **180,** 51 – 60.

Fisher, P. L. & Durham, R. C. (1999). Recovery rates in generalized anxiety disorder following psychological therapy: an analysis of clinically significant change in the STAI-T across outcome studies since 1990. *Psychological Medicine,* **29 (6),** 1425 – 1434.

Harvey, L (1998). Factors affecting attendance and outcome in anxiety management groups. Unpublished paper prepared for East end of Glasgow Psychology Services.

Jacobson, N. S., Follette, W. C., & Revenstorf, D. (1984). Psychotherapy outcome research: Methods for reporting variability and evaluating clinical significance. *Behavior Therapy,* **15,** 336 – 352.

Jacobson, N. S. & Truax, P. (1991). Clinical significance: A statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology,* **59 (1),** 12 – 19.

Kazdin, A. E. (1999). The meanings and measurement of clinical significance. *Journal of Consulting and Clinical Psychology,* **67,** 332–339.

Kessler, R. C., Nelson, C. B., McGonagle, K. A., Liu, J., Swartz, M. & Blazer, D. G. (1996). Comorbidity of DSM-III-R major depressive disorder in the general population: Results from the US National comorbidity survey. *The British Journal of Psychiatry,* **168,** *Supplement 30*, 17 – 30.

Lang, A. J. (2004). Treating generalized anxiety disorder with Cognitive-Behavioral Therapy. *Journal of Clinical Psychiatry,* **65,** (Supplement 13), 14 – 19.

Main, N. A., Elliot, S. A., & Brown, J. S. L. (2005). Comparison of three different approaches used in large-scale workshops for the general public. *Behavioural and Cognitive Psychotherapy,* **33,** 299-309.

Sanderson, W. C. & Barlow, D. H. (1990). A description of patients diagnosed with DSM-III-R generalized anxiety disorder. In White, J. (2000). *Treating anxiety & stress: A group psycho-educational approach using brief CBT.* Chichester: John Wiley & Sons Ltd.

Scottish Intercollegiate Guidelines Network (2002). *Guideline 57 – Supporting Material.*

http://www.sign.ac.uk/guidelines/published/support/guideline57/hads.html

Sperlinger, D. (2002). Outcome assessment in routine clinical practice in psychological services: Paper 1. *British Psychological Society, Division of Clinical Psychology.*

Stein, M. B. (2004). Public health perspectives on generalized anxiety disorder. *Journal of Clinical Psychiatry,* **65,** (Supplement 13). 3 – 7.

Thase, M. E., Kroenke, K., Trivedi, M. H. & Ward, H. E. (2004). Recognizing anxiety's impact. *Psychiatric Times, Vol.* **21**, *Supplement, p. 3.*

Turvey, T. (1997). Outcomes of an adult psychology service. In White, J. (2000). *Treating anxiety & stress: A group psycho-educational approach using brief CBT.* Chichester: John Wiley & Sons Ltd. (pp. 6).

White, J. & Keenan, M. (1990). "Stress-Control": A pilot study of large group therapy for generalised anxiety disorder. *Behavioural Psychotherapy,* **18**, 143 - 146.

White, J., Keenan, M. & Brooks, N. (1992). "Stress control: A controlled comparative investigation of large group therapy for generalized anxiety disorder. *Behavioural Psychotherapy,* **20,** 97 – 114.

White, J., Brooks, N., & Keenan, M. (1995). "Stress control: A controlled comparative investigation of large group therapy for generalized anxiety disorder: Process of change. *Clinical Psychology and Psychotherapy, Vol.***2 (2),** 86 - 97.

White, J. (1997). "Stress control" large group therapy: Implications for managed-care systems. *Depression and Anxiety,* **5**, 43 - 45.

White, J. (1998). 'Stress Control' large group therapy for generalized anxiety disorder: two year follow-up. *Behavioural and Cognitive Psychotherapy,* **26**, 237 – 245.

White, J. (2000). *Treating anxiety & stress: A group psycho-educational approach using brief CBT.* Chichester: John Wiley & Sons Ltd.

Zigmond, A. S. & Snaith, R. P. (1983). The Hospital Anxiety and Depression Scale. *Acta Psychiatrica Scandanavia,* **67**, 361 – 370.

Table 1 Total Number of Patients in Sample

Group	Referred	Completers	Defaulters	Non-Attenders
1	64	14*	6	44
2	60	7	16	37
3	50	12**	5	33
4	66	24***	11	31

Key – Completers – attended 3 or more sessions
Defaulters – attended only 1 or 2 sessions
Non-attenders – attended no sessions
* Due to missing measures outcome data were only available on 12 completers
** Due to missing measures outcome data were only available on 4 completers in this group
*** Due to missing measures outcome data were only available on 14 completers in this group

Table 2 Effect sizes on CORE-OM and HADS Subscales

Outcomes	Subscales	Mean Pre	Mean Post	d
CORE-OM	Total	65.70	56.22	0.47
	Wellbeing	10.24	8.35	0.64
	Problems	29.05	24.03	0.62
	Functioning	23.35	21.16	0.29
	Risk	3.27	2.43	0.25
HADS	Anxiety	14.22	12.57	0.41
	Depression	10.35	8.70	0.40

Table 3 Mean and Standard Deviations of CORE-OM Scores

	Well-being	Problems	Functioning	Risk	Total
Mean Before	**10.24** (SD 2.67)	**29.05** (SD 8.75)	**23.35** (SD 7.02)	**3.27** (SD 3.44)	**65.70** (SD 19.09)
Mean After	**8.35** (SD 3.20)	**24.03** (SD 9.27)	**21.16** (SD 8.25)	**2.43** (SD 3.16)	**56.22** (SD 21.20)

Table 4 Mean and Standard Deviations of HADS Scores

	Anxiety	Depression
Mean Before	**14.22** (SD 3.77)	**10.35** (SD 4.37)
Mean After	**12.57** (SD 4.33)	**8.70** (SD 3.91)

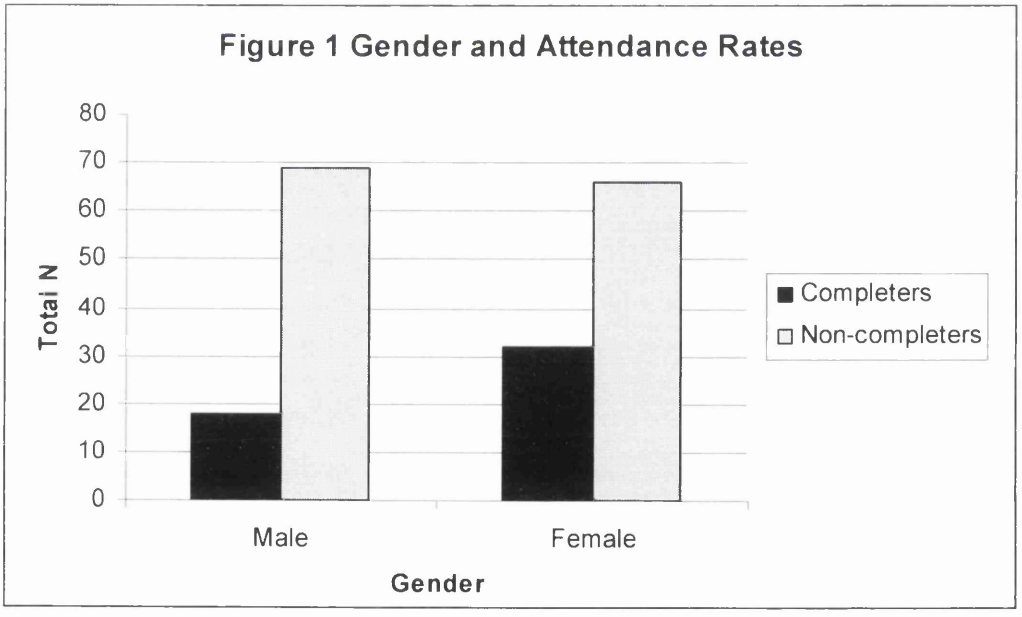


Table 5 Distances between Clinic and Patients Postcode. Frequency and Percentage of Completers and Non-completers.

Group 4	0-3 miles Depcat 6-7	4+miles Depcat 5-7
Completers	17 (32%)	6 (11%)
Non-completers	22 (41.5%)	8 (15.1%)

Key - Depcat 7 = most deprived

Chapter 2: Systematic Review

Is maternal depression a risk factor for insecure attachment disorganization: a systematic review of the literature?

Prepared in accordance with requirements for submission to Development and Psychopathology

(See Appendix 2.1)

Fiona A Smith*
Section of Psychological Medicine
Division of Community Based Sciences
University of Glasgow
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow G12 0XH
+44 141 211 0607 (tel)
+44 141 357 4899 (fax)
fiona.redmoss@googlemail.com

* author for correspondence.

Submitted in partial fulfilment of the requirements for the degree of Doctorate In Clinical Psychology (D. Clin. Psy)

Abstract

Background: Maternal psychopathology, its impact on mother-infant interaction and the role it may play in infant attachment is the subject of much review. Maternal depression has consistently been associated with insecure attachment using the traditional classifications of secure (B), avoidant (A) and ambivalent/resistant (C). A fourth classification, disorganized (D) attachment, was developed more recently and research has investigated whether there is an association between risk factors, such as maternal depression, and this newer category. This research is important given the findings that (D) has been associated with later psychopathology in adolescence.

Aims: This review aims to identify and evaluate the key methodological issues pertaining to this research. It also aims to review the evidence relating to maternal depression and (D) attachment in infants.

Method: A systematic review was used to identify published articles between 1990-2007 which considered maternal depression and infant attachment status (including D). An electronic search of 7 databases, hand searches of key journals and of the reference sections of key papers were undertaken.

Results: Fifteen papers were identified for inclusion in the review. Six of these reported an association between maternal depression and (D) in infants, three were equivocal and six found no such link. There were differences in key methodological issues; heterogeneity within the samples, small sample sizes, timing of depressive episodes and in outcome measures used.

Conclusions: Firm conclusions were limited by the variability of the research reviewed. There is limited evidence linking maternal depression and (D) in infants but the variability limits extrapolation of causal relationships when considering the research. Future reviews should consider the impact of other factors such as maternal insensitivity, high risk samples, frightened/frightening maternal behaviour and maltreatment for example to further investigate potential risk factors.

Introduction

Numerous studies have investigated maternal psychopathology, and its impact on mother-infant interaction and the future development of the child (e.g. Austin & Priest, 2005, 2004; Cicchetti, Rogosch, & Toth, 1998; Murray & Cooper, 1997). Postnatal illness, particularly postnatal depression, is thought to affect over 10 percent of mothers following childbirth (Brockington, 2004; SIGN guidelines, 2002), the symptoms of which can range extensively from low mood, helplessness, suicidal ideation to hostility and psychosis (Matins & Gaffan, 2000; Austin & Priest, 2005; Brockington, 2004; Cantwell & Cox, 2003). Maternal depression can impact negatively on the developing relationship between a mother and her infant. This can lead to reduced interaction with her child and further relationship difficulties (Carter, Garrity-Rokous, Chazan-Cohen, Little & Briggs-Gowan, 2001). The effect that this may have on children within the family and any subsequent disruption to early interaction has been the subject of much review (e.g. Bakermans-Kranenburg, van Ijzendoorn & Juffer, 2005; Beck, 1998; Murray & Cooper, 1997). Interaction between a mother and her infant is an important element of a child's development and subsequent integration into the social environment within which they will have to interact (Kaye, 1982; Downey & Coyne, 1990).

Disturbances in this relationship can also disrupt the developing attachment bond between a mother and her child (Austin, 2003). Attachment, as defined by Bowlby (1984, cited in Bus & van Ijzendoorn, 1995), the earliest proponent of attachment theory, is the '*child's disposition to seek proximity to and contact with a specific figure and to do so in certain situations, notably when he or she is*

frightened, tired or ill'. Attachment theory considered infant's attachment strategies to fall under three "organised" categories; secure (B), insecure-avoidant (A), and insecure-ambivalent/resistant (C), based on observing infants in the Strange Situation (Ainsworth, Blehar, Waters & Wall, 1978), the suggestion being that infants' learn to negotiate stressful experiences in an organised way (van Ijzendoorn, Schuengel & Bakermans-Kranenburg, 1999). However many researchers found that infants patterns of behaviour did not always unequivocally fit into one of these discrete categories (e.g. Crittenden, 1985; Radke-Yarrow, Cummings, Kuczynski & Chapman, 1985). This gave rise to a further classification called disorganized/disorientated attachment (D) being developed (Main & Solomon, 1990), although there has been debate about this category (see Crittenden, 2001).

Disorganized attachment has been described by van Ijzendoorn and colleagues (1999, p226) as the "*breakdown of an otherwise consistent and organized strategy of emotion regulation*" and although usually characterized by an insecure attachment style, disorganized behaviours can be seen in securely attached infants (Martins & Gaffan, 2000; Lyons-Ruth & Jacobvitz, 1999). This type of attachment (D) is assigned in addition to the classic "organised" categories however the literature is subject to divergent views on whether these secondary A, B and C classifications reveal any significant differences in the patterns of behaviour displayed within disorganized attachment (see Lyons-Ruth & Jacobvitz, 1999 for review).

Disorganized attachment in infants has been linked with a number of factors such as frightened and frightening parental behaviour, parental unresolved trauma and maltreatment (Hesse & Main, 2006; Abrams, Rifkin & Hesse, 2006). Research into patterns of mother-infant interaction and attachment has shown that infants, who are securely attached, will seek proximity to their caregiver in times of distress and use their parents as a base from which to explore their environment (Bowlby, 1969; Ainsworth et al, 1978; Carr, 1999). However infants who have been repeatedly frightened by their attachment figure reveal a different pattern, showing the tendency to want to both approach and take flight from their attachment figure, a dichotomy that can lead to " fright without solution" (Abram et al, 2006; p346). It has been hypothesised that this places the infant in an irresolvable situation resulting in a disorganized behaviour pattern emerging (Hesse & Main, 2006). These behaviours can manifest as odd, inexplicable and conflicting reactions can be observed when in the parents' presence. These are thought to reflect a breakdown of the organised strategies available to infants when dealing with unfamiliar and stressful events (Main & Hesse, 1990; Abrams et al, 2006)

The development of a secure attachment bond is thought to be connected to the sensitivity of the mother to her infants signals (Goldberg, 2000). Research has shown that mothers who have depressive symptoms are less sensitive in their interactions in general, are found to avoid interaction with their infants, or interact with them in an intrusive way that fails to adjust to the child's interests or pace of development (Campbell, Brownell, Hungerford, Spieker, Mohan & Blessing, 2004; Rogoff, 1990). Depression may leave the mother feeling sad,

disengaged, irritable and tired, all of which can impact negatively on mother-infant interaction resulting in a failure to respond and interact positively to the infants needs (Campbell et al, 2004). This may result in the child finding their mother unavailable and rejecting in their care and these experiences have been associated with subsequent insecure attachment (Murray, 1992; DeMulder & Radke-Yarrow, 1991). Studies considering mothers with severe depression have found a significant, albeit modest, increase in insecure A and D categories (Martins & Gaffan, 2000) and have postulated that this may be due to depressed mothers being inconsistent in their interaction, frightening or frightened and unavailable making them somewhat unpredictable for the infant (Toth, Rogosch, Manly & Cicchetti, 2006).

More recently, research considering disorganized attachment has investigated potential risk factors associated with this category (Tomlinson, Cooper & Murray, 2005; Campbell et al, 2004). It has been suggested that maternal depression is one such factor and over the last decade research has considered the extent of this risk (Martins & Gaffan, 2000; Murray, Fiori-Cowley & Hooper, 1996). Research has shown a small but significant association between maternal depression and disorganized attachment in infants (Martins & Gaffan, 2000). Furthermore, it has been suggested that disorganized attachment is a serious risk factor for later child psychopathology (van Ijzendoorn et al, 1999) making this an important area to be investigated further.

Two meta-analyses carried out have considered issues relevant to this area. Firstly, van Ijzendoorn et al (1999) analysed 16 studies, their findings suggesting

that there was only a weak association between maternal depression and disorganized attachment in particular. However, the meta-analysis inclusion criteria incorporated a broad range of psychological sequelae and attachment was measured in a number of different ways. Martins and Gaffan (2000) endeavoured to examine which of the specific attachment categories might be prevalent in infants of mothers with postnatal depression. Their inclusion criteria was more specific than that of van Ijzendoorn and only included mothers with unipolar depression and attachment measured using the standard Ainsworth Strange Situation procedure. Their analysis of 7 studies established that there was a small but consistent association between disorganized attachment and maternal depression.

Rationale for Review

As indicated above it is generally accepted that there is an increased risk of insecure attachment in infants of mothers with postnatal depression and a substantial number of studies have researched this area (see Cicchetti, Rogosch & Toth, 1998 for review). However, fewer studies have considered whether maternal depression is a risk factor for infants developing a disorganized attachment style, perhaps due to this classification being a relatively new addition to the classic attachment categories proposed by Ainsworth and her colleagues (Ainsworth et al, 1978). As indicated above the findings of Martins and Gaffan (2000) suggested that maternal depression was associated with disorganized attachment. The aim of this review was to summarise the evidence in a systematic way, providing a methodological critique of the literature considering postnatal depression and attachment. In undertaking this it also

aimed to provide more up-to-date evidence critically evaluating whether maternal depression was a risk factor for this type of attachment. For the purposes of this review research concentrating on the attachment classifications proposed by Ainsworth et al (1978) and Main & Solomon (1990) were examined.

Questions

1. What are the key methodological issues arising from the literature investigating the link between postnatal depression and attachment disorganization?
2. In light of this, is maternal depression a risk factor for insecure attachment disorganization?

Objectives

1. To investigate the quality of published research into the relationship between maternal depression and disorganized attachment in children.
2. To establish whether children of depressed mothers are at risk of developing patterns of disorganized attachment.

Method

Selection Process and Data Extraction from Electronic Databases

The following electronic databases were searched for relevant studies investigating the relationship between maternal postnatal illness and insecure attachment disorganization in infants: CINAHL [1982 to April 2007], EMBASE [1988 to April 2007], Ovid MEDLINE (R) [1966-April 2007], PsychINFO [1985

to April 2007], Maternity and Infant Care [1971 to April 2007], Index to Scientific and Technical Proceedings (ISI Web of Science), and all Evidence Based Medicine reviews (Cochrane Database of Systematic Reviews, ACP Journal Club, Database of Abstracts of Reviews of Effectiveness, and Cochrane Central Register of Controlled Trials). Key journals were also electronically searched including 'Development and Psychopathology' and 'Infant Mental Health'.

The following key words were used for the electronic search:

[DEPRESSION] or [POSTNATAL DEPRESSION] or [POSTNATAL ILLNESS] or [POSTPARTUM ILLNESS] or [POSTPARTUM DEPRESSION] or [PUERPERAL PSYCHOSIS] or [MATERNAL MENTAL ILLNESS] or [MATERNAL PSYCHOPATHOLOGY] combined with [ATTACHMENT] or [INSECURE ATTACHMENT] or [DISORGANIZED ATTACHMENT] or [DISORGANISED ATTACHMENT] or [ATTACHMENT ORGANISATION] or [MATERNAL-INFANT ATTACHMENT] or [AMBIVALENT ATTACHMENT] or [AVOIDANT ATTACHMENT] and [STRANGE SITUATION] and [HIGH RISK STUDIES]

Inclusion and exclusion of studies

For the purposes of this review studies were included if they met the following criteria; there was a group of mothers who were suffering or had suffered from depression in the postnatal period and during the child's lifetime; attachment category was determined by direct observation using the Ainsworth Strange Situation procedure or modified version of that; the children were less than 3 at

the time when attachment was initially assessed; four attachment categories were employed; Secure, Insecure; *Avoidant, Ambivalent and Disorganized*; published between 1990 and 2007; published in a peer-reviewed journal and the studies were written in English.

Studies were excluded if they were dissertations; unpublished articles; qualitative studies; letters to the editor; conference abstracts; written in book chapters; non-human studies and self report measures of attachment were used.

Hand Search of References

The reference sections of the papers identified by the electronic database search were then hand searched to identify any further articles of relevance. Papers identified in this way were systematically excluded on the basis of title, abstract, or full publication, where necessary. If relevant articles were unavailable via the database, NHS, or the University of Glasgow library, they were obtained through the British Library Document Delivery Service.

Assessment of Methodological Quality

Studies were rated using a criteria checklist generated in line with the SIGN guideline rating criteria. Demographic, sampling, clinical and methodological data were extracted from the articles and critically rated using this checklist (Appendix 2.2). Studies were selected according to the inclusion and exclusion criteria reflected above. As the study primarily aimed to consider disorganized attachment, studies which solely reviewed insecure attachment (categories; (A) avoidant & (C) ambivalent/resistant) and did not report on D attachment were

excluded from the review. Inter-rater reliability of study quality was assessed by an independent rater who reviewed one third of the retrieved studies. Any discrepancies and revisions in the ratings given were resolved through discussion resulting in agreement between the raters being >95%.

Results

Included Studies

Electronic Search

Three hundred and thirty-nine articles were identified by the electronic database search of which 298 were excluded on the basis of title or abstract. Full text articles were obtained for 41 papers, 34 of which were excluded once the full article had been read. The remaining 7 articles were included in the review.

Reference Search

Following a search of the reference sections of the above articles a further 2 studies were identified for potential inclusion. A further 9 articles were identified through the reference section of a previous meta-analysis (Martins & Gaffan, 2000) of which 3 were excluded. The remaining 6 were included in the review. This resulted in a total of 15 papers which will be the subject of this review (Table 1).

Insert Table 1 Here

The results will initially briefly summarise salient characteristics of the studies following which consideration will be given to the methodological issues arising

within this literature. Thereafter the evidence for whether the findings support the theory for maternal depression being a risk factor for disorganized attachment in infants will be elucidated (see Table 1 for description of studies).

General Summary

Sample size

There was a wide variation in sample size across the 15 studies. The median number of participants was 104 (range=26-1077). All of the studies included infants of both genders although not all reported the proportion representing the number of boys and girls (e.g. Espinosa et al, 2001 Murray et al, 1996; Tomlinson et al, 2005; Toth et al, 2006). Of the remaining studies reporting gender the median number of boys was 60 (range =13-543) and of girls was 44 (range =19-534).

Age range of participants

The median age (range) of mothers was 29.5 (18.82-32.4 years). Easterbrooks et al (2000) did not report the age of their maternal participants whilst Tomlinson et al (2005) only reported the age range of theirs, which was <20-39 years. With regard to infants, the median age when attachment was assessed was 18 months (range =12m-36m).

Longitudinal studies

Eleven of the 15 studies were longitudinal in design (Campbell et al, 2004; Easterbrook et al, 2000; Espinosa et al, 2001; Hipwell et al, 2000; Lyons-Ruth et al, 1990; McMahon et al, 2006; Murray, 1992; Murray et al, 1996; Teti et al,

1995; Tomlinson et al, 2005; Toth et al 2006) in which participants were prospectively followed for a median number of 18 months (range=12m-84m).

These 11 studies also measured maternal depression and the attachment status of the infant which they then categorised into the standard classifications, B (secure), A (insecure-avoidant), C (insecure-ambivalent/resistant) and D (disorganized) (Ainsworth et al 1978). Four of these studies also measured mother-infant interaction (Hipwell et al, 2000; Lyons-Ruth et al, 1990; Murray et al, 1996 Tomlinson et al, 2005). Three studies included measurement of infant development (Lyons-Ruth et al, 1990; Murray, 1992; Murray et al 1996) and maternal sensitivity (Campbell et al, 2004; Easterbrook et al, 2000; Espinosa et al, 2001). Two of the studies included measures of maternal psychopathology (Espinosa et al, 2001; Hipwell et al, 2000), maternal attachment (McMahon et al, 2006; Murray, 1982) and adversity (Murray, 1992; Murray et al, 1996). Teti et al (1995) also included a measurement of parenting stress in their study; Easterbrook et al (2000) considered emotional availability and Lyons-Ruth et al (1990) assessed for maternal social isolation.

Cross-sectional studies

Four of the studies were cross-sectional in design (Dawson et al, 1992; DeMulder & Radke-Yarrow, 1991; Poehlmann & Fiese, 2001; Seifer et al, 1996) and investigated maternal depression and infant attachment status. Dawson et al (1992) also investigated EEG brain activity, infant's affective behaviour, distress and vocalisation. In addition to depression and attachment, DeMulder & Radke-Yarrow (1991) measured maternal affect. Poehlmann & Fiese (2001) considered

neonatal characteristics within their sample and Seifer et al (1996) investigated psychopathology, family functioning, home environment, life events, psychological distress, multiple risk factors and social competence of child.

Methodological issues

Sample Characteristics

Two of the 15 studies employed a geographic cohort design (Campbell et al, 2004; Tomlinson et al, 2005), the remainder using convenience sampling whereby participants were recruited via hospital clinics, clinician referrals and inpatient units for example (except DeMulder & Radke-Yarrow, 1991 who recruited volunteers via local newspapers, parents groups etc). It is of note that convenience sampling can give rise to sampling bias when considering whether the findings can be generalised to the population as a whole.

Of the 15 studies, 7 endeavoured to achieve homogeneity within their samples by using diagnostic criteria to compare groups (DeMulder & Radke-Yarrow, 1991; McMahon et al, 2006; Murray, 1992; Murray et al, 1996; Seifer et al 1996; Teti et al, 1995; Toth et al, 2006). However depression covers a wide range of symptomatology and it can therefore be difficult to achieve true homogeneity within this population. For example, although DeMulder & Radke-Yarrow (1991) administered a standard psychiatric interview (SADS-L) to the participants separating those who had a diagnosis of major unipolar depression (n=43), bipolar disorder (n= 24) and those with no past or current Axis I psychiatric disorder (n=45), they pointed out that "it is clear that there is

considerable heterogeneity within bipolar and unipolar depressed groups" urging caution in interpreting results.

Attrition rates were reported by 12 of the studies (Campbell et al, 2004; Dawson et al, 1992; Espinosa et al, 2001; Hipwell et al, 2000; Lyons-Ruth et al, 1990; McMahon et al, 2006; Murray, 1992; Murray et al, 1996; Poehlmann & Fiese, 2001; Teti et al, 1995; Tomlinson et al, 2005; Toth et al, 2006) however only six of these conducted analyses, comparing participants and those who refused to participate/dropped out (Campbell et al, 2004; Espinosa et al, 2001; Lyons-Ruth et al, 1990; McMahon et al, 2006; Teti et al, 1995; Toth et al 2006). The remaining studies do not report how they handled missing data.

There was wide variation in reporting of inclusion and exclusion criteria. Of the 15 studies, five reported on their inclusion criteria (Hipwell et al, 2000; McMahon et al, 2006; Murray, 1992; Murray et al, 1996; Toth et al, 2006); the remainder did not provide sufficient information. Seven studies did not however report exclusion criteria (Easterbrooks et al, 2000; Lyons-Ruth et al, 1990; McMahon et al, 2006; Murray, 1992; Murray et al, 1996; Poehlmann & Fiese, 2001; Tomlinson et al, 2005). Omitting this information means that the studies cannot be easily replicated given the lack of detail provided.

Covariate Assessment

In the type of research under review when considering aetiology and risk factors there are many factors that can confound the results. These can range from factors such as comorbidity, SES, marital status, education, ethnicity and marital

discord for example. It can therefore be difficult to extrapolate underlying relationships from the data given the potentially numerous other factors involved. Although many of the studies addressed comorbidity as a potentially confounding factor of their results, only two clearly measured and stated prevalence rates (Espinosa et al, 2001; Toth et al, 2006). Many of the authors reported that this may be a limitation within their study (Dawson et al, 1992; DeMulder & Radke-Yarrow, 1991; Easterbrooks et al, 2000; Hipwell et al, 2000; McMahon et al, 2006; Seifer et al, 1996; Teti et al, 1995). The remaining studies did not address this issue.

With regard to other confounding factors as indicated above all 15 of the studies reported on participant's socioeconomic status. This factor is important given that deprivation is a risk factor. Fourteen studies also reported on other potential confounding factors such as marital status, education, ethnicity, and number of other children. Only Dawson et al (1992) did not take these other factors into account. Furthermore, although Espinosa et al (2001) did report on the socioeconomic status of their participants they did acknowledge that the lack of an SES-matched control group did limit the generalisability of their results. With regard to further risk factors, such as marital discord, 7 of the studies did not report on other potential factors (Campbell et al, 2004; Dawson et al, 1992; DeMulder & Radke-Yarrow, 1991; Easterbrooks et al, 2000; McMahon et al, 2006 Teti et al, 1995; Toth et al, 2006). Whether participants were taking medication was only taken into account by 3 studies (Hipwell et al, 2000; McMahon et al, 2006; Teti et al 1995). It can be difficult to provide for all

potential confounding variables when undertaking this type of research; however these factors may have an impact on subsequent results found.

With regard to considering the impact of maternal depression on mother-infant relationships, research has shown that there are potential gender differences with boys and girls being affected in different ways (e.g. Murray et al 1999). Of the 15 studies, 4 failed to measure the potential effects of infant gender on the data subject to analyses (Dawson et al, 1992; Espinosa et al, 2001; Hipwell et al a 2000; Tomlinson et al, 2005). The remaining 11 studies however did report on gender differences.

Standardised Outcome Measures

As indicated above depression covers a wide range of symptomatology and can range from mood episodes (such as Major Depressive Episode) to mood disorders (such as Major Depressive Disorder, Dysthymic Disorder, Bipolar I Disorder) (DSM-IV-TR). It is important therefore for researchers to explain how they have conceptualised depression for the purposes of their research.

Nine of the studies undertook clinician administered diagnostic interviews to establish a diagnosis of depression. Of these nine, two administered the Structured Clinical Interview (SCID & SCID-II; Spitzer, Williams, Gibbon and First, 1990) (Seifer et al, 1996; Tomlinson et al, 1996), two administered the Standardised Psychiatric Interview (SPI; Goldberg, Cooper, Eastwood, Kedward & Shepherd, 1970) (Murray, 1992; Murray et al 1996), two administered the Schedule For Affective Disorders and Schizophrenia (SADS; Spitzer & Endicott,

1977) (DeMulder & Radke-Yarrow, 1991; Hipwell et al, 2000), one administered the Composite International Diagnostic Interview (CIDI; World Health Organisation, 1997) (McMahon et al, 1996), one administered the Diagnostic Interview Schedule (DIS-III-R; American Psychiatric Association, 1987) (Toth et al, 2006) and one administered the Millon Clinical Multiaxial Inventory (MCMI-I; Millon, 1983) (Espinosa et al, 2001).

Of the studies that employed diagnostic techniques, seven also used self-report measures to supplement the information gathered at interview. Three used the Edinburgh Postnatal Depression Scale (EPDS; Cox, Holden and Sagovsky, 1987) (Hipwell et al, 2000; Murray, 1992; Murray et al, 1996), two used the Beck Depression Inventory (BDI; Beck, 1961) (Espinosa et al, 2001; Toth et al, 2006), one study used the Centre for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977) (McMahon et al, 2006) and one study used the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960) (See Table 1).

Six of the studies only used self-report measures to ascertain symptoms of depression (Campbell et al, 2004; Dawson et al, 1992; Easterbrooks et al, 2000; Lyons-Ruth et al, 1990; Poehlmann & Fiese, 2001; Teti et al, 1995), four using the CES-D, one the Symptom Checklist -90-R (SCL-90-R; Derogatis, 1994) and one using the BDI. One problem associated with using self-report measures is that participants may over or under-report their symptoms to either exaggerate symptoms or provide socially desirable responses. Furthermore, Easterbrooks et al (2000) suggested that taking self-report scores of depressive symptoms at face value may not always signify a true representation of mothers' psychological

status. However, the psychometric measures used have been standardised within comparative samples i.e. they have demonstrated validity and reliability in depression samples.

With regard to measurement of attachment all of the studies employed the Strange Situation techniques devised by Mary Ainsworth and her colleagues (1978), two using the modified MacArthur Working Group on Attachment version devised by Cassidy et al (1992) which takes developmental change into account (Campbell et al, 2004; DeMulder & Radke-Yarrow, 1991). This was due to the studies assessing attachment in older infants (36 months and > 30 months respectively). Disorganized attachment was assessed using the guidelines of Main and Solomon, 1990. This was part of the inclusion criteria for the studies under review.

Bias and Rater Blinding

Measurement bias can occur if the measurement process systematically overstates or understates the true value of the measurement. One source of bias is the rater's knowledge of the group being assessed. There are a number of methods used to try and counteract this bias, such as blinding raters to the measurement outcomes and utilising interrater reliability to measure agreement in the findings.

In the studies under review, when considering maternal depression and attachment status, eight reported that the researchers were blind to maternal and infant status (Campbell et al, 2004; DeMulder & Radke-Yarrow, 1991; Hipwell

et al, 2000; Lyons-Ruth et al, 1990; Murray et al, 1996; Poehlmann & Fiese, 2001; Tomlinson et al, 2005; Toth et al, 2006), two were blind to maternal status only (Espinosa et al, 2001; Teti et al, 1995), two were blind to infancy data (Easterbrooks et al, 2000; McMahon et al, 2006) and two did not report on rater blinding (Dawson et al, 1992; Murray, 1992). Seifer et al (1996) acknowledged that on one of their measures the same coder rated parents and child behaviour subsequently comparing the findings, which they report could result in some confounding of tasks.

Agreement between raters on the coding undertaken in the Strange Situation (Ainsworth et al, 1978) varied and was reported in different ways. Ten of the studies subjected the coding agreements to analyses and Cohens kappa agreement ranged from between the lowest which was .63 (Campbell et al, 2004) to the highest, .96 (Tomlinson et al, 2005). Three of the studies reported percentage agreements only; Hipwell et al (2000) who reported agreement to be >80%, Lyons-Ruth et al (1990), 86% and Toth et al (2006) who reported 90%-94%. Murray (1992) and Seifer et al (1996) did not report that they checked agreement on the outcomes measuring attachment.

Methodology and Power

Of the 15 studies, four randomised participants to experimental, control groups or for selection purposes. Campbell et al (2004) selected a subset of participants in accordance with a conditional-random sampling plan designed to ensure that recruited families reflected demographic diversity. Murray (1992) and Murray et al (1996) randomly selected potential controls for a well control group (no

previous history of depression). Toth et al (2006) randomised depressed mothers to an intervention group or depressed control group. The authors also employed a nondepressed control group within this study. However, it is of note that they excluded families of low socioeconomic status from the study in order to minimise co-occurring risk factors and therefore the results cannot necessarily be generalised to a higher risk sample. Four studies had matched control groups although they did not report randomisation of participants to these groups (Lyons-Ruth et al 1990; Hipwell et al, 2000; Poehlmann & Fiese, 2001; Teti et al, 1995). Four studies reported the presence of a control group but either did not report on whether groups were matched or the methods of group allocation (DeMulder & Radke Yarrow, 1991; Dawson et al, 1992; McMahon et al, 2006; Seifer et al, 1996). Three studies did not attempt to match individuals for between group comparisons (i.e. with/without postnatal depression) (Easterbrooks et al, 2000; Espinosa et al, 2001; Tomlinson et al, 2005).

None of the studies reported that they had undertaken a power calculation to consider whether statistical power was sufficient in their studies. Three studies addressed this indicating that they considered it was a limitation within their study (Easterbrooks et al, 2000; Hipwell et al, 2000; Poehlmann & Fiese, 2001).

Given heterogeneity of depression measurement, study aims and hypotheses, and sampling populations it was decided that meta-analysis was not appropriate. Rather what now proceeds is a narrative synthesis of the findings of these 15 studies.

Findings

Maternal depression and disorganized attachment in infants

With regard the evidence of an association between maternal depression and disorganized attachment characteristics in infants, the following results were reported. Of the 15 studies reviewed, 6 reported that there was some evidence that maternal depression was a risk factor for disorganized attachment in infants. A further three studies reported tentative findings of an association and finally six studies reported that there was no association between postnatal illness and disorganized attachment behaviours in infants (see Table 1 for rates of (D) attachment in samples). The details are summarised as follows:

Campbell et al (2004) reported an association between patterns of maternal depressive symptoms and attachment, in a community sample, in particular showing that intermittent depression was associated with both ambivalent/resistant (C) and disorganized attachment (D) styles. Furthermore, they also found that mothers with chronic depression were more likely to have infants with insecure-D characteristics. Their study also revealed a further association relating to the course and timing of maternal sensitivity, their findings showing that mothers with late, intermittent or chronic depressive symptoms, who were also low in sensitivity, were more likely to have insecurely attached infants.

Dawson et al (1992) found that ratings of infants' levels of (D) were associated with mother's self-report depressive symptoms (CES-D), particularly in those of mothers reporting higher depressive symptoms. Infants of mothers with higher

levels of depressive symptoms displayed more disorganised behaviours during the Strange Situation.

DeMulder & Radke Yarrow (1991) indicated in their sample that two thirds of infants with mothers who had bipolar disorder showed insecure patterns of attachment, the majority of whom were classed as insecure-D. They reported that these numbers were significantly higher in this group than in the well and unipolar groups also being investigated within their study.

Lyons-Ruth et al (1990) studying a high risk treatment group, a high risk untreated group and a community untreated comparison group revealed in their findings that infants of depressed mothers in the high risk untreated group exhibited more than twice the rate of insecure-D attachment. There is a caveat to these findings however as they also showed that infants of nondepressed mothers in the untreated high risk group displayed high rates of behavioural characteristics of (D). Following treatment infants of the high risk treatment group were twice as likely to show secure attachment (B) which they suggest demonstrates evidence of the positive impact of intervention on the social development of infants at risk.

Teti et al (1995) reported in their study that maternal depression was significantly associated with attachment security showing that there were a high percentage of D infants (40%) in the depressed group in comparison to only 10% in the nondepressed one. They reported that this result may partly be due to the recruited mothers being classed as high risk as their depression scores fell within

the more severe range (moderate- severe range on BDI) and these mothers were also in therapy.

Finally, Toth et al (2006) investigated the efficacy of toddler-parent psychotherapy to reorganise attachment in infants of depressed mothers by randomising participants to three groups; depressed intervention, depressed control and nondepressed. Their findings showed that pre-intervention there were higher rates of infants with (D) attachment in the depressed intervention and depressed control group than in the nondepressed control group. Following intervention the rates of infants showing (D) attachment styles had reduced in the depressed intervention group and remained unchanged in nondepressed control. The higher levels had also remained stable within the depressed control group. They posited that (D) attachment styles can be modified in infants of depressed mothers indicating that in order to facilitate these changes intervention must include both treatment of depression and the relationship between an infant and mother.

Three studies were equivocal about whether maternal depression was a risk factor for disorganized attachment strategies in infants making tentative suggestions about associations. Espinosa et al (2001) studied participants diagnosed with Axis I and Axis II disorders in a sample of cocaine-using mothers. Due to small sample sizes they studied paranoia and dysthymia in particular reporting that despite the sample size for dysthymia being too small for statistical analysis there appeared to be a trend linking maternal depression to increased levels of (D) attachment in infants. In comparison to norms they

suggested that infants of depressed mothers showed higher levels of (D) attachment. They also linked this type of attachment behaviour to less sensitive care giving. With regard to their findings on paranoia they reported that irrespective of whether paranoia is associated with dysthymia there is a link between this, less sensitive care giving and an increase in (D) attachment in infants. However, as they were unable to perform statistical analyses on the data gathered in respect of dysthymia these findings require conservative interpretation. Given their findings that there may be a trend is indicative of the need for further research to investigate this.

Hipwell et al (2000) found that severe postnatal illness impacted on the interaction between a mother and her infant (less sensitivity for example). They studied an inpatient group and a community depressed group. Their findings showed that there was no evidence within the inpatient group that an episode of postnatal illness was associated with insecure attachment. However they pointed out that there was wide heterogeneity within this sample. When they considered unipolar depression their findings revealed that 68% of infants were insecurely attached of which 36% were classed as having insecure-D attachment. They therefore reported that they did find an association between disorganized attachment and unipolar depression but not in the more severe cases of bipolar disorder.

Tomlinson et al (2005) revealed that a quarter of the infants in their high risk sample were classed as disorganized. Their findings showed that there was a significant association with disorganized attachment in infants who had mothers

with postpartum depression at two months and who displayed maternal frightened/frightening behaviour. This led them to suggest that these two variables were significant predictors of disorganized attachment status in infants. However at 18 months old postnatal depression was no longer significant, their findings showing that only maternal frightened/frightening behaviour remained significant.

Six studies reported that they found no association between postnatal depression and disorganized attachment in infants. Easterbrooks et al (2000) study demonstrated no differences in attachment classifications of mothers reporting symptoms of depression, their findings showing no patterns associated with the attachment groups. They linked disorganized attachment strategies to maternal behaviour reporting that mothers of (D) infants engage in more erratic, unpredictable and fearful behaviour. Perhaps interestingly, their study suggested that maternal depression and insecure attachment were not necessarily associated with each other. Whilst research cannot be categorical about this, these findings are contrary to many reported in studies both within this review and elsewhere.

McMahon et al (2006) reported that infants of chronically depressed mothers were more likely to be insecurely attached but also linked to this was mothers' own insecure attachment state of mind. Their study showed that mothers with depression were no more likely than never depressed mothers to have insecurely attached infants. Their findings revealed no significant relationship between maternal depression and disorganized attachment when demographic variables were included leading them to suggest that there was no clear association

between depression and disorganized attachment. When they removed the variable 'education' from statistical analysis their findings showed that 40% of infants of chronically depressed mothers had (D) attachment which was significantly higher than the never depressed control group.

In the study by Murray (1992), the data were merged into insecure/secure subgroups due to small sample sizes. The numbers within their groups were too small to draw conclusions as only 4 of the 53 infants were classed as (D). The findings did reveal that infants of depressed mothers were significantly more likely to be insecurely attached than those of nondepressed ones but no conclusions can be drawn with regard to the separate classifications.

Murray et al (1996) findings showed that infants of depressed mothers were more likely to be insecurely attached but they linked quality of attachment to adversity suggesting that it was not related to nature of interaction. In their sample 62% of infants were insecurely attached however they could not be categorical about (D) attachment status.

Poehlmann & Fiese (2001) looked at preterm and full-term infants and mothers with postnatal depression. Their study concluded that preterm infants were more likely to be insecurely attached but they could not conclude any specific links with (D) attachment status. They showed that preterm infants of depressed mothers showed higher levels of insecure attachment. Upon visual inspection of the data there was 5% of infants with (D) attachment in the full-term group and 5% in the preterm group.

Seifer et al (1996) reported a lack of association between infant attachment status and maternal characteristics (postnatal illness, diagnosis, multiple risks). They were unable to determine differences in attachment security apart from a modest correlation between security and presence of major depression. They point out that their rates of security were low, albeit within an acceptable range, but comparative rates of avoidance and ambivalent/ resistance deviated from other samples. The rate of disorganization they reported as somewhat high (20%) thus leading them to comment that they had no easily identifiable explanation for the difference between their sample and others.

The diversity of the studies presented in terms of methodology, sample size, assessment and intervention prevented a meaningful quantitative analysis of the data being undertaken in this instance. For comparison purposes however three meta-analyses reflecting rates of D in normative low risk samples, normative high-risk samples and depression samples are provided below (Table 2). The median percentage of the three meta-analyses (23.5%; range, 15%-28%) and the mean percentage (22.5%), reflected are similar to that found in the depression sample in the current review (22%). However, in this review three of the studies (DeMulder & Radke-Yarrow, 1991; Easterbrooks et al, 2000; Seifer et al, 1996) did not adequately report the breakdown of infant attachment between groups making actual comparisons more problematic. Martins & Gaffan (2000) reported in their meta-analysis that the findings of individual studies are diverse and inconsistent and the effect of maternal depression on attachment is not uniform across studies and that was also found in this review. Because of the

difference in distributions and sample sizes they averaged the percentages from individual studies which resulted in an increase of (D) from 17% to 28%. They suggested one reason for this may be that the variability of effects is represented by the age at which attachment was assessed.

Insert Table 2 Here

Discussion

There was a wide range of results found in this review in relation to whether maternal depression was a potential risk factor for insecure attachment disorganization in infants. Only six of the fifteen studies reported a clear association between maternal depression and disorganized attachment in infants. Three reported tentative findings of an association between these factors, however it is notable that one of these was only able to report a trend after failing to perform statistical analyses on their data due to small sample sizes (Espinosa et al, 2001). A further six studies reported no association leading them to suggest that depression may not therefore be an important factor when considering what negatively impacts on infants attachment status.

However, following review of the literature in this area (from 1990-2007) it was apparent that there were a number of methodological limitations within the studies under review which makes drawing firm conclusions more complicated. One of the greatest difficulties in studying the link between depression and attachment appears to be establishing homogeneity within groups. Despite many of the studies endeavouring to separate groups by diagnoses and/or making

comparisons between well and depressed groups, the heterogeneity of the samples was often cited as a limitation within the studies (see Table 1). This suggests that caution needs to be exercised when making comparisons between these studies and drawing conclusions from the body of literature.

Furthermore sample sizes varied greatly from twenty-six to one thousand and seventy-seven participants. None of the studies reported having completed a power calculation in an endeavour to achieve sufficient statistical power within their study and in fact some reported that this was also a limitation within their study. However, this does not mean that all the studies had insufficient power merely that it is difficult for the reader to judge from the limited information available.

The timing of depression and depressive episodes varied from study to study and some studies took co-occurring risk factors (such as marital discord) into account whilst others did not. Failure to control for confounding variables can lead to the false conclusion that the dependent variables are in a causal relationship with the independent variable. The age range of infants being studied was also varied which makes comparisons more difficult given the developmental differences expected to be found between infants of 12 months and those of 36 months for example. Crittenden (2005) considered that attachment involves the interaction of maturational processes and idiosyncratic experiences to produce individual differences in strategies for protecting the self. As infants develop they can generate more complex representations of the world and their experiences. This

might have important implications when considering attachment categories and the two year age gap in the children researched in the studies represented herein.

The outcome measures used to consider levels of maternal depression generally had demonstrable validity and reliability in the general population. However, over a third of the studies (6) relied on self-report measures alone relying on subjective report as a true measure of outcome which as indicated above can prove problematic. Most of the studies (12) also relied on convenience sampling which can give rise to sampling bias. Whilst this is easier in terms of availability/accessibility of participants it may be at the expense of representativeness to the population as a whole. There was no way of establishing whether participants were more motivated to take part given that many of them had sought therapy or intervention making it difficult to generalise the findings overall.

There is also some debate about the conceptualisation of attachment disorganization. Crittenden (1995, 2001) for example argued that Main's ABCD model defined any behaviour that cannot be classed into the original categories of ABC as disorganized. She however cautioned against placing all risk and troubled children in just one category explaining that this limits exploration of necessary developmental processes and was too simple an explanation of the complexities of organisation and disorganization strategies (Crittenden, 2001). She therefore expanded the original Ainsworth model to include four attachment strategies: *defended-* compulsive and inhibited Type A strategies; *secure-* Type B strategies; *coercive-* threatening, disarming and obsessive Type C strategies; and

defended-coercive- Type A/C. Disorganization is limited to children who seem unable to construct representational models based on a set of contingencies (Crittenden, 2001). Crittenden (2005) takes into account the developing child's ability to engage in more developmentally complex forms of communication and negotiation and played down the notion of long-term disorganization suggesting that the above strategies may be more reliable in explaining coherent, organised strategies. Those who do not fit into the four categories can be represented by a fifth category, *anxious depressed*, depressive like features displaying non-strategic behaviour (Type AD) and a sixth, *insecure other*, behaviour that does not fit into A, B, C. or A/C patterns (Type IO). Teti et al (1995) suggested that these last two categories were conceptually similar to the classification of (D), a comment that Crittenden rebuffed (Crittenden 2001).

To summarise, whilst there are methodological limitations within the studies reviewed, many of the studies were of a reasonable quality (Appendix 2.2). The majority did endeavour to account for some of the potential confounding variables and report on other factors that may influence the outcomes. It can be difficult to judge causality when considering aetiology and risk for a number of reasons such as; accounting for the many environmental factors that may confound the results; accounting for any potential bias when using convenience samples, for example. Just over one third of the studies reviewed reported evidence of an association between maternal depression and disorganized attachment status whilst the same number did not. However, one noteworthy study is that undertaken by Toth et al (2006) who were the only researchers to investigate attachment status over more than one time point. Whilst there were

some methodological limitations within their study (see Table 1) they not only found an association between maternal depression and disorganized attachment status in infants but also showed that this could be modified following intervention.

Future research considering maternal depression and infant attachment should aim to improve methodological rigour where feasible. One of the main limitations pointed out by researchers themselves was the limited sample sizes present in their studies. Power calculations would improve methodological quality by providing confirmation that the results were based on sufficient statistical power. Furthermore, it may be prudent for studies not to rely on self-report measures given the potential problems outlined above and where feasible when measuring outcomes longitudinally, all measures should be assessed over different time points. This would allow for continuity when reporting outcomes and may help extricate the possible causal processes involved when considering postnatal depression and infant development (Beck, 1998). Finally, there is an ongoing debate about the conceptualisation of disorganized attachment and this has implications for future research. As suggested by Crittenden (2001) it might be beneficial to amalgamate attachment work to encompass the different perspectives and allow for further empirical investigation.

Limitations of Review

There are several limitations which should be taken into account when considering this review. Firstly, it may have been limited by the search strategy employed herein. For example only studies written in English were included

which may exclude pertinent evidence relating to this subject under review. Furthermore, it may have been useful to contact principal authors of relevant studies directly to request information on other potential studies within this field. Unpublished studies were also not included within this review which Glasziou, Irwig, Bain and Colditz, (2001) suggest may lead to publication bias.

Finally, this review focused specifically on maternal depression and disorganized attachment in particular and did not specifically review the many other areas also linked to disruption in attachment such as maternal interaction, sensitivity and frightened/frightening behaviour for example. Furthermore, this review only took account of studies that had researched (D) attachment using the method proposed by Main & Solomon (1990). It did not take into account studies that may have considered the work of Crittenden who proposed that (D) may be better represented as an organised attachment category in which the mix of avoidance and resistance is strategic and predictable on the basis of an ongoing mother-infant exchange (Crittenden's category A/C) (Teti et al, 1995). Crittenden (2001) pointed out that almost 50 papers on the dynamic-maturational model were not cited by any of the authors researching disorganized attachment. Many studies still investigate disorganized attachment (D) as a construct and it is thought to be a strong predictor of cognitive delay and externalising problems in later childhood (Lyons-Ruth, 1996) and a risk factor for psychopathology and dissociation symptoms in adolescence (Carlson, 1998). Furthermore, maternal depression has been shown to negatively impact on the cognitive and emotional development of the child (Hay, 1997) making these two factors important ones to consider.

Conclusion

The variability of findings within this review are perhaps unsurprising given the similar variations found in the two meta-analyses undertaken approximately seven years ago (Martins & Gaffan, 2000; van Ijzendoorn et al, 1999). Martins and Gaffan (2000) reported a small but consistent association between disorganized attachment and maternal depression whilst van Ijzendoorn et al (1999) reported that the association between the two was surprisingly weak in both clinical and nonclinical groups.

The study represents a systematic review of the literature from 1990 to 2007 and endeavours to clarify whether maternal depression is a risk factor for disorganized attachment behaviours in infants. Firm conclusions about this are limited by the variability of the research reviewed. It would appear that whilst there is limited evidence to suggest that this may be the case it is difficult to extrapolate causal relationships when considering the available research. Future reviews should also consider the impact of other factors such as maternal insensitivity, high risk samples, frightened/frightening maternal behaviour and maltreatment for example to further investigate potential risk factors.

References

Abrams, K. Y., Rifkin, A. & Hesse, E. (2006). Examining the role of parental frightened/frightening subtypes in predicting disorganized attachment within a brief observational procedure. *Development and Psychopathology,* **18**, 345-361.

Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). *Patterns of Attachment: a psychological study of the strange situation.* Hillsdale, NJ: Erlbaum Associates.

Austin, M-P. (2003). Perinatal mental health: opportunities and challenges for psychiatry. *Australasian Psychiatry,* **11** (4), 300-403.

Austin, M-P. & Priest, S. R. (2005). Clinical issues in perinatal mental health: new developments in the detection and treatment of perinatal mood and anxiety disorders. *Acta Psychiatrica Scandinavica*, **112** (2), 97-104.

Austin, M-P. & Priest, S. R. (2004). New developments in perinatal mental health. *Acta Psychiatrica Scandinavica*, **110** (5), 321-322.

Bakermans-Kranenburg, M. J., van Ijzendoorn, M. H., & Juffer, F. (2005). Disorganized infant attachment and preventative interventions: a review and meta-analysis. *Infant Mental Health Journal*, **26(3)**, 191-216.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory - Second Edition.* San Antonio: The Psychological Corporation.

Beck, C. T. (1998). The effects of postpartum depression on child development: a meta-analysis. *Archives of Psychiatric Nursing, Vol. XII,* **1**, 12-20.

Brockington, I. (2004). Postpartum psychiatric disorders. *Lancet,* **363**, 303-310.

Bus, A. G. & van Ijzendoorn, M. H. (1995). Mothers reading to their 3-year-olds: the role of mother-child attachment security in becoming literate. *Reading Research Quarterly,* 30, 998-1015.

Bowlby, J. (1969). *Attachment and Loss: Vol. 1. Attachment.* New York: Basic Books.

Cantwell, R. & Cox, J. L. (2003). Psychiatric disorders in pregnancy and the puerperium. *Current Obstetrics and Gynaecology,* **13(1)**, 7-13.

Campbell, S. B., Brownell, C. A., Hungerford, A., Spieker, S. J. Mohan, R. & Blessing, J. S. (2004). The course of maternal depressive symptoms and maternal sensitivity as predictors of attachment security at 36 months. *Development and Psychopathology,* **16**, 231-252.

Carlson, E. A., (1998). A prospective longitudinal study of attachment disorganization/disorientation. *Child Development,* **69**, 1107-1128.

Carr, A. (1999). *The handbook of child and adolescent clinical psychology: a contextual approach.* London: Routledge.

Carter, A. S., Garrity-Rokous, F. E., Chazan-Cohen, R., Little, C., & Briggs-Gowan, M. J. (2001). Maternal depression and comorbidity: predicting early painting, attachment security, and toddler social-emotional problems and competencies. *Journal of the American Academy of Child and Adolescent Psychiatry*, **40 (1),** 18-26

Cassidy, J. Marvin, R. S., and the MacArthur Working Group on Attachment (1992). *Attachment organisation in preschool children: procedures and coding manual.* Unpublished coding manual. Pennsylvania State University.

Cicchetti, D., Rogosch, F. A., Toth, S. L (1998). Maternal depressive disorder and contextual risk: contributions to the development of attachment insecurity and behaviour problems in toddlerhood. *Development and Psychopathology*, **10**, 283-300.

Cox, J. L., Holden, J. M., & Sagovsky, R. (1987). Detection of postnatal depression: development of the Edinburgh postnatal depression scale. *British Journal of Psychiatry,* **150**, 782-786.

Crittenden, P. M. (1985). Maltreated infants: vulnerability and resilience. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, **26**, 85-96.

Crittenden, P. M. (2001). Organization, alternative organizations, and disorganization: competing perspectives on the development of endangered children. *Contemporary Psychology,* **46**, 593-596.

Crittenden, P. M. (2005). Teori dell'attaccamento, psicopatologia e psicoterapia: l'approccio dinamico maturativo. *Psicoterapia,* **30**, 171-182.

Dawson, G., Klinger, L. G., & Panagiotides, H., Spieker, S & Frey, K. (1992). Infants of mothers with depressive symptoms: electroencephalographic and behavioural findings related to attachment status. *Development and Psychopathology,* **4**, 67-80.

DeMulder, E. K. & Radke-Yarrow. (1991). Attachment with affectively ill and well mothers: concurrent behavioral correlates. *Development and Psychopathology*, **3**, 227-242.

Derogatis, L. R. (1994). *SCL-90-R administration, scoring and procedures manual.* Minneapolis, MN: National Computer Systems.

Downey, G. & Coyne, J. C. (1990). Children of depressed parents: an integrated review. *Psychological Bulletin,* **108**, 5-76

Easterbrooks, M. A., Biesecker, G. & Lyons-Ruth, K. (2000). Infancy predictors of emotional availability in middle childhood: the roles of attachment security and maternal depressive symptomatology. *Attachment and Human Development*, **2 (2)**, 170-187.

Espinosa, M., Beckwith, L., Howard, J., Tyler, R., & Swanson, K. (2001). Maternal psychopathology and attachment in toddlers of heavy cocaine-using mothers. *Infant Mental Health Journal*, **22(3)**, 316-333.

Glasziou, P., Irwig, L., Bain, C., & Colditz, G. (2001). *Systematic reviews in health care: a practical guide*. Cambridge: Cambridge University Press.

Goldberg, S. (2000). *Attachment and development.* London: Arnold, Hodder Headline Group.

Hamilton, M. (1960). A rating scale for depression. *Journal of Neurology Neurosurgery and Psychiatry* **23**, 56-62.

Hay, D. F. (1997). Postpartum depression and cognitive development. In L. Murray & P. J. Cooper (Eds), *Postpartum depression and child development.* (pp 85-110). London: the Guildford press

Hesse, E. & Main, M. (2006). Frightened, threatening, and dissociative parental behaviour in a low-risk sample: description, discussion, and interpretations. *Development and Psychopathology,* **18**, 309-343.

Hipwell, A. E, Goossens, F. A, Melhuish, E. C., & Kumar, R. (2000). Severe maternal psychopathology and infant-mother attachment. *Development and Psychopathology*, **12**, 157-175.

Kaye, K (1982). *The mental and social life of babies: how parents create persons.* Chicago: The University of Chicago Press.

Lyons-Ruth, K., Connell, D. B., Grunebaum, H. U. & Botein, S. (1990). Infants at social risk: maternal depression and family support services as mediators of infant development and security of attachment. *Child Development,* **61**, 85-98.

Lyons-Ruth, K. (1996). Attachment relationships among children with aggressive behaviour problems: the role of disorganized early attachment patterns. *Journal of Consulting and Clinical Psychology*, **64**, 64-73.

Lyons-Ruth, K., & Jacobvitz D. (1999) Attachment disorganization: Unresolved loss, relational violence, and lapses in behavioral and attentional strategies. In Cassidy, J., & Shaver, P. (Eds.), *Handbook of Attachment: Theory, Research, and Clinical Applications.* New York: Guilford (pp. 520-554).

Main, M. & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infants disorganized attachment status: is frightened and/or frightening parental behaviour the linking mechanism? In M. Greenburg, D. Ciccheti, and E. M. Cummings (Eds.). *Attachment in the preschool years*, (pp. 161-182). Chicago: University of Chicago Press.

Main, M., & Solomon, J. (1990). Procedures for identifying infants as disorganized/disorientated during the Ainsworth Strange Situation. In M.

Greenburg, D. Ciccheti, and E. M. Cummings (Eds.). *Attachment in the preschool years*, (pp. 121-182). Chicago: University of Chicago Press.

Martins, C. & Gaffan, E. A. (2000). Effects of early maternal depression on patterns of infant-mother attachment: a meta-analytic investigation. *Journal of Child Psychology and Psychiatry*, **41(6)**, 737-746.

McMahon, C. A., Barnett, B., Kowalenka, N. M., & Tennant, C. C. (2006). Maternal attachment state of mind moderates the impact of postnatal depression on infant attachment. *Journal of Child Psychology and Psychiatry*, **47(7)**, 660-669.

Murray, L. (1992). The impact of postnatal depression on infant development. *Journal of Child Psychology and Psychiatry*, **33(3),** 543-561.

Murray, L., Fiori-Cowley, & Cooper, P. (1996). The impact of postnatal depression and associated adversity on early mother-infant interactions and later infant outcome. *Child Development*, **67**, 2512-2526.

Murray, L., Sinclair, D., Cooper, P., Ducournau, P., & Stein, S. (1999). The socioemotional development of 5-year-old children of postnatally depressed mothers. *Journal of Child Psychology and Psychiatry,* **14 (8)**, 1259-1271.

Murray, L. & Cooper, P. (1997). Postpartum depression and child development. *Psychological Medicine,* **27,** 253-260.

Poehlmann, J. & Fiese, B. A. (2001). The interaction of maternal and infant vulnerabilities on developing attachment relationships. *Development and Psychopathology*, **13**, 1-11.

Radke-Yarrow, M., Cummings, E.M. Kuczynski, L. & Chapman, M. (1985). Patterns of attachment in two-and three-year-olds in normal families and families with parental depression. *Child development*, **56**, 884-893.

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, **1**, 385-401.

Rogoff, B. (1990). *Apprenticeship in thinking: cognitive development in social context.* Oxford: Oxford University Press.

Seifer, R., Sameroff, A. J., Dickstein, S., Keitner, G., Miller, I., Rasmussen, S. & Hayden, L. C. (1996). Parental psychopathology: multiple contextual risks, and one-year outcomes in children. *Journal of Clinical Child Psychology*, **4**, 423-435.

SIGN Guidelines (2002). Postnatal depression and puerperal psychosis, Publication No. 60.

Teti, D. M., Gelfand, D. M., Messinger, D. S., & Isabella, R. (1995). Maternal depression and the quality of early attachment: an examination of infants, preschoolers, and their mothers. *Developmental Psychology*, **31(3)**, 364-376.

Tomlinson, M., Cooper, P. & Murray, L. (2005). The mother-infant relationship and infant attachment in a South African peri-urban settlement. *Child Development*, **76(5)**, 1044-1054.

Toth, S. L., Rogosch, F. A., Manly, J. T. & Cicchetti, D. (2006). The efficacy of toddler-parent psychotherapy to reorganize attachment in the young offspring of mothers with major depressive disorder: a randomised preventative trial. *Journal of Consulting and Clinical Psychology*, **74(6),** 1066-1016.

Van Ijzendoorn, M. H., Schuengel, C., & Bakermans-Kranenburg, M. J. (1999). Disorganized attachment in early childhood: meta-analysis of precursors, concomitants and sequelae. *Development and Psychopathology,* **11,** 225-249.

Table 1. Description of included studies (for key see end of table)

Study	Design of Study	Sample Demographics & Characteristics	Opt-in & Follow-up rates	Groups	Definition of (&) domains measured as outcome measures	Measures used to define postnatal depression/ attachment	Reported Quality of measures	Additional Measures Reported	Methodological limitations
1.Campbell et al 2004	Longitudinal Prospective Cohort	**N**=1077 **MAM**:28.6 **AIM**: 36 months 543:534 B:G **SES**: low-risk (middle income)	8986 visited in hospital of which 5265 met criteria N=1364 (58% of those contacted) enrolled Completers - 79% of initial sample (N=1077) had attachment data at 36 months and 4x self-report measures of depression Higher risk families more likely to drop out/missing data (31%)	**Depression:** Never (N=594) Early (N=198) Late (N=98) Intermittent (N=100) Chronic (N=87) **Attachment**: A (N=50) B (N=669) C (N=185) D (N=173)	**Maternal depression and sensitivity; infant Attachment:** Depression Maternal Sensitivity Attachment	**CES-D** Center for Epidemiological Studies Depression Scale **Strange Situation** (modified-MacArthur Working Group-Cassidy et al 1992)	Published & Standardised. Cronbach alpha reported to be high (range=.88-.91) Cronbach alpha reported (range .70-.79) Intercoder agreement reported as 75.7% (k=.63)	Semi-structured play videotaped	Diagnostic interviews not conducted by researchers. No data on maternal history of psychopathology or on course of symptoms between assessments. Assessment of attachment completed at age 36 months may be less valid in this age group.
2.Dawson et al 1992	Cross-sectional	N=26 **MAM**: 18.82 (range 15-21)	N=34 enrolled Completers (N=26) had	**Depression:** Depressed (N=12)	**Maternal depression; infant attachment**				Potential co-occurring risk factors due to SES status

		13:21 B:G **AIM**:12 months **SES**: High risk (low income)	attachment data and depression reports 4 excluded due to missing data 4 excluded due to missing EEG data	Nondepressed (N=14) **Attachment**: A (N=1) B (N=17) C (N=0) D (N=8)	**security, behaviour and brain activity** Depression Attachment EEG – brain activity Infants affective behaviour Infant distress	 **CES-D** Center for Epidemiological Studies Depression Scale **Strange Situation** (Main & Solomon classification, 1990)	 Epidemiologic studies report that 99% of clinically depressed patients scored above 16. Scale has 6.1% false positive rate and 36% false negative rate in community samples Interrater agreement ranged from 81%-88% (.82) Interrater reliability reported Cohens kappa 0.71 interrater reliability reported as	 Electro-encephalographic recording Videotapes coded using 7-point global affect scale (Osofsky, 1987) Videotapes coded using 13-point scale (Thompson	sample heterogeneity

					Infant vocalisation		0.87 Not reported	& Lamb, 1984) Time recorded from videotape during each condition	
3.DeMulder & Radke-Yarrow 1991	Cross Sectional	N=112 **MAM**:32.4 **AIM**:30 months (MA) 56:56 B:G **SES**: Low risk (predominantly middle/higher income)	500 screened by telephone of which N=230 approx met criteria Refusal rate not reported Completers (N=112)	**Depression**: Unipolar depression (N=43) Bipolar depression (N=24) Nondepressed (N=45) **Attachment** N = not reported A,B,C,D	**Maternal depression and infant attachment** Depression Attachment Control and Affect	**SADS-L** Schedule for Affective Disorders and Schizophrenia **Strange Situation** (Ainsworth et al, 1978 - under 30 months) And Modified version (Cassidy et al 1987/89 – 2 ½ - 4 ½ year old)	Not reported Interrater agreement ranged from 0. 67-0.80 Cohens kappa= 0.79-0.85 and 0.78-0.75 respectively	Behaviour coded from videotape	Sample heterogeneity
4.Easterbrooks et al 2000	Longitudinal Prospective Cohort	N=45 **MAM**: not reported	Not reported	**Depression**: Clinical Depression (N= 19 when	**Maternal Depression and Emotional Availability Infant**				Small sample size limited power Potential co-occurring risk

		AIM: 18 months 26:19 B:G **SES**: high risk (low income)		infant 18 months and 16 when child age 7 years). Subclinical Depression (N= 26 when infant 18 months and 29 when child age 7 years) **Attachment** A (N= 8) B (N =19) C (N =0) D (N =18)	**Attachment:** Depression Emotional Availability (inc sensitivity) Attachment	**CES-D** Center for Epidemiological Studies Depression Scale **Strange Situation** (Ainsworth et al, 1978 and Main & Solomon, 1990)	Demonstrates ample validity and reliability-details not reported Quality of scales not reported Interrater reliability .95-1.00 (M=.98) Interrater reliability reported as 86%; agreement for disorganised classification 83% (kappa= .73)	Emotional Availability Scales (Biringen et al, 1993) And Videotaped observation in laboratory playroom	factors due to SES
5.Espinosa et al 2001	Longitudinal Prospective Cohort	N= 35 **MAM:** 27.69 (range19-45) **AIM:** 18 months	21% uptake rate N=169 enrolled for a larger study N=86 completed postnatal	**Psycho-pathology** **Axis I** Dysthymia Anxiety **Axis II**	**Maternal psycho-pathology and attachment:** Psycho-Pathology	**Millon Clinical Multi-Axial**	Not reported Reported that scale	**Substance misuse:** Addiction Severity Index (ASI)	Potential co-occurring risk factors due to SES

		Gender of infants not reported **SES**: high risk (low income)	assessment. N=56 completed attachment assessment. Drop-out inc loss of custody, change in residence, refusal and incomplete assessment data – separate N = not reported	Paranoia Schizoid Personality Disorders Attachment A or C(N= 7) B (N =11) D (N =17)	Depression Maternal Sensitivity Attachment	**Inventory-I** **BDI** **Strange Situation** (Ainsworth et al, 1978 and Main & Solomon, 1990)	demonstrated good reliability and validity but no details Published and standardised Not reported interrater reliability (kappa coefficient 1.0) Interrater reliability reported (k>.85)	**The Maternal Sensitivity Scale** And videotaped observation at age 1 month and 6 months	
6.Hipwell et al 2000	Longitudinal Prospective Cohort	N=82 **MA M:** 29.5 (range 19-41) **AIM**=12m 42:40 B:G **SES**: Mixed	Inpatient – of 48 admitted N=25 met criteria, chronic schizophrenia cases excluded – N=not reported Community depressed – 182 undertook antenatal screening and 128 EPDS – 26 scored >12	**Depression** In patient group N=25 Community depressed group N=16 Control group N= 41 **Attachment** A (N=12) B (N =38) C (N =4) D (N =17)	**Maternal Psycho-pathology and attachment** Psycho-pathology Mother-infant interaction	**SADS** **EPDS**	Published and standardised Published and standardised interrater reliability reported between 0.69 and 0.97 (intraclass coefficient)	videotaped laboratory based play coded using Play Observation Scheme and Emotion Rating (POSER, Wolke,	Sample heterogeneity Strange Situation - infants experiencing multiple care giving within inpatient unit may tolerate separation/reunion interactions differently than the normal population Mother infant interaction videoed before strange situation= environment

			but only N=16 met criteria for minor/major depression Control – 51 approached of which N=41 recruited. Cases excluded = N not reported In patient group N=6 refused to be videotaped		Attachment	**Strange Situation** (Ainsworth et al, 1978 and Main & Solomon, 1990)	Not reported Reliability reported (more than 80% agreement)	1986) Bethlem Mother Infant Interaction Scale	familiarity bias No power calculation -small sample size
7.Lyons-Ruth et al 1990	Longitudinal Prospective Cohort	N=31 **MAM**: Treated (25.6), Untreated (21.8), Community Untreated (24.8) **AIM**: 18 months :B:G **SES**: High risk (low income)	40 high-risk families offered participation of which 4 refused and 1 moved. 2 maltreatment cases dropped out, 1 lost custody of infant 1 missing data reported	**Depression** High risk treated group (N=31) high risk untreated (N=10) Community Untreated (N= 35) **Attachment** A (N=23) B (N = not reported separately)	**Maternal depression and security of attachment** Depression	**CES-D** Center for Epidemiological Studies Depression Scale	Published & Standardised. Report that validated in large-scale epidemiologic study-80-91% of population scoring below cut-off point of 16 and 99% of patients with depression scoring above		Used earlier disorganised classification described by Main and Solomon 1986 rather than 1990 version Potential co-occurring risk factors due to SES Sampling bias

				C (N = not reported separately) D (N = 33) remaining 14 just reported as insecure A or C	Maternal social isolation		Not reported	Daily activities assessment modelled on Brown & Rutter (1966)	
					Maternal verbal IQ		Reliability coefficient of .85 and correlations of .79 and .83 with FSIQ	similarities subscale of WAIS	
					Maternal behaviour home		Interrater reliability reported at 90% with a mean of 97.2% and Cohen's kappa coefficients ranged from .45 to .81, all $p<.001$	Naturalistic mother infant interaction videotaped coded on 12 five-point rating scales based on scales by Ainsworth et al (1971) and Crittenden (1981)	
					Infant development		Not reported	The Bayley Scales of Infant Development, Mental and Motor Skills	
					Attachment	**Strange Situation** (Ainsworth et al, 1978 and Main & Solomon, 1986)	Interrater agreement reported at 86%		

8.McMahon et al 2006	Longitudinal Prospective Cohort	N=111 **MAM**:31.4 **AIM**: 15 months 58:56 B:G **SES**: low risk	141 eligible mothers - 127 agreed to participate. 13 mothers lost to follow-up: 10 moved and three withdrew due to illness. 1 lost due to technical error	**Depression** Never depressed (N= 35) Brief depression (N=38) Chronic depression (N=39) **Attachment** A (N=20) B (N=51) C (N=12) D (N=28)	**Maternal attachment state of mind, postnatal depression and attachment** Depression Maternal attachment Infant attachment	 Depression module of **CIDI** Composite International Diagnostic Interview (WHO, 1987) **CES-D** Center for Epidemiological Studies Depression Scale **Strange Situation** (Ainsworth et al, 1978 and Main & Solomon, 1990)	 Interrater agreement on diagnoses was 96% (k= .91) Published & Standardised. Interrater reliability adequate 86% (k=.72, p<.01) and 82% (k=.67, p<.01) Interrater reliability reported as 93% (k= .82, p<.01) and	 Adult Attachment Interview	AAI not conducted prospectively May be other variables related to chronic/severe depression (marital discord and comorbidity)

							79% (k= .65,p<.01		
9.Murray 1992	Longitudinal Prospective Cohort	N=113 **MAM**: 28 (range 20-40) **AIM**: 18 months ? B:G **SES**: 2 Groups- non-manual and students; manual, forces, unemployed	702 enrolled of which 9 refused to take part. 674 returned EPDS of which 28 refused to take part. Of the remaining 646 all with score of ≥13 on EPDS were interviewed resulting in 117 being invited to take part -4 were unable or unwilling to continue. 2 subsequently moved	**Depression** Control (N=42) Depression since delivery (N=37) Previous history of but not since delivery (N= 13) Previous history +since delivery (N=21) **Attachment** A (N=54) B (N=44) C (N=2) D (N=4)	**Postnatal depression and infant development** Depression Attachment Adversity Infant attachment Infant	**EPDS** **SPI** (Standardised Psychiatric Interview **SADS-L** (Scheduled for Affective Disorders and Schizophrenia) not reported **Strange situation** (Ainsworth et al, 1978 and Main & Solomon, 1990)	Not reported Not reported Reported as fulfilling Research Diagnostic Criteria Not reported Not reported Not reported Standardised	Behavioural screening questionnaire (BSQ) Adult Attachment Interview LEDS - Life events and difficulties schedule The Bayley Scales	Potential comorbidity not accounted for

					development		Standardised Not reported	of infant mental development The Reynell scales of language development Piagets object concept tasks (Stages V & VI) videotaped	
10.Murray et al 1996	Longitudinal	N=98 **MAM**: 28 range (20-40) **AIM**:18 B:G-Not reported **SES**: low risk (high income)	702 approached, 9 refused. Following postal EPDS return and SPI, 61 identified as experiencing episode of PND and 42 matched nondepressed controls. 3 lost to follow up at 2m. Further 2 lost to follow up at 18m	**Depression** Depressed N=56 Non-depressed control N=42 **Attachment** Not reported	**PND, Attachment and infant outcome** Depression Adversity Infant development	**EPDS** **SPI** (Standardised Psychiatric Interview) **SADS-L** (Scheduled for Affective Disorders and Schizophrenia	Published and Standardised Published and Standardised Published and Standardised Published and Standardised Not reported	LEDS- Life events and difficulties schedule The Bayley Scales of infant mental development	Comorbidity not checked for

					Attachment Mother-infant interaction	**Strange situation** (Ainsworth et al, 1978 and Main & Solomon, 1990)	Interrater reliability (0.94) Not reported	Face-to-face interactions videotaped	
11.Poehlmann & Fiese 2001	Cross Sectional	N=84 **MAM**: 30 (range 20-38) **AIM**:12 months 49:35 B:G **SES**: mixed	85% approached agreed to take part – no initial numbers reported 5 excluded due to equipment and procedural errors Only 77 for which all data present	**Neonatal** Pre-term infants (N=42) Full-term infants (N=42) **Attachment** A (N= 15) B (N= 43) C (N= 15) D (N= 4)	**Interaction of maternal/ infant vulnerabilities and attachment** Depression (subclinical)	The Depression Scale of the Symptom Checklist -90-Revisited **(SCL-90-R)**	Standardised and published internal consistency coefficients reported as ranging from .77- .90 with depression dimension at .90 and test retest reliability ranging from .78-.90 with the depression dimension at .82 Cronbachs alpha= .87	Neonatal Health Characteristics Preterm follow-up clinic and Paediatric clinic	Heterogeneity of sample – subclinical T scores ranging from 41-67 – indication of depressive symptoms not equivalent to a clinical diagnosis Self report scales used for depression symptoms No power analysis-small sample size= limited power

					Attachment	**Strange Situation** (Ainsworth et al, 1978)	Interrater reliability reported as Cohens kappa 0.85		
12.Seifer et al 1996	Cross sectional	N=123 **MAM**: 30.73 **AIM**: 14m 60:63 B:G **SES**: mixed	Number approached by telephone not reported. 123 recruited from The Providence Family Study identified via psychiatric records of hospital admissions, newspaper adverts and prior studies unrelated to current study.	**Psycho-pathology** No illness (N= 38) Major depression (N= 49) Anxiety Disorder (N= 10) Bipolar Disorder (N= 6) Miscellaneous disorders (N= 20) **Attachment** A (N= 10) B (N=51) C (N= 31) D (N= 24) Unclassifiable (N=6)	**Parental Psycho-pathology, risks and outcomes in children** Axis I Axis II Depression Family functioning Home Environment Life Events Psychological Distress	**SCID** **HRSD** (Hamilton Rating Scale for Depression)	Internal reliability .80 (k) Not reported Not reported Not reported Not reported Not reported Reported as widely used	SCID II GAF Scale McSIFF (MCMaster Structured Interview of Family functioning) HOME (Home Observation for Measurement of the Environment Life Events Inventory SCL-90 (Symptom	Heterogeneity – comorbidity present within sample Statements pertaining to lack of the findings for specific primary illnesses (anxiety/bipolar disorders) to be made with caution as Type II errors could be quite high Timing and severity of maternal illness not taken into account Depression group severity low as many had illness prior to birth of study child Raters not blind to maternal depression and child social competence = potential Clinician bias (however other

					Multiple Risk Index Attachment Social competence of child	**Strange Situation** (Ainsworth et al, 1978 and Main & Solomon, 1990)	Constructed by authors Not reported Not reported	Checklist MRI (Multiple Risk Index) PIRS	ratings were made blind to results)
13.Teti et al 1995	Longitudinal	N=104 **MAM**: 30.27 **AIM**: approx 18-21m 60:44: B:G **SES**: low risk	149 (91 depressed, 58 nondepressed) recruited referred by therapists (apart from 3 – newspaper advert). Reported that 85-90% approached agreed to take part. Subsample of 104 had complete data (61 depressed and 43 nondepressed)	**Depression** Unipolar Depressed (N= 61) Nondepressed (N= 43) Attachment A (N= 19) B (N= 34) C (N= 26) D (N= 25)	**Maternal Depression and Attachment** Depression Parenting Stress Attachment	**BDI** **PSI** (two subscales) **Strange Situation** (Ainsworth et al,	Published and standardised - report that has well-established psychometric credentials published and standardised (Abidin, 1986) reports that has well-established psychometric credentials Interrater reliability reported as		Sample characteristics (almost exclusively Caucasian) Sample heterogeneity Religion (LDS) although accounted for. Attrition suggests findings not generalisable to young, single, less educated mothers. Diagnoses not checked independently therefore lack of reliable diagnostic information renders

					Infant observation	1978 and Main & Solomon, 1990)	k=.84 Rated on likert- type rating scales Pearson correlations= .77-.80 and .67-.80 composite scale interrater reliability reported as Pearson r=.87		comparisons between this group and other studies difficult. Study correlational-causality cannot be established
14.Tomlinson et al 2005	Longitudinal Prospective Cohort	N=147 **MAM**: not reported **AIM**: 18m 53.1%: 44.9% B:G **SES**: high risk (low income)	149 approached, two refused. 49 were lost to follow-up leaving 98 with complete data.	**Depression** MDD Not reported Attachment A (N= 16) B (N= 70) C (N= 11) Total disorganized D (N= 25)	**Maternal-infant attachment** Depression Mother- infant interactions Attachment	**SCID** (Major Depression Section) **Strange Situation** (Ainsworth et al, 1978 and Main & Solomon, 1990)	Not reported Rating scheme comprising series of 5-point scale is reported to be reliable and sensitive (k= .70-.89) Reliability reported as k=.96	Videotaped play session (2 months) Observed play situation (18 months)	Ethnicity -extreme adversity Potential co-occurring risk factors due to SES/comorbidity

15.Toth et al 2006	Longitudinal	N=198 **MAM**: 31.68 **AIM**: 20m 52.8%:47.2%: B:G **SES**: low risk	202 recruited of which 72 did not meet diagnostic inclusion criteria. Remaining 130 were randomised.	**Depression** MDD Pre-Intervention groups DI – toddler-parent psycho-pathology (N=66) DC – depressed control group (N=64) NC – non-depressed comparison group (N=68) Attachment Pre-Intervention Group A (N=55) B (N=63) C (N=16) D (N=64)	**Major Depressive Disorder** Depression	**DIS-III-R** **BDI**	Structured psychiatric interview to assess for Axis I disorders. Reports that diagnoses are generated by computer algorithms= precludes need for interrater reliability Published and standardised. Reports test retest reliability (.48-.86 among psychiatric patients and .60-.83 among nonpsychiatric patients). Internal consistencies were .92 at		No power analysis Comorbidity present in depression groups-Sample not matched -however did perform analyses on group contrasts Single form of intervention provided= cannot conclusively show outcomes relate specifically to attachment-theory-informed intervention

					Attachment	**Strange Situation** (Ainsworth et al, 1978 and Main & Solomon, 1990)	baseline and .91 at follow-up. 90% agreement between raters at baseline and 94% agreement at follow-up reported		

Key for Table

MAM: Mean age mother: **AIM**: Age of infants when attachment initially measured

Ratios shown are for children included in study: **Boy: Girl**, number of infant participants

Table 2- Distribution of Disorganized Attachment for current review& from data of meta-analyses: Number (percentages) of infants

Meta-analyses	Van Ijzendoorn et al (1992) Sample Size N= 306 **Normative Low Risk Samples**	Van Ijzendoorn et al (1999) Sample Size N=586 **Normative High Risk Samples**	Martins & Gaffan (2000) Sample Size N= 258 **Depression Sample**	Current Review Sample Size N =1220 **Depression Sample**
Number and rate of Disorganization **N (%)**	45 (15%)	147 (25%)	43 (17%) *(28%)	271 (22%)

*Average % across 7 studies – authors report that due to difference in distributions and sample sizes between studies percentages were averaged.

Chapter 3: Major Research Proposal

(Version 1.1)

Title: Postnatal illness: a qualitative analysis of maternal experiences of attachment

Fiona A Smith
Section of Psychological Medicine
Division of Community Based Sciences
University of Glasgow
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow G12 0XH
+44 141 211 0607 (tel)
+44 141 357 4899 (fax)
fiona.redmoss@googlemail.com

Submitted: 27 March 2006
Supervisors:

First:	**Dr Andrew Gumley, Section of Psychological Medicine, Gartnaval Royal Hospital, Glasgow**
Field Supervisor:	**Dr Roch Cantwell, Consultant Psychiatrist, Mother and Baby Mental Health Unit, Southern General Hospital, Glasgow**

Submitted in partial fulfilment of the requirements for the degree of Doctorate In Clinical Psychology (D. Clin. Psy)

Title

Postnatal illness: a qualitative analysis of maternal experiences of attachment.

Summary

There has been much research into postpartum disorders, particularly postpartum depression, although fewer studies have focussed on psychosis after childbirth. This may be due to the lower prevalence rates found in puerperal psychosis. However, there may still be implications for mother-infant relationships which could not only impact on the mother's mental health but also on the developmental outcome of the child. This study is particularly interested in mother-infant attachment and maternal experiences indicated by mothers who have had a psychotic episode or postnatal illness in the puerperium. It is intended that these experiences will be analysed to consider mothers perceptions of attachment with their children.

Introduction

A substantial amount of research has investigated postnatal mood disorders, their impact on mother-infant interaction and the future development of the child (e.g. Austin & Priest, 2005, 2004; Cicchetti, Rogosch, & Toth, 1998; Murray & Cooper, 1997). Postnatal illnesses, particularly postnatal depression, are said to affect over 10 percent of mothers following childbirth (SIGN guidelines, 2002). These mood disorders can give rise to problems such as anxiety, anger, sadness and social withdrawal for the mother (Robertson & Lyons, 2003; Brockington, 2004). Further, this can lead to reduced interaction with their child and relationship difficulties. The effect that this may have on partners and children

within a family and subsequent disruption to early interaction is the subject of much review. Interaction between a mother and her infant is an important element of a child's development and subsequent integration into the social environment within which they will have to interact (Kaye, 1982; Downey & Coyne, 1990). It has been argued that poor quality early nurturing, in the initial stages of a child's life, is correlated with subsequent poorer outcomes for adult mental health in the future (Austin 2003). Motherhood is signified as a time of great joy for many. However, for those who suffer from postnatal illnesses it can also be a time where feelings of guilt and failure pervade their daily lives and reality conflicts with expectations (Mauthner, 1999).

Fewer studies have investigated puerperal psychosis, this being an acute mental illness reported to have a sudden onset usually within the first few weeks following childbirth (Brockington, 2004). Pregnancy is thought to be one of the most powerful precipitants of the symptoms of mood disorders. Although for most women mood changes following pregnancy are very mild and only last a few days, for a minority these changes can be very severe. Research considering what may cause mood changes after childbirth suggests a wide range of factors from hormonal changes, life circumstances, personality factors and genes (Austin & Priest, 2005). Although relatively uncommon, puerperal psychosis is thought to affect one - two women in approximately every thousand births (Brockington, 2004; SIGN Guidelines, 2002). Typical symptoms can include mania, delusions, disorganised behaviour and severe depression for example (Robertson & Lyons, 2003; Jones & Craddock, 2001). The illness may have a deleterious impact on the developing relationship between mother and infant and ultimately may result

in subsequent attachment problems (Brockington, 2004). Much research has found that a breakdown in this process can lead to longer term problems for infants, particularly boys (Murray & Cooper 1997; Austin, 2003).

As mentioned above postnatal illnesses can interfere with the development of the mother-infant relationship. Disturbances in this relationship can also impact on the establishment of a secure attachment relationship between a mother and her child (Austin, 2003). Attachment, as defined by Bowlby (1984, cited in Bus & Ijzendoorn, 1995), the earliest proponent of attachment theory, is the '*child's disposition to seek proximity to and contact with a specific figure and to do so in certain situations, notably when he or she is frightened, tired or ill'.* From an evolutionary perspective this behaviour would serve to protect an infant from external dangers. The development of a secure attachment is thought to be connected to the sensitivity of the mother to her infants signals (Goldberg, 2000). Research has shown that mothers who have depressive symptoms are less sensitive in their interactions in general, are found to avoid interaction with their infants, or interact with them in an intrusive way that fails to adjust to the child's interests or pace of development (Rogoff, 1990). Further, evidence has been provided to show that infants of mothers with depressed mood suffer from insecurity and anxiety and do not have fully secure attachment relationships with their principal caregiver (Goldberg, 2000). This has ongoing implications for the child as they develop into adolescence and then adulthood.

As reflected above there are numerous studies investigating maternal mood states and the impact they may have on the development of the mother-infant

relationship. However, very few studies have explored the subjective experiences of the mothers themselves and how they view their postnatal illnesses. Studies to date have concentrated on conducting research on postnatal illnesses such as puerperal psychosis within a biomedical framework to make comparisons and consider clinical symtomatology for example. Robertson and Lyons (2003) conclude that '*Gaining further understanding about the subjective experience of living with puerperal psychosis is essential for all concerned...not only for health professionals, but for partners, children, family friends...* '. It is therefore proposed that it is important to add to this scarce body of research in order to further explore women's own experiences of these illnesses and to do so using their own words. Qualitative methods of research provide a suitable framework to allow for systematic exploration of interpersonal experiences. Whilst this qualitative research will not provide conclusive answers about postnatal illnesses and attachment, the aim is to add to the existing research. This will provide important further information about the experiences of those suffering from these illnesses.

Aims and Objectives

Aims

- This study seeks to investigate the experiences and explore the perceptions of mothers in their developing attachments with their children following postnatal illnesses such as puerperal psychosis.
- It also aims to investigate mothers' experiences of their postnatal illnesses?

- How do mothers' experience their relationships with their children following postnatal illness in the puerperium?

Objectives

- To describe and explore mothers perceptions of their relationships with their children.
- To describe their relationships with family and partners.
- To explore mothers recollections about the development of their psychosis and depression.
- To describe mothers memories of their child's life.
- To describe how these early experiences have affected the overall development of their relationship with their children.
- To describe how they view their current relationship with their children.

Plan of investigation

- **Participants**

  This study will comprise mothers who have had a postnatal illness such as postnatal depression or puerperal psychosis and who have attended Mother and Baby Mental Health Units, Psychiatry or Clinical Psychology services. Individuals selected may be inpatients or outpatients who have been identified as having had postnatal depression or who have had a psychotic episode in the puerperium.

  The number of participants is dependent upon the response from patients who have received the information leaflet and numbers can not therefore

be predicted at this stage of the study. There will be no limit on the ages of mothers included (exception = those under 16 years old) or number of children they have had. Although the number of mothers who have suffered puerperal psychosis may be fairly limited given its prevalence the researcher also intends to recruit mothers who have had postnatal illnesses such as postnatal depression. The intention would be to recruit sufficient numbers until theoretical saturation is achieved. Theoretical saturation in qualitative research refers to the point at which interviews cease to add new information to categories identified through the coding of interview transcripts. However, the intention is to recruit a minimum of 10 people. Individuals to be excluded will include mothers who are in an acute phase of puerperal psychosis, mothers under the age of 16 and those who have a learning disability.

- **Recruitment**

  It is intended that mothers, who have had postnatal illnesses, such as puerperal psychosis, will be identified through admissions by Clinical Psychologists and Consultant Psychiatrists working within the Greater Glasgow Health Board. Prior to any contact being made with potential participants the researcher will undertake presentations of the project to the relevant referrers to explain the project fully. In order to maintain anonymity, sealed letters containing an information sheet and consent form developed by the researcher will be sent directly by the administration departments of the referrers to potential participants. These letters will provide an outline of the study and will contain a

contact name and address to enable initial contact to be made by the potential participants if they so wish. If they contact the referrer direct only affirmative responses will be passed on for further contact to be made by the researcher. The researcher will then contact potential participants to discuss the study and answer any questions they may have.

Initially, the researcher will meet with the person to have a preliminary chat to ensure that the participant is happy to proceed and understands the procedures fully. The person will be given the opportunity to take a keyworker, family member or friend along to the initial meeting. To ensure that informed consent is achieved the researcher will suggest that each person takes some time (minimum 24 hours) to consider whether to participate or not before proceeding. This will allow for any further questions to be answered and ensure that the person has been given adequate time to make an informed decision.

Following consent the researcher will conduct interviews with the participants on an individual basis. Several meetings with potential referrers are in the process of being organised. Prior to any formal agreement taking place with referrers this approach will be agreed in advance with the Local Research Ethics Committees (LRECs) as appropriate.

- **Measures**

In-depth interviews will be conducted individually with each person and will be audio taped for subsequent transcribing purposes. Broad open-ended questions will be asked to facilitate the recounting of participants experiences. The proposed interview schedule is shown in Appendix 3.1, however as the theory evolves from the data questions may change to allow further information about more specific concepts to be explored (Strauss & Corbin, 1998). It is essential for the dialogue to be collaborative, open and self-reflective during the interview process.

It is important in grounded theory for the researcher to remain receptive to new views during the research (Charmaz, 2003). This is central to the ethos behind grounded theory as emerging theory is embedded within the data and is subject to change as the process of theoretical sampling continues (Willig, 2001). Theoretical sampling involves the seeking of relevant data to develop the emerging theory (Charmaz, 2006) (see Design and Procedures section below).

In conducting in-depth interviews it is crucial that the researcher does not approach the interviews with preconceived ideas and theories about the research topic being investigated (Willig, 2001). It is important therefore to ensure that exploration of the person's own subjective experiences and views are undertaken. The proposed agenda therefore will be used only as an aid to elicit these views.

In grounded theory it is anticipated that further themes may emerge during the process which are then pursued further (Charmaz, 2006). Following each interview the data will be studied to allow for these further emerging themes to be pursued in later interviews, either with the same person or others. This allows for the data to be refined and reshaped as the grounded theory process proceeds.

- **Design and Procedures**

Design: An interview based study informed by grounded theory will be undertaken to analyse the data gathered through the interview process. A qualitative approach allows for flexibility and enables a person's subjective experiences to be explored (Robertson and Lyons, 2003). It is a fundamental tenet of grounded theory that there is no preconceived theory at the outset as one should be generated during the analysis (Glaser, 2004). This methodology has been selected as, due to its flexibility, it allows the researcher to add new information gathered and pursue new lines of inquiry during the research process (Charmaz, 2006).

In this research the initial sampling strategy is to start with mothers' recent experiences of postnatal illness. However, as Charmaz (2006) points out this initial data is only to provide a point of departure, or starting point, from which initial sampling criteria will be established. In grounded theory it is important that there are no predetermined categories embedded in the initial research questions or in the mind of the researcher. Categories must be allowed to emerge from the data and be

developed as the process continues. However as the research proceeds and categories begin to emerge it is important to gather more data that focuses on the properties of these categories. This is called theoretical sampling and will allow for data to be obtained that helps to elucidate the categories that are emerging (Charmaz, 2006; Strauss & Corbin, 1998). This sampling continues until no further properties emerge from the categories defined.

Procedures: Potential participants (blind to the researcher) will be identified by the Clinics from the admissions list. The researcher will prepare sealed envelopes, containing correspondence pertaining to the study, inviting mothers to participate in the research project. Following this, those interested in taking part will be invited to contact the researcher to arrange a suitable time to meet for interviewing. The researcher will interview each participant once initially and any subsequent interviews will only be undertaken if the participants are willing and happy to do so. Further interviews however may not be necessary. At the initial interview each participant's subjective well-being will be monitored at the outset of the interview using a scale devised for this purpose (Appendix 3.2). Each person will be advised that they can stop the process at any time and at the end of each interview their well-being will again be assessed. Subsequent to taking part in the study participants will be debriefed about the purpose of the study in writing and verbally at the end of the interview. There is no intention to conceal any information about the study from the participants.

The researcher intends to ensure that participants feel comfortable and safe. This will be done by the researcher endeavouring to build good rapport with each person, ensuring that the environment is comfortable, and by providing accurate reflection of the dialogue. Furthermore, the researcher will reiterate the procedures in the research process and explain the power they have to stop the interview at any time if they so wish. The researcher does not intend to ask constant questions but to allow the participants to speak freely about their experiences and will guide the interview process when necessary i.e. if someone is finding it difficult to respond or elaborate on their discussion. As the data emerge from the interview process it will be essential to build this good rapport and ensure that participants feel comfortable enough to discuss their experiences.

Some socio-demographic information will be gathered at the initial stages of the interview. This information will include items such as the participant's name, date of birth, and type of postnatal illness experienced. It is considered good practice in qualitative research to provide enough information for the reader to understand the sample being investigated and to make sense of the findings reported (Elliott et al, 1999). This situates the sample allowing the reader to judge the relevancy of the findings. As previously indicated, no personal identifiers will be included in the final report.

In grounded theory the initial interviews or data are analysed and categories abstracted from the data as they emerge (i.e. the grouping together of similar items that share central features) (Willig, 2001). Once identified, these categories are coded and the subsequent interviews or data are then coded with these emerging themes in mind. The data are subjected to constant comparative analysis, whereby the researcher investigates whether there are emerging subcategories or differences within the categories identified. Data will continue to be collected until no new themes emerge and theoretical saturation is achieved. Theoretical saturation is achieved when no new data emerges from the categories identified, in other words they are saturated (Charmaz, 2003). The researcher will search for negative cases (i.e. cases where the data include individuals, situations, or themes that do not fit the analysis) as they can provide alternative explanations and/or new variables can be found from the developing theory (Charmaz, 2006).

- **Settings and Equipment**

Setting: The proposed setting for conducting interviews will be within the participant's normal clinical setting.

Equipment: Digital Tape-recorder for recording interviews for subsequent analysis. The researcher will transcribe the tapes verbatim.

- **Power Calculation**

  The researcher will continue to collect data until no new themes or categories emerge from the data. As indicated above, this is theoretical saturation and is said to be achieved once no new categories can be identified (Willig, 2001). Charmaz (2006) suggests that in grounded theory, power, purpose and patterns evolve from scrutinising the categories that have emerged from the data to establish that no new theoretical knowledge will emerge by gathering more data about that category. Therefore any categories superfluous to the study will be collapsed.

- **Data Analysis**

  Data analysis will be an ongoing process as indicated above (see design and procedures). The analysis will be undertaken via a process of coding whereby categories and themes will emerge from the data (Willig, 2001). Interviews will be transcribed verbatim to ensure that no significant categories are missed. Each interview will be compared with previous ones to ensure that the data collection process continues to evolve as necessary (Willig, 2001). The computer package QSR NUD*IST which has been designed for analysing qualitative data will be utilised in this process.

  Examples of the data will be included in the study to illustrate the analytic process and researcher's conception of the categories and themes that emerge from them. This will help the reader to consider alternative

explanations and for the researchers findings to be evaluated (Elliot et al, 1999). Guidelines recommended by Elliot et al (1999) also suggest it is important to confirm the integrity of the researcher's categories. In order to do this the researcher intends to verify with the original participants' and others with postnatal illness, that her understanding of their experiences is accurate. Furthermore, consideration will also be given to another qualitative researcher assessing the data. This allows for alternative explanations to be proposed and given further consideration.

In order to increase the variability and diversity of the data mothers with varying postnatal illnesses will be interviewed about their experiences. This will enable similarities and differences to be compared and explored between postnatal illnesses. As categories emerge from the data it is intended that this further data will be collected to add to the sample. This will not only enable comparisons to be made but will also strengthen the emerging theory by defining the properties of the categories. As mentioned above, this is theoretical sampling and is a crucial part of the grounded theory process (Strauss & Corbin, 1998).

Practical Applications

How a mother perceives and experiences her relationship with her child whilst also coping with an acute mental illness may have an impact on mother-infant interaction and attachment. What are mothers' experiences of their interaction with children following recovery from postnatal illnesses such as puerperal psychosis? This may have longer term implications for services involved in both

Adult Mental Health and Child Mental Health. It is therefore important to provide authentic evidence of the subjective experiences of those suffering from mental illness. This may help to guide service providers in the future and provide further insight into service users' experiences.

Timescale

March 2006:	Submission of proposal.
	Meetings with service providers to assess recruitment process.
May 2006:	Ethics form and research and development form to be submitted.
June 2006:	Once Ethics approved, start recruitment.
July 2006:	Initial interview with first participant.
July/ Aug 2006:	Explore new concepts and alter interview as necessary.
Sept 2006 - April 2007:	Interview participants and commence data analysis.
	Continue to explore new concepts as they arise.
	Final participants interviewed.
May 2007:	Complete data analysis.
	Commence write-up of research project.
June 2007:	Final draft completed.
July 2007:	Submission of research project.

Ethical Approval

There may be ethical implications concerning interviewing mothers who have, or have not recovered from, postnatal illnesses. However they will be approached by the administration staff of the clinic not by their Consultant or the researcher. It is also intended to use sealed envelopes containing information about the study together with contact details. This is in an endeavour to ensure that no obligation is felt to undertake the study due to any pre-existing patient-therapist relationship. Furthermore, correspondence with participants' will clearly state that they can withdraw from the process at any time and that this will not affect any aspect of continuing or future care from the services.

There is no intention to conceal information from the participant at any stage during this study and they will be kept fully informed about the procedures and aims thereof. Consent will be obtained in writing before commencement of data collection and complete confidentiality will be maintained throughout the study.

Participants' subjective well-being will be assessed during the interviewing process, both before and after (see Appendix 3.2). Interviewing will not proceed with any participant who indicates feelings of discomfort before or during the process outlined above. Should this occur the researcher will support the participant and ensure that sufficient time is allowed for the person to ease their discomfort before they leave the premises.

Ethical approval will be sought from the Greater Glasgow Health Board Research Ethics Committee in 2006. Permission to proceed will be checked with

all sites involved in this study. This will be undertaken through the Research Ethics normal procedures in these circumstances.

References

Austin, M-P. & Priest, S. R. (2005). Clinical issues in perinatal mental health: new developments in the detection and treatment of perinatal mood and anxiety disorders. *Acta Psychiatrica Scandinavica*, **112** (2), 97-104.

Austin, M-P. & Priest, S. R. (2004). New developments in perinatal mental health. *Acta Psychiatrica Scandinavica*, **110** (5), 321-322.

Austin, M-P. (2003). Perinatal mental health: opportunities and challenges for psychiatry. *Australasian Psychiatry,* **11** (4), 300-403.

Brockington, I. (2004). Postpartum psychiatric disorders. *Lancet,* **363**, 303-310.

Bus, A. G. & van Ijzendoorn, M. H. (1995). Mothers reading to their 3-year-olds: the role of mother-child attachment security in becoming literate. *Reading Research Quarterly,* 30, 998-1015.

Cicchetti, D., Rogosch, F. A., Toth, S. L (1998). Maternal depressive disorder and contextual risk: contributions to the development of attachment insecurity and behaviour problems in toddlerhood. *Development and Psychopathology*, **10**, Abstract.

Charmaz, K. (2006). *Constructing grounded theory: a practical guide through qualitative analysis*. London: Sage Publications Ltd.

Charmaz, K. (2003). Grounded Theory. In Smith, J. A. (Ed.) *Qualitative Psychology: A practical guide to research methods.* (pp 81-110). London: Sage Publications Ltd.

Downey, G. & Coyne, J. C. (1990). Children of depressed parents: an integrated review *Psychological Bulletin,* **108**, 50-76.

Elliot, R., Fischer, C. T., & Rennie, D. L. (1999). Evolving guidelines for publication of qualitative research studies in psychology and related fields. *British Journal of Clinical Psychology,* **38**, 215-229.

Glaser, B. G. (2004). Remodelling grounded theory. *The Grounded Theory Review,* **Vol. 4,** no. 1, 1 - 24.

Goldberg, S. (2000). *Attachment and Development.* (pp 3-15). London: Arnold.

Jones, I. & Craddock, N. (2001). Familiality of the puerperal trigger in bipolar disorder: results of a family study. *The American Journal of Psychiatry*, **158** (6), 913-917.

Kaye, K. (1982). *The mental and social life of babies: how parents create persons.* Chicago: The University of Chicago Press.

Kendall, R. E., Chalmers, J. C, & Platz, C. (1987). Epidemiology of puerperal psychoses. *British Journal of Psychiatry,* **150,** 662-673.

Mauthner, N. S. (1999). 'Feeling low and feeling really bad about feeling low': women's experiences of motherhood and postpartum depression. *Canadian Psychology,* **40** (2), 143-161.

Murray, L. & Cooper, P. (1997). Postpartum depression and child development. *Psychological Medicine,* **27,** 253-260.

Robertson, E. & Lyons, A.C. (2003). Living with puerperal psychosis: A qualitative analysis. *Psychology and Psychotherapy: Theory, Research and Practice,* **76**, 411-431

Rogoff, B (1990). *Apprenticeship in thinking: cognitive development in social context.* Oxford: Oxford University Press.

SIGN Guidelines (2002). Postnatal depression and puerperal psychosis, Publication No. 60.

Strauss, A. & Corbin, J. (1998). *Basics of qualitative research: techniques and procedures for developing grounded theory.* London, Sage Publications.

Terp, I. M. & Mortensen, P. B. (1998). Post-partum psychoses: clinical diagnoses and relative risk of admission after parturition. *British Journal of Psychiatry*, **172**, 521-526.

Willig, C. (2001). *Introducing qualitative research in psychology: adventures in theory and method.* Berkshire: Open University Press.

CHAPTER FOUR: MAJOR RESEARCH PROJECT

Postnatal illness: a qualitative analysis of maternal experiences of attachment

Prepared in accordance with the guidelines for Psychology and Psychotherapy: Theory Research and Practice (Appendix 4.1)

Address for Correspondence:

Fiona A Smith*
Section of Psychological Medicine
Division of Community Based Sciences
University of Glasgow
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow G12 0XH
+44 141 211 0607 (tel)
+44 141 357 4899 (fax)
fiona.redmoss@googlemail.com

* author for correspondence.

Submitted in partial fulfilment of the requirements for the degree of Doctorate In Clinical Psychology (D. Clin. Psy)

Abstract

Purpose: Postnatal illnesses, particularly postnatal depression, are said to affect over ten percent of mothers following childbirth (SIGN Guidelines, 2002). These mood disorders can give rise to problems such as anxiety, anger, sadness and social withdrawal for the mother. Further, this can lead to reduced interaction with their child and relationship difficulties. The effect that this may have on partners and children within a family and subsequent disruption to early interaction is the subject of much review. Using an exploratory qualitative methodology (grounded theory) this study investigated postnatal depression and maternal experiences of attachment to gain an understanding and construct a theoretical account of the interaction between these experiences.

Method: Ten mothers who had experienced postnatal illness were interviewed. The interviews were transcribed verbatim and analysed using a social constructionist version of grounded theory.

Results: Four core themes emerged from the data including: A Version of Normality – "Not of this world"; Experiences and Complexities of Bonding; [Not] Wanting to Tell; Conflict and Caring. Within each of these core categories, subcategories emerged which interacted to create the complex relationships between postnatal depression and attachment processes. These emerging themes were constructed into a theoretical account which reflected a recursive model of postnatal depression experiences.

Conclusion: Mothers were not passive recipients of their postnatal illness experiences but were active agents in striving to regain their sense of normality and identity. This study provides an account of these experiences in order to gain a further understanding of the complex processes between postnatal depression and attachment. Clinical implications for psychological therapies are considered.

Introduction

A substantial amount of research has investigated postnatal mood disorders, their impact on mother-infant interaction and the future development of the child (e.g. Austin & Priest, 2005, 2004; Cicchetti, Rogosch, & Toth, 1998; Murray & Cooper, 1997). Postnatal illnesses, particularly postnatal depression, are said to affect over 10 percent of mothers following childbirth (SIGN guidelines, 2002). These mood disorders can give rise to problems such as anxiety, anger, sadness and social withdrawal for the mother (Robertson & Lyons, 2003; Brockington, 2004). Further, this can lead to reduced interaction with their child and relationship difficulties. The effect that this may have on partners and children within a family and subsequent disruption to early interaction is the subject of much review (Martins & Gaffan, 2000; Beck, 1996; Murray, Fiori-Cowley & Cooper, 1996).

Pregnancy is thought to be one of the most powerful precipitants of the symptoms of mood disorders. Although for most women mood changes following pregnancy are very mild and only last a few days, for a minority these changes can be very severe. Research considering what may cause mood changes after childbirth suggests a wide range of factors from hormonal changes, life circumstances, personality factors and genes (Austin & Priest, 2005). Although relatively uncommon, more serious postnatal illnesses, such as puerperal psychosis, are thought to affect one - two women in approximately every thousand births (Brockington, 2004; SIGN Guidelines, 2002). Typical symptoms can include mania, delusions, disorganised behaviour and severe depression (Robertson & Lyons, 2003; Jones & Craddock, 2001). These more severe illnesses may have a deleterious impact on the developing relationship between mother and infant and ultimately may result in subsequent

attachment problems (Brockington, 2004). Much research has found that a breakdown in this process can lead to longer term problems for infants, particularly boys (Murray & Cooper 1997; Austin, 2003).

Interaction between a mother and her infant is an important element of a child's development and subsequent integration into the social environment within which they will have to interact (Kaye, 1982; Downey & Coyne, 1990). It has been argued that poor quality early nurturing is correlated with subsequent poorer outcomes for adult mental health in the future (Austin 2003). Motherhood is signified as a time of great joy for many. However, for those who suffer from postnatal illnesses it can also be a time where feelings of guilt and failure pervade their daily lives and reality conflicts with expectations of motherhood being a time of happiness and excitement (Mauthner, 1999).

As reflected above postnatal illness can interfere with the development of the mother-infant relationship. Disturbances in this relationship can also impact on the establishment of a secure attachment relationship between a mother and her child (Austin, 2003). Attachment, as defined by Bowlby (1984, cited in Bus & Ijzendoorn, 1995), the earliest proponent of attachment theory, is the '*child's disposition to seek proximity to and contact with a specific figure and to do so in certain situations, notably when he or she is frightened, tired or ill'*. From an evolutionary perspective this behaviour would serve to protect an infant from external dangers. The development of a secure attachment is thought to be connected to the sensitivity of the mother to her infant's signals (Goldberg, 2000). Research has shown that mothers who have depressive symptoms are less sensitive

in their interactions in general, are found to avoid interaction with their infants, or interact with them in an intrusive way that fails to adjust to the child's interests or pace of development (Rogoff, 1990). Further, evidence has been provided to show that infants of mothers with depressed mood suffer from insecurity and anxiety and do not have fully secure attachment relationships with their principal caregiver (Goldberg, 2000). This has ongoing implications for the child as they develop into adolescence and then adulthood.

There are numerous studies investigating maternal mood states and the impact they may have on the development of the mother-infant relationship. However, very few studies have explored the subjective experiences of the mothers themselves, how they view their postnatal illnesses and their relationships with their children. Studies to date have concentrated on conducting research on postnatal illnesses, such as puerperal psychosis and postnatal depression for example, within a biomedical framework to make comparisons and consider clinical symtomatology. Robertson and Lyons (2003, p416) concluded that '*Gaining further understanding about the subjective experience of living with puerperal psychosis is essential for all concerned...not only for health professionals, but for partners, children, family, friends and especially other women undergoing similar experiences'*. It was therefore proposed that it was important to add to this limited body of research in order to further explore women's own experiences of these illnesses and to do so using their own words. Qualitative methods of research provide a suitable framework to allow for systematic exploration of interpersonal experiences. Whilst this qualitative research will not provide conclusive answers about postnatal illnesses and attachment, the aim was to add to the existing research. The primary aims of

this study were twofold: to explore and gain an understanding of women's experiences of depression and the bearing this may have on bonding; to explore and gain an understanding of the bearing that bonding experiences may have on depression.

Method

Methodology

Qualitative research informed by the principles of grounded theory (Charmaz, 2006) was undertaken to explore the aims of the research. A qualitative approach allows for flexibility and enables a person's subjective experiences to be explored (Robertson and Lyons, 2003). It is a fundamental tenet of grounded theory that there are no preconceived hypotheses at the outset as theory should emerge and be generated from the data (Glaser, 2004). It is also a basic principle that data collection and analysis occur simultaneously allowing each process to inform the other. This involves transcribing early interviews thereafter coding them to enable developing categories to be explored in later interviews. This methodology, selected due to its flexibility, thus allows the researcher to remain receptive to new themes emerging from the data during the research process (Charmaz, 2003). Furthermore it allows the researcher to pursue new lines of inquiry (Charmaz, 2006).

This study followed a social constructionist version of grounded theory based on a symbolic interactionist theoretical perspective (Charmaz, 2006) rather than the classic version originally devised by Glaser & Strauss (1967). Glaser & Strauss' (1967) original version leaned more towards a positivist stance assuming an unbiased and passive observer collecting data without actively participating in the

process. However, more recently theorists have highlighted that the thoughts, actions and values of the researcher are not independent from the process; they are a fundamental part thereof (Sciarra, 1999; Marecek, Fine & Kidder, 2001). As Charmaz (2006) points out, the researcher is an active agent who takes an integral role in the study interpreting participants' meanings and actions. The theory is therefore constructed through the process of interaction between the researcher and participant and with the data.

Participants

Ten participants were recruited through a Perinatal Mental Health Unit based in Glasgow in the West of Scotland. Ethical approval was granted by the Local Research Ethics Committee (Reference PN06CP011; Appendix 4.2) following which Management Approval was obtained (Appendix 4.3). All participants were or had been patients who had attended or utilised the Unit post-birth. A number of the participants had received inpatient care previously from the Unit (n=4). Inclusion criteria were: mothers who have had a postnatal illness such as postnatal depression or puerperal psychosis and who had attended the Mother and Baby Mental Health Unit services, English as a first language, over age 16. This age limit was specified to enable the participants to give fully informed consent. There was no upper age limit of mothers or on the number of children mothers may have had. Exclusion criteria were: mothers who were in an acute phase of severe mental illness, such as puerperal psychosis, as this could restrict their ability to take part in interviews and accurately reflect on their past experiences, mothers under the age of 16 and mothers who had a learning disability. This latter group were excluded to ensure that participants were able to take part in a lengthy and in-depth interview process.

Exclusion criteria were kept to a minimum to facilitate as wide a recruitment potential as possible. This was to enable a representative view of mothers' experiences of postnatal illness and attachment.

The sample consisted of 10 females, with a median age of 35 years (range 32-38 years). Period of recovery ranged from one month to nine months. Although three participants reported ongoing symptoms, none of these were in an acute phase of illness and as such they met the inclusion criteria of the study. Education in years ranged from 12-18 years (median - 16 years). All mothers who were invited to participate agreed to do so. Eight women were multiparae and two were primiparae. All of the mothers were married except one who had a partner and as such this information was excluded from Table 1 to preserve participant anonymity. However, all women were living with their partners. Pseudonyms were also used to protect confidentiality. Participant demographic information is detailed in Table 1.

Insert Table 1 here

Procedure

Initially mothers, who had experienced a postnatal illness, were identified through admissions by the Consultant Psychiatrist and mental health team working within the Unit. Thereafter, in order to maintain anonymity, administration staff either sent sealed letters containing an information sheet and consent form developed by the researcher to potential participants or contacted them by telephone to enquire whether they were interested in taking part. The letters provided an outline of the study and contained a contact name and address to enable initial contact to be made

by the potential participants if they wished. A copy of all the information sent to participants is included in Appendix 4.4. All participants who expressed an interest in taking part were then contacted by the researcher to discuss the study, answer any questions and arrange an appointment. At the initial meeting any further questions or queries were answered and informed consent was then obtained (Appendix 4.5) before proceeding with the research interview. All interviews were digitally recorded (Olympus WS-300M Digital voice recorder) with the permission of the participants to facilitate later analysis.

Sensitivity to context

The researcher was aware of the need to approach the interviews without bringing preconceived hypotheses to the forefront of the process. Traditionally grounded theorists supported delaying a review of the literature until data analysis was completed (Charmaz, 2006). However, it is not practicable to approach research without reference to, or knowledge of, earlier literature in the field, although it remains important to avoid trying to fit the data to a previously read theoretical position or key studies in the literature (Charmaz, 2006; Henwood & Pidgeon, 2003: p 138). The researcher was required to review literature on postnatal illness and attachment prior to data collection to enable a research proposal and ethics application to be completed. Previous knowledge on the literature was therefore used as an analytic tool to facilitate the process of open enquiry into theoretical questions that may emerge from the data. The researcher remained reflexive about existing knowledge and its potential to influence emergent data and themes.

As the primary aim of the interview process was to draw out the participant's own perspective on their postnatal illness and relationship with their child, open-ended questions were devised to facilitate open discourse and ensure that interviews were not guided down the route of a preconceived theoretical framework. This ensured that sampling and interview questions were flexible and adapted to emergent theory as it evolved (Dey, 1999; p5). For example, by interview four emergent themes resulted in new questions being added to explore experiences of hospital, the birth and differences in relationships with additional children.

The interviews were undertaken in clinic rooms familiar to the participants and the room was set out in an informal way to help reduce any power imbalance that can arise in the interaction between the researcher, who may be seen as the "health care professional" and participant, who may view themselves as the "patient". An informal discussion prior to the interview process commencing facilitated in the process of building a comfortable relationship between the two parties. Mothers who wished to could bring along their children and were encouraged to carry on with childcare tasks, such as feeding, in the normal way. The point of departure was initially decided following a review of the relevant literature. Five broad areas emerged as a starting point, covering general orientation (tell me about your family and who is in it?), experiences of depression/psychosis (what do you recall about your experience of postnatal depression?), attachment (tell me about the bond with your child?), the here and now (how do you feel these early experiences have affected the overall development of your relationship with X?) and current relationships (how is your relationship with X now?) (See Appendix 3.1 for details of interview questions and examples of probes). Open ended questions relating to

these broad areas facilitated open discussion on the participants own perspectives of the topics. As indicated above questions were included and adapted as themes emerged from the data.

The researcher was aware that discussing experiences relating to maternal mental health issues and the development of relationships with their children may distress some of the mothers taking part. It was therefore deemed important to monitor how the participants were feeling both before and after the interview process (Appendix 3.2). Participants were asked to rate their levels of well-being on a 10 point Likert scale and this was used to facilitate discussion on how comfortable participants felt during the process (Graph 1). They were also advised that their details would remain confidential as would their anonymity and that they were free to withdraw from the study at any time during the process.

Insert Graph 1 here

Commitment and rigour

In order to achieve and enhance rigour of the grounded theory approach undertaken herein involved the following processes being undertaken:

The interview process

The researcher conducted twelve interviews with ten participants each one ranging from between 42 to 67 minutes. The researcher transcribed each recorded interview verbatim, each taking approximately 5-7 hours to complete. This facilitated the researcher learning about the participants' experiences through their own narrative.

Microcoding

Following this process the researcher then manually micro-coded each interview line by line to allow for exploration of the theoretical possibilities located within the data (Charmaz, 2006). The researcher consciously sought descriptive actions within the narratives as at this stage the coding process should closely resemble the data rather than the data fitting into preconceived topics or categories. As Charmaz (2006) points out "this method of coding curbs our tendencies to make conceptual leaps and to adopt extant theories *before* we have done the necessary analytical work".

Focused Coding

Following this, the researcher then engaged in the process of focused coding whereby the most frequent initial codes were then used to examine the data in a more conceptual way bringing together the data in a more cohesive and analytic way. The computer package QSR NVivo7 (QSR International Pty Ltd, 2006), a specialised software package developed for qualitative research, was used to facilitate this process as it can be used to systematically code data thereby allowing the data to be systematically categorised into emerging codes. This process helps to maintain the rigour of the grounded theory approach.

Constant comparative analysis and negative case analysis

Constant comparative analysis refers to the process of moving back and forth between the narratives to identify similarities and differences between emerging categories (Willig, 2001). This facilitates the exploration of provisional relationships between categories and the identification of any emerging subcategories therein

(Charmaz, 2006). Following each interview the data were studied to allow for any further emerging themes or subcategories to be pursued in later interviews, either through second interviews or with other participants. This resulted in the first two participants being interviewed for a second time to allow for further exploration of emerging themes to be followed up for example. This enabled the data to be refined and reshaped as the grounded theory process proceeded. To illustrate, comparison was made of those who reported the negative aspects of their postnatal illness with those who talked of the positive outcomes.

The researcher also looked for 'negative' cases in order to challenge, develop and refine emerging themes. For example when considering the emerging theme relating to 'attachment-enjoying spending time together', a number of participants (*Gillian, Caroline & Debbie*) talked about a fear of their baby and their worries about spending time with them which allowed further exploration of this emerging theme. Interviews were revisited on a number of occasions to check for dimensional variations in this theme.

Memo writing

Throughout the coding process the researcher maintained a set of written memos and notes which were used to guide themes, as a means of identifying further areas of exploration and for keeping a record of theory development. To facilitate this process a mind map computer programme was used to complete spider maps to link relational themes that had emerged during data collection and analysis (see Appendix 4.6 for example). This had a twofold purpose; to direct and guide the

researcher's thinking during the research process and help the researcher to progress from a descriptive to more conceptual level of analysis (Strauss & Corbin, 1998).

Theoretical sampling and 'theoretical sufficiency'

Theoretical sampling refers to seeking further data to check emerging theory with a view to elaborating and refining categories within this theory (Charmaz, 2006; Willig, 2001). Data were collected to explore the emerging theory and to check initial categories until it was felt that no new properties were emerging. Additional questions were added to the interview process after the fifth participant (seventh interview) with a view to elaborating and refining initial themes.

Qualitative researchers endeavour to achieve theoretical saturation, which refers to the point at which interviews cease to add new information to categories identified through the coding of interview transcripts. However, Willig (2001) suggests that "theoretical saturation functions as a goal rather than a reality" partly due to the potential for the researchers perspective to change or modification of categories always being possible. In this study therefore the researcher preferred to gather and analyse data until 'theoretical sufficiency' was obtained (Dey, 1999). Theoretical sufficiency refers to the point at which the categories are considered to sufficiently explain new data without having to be modified and when new categories have ceased emerging during the data analysis. The main themes had emerged by participant six and it appeared that these themes were repeating sufficiently by participant nine suggesting that theoretical sufficiency had been achieved. One further participant was interviewed which confirmed this.

Multiple coding

Multiple coding refers to demonstrating rigour in qualitative research through the crosschecking of coding strategies and interpretation of data by independent researchers (Barbour, 2001). In this study multiple coding was undertaken using different techniques. Firstly, regular fortnightly supervision meetings were carried out with an experienced research supervisor throughout the research process to discuss themes being generated from the data. Secondly, an independent medical sociologist, experienced in qualitative research, coded two interviews, this being undertaken to facilitate gaining different perspectives on the data. During discussion new insights were highlighted allowing the researcher to think about emerging categories and themes with a fresh perspective.

Transparency and coherence

This research focused on participants subjective experiences of the world reflecting on their own experiences which are mediated by the thoughts, beliefs and expectations that each individual brings to their life. These experiences and the meanings people attribute to them are also the product of social interactions as people's lives and experiences occur in the context of the wider world (Willig, 2001). This lends a symbolic interactionist perspective to the proceedings in which meaning arises in a social context. The researcher was aware of the role she played in determining the collection, content and analysis of the data and reflected on this throughout the process (Charmaz, 2003). The researcher had worked in the field of postnatal illness prior to commencing training as a clinical psychologist although she has no personal experience of this.

Where possible and in order to enhance transparency the context of excerpts have been presented to facilitate interpretation of the participants meaning. Furthermore, the excerpts chosen reflected the most variation in the theory presented or highlighted important insights into the data, one such example reflecting the link between maternal illness, bonding and the importance of breast-feeding is shown below:

> "I definitely had a very strong association with breast-feeding and bonding... I kind of felt that... that was what it was all about and if I wasn't able to breast-feed how would I ever bond..." *(Rachel)*

The reflections and experiences of the researcher were discussed at fortnightly meetings with the author's research supervisor. The approach to data collection and analysis outlined in the paragraphs above enhances transparency and coherence. The author was receptive to the view that the participant was the 'expert' when discussing postnatal depression and collaborated with them to explore the meaning of the process to them. An example of this was when one participant dismissed the word 'bonding' as a meaningless construct to her, indicating that she found the word annoying and confusing, viewing it as being used as a way of seeing how she was feeling rather than how she and her baby's relationship was developing. This collaboration facilitated engagement and rapport between the researcher and participants when they were recounting sometimes difficult memories.

Findings

> "...when I'm at my lowest...I've got to fight to get from the bottom of the ladder up to the middle and then eventually up to the top of the ladder where I know I'm not free of depression but I'm out...I'm halfway there to being on parole..." *(Pam)*

Postnatal depression has been described as a dangerous thief that robs women of precious time together with their babies (Beck 1999). Synonymously, one participant revealed that depression was like a jail sentence which she fought to get free from at the same time expressing that, like parole, release was conditional only. Mothers in this study described their experiences of depression and their thoughts on the impact it was having on their relationships with their children, partners, families and themselves.

Four core categories emerged; 1] A version of normality – 'Not of this World'; 2] The experiences and complexities of bonding; 3] [Not] Wanting to tell; and 4] Conflict and caring. Within each of these core categories subcategories emerged which interact to create the complex relationships between postnatal depression and attachment processes (see Figure 1). Finally, as mothers began to reconstruct their sense of selves in light of their experiences they reflected on their views of the positive and negative aspects of their postnatal illness as they started on the pathway to recovery.

The exploration into the experience of postnatal illness with the mothers involved in this study facilitated further more in-depth discussion surrounding their relationships and what was important to them. Whilst recounting their stories it became apparent that the categories were inter-relational, each one in some way linking with another, revealing the process of bonding, coping with postnatal illness and negotiating the role of motherhood as an interactive process. Some subcategories, for example medication, contributed to more than one category and the reader will note that many

excerpts contain multiple themes. Terms such as postnatal illness and postnatal depression are a medical construct and pathologise women's experiences of distress. In this study these terms are used, not to medicalise these woman's experiences, but because the women themselves used terms firmly embedded within these constructs and it was considered important to recognize the subjective and experiential meaning for them. For ease of reference the researcher's narrative is highlighted in bold font within the excerpts.

Mothers experienced a range of emotions following the birth of their child(ren), many reporting intense feelings of stress, viewing themselves as being unable to cope with the demanding prospects of motherhood:

> Em... fairly soon after the birth...em... I was very... I just couldn't cope at all and I was crying all the time and getting myself into such a state about being a mother and finding everything pretty stressful... *(Caroline).*

These feelings were described as new and frightening experiences as mothers tried to make sense of what had happened to them at a time when others were experiencing joy at the birth of their child. Some felt like they had lost control of their emotions and lives believing their responses to be different from 'normal' reactions. Mothers expressed emotions which they perceived to be different to the experiences of other mothers, separating themselves from those who may not have faced postnatal depression:

> Um...I had my son on the Tuesday morning... I would say by the Thursday I knew something wasn't right...so that's how sudden it was. I started to feel very... very stressed... but not like stress that you would feel prior to an interview or prior to an exam...it was very hard to describe...it was a feeling I hadn't had before... it was panic probably...very, very,

very nervous panic...wasn't able to calm down... wasn't able to take in what people were saying to me... couldn't really...um... put things into perspective...everything was big...I couldn't actually see things for the way they were and I just started to think I've had a baby and...and I don't know what's happened to me now and I think I knew at that point this can't be how everybody is feeling so I was sharp enough to still see that this wasn't the way that everybody must feel. *(Debbie)*

Mothers who had been outpatients described feelings of panic, stress, worry and a lack of enjoyment in interacting with their baby, two acknowledged thoughts of suicide (*Rachel and Cathy*). There were similar and contrasting narratives recounted by mothers who had been admitted to the perinatal unit. They expressed feelings of desperation, exhaustion, loneliness, constant crying, suicidal thoughts and thoughts of harming others. Some described experiencing hallucinations and loss of memory for the events that had taken place. The excerpts below reflected some of the vivid experiences of, and intense desperation felt by, mothers who had been inpatients:

Em...I was having...seeing things in my house and in my garden and I was feeling things... em... like feeling things rubbing up against me...em... like rubbing up against my arms/

That must have been very difficult/

/Em... so that went on for about a fortnight and I never told anybody and then I was walking... I never told my husband or anybody... I was walking to the doctors... and I saw a lady walking towards me and it looked to me like she had three legs but I knew that she didn't have... so I thought I'm going to have to tell somebody... *(Sarah).*

... then I decided I was going to kill everybody like my parents-in-law were staying at the house looking after the baby as I couldn't do it and they were there as well and they were in the house and I suddenly wanted to kill them and then I wanted to kill {husband's name} and then I wanted to kill myself... *(Caroline).*

The four core categories that emerged from the data are outlined below:

1] A Version of Normality – "Not of this World"

Many of the mothers in this study spoke of how difficult it was to maintain a sense of what they termed normality following the birth of their child. As they started to feel worse mothers described feelings as if they were losing a sense of themselves and were being taken over by a kind of 'madness'. Some mothers experienced feelings of loss and isolation whilst others experienced obsessive, frightening thoughts about their mind being taken over, one explaining that it was as if 'space-invaders' had taken over her mind (*Cathy*). They felt they no longer fitted into what they considered had been their previous view of normality and therefore constructed an alternative one. This constructed view reflected a sense of mothers feeling as if they were living amongst 'aliens', leaving them feeling removed from society and resulting in them being unable to participate in normal day-to-day activities. Their response to this was to act out normality to reflect to others that they were returning to society and their previous lives. Acting out this process led to a reconstruction of normality which defined their first steps towards recovery and a return to their former lives. Mothers described a sense of relief at being able to participate and fit into what they felt was their original expectation and society's expectations of motherhood.

The excerpt below illustrated how these difficult early post-birth experiences left one mother suffering feelings of alienation and isolation from those around her.

It felt terrible... really terrible...I felt alienated... felt...em...I felt really bad and I don't know but for a long time I did... for a long time... I thought... I don't know it was just awful... really awful. *(Cathy)*

1.1 A kind of 'madness'

When recounting the stories of their illness, mothers used terms synonymous with, and expressions of, 'abnormality' and 'madness'. Feeling separate and isolated resulted in mothers starting to withdraw from the wider social world. Many of the mothers described these differences in ways that suggested they felt as if they were from another planet again signifying how intense these feelings of 'being different' were, perhaps precipitating their withdrawal and separation from society. These "other world" references highlighted mothers' views of themselves as somehow changed, seeing themselves as not only different to others but as if having lost their former identity:

...but I just felt unhappy because I've just not... I almost feel as if I'm just going through it like a zombie and it wasn't me. *(Angela)*

I just remember getting pills for everything... given pills to calm me down before I had to see people... which is not like me... because I'm so sociable and outgoing that this is just totally alien for me. *(Caroline)*

How would you have described yourself then... if we looked at when you were going through the period with {baby's name} how would you have described yourself?
Not of this world... not of this planet...I couldn't relate to other people it was as if they were a different species to me...they were getting on with their lives...and it wasn't a life that I could identify with at all... em...yeah it was a strange time... *(Cathy)*

As women recounted their stories it emerged that they viewed their experience of depression as very different to any other previous one they may have had, making

references in terms of it being, in their words, a form of 'madness'. This illustrated just how difficult it was for the women to balance and maintain control over their new roles:

> It was all just kind of about...my mind was just racing... it was all about the things I had to do... like feeding her, and changing her, there would be just...for some reason I would find all this just too difficult to cope with...em...so...I think finally I went totally mad just...I believe I was very seriously postnatally depressed. *(Caroline)*

1.2 The act of normality

Mothers adopted different approaches to reflect to the outside world that everything was 'normal'. For example some mothers felt the need to 'act as if normal' as a way of showing others that everything was 'as it should be' or how they perceived others might determine it should be. The need to be perceived as 'normal' was predominant among many of the mothers again revealing just how isolated they felt from those around them in the wider context. In undertaking these acts they began the process of reconstructing a sense of normality for themselves becoming active agents in the process:

> **So it was like a change?**
> That was a place I used go to a lot and I thought that's a wee bit of normality... it wasn't normal but it was a wee step towards normality and another stage was the christening... he was christened when he was five or six weeks old and I got through it and... I had to come home and do my breathing exercise after it but I got through it and I think I passed myself off as normal...em...which is important you know...it shouldn't be but it's important... I think I passed myself off as normal... and I felt terrible when I came home... I felt... I felt I'd let myself down... I can't remember why I felt I'd let myself down...'cos I hadn't felt normal so I kind of felt I had let myself down. (*Cathy)*

> I did start to go to things like mother and toddler groups when I felt slightly better but I still was quite ill...and that's when I started being able to put on the Oscar-winning

> performances because I would get to the mother and toddler group... be the active mum whatever... be very similar to myself and then as soon as I got in my door burst into tears. I used to kind of look forward to getting back to my house so that I could let it all out again... *(Debbie)*

1.3 Beginning to reconstruct normality

The mothers struggle to connect with their baby, their partners and other people resulted in the process of acting out their version of normality. This allowed them to test out their social 'performances' with others and became part of the process of reconstructing normality. It was from this stance that they began to define their first steps of recovery described by mothers as a return to normality. This is illustrated through their recounted stories about taking part in everyday activities and of their reintegration back into society. The excerpt below illustrates one mother's description of a seemingly simple trip to the park, something that she had previously been unable to do. She delights in the fact that she is taking part in an activity that others may take for granted as a normal part of family life:

> We've actually... we took him to the park to feed the ducks... well we fed the ducks but his dad and I took him to the park with the dog... and the dog and him and it's quite fun and it's usually good seeing him sit...he's just looking as if to say what is this...you know...mad people taking me out in the freezing cold to the park to see the ducks but...em...it's quite enjoyable I mean it's one of the things that you... that people do with their children...even grannies and grandpa's do it with their grandkids... so we took him to feed the ducks and he really enjoyed that. *(Pam)*

2] The Experiences and Complexities of Bonding

During this process mothers were also trying to develop relationships with their newborn child. Those with more than one child were also trying to maintain existing relationships with their other children. They experienced conflict between their

expectations and their experiences of bonding with their children. These conflicts occurred in relation to a number of aspects relating to their mothering experiences such as breast-feeding, interaction with their baby and other children and their feelings about their child(ren). For each mother there was a different set of experiences which reflected their own idea and construction of "motherhood and bonding". For some, breast-feeding was seen as the most important factor in the bonding process, many experiencing distress and a sense of failure if they were unable to undertake this process. Medication was described as a barrier to bonding by some as it precluded them from breast-feeding and therefore what they felt was an essential part of the bonding process, whilst for others it was described as central to their recovery and therefore their return to normality. Other mothers described the importance of meaningful feedback from their child as an integral part of them being able to successfully bond and they described conflict arising as they struggled to attend to their child and negotiate their depression. Some felt that they could not cope with the process of bonding or that they somehow had failed and would hand control to others who they felt may be better placed to tend to their child's needs. As their stories unfolded it became clear that there were many complex processes involved in bonding which gave rise to the subcategories reflected below. The construction of bonding was described as being disrupted by the mothers' postnatal depression resulting in the need to generate and develop different coping responses. It was these responses that resulted in mothers reconstructing the bonding process with their child(ren).

2.1 The physical link

All but one of the mothers spoke of how important it was for them to have a close physical connection with their infant and that it was this physical contact, whether it was breastfeeding or skin to skin contact for example, that enabled them to bond with their child. Some mothers also expressed how important it was not to be separated from their child during the development of the bond and recovery from postnatal illness:

> ...I wanted to go in somewhere by myself. I didn't want {baby's name} with me...and in hindsight, that would've been a big mistake. So I guess being with her all the time has helped me to build a bond and to have a relationship with her which is good and she relies on me for everything... *(Caroline)*

Mothers described how feeding, whether it was breastfeeding or bottle-feeding, would bring them closer to their child, a number of them talking of enjoying the time spent together during this process. It became clear that this was a precious time for many mothers and any subsequent disruption, whether it was through breastfeeding difficulties or due to the impact of postnatal illness, often resulted in considerable distress. In particular, mothers in this study talked about their strong feelings about breastfeeding and how postnatal illness could disrupt this process:

> {Baby's name}...I felt that after I'd had her it was... really... it was a very strong feeling...it was a craving I just felt I really, really wanted to breastfeed her and yeah and just repeatedly kept thinking can I not just come off this medication and I knew that...em...and I knew that I wouldn't make things worse for myself you know...they were saying if we take you off your medication you might be no use to anyone we'd rather have you on medication and functioning than...than not... so em...yeah I definitely felt with bonding it was all about breastfeeding. *(Rachel)*

In some cases breastfeeding became an important defining aspect of motherhood as they were the only ones who could undertake this particular caring task for their infant as illustrated by one mother below:

> Em...I think that one of the things was her colic...she didn't... it was like a screaming all day... em... colic so {husband's name} found because I'm breastfeeding I was able to calm her down to a certain extent by feeding her and {husband's name} felt he wasn't able to do anything to help so the crying... he just felt helpless about it... *(Sarah)*

Throughout the period of their illness some of the mothers who were able to continue breastfeeding carried on doing so notwithstanding their own emotional distress:

> I still thought if I'm this unstable I don't really want to be lifting him up... em... and I was breastfeeding so obviously I had no choice and I remember sitting on the floor at night saying I'm feeling a bit suicidal but I was still sitting breastfeeding him you know... (*Cathy*)

It was not just breast-feeding or feeding in general that was defined as an important process in the physical aspect of bonding with their children. One mother, when talking about bonding with her second child, explained that she felt that being allowed to have skin-to-skin contact with her son following his birth was one of the most important processes in bonding. She had not been allowed this contact with her first child and felt that this may have disrupted the bonding process in the early stages:

> ...I think it's got a lot to do with when they are born...babies as I say skin to skin contact...I think that's a great thing and I believe if I'd had... maybe had something like that to bond with...with my oldest son then... and time with him alone... then I don't think I would have been as bad with the depression whereas with my younger son I had that time to bond with him... the skin to skin contact... they didn't take him away, he was with me from the minute I

went down to the Ward... from the labour Ward whereas with my older son he was taken away... *(Pam)*

The above excerpts provided some explanation about how mothers constructed the physical side of bonding and the importance they placed on breast-feeding and close contact with their infant. Their experiences of postnatal depression resulted in them actively testing their preconceived notions of what constitutes "a good mother" (i.e. being able to breast-feed; skin to skin contact, for example) and reconstruct their experiences of bonding through the enactment of the mothering role. Physical closeness to their baby alleviated some of the distress associated with their experiences of depression:

I've....em...been breast-feeding her which I find...I breast-fed my wee boy... and I just find it the nicest thing you know in the world to do and just to look, I used to just sit and look at her wee face you know when I was feeding her. *(Sarah)*

2.2 Medication and bonding

When mothers talked about their experiences of bonding they highlighted how this process could be disrupted by their struggle to form relationships with their new infant whilst trying to cope with the feelings experienced in relation to depression. Although some felt that seeking help in the form of medication prevented them from actively taking part in important bonding processes such as breast-feeding, others felt that it played a crucial role in facilitating their recovery. It seemed therefore as if medication played almost conflicting roles; firstly as a tool towards recovery; secondly, as a barrier to bonding as it precluded them from some caregiving activities. This led to some tension when providing care for their infants presenting them with complex and competing responses to contend with. Mothers described

their acceptance of medication as part of the recovery process describing seeking support as ultimately beneficial in helping them reconstruct their concept of bonding:

> **So what would you say helped you cope at the time then?**
> Medication...(laughs)...pills helped me definitely cope because I was suffering complete panic attacks. *(Caroline)*

> I definitely thought I would reject her but I didn't... it was very basic care and my mum would help... help me a lot but I was just able to kind of slowly pick up through it... obviously when she was born they were able to increase my medication pretty quickly so I think within... within two weeks I was on the highest dose of antidepressants and I would say it was probably six weeks after that I noticed things really changed.
> **What changed... could you describe that period?**
> I just felt a lift... I just felt... I just felt a bit more normal... *(Rachel)*

Some mothers spoke of how they felt guilty because they were unable to breastfeed due to the medication. This was illustrated by one mother who expressed feelings of guilt, compounded by the fact that she had breastfed her other children:

Em... I just felt...em... I felt guilty...em... one because I was on medication throughout the pregnancy and I was worried that there was going to be something wrong with her... she was quiet for a few days...em...I thought okay I've got a baby that doesn't cry... and because she wasn't breastfed because I had a week's break and then went straight back onto my meds so I felt guilty because I hadn't breastfed.
That sounds difficult... when {baby's name} was born were there any other occasions you felt... you've mentioned things like "anxious" or "guilty".
I just felt guilty because I never breastfed her to begin with.
And did you breastfeed the others?
Yes all of them. *(Mary)*

Being unable to breastfeed was such an important factor to another mother that she felt it disrupted her relationship with her husband:

I know it wasn't easy for...for everybody and it's usually the people closest to you that you lash out sometimes at the most because they're there (laughs) and you hurt them the most so I know that {husband's name} was... he was shattered...absolutely shattered and I think at one point I said to him I wanted a divorce which is crazy because I love him to bits and I think it was because he was telling me I couldn't breastfeed {baby's name} because I was on medication and you know that's when I got really angry because I wanted to breastfeed {baby's name}. *(Gillian)*

2.3 Reciprocity

Mothers in this study also discussed the importance of reciprocal interaction with their infant and this became an important emerging theme in the process of developing relationships, whether between mothers and their newborn or mothers and their other children. Mothers talked about these face-to-face interactions expressing both positive and negative experiences in the early stages. Some mothers felt in the initial stages of their postnatal illness that they were not in synchrony with their newborn infant, reporting a lack of mutual interaction between them and their child:

I felt like a lot of the time I just couldn't cope... em... that she was just too... much just... em... that I couldn't... I couldn't calm her down... she was just always screaming and crying and... em...it wasn't really...at that point there wasn't an awful lot of kind of joy... there wasn't a lot of...em... like happy kind of feedback from her everything was just screaming and screaming and being sick, more screaming and more being sick and that was it... not sleeping.../

Putting work in and getting back.../

/uh huh... nothing positive coming back at all... you know... it was just hard, hard work. *(Sarah)*

Mothers actively tried to construct a sense of meaning around the relationship with their child as they started to develop a bond with them. However this initial bonding process could be disrupted by perceived threats to the relationship. For example some mothers worried that their children might bond more successfully with others

and this was a source of concern for them. This may have been partly due to feelings that their early relationships had been disrupted by their postnatal illness:

> **... looking at the bond that you've developed over time with {baby's name}... have you had any fears or concerns with regard to bonding...you were saying as times gone on actually you feel it's got better and better... /**
> /... The only thing I'm a wee bit worried about just now is if I go back to work and because he is quite... he is quite dependent on me because I've been with him for the last year and a bit...em...and it's me that's with him through the day...em...I'm a wee bit worried that he'll settle with other people...em... I am also a...a wee bit worried that if he is not with me as much of the time that, that bond will be lessened if you know what I mean... *(Gillian)*

> **What fears and concerns have you maybe had in this regard...with regard to your bonding?**
> Oh I always thought she would... I didn't want anyone else to touch her because I thought she would bond with the other people rather than me...that's probably why I didn't want my mother-in-law near her (**mmhm**)... and I still don't. *(Carol)*

In describing ongoing reciprocal interactive experiences mothers talked about slow but positive changes in the way they started to feel about interacting with their infant. These experiences were embedded within the recovery process as mothers tested and reconstructed their experience of the bonding process. This was done through them engaging with, and the infant responding to, their interaction and occurred gradually over time. Mothers described enjoyable incidences of reciprocity which brought them great joy and happiness as below:

> Em... when he was first starting to smile just before he was three months old he started to smile and he reacts to you and the look...he gives you the look and then he smiles at you, he is constantly giggling, he constantly smiles from the minute he opens his eyes in the morning until he goes to bed, he very, very rarely cries, he just cries when he's wanting fed or changed or his gums are sore...he's...em...just basically when he started to smile and he got to that stage where he reacts with you, and he can see you and his head follows you about... that... that's basically...I mean that summed it all up for me. *(Pam)*

> She's actually just started laughing last week and just things like last week I was lying on the floor and I had her sitting with my knees and I had her just leaning against my knees and I was putting my head up and talking to her and she just started to laugh and when I laughed she started to laugh more and I laughed even more and the two of us were just sitting laughing about really nothing at all. *(Caroline)*

When recounting their stories mothers talked about their interaction with their other children. The majority of the mothers had one or more children and described how their postnatal illness also impacted on these relationships. During the period mothers felt unwell they expressed difficulties in maintaining their interactions with both their newborn and their other children. They disclosed that at times they felt they could not cope with the emotional stress of providing care for more than one child simultaneously. This had an impact on a number of the children and mothers reported an increase in behavioural problems with their older infants. The excerpts below illustrated some of these experiences:

> /... and during that time my relationship with my daughter, my toddler...she was about 2½ at the time and it... em... deteriorated and... em... I was avoiding her... I just didn't know how to care for her... I didn't know how to interact with her... I didn't know how to manage her tantrums and I felt that a big part of it was and I still believe a big part of it was that she was reacting to me because mummy definitely wasn't right... I could barely speak to her and she would do things...em... a lot of things for attention particularly I noticed when we moved to my mum and dad's it would almost be every couple of days she would be pushing the boundaries and she would maybe...em... she was toilet trained but she would maybe wee on something just do really out of character, naughty things and I... obviously I was depressed but at the time I kept telling myself it was me... it was my fault... *(Rachel)*

> I could cope with breastfeeding... I could try and fight for another day... but I couldn't go and play with Power Rangers with {son's name} as well... and pretend to be happy...(describes supportive relative helping out)... I did feel bad any mother feels bad when they can't meet the needs of their children but because they didn't need me as much as they would have done if my mother-in-law hadn't been there that took the guilt away from me because I couldn't

> have taken them on my knee and...met their needs... I didn't have enough of that in me. *(Cathy)*

Following the experienced change in relationship with other children mothers started to reconstruct the meaning of bonding for them within these relationships. They described how these interactions became easier and reported feeling that their relationships with their other children had returned to normal linking these positive changes to their recovery process. There was relief that the disruptions in their relationship with their children had not irrevocably changed as a result of their postnatal illness:

> ...everyone said it to me that you will get better...at the time I didn't believe it and I think also... em... the change in my relationship with {daughter's name}I thought oh no this is her forever she'll be scarred by you know her mother's depression and...em...she's...she's come back and it has all come back and I would never have believed it at the time...(Later adding)...obviously with the depression I felt I would never get better and this would be...em...and my long-term relationship with my daughter would suffer...em... but it's...it's back to normal now it's great. *(Rachel)*

2.4 Developing relationships: "Who is in control"?

When describing their developing relationships with their newborn and reconstruction of relationships with older children mothers talked of their difficulties in providing care for their children. This was described as partly due to them feeling unable to respond to their infant's distress as this was in conflict with their own distress and their need to elicit care from others. Some talked about loss of control explaining that they felt as if their lives were spiralling out of control leaving them feeling as if they could not cope with day-to-day life or the responsibility of a baby. Some spoke of their relief at others taking charge of their baby. Despite experiencing gratitude and relief at the help offered by family, friends and healthcare

professionals, sometimes mothers felt as if they were being sidelined which resulted in them worrying that they would be unable to cope in their role as mother when they took over. They described handing control over to 'experts' (whether family or healthcare professionals) who would be able to look after their child and tend to their needs. This was seen as both useful and problematic as mothers became anxious about what would happen when it was their turn. This is summed up by *Gillian*, who had previously been an inpatient within the perinatal unit:

> When I was in hospital I also worried awful much because...because I was heavily medicated at night-time I couldn't do the night-time feeds and the nurses were doing them and I kind of felt as if... I wasn't as closely bonded with {baby's name} as I would have been had we just have been at home and I was doing it all because he kind of went to anybody at the time who would feed him or give him a cuddle and sometimes when he cried I couldn't get him to settle and I would pass him to one of the nurses and before you know it (laughs) he would be fine...whether it would just be because they're experts with a special touch or whatever but... I felt a wee bit undermined by that at the time I just felt not very worth... much I felt a bit worthless to be honest. *(Gillian)*

> When we got out of hospital...em...I found it quite hard because I think I over worried about everything and I didn't have...I didn't have the backup that I had in hospital I didn't have people there to say oh don't worry that will be fine or do it this way or...so you're not having anybody holding your hand and I think I worried so much that I didn't enjoy the first stages with him...em... and I think I over worried about everything I obviously I was very down at the time... very low down and I think after coming out of hospital I realised how ill I had actually been...em...and it troubled me that I'd been that unwell as well and I just found that I did not want to go anywhere on my own or be anywhere on my own with the baby I wanted somebody with me I didn't want to be left with him because I was afraid and I think I was just afraid... not afraid to be with him in any sense that you know that I would have done anything harmful to him but I think the reason I was afraid was that I was afraid I wouldn't cope if he wasn't...em... happy or contented or taking you know taking his milk or his food... *(Gillian)*

In contrast another mother spoke of her relief at being able to hand over control to family members albeit briefly. This was explained as a cry for help because she felt she needed someone to look after her through a particularly distressing period in the depression process:

> I didn't want her at all, eh, I just wanted her to...I wanted everybody else to take responsibility and to take her away from me and I did hand her over to my in-laws one night when, before I started writing all this stuff down (writing notes about wanting to kill self, husband and family), I think I said to them just please take her because I didn't want her, eh and handed her over, just, and I was relieved when I did not have the responsibility to face any more, 'cos I had given her away. (*Caroline*)

Further contrasts were revealed when several mothers talked about their relationships highlighting their need to retain some sort of control over the lives of their children. It appeared important for them not to allow others to take over their role. The short excerpt below illustrated these thoughts:

> Well it would be if his parents came round... yeah... you could say I would pick her up and walk into another room and if my mother in law tried to pick her up I would just snatch her. *(Carol)*

These contrasts revealed the complex processes involved in caregiving and care receiving and the impact they might have on how mothers coped with bonding. Some mothers would try and hand control of their baby to others as they felt ill-equipped to take on the role of motherhood. For others it was important to amplify and retain control of the bond in an effort to reduce their stress and provide confirmation to themselves that they were coping with motherhood. Throughout mothers stories there were fears of not coping which resulted in feelings of shame and self-criticism in their abilities to mother. This could disrupt the bonding process

which was then repaired through the process of a return to caregiving and regaining control of their role as mother.

2.5 Unconditional love

Although mothers were often describing distressing and emotional experiences during their period of illness the majority also described intense feelings of underlying love for their infant. In recounting their stories mothers would often talk in terms of how difficult times were whilst simultaneously reporting the close emotional tie with their child:

> I think all through this I have always had real strong feelings of love for her through all of it even the times where I've thought I just don't want to go home because I know you're just going to sit and scream at me and I just can't deal with it... em... but I do have very strong you know feelings of love. *(Sarah)*

Often mothers explained that the strong feelings of love emerged as soon as the child was born, a feeling that may have ameliorated some of the emotional distress associated with postnatal illness:

> I think as soon as I saw her I knew that she was my daughter and I loved her, I didn't feel I had to think about getting to know her so much, I feel as if...it's probably because I've already got a child...I feel as if maybe I did it automatically...love this one...when she came out, or automatically knew what to do or what was expected... em... but I'm not waiting to bond with her, she's here, and she's mine, and that's it. *(Debbie)*

None of the mothers levelled blame for their illness at the birth of their child rather explaining that they loved their children unequivocally notwithstanding their illness. This was described in terms of an underlying strength of emotion that remained constant even when mothers were talking about suicide or fearing that they did not

want their children. Rather these experiences were expressed in terms of regret about not enjoying their child as much as they would like to have done:

> Uh huh so you know I wasn't sort of thinking to myself if I hadn't had {baby's name} I wouldn't have been ill I didn't regret that for one minute I didn't ever think that or wish him not to be there if you know what I mean because we tried for quite a while to have him so he's been cherished from day one although for the first six/seven months I didn't enjoy as much as I probably would have had I not been ill. *(Gillian)*

This did not necessarily mean that mothers felt that the bonding process automatically started at the birth of their child but most reported feelings described in terms synonymous with unconditional love:

> **Do you feel that the postnatal illness hindered it at all... you've kind of touched on that... hindered the bonding process?**
> Definitely with {baby's name}...em...definitely I almost feel now that I have bonded... it's strong... it's a stronger bond... I just feel that I appreciate them so much more... em...but I would say that the first three months I was functioning I wasn't even really aware...the bonding thing didn't really even come into it... I knew that I loved her but I didn't really feel you know...I didn't look at her and just feel I could eat her but...em...yeah it took a while but I see now that it's there I just appreciate them so much more. *(Rachel)*

2.6 Reaching out

In talking about their experiences of postnatal illness many mothers described feelings of disconnection from normality and feelings of isolation during the bonding process. However, they were able to reflect on their experiences and describe reaching out slowly to start making contact with their child. Reaching out, often framed in the form of caregiving, helped to bridge initial barriers to bonding with their child:

> I think it was just the time, I began to think maybe like one day, I would give her a bath and I would have time to give her a bath and I thought... "I really quite enjoyed that". I would give her a bath every night and I will be looking at her and she'd be smiling and laughing. I would be enjoying her, instead of, before it was being at home, I will have to give her a bath, she'll be screaming and then my wee boy kind of running round, it means I can't concentrate on her and its all noisy, you know, she'd just keep screaming all the time. *(Sarah)*

As mothers talked of reaching out through their illness and starting to engage with their infant they described enjoying spending time with them and recounted experiences of reintegrating back into family life. In contrast, several mothers in this study expressed fears and doubts about their capabilities and still felt overwhelmed by the magnitude of their responsibility. These fears could manifest themselves as being frightened of their infant or situations associated with their child:

> Sometimes I get a feeling of just sheer terror because I find it all so...like anything new that has to happen, i.e. she's now started solids and I find that just the most terrifying thing ever because it's something new and that's the whole thing, a lot of this has been lack of confidence and lack of knowledge, you know, nobody knows what to do with a baby. You know, but sometimes I still fear {baby's name} and I'm actually scared of her which, which sounds so ridiculous. How can you be scared of a baby but honestly sometimes I feel she just terrifies me and I just don't know what to do...and I find it all, I find it stressful. *(Caroline)*

> I was very anxious about using my son's name at the time, I remember just calling him...the baby, the baby, the baby... em... and I was worried about using his name, because it made it all feel a bit more real to me. *(Debbie)*

Overall, mothers' stories about reaching out to bond with their child reflected the complex process of their reconstruction of normality and subsequent steps towards recovery. From this stance of normality mothers defined recovery and this was reflected in the complexities of bonding.

3] [Not] Wanting to Tell

When recounting their stories women reported how difficult it was to tell family members and friends how they felt, often thinking that nobody would understand what they were going through. Often women felt that they would like to talk about their situation but were worried about perceived consequences and had a fear of being judged as being unable to cope with motherhood. This dichotomy reflected the conflict felt by women during the period they felt unwell and led many of them to avoid talking about their true feelings. For some it was partly because they did not want to admit to the more traumatic thoughts and emotions they were experiencing whilst for others it was because they felt people would not understand. However for some once they disclosed these feelings they reported a sense of relief at being able to talk to others about their experiences. Two subcategories emerged; avoiding disclosure and relief at telling.

3.1 Avoiding disclosure

Sometimes women felt that they could not discuss their feelings with their husband and partner as they were worried about the perceived consequences and how their partner would react. This led to internal conflict and a sense of shame as they struggled with decisions about who to tell and how much to tell them. Women described feeling an initial sense of disconnection from those around them and this disrupted their own attachment experiences with their partners. It took courage to tell others about some of the more difficult thoughts they were experiencing and feelings of guilt pervaded many of the mothers' actions and reactions:

> em... my husband, I kept a lot of things from, I kept a lot of things from him, I mean he would have been a person that I would of told but I never told anybody...em...but, you know, for quite a wee while until things had got really, until I got to the stage where I was wishing I hadn't, hadn't had her, because it's a terrible thing to be admitting especially, especially to be admitting to her daddy, that oh I think we've made a big mistake here. *(Sarah)*

Being unwilling or unable to disclose how they felt left some women feeling isolated and alone. Although they realised that others might recognise they were not behaving 'normally' some felt that they could not express their true feelings even to other family members. They felt that their families were not in a position to help them with the problems they were experiencing partly because they would not understand:

> ...when {first child's name} was born I just felt isolated, alone, nothing, nobody to talk to even family members I don't think understood because my mum was from the old school that you sort of got on with it and you didn't really let on how you were feeling, you were crying maybe but you just got on with it and brought your kids up so I think it was really... it was awful then... *(Pam)*

This unwillingness to disclose how they were feeling also extended to telling friends because they perceived that others coped with having children. There was a fear of being judged as "bad" mothers and these fears were further exacerbated by their perception that they were not living up to their own expectations of coping:

> Well I remember one of them, when I met her, one day when I just had enough, she'd just sort of said, "I had absolutely no idea" and she said "well why didn't you tell me, that you are feeling like this, that things had got to this, why didn't you ask me for help"?...that's what a lot of people said, "why didn't you ask me for help"?
>
> **And did you have a sense of why you didn't ask for help?**
>
> Yes, because I was supposed to be, I should be coping myself because everyone else could cope by themselves. So, well all my friends had children, and they could cope and some of them had children and worked full-time, if they can do that, you know, I

shouldn't be asking them to help me when I don't work...em... you know, my wee boy's at school all day, so I just thought "I should be coping, I can't ask them". *(Sarah)*

Some women felt that the only people they could disclose their illness to were other mothers who had experienced similar illnesses as only these friends would understand what they had been going through:

And you were saying that you told friends who had been through it... did you tell other friends in general?
I told some friends in general but didn't tell that many a lot about it because I could see that they were not understanding and I thought right let's not expect too much of them so I didn't bother. *(Debbie)*

For one woman her fear of telling others arose from the perceived consequence that her baby would be removed and placed in care. This resulted in her initially trying to keep her innermost thoughts and feelings to herself. Importantly although this woman acknowledged that ultimately it was easier to cope once she had disclosed her feelings, she still felt distressed about the perceived consequences:

So you kind of kept it hidden...that sounds quite hard.../
/I suppose looking back you think you know it's so much easier when you do speak to somebody about something...em...I don't know I think it's kind of its a mixture of a) worrying how people would perceive me (**mmm...how they would react**)...b) kind of...I think there was always the concern you know if people think you know...what if social services get involved and you know sort of they take away my baby you know...(upset). *(Alison)*

These experiences were initially expressed as a disruption in women's attachment relationships with family and friends as they felt these people, who had formerly been close to them, would not ultimately understand what they were experiencing leaving them feeling lonely and isolated. Some experienced shame and guilt

resulting in them feeling unwilling to discuss their thoughts with others. However, these women were active agents in testing and reconstructing their experiences of 'not telling' which often led to seeking support and care from others and this became embedded in their experience of recovery. This led to a sense of relief at being able to tell others and ultimately a return to 'normality' as they realised that many people had experienced similar feelings of distress.

3.2 Relief at telling

This sense of relief at telling was felt by women who were able to talk about how they were feeling with partners, family and friends. This enabled them to reflect on their illness and feel that help was at hand. They described relief at being able to talk to others on an emotional level but also of the importance of being able to ask for practical help in looking after their baby and other children:

> I think he {husband} knew all along because I had told him with {first child's name} that I'd had a kind of postnatal depression and whatnot so I think he's not daft he kind of put two and two together with the timing of the birth and everything that was happening...em...and he was really good at listening and he would sort of say you okay and almost encourage me to talk about it which I felt was a lot easier sort of thing...em... I think I was worried about hurting his feelings... you know...at the time. *(Alison)*

> I see my parents in law; I talk to them just every single day... just about... and I'm finding I am able to be honest with people, for there are days as I said to you earlier where I'm really down, when I can't cope and I'm feeling really down with {baby's name} and I find I'm able to pick up the phone and say that I'm having a really bad day, can you help me out. *(Caroline)*

Being able to confide in others resulted in women evaluating themselves against other mothers who may also have experienced a psychological illness. This was

described as a source of support for many of the women as it revealed to them that they were not alone in this process and that others had experienced similar distressing thoughts. This enabled women to reconstruct their experience of illness and their version of normality as they realised that others had been through comparable experiences:

> ...as soon as I said to people...oh I felt terrible after that pregnancy really...depression and everything..."oh so did I you know...I was on antidepressants for months" and you're like well why didn't you say you know... I don't think there's a stigma... I don't care if there's a stigma... there is a stigma but I don't care about it... and I've told quite a lot of people and as soon as I've told them it's..."so was I and I've been on antidepressants and I've done this and I've done that" in the majority of cases... I just I think women must be in their own worst enemies not talking about it because as soon as people were telling me oh so did I... I thought well maybe I'm normal then because that... that's another thing you go through at the time why is this happening to me... there must be something wrong with me...
> *(Cathy)*

Other friends who had been through the experience and were feeling well were able to allay some of the fears felt by the women in this study. They felt they could compare themselves to these friends and expressed realisation that they were not going to feel like this forever, or as one woman explained, die from this experience:

> **Okay, you were saying that you picked who you would tell, if you felt they would understand...how helpful was it speaking to people who did understand?**
> Very helpful, yeah...em...because they were able to say from experience that... it will go away with time, that they had felt similar feelings, that this person had it and by the way that person had it as well, and before you know it, once you've opened up to somebody you find that you know about 10 people who've had varying forms of postnatal depression and you start to think, my goodness, I am not going to die of this, other people have had it, maybe not as much, or maybe worse, I do know girls that have had it worse than I had it, and it just makes me think "thank God that I got over it". *(Debbie)*

4] Conflict and Caring

The women described how important relationships with partners, parents, family and friends were. For some, partners and family were very supportive during their struggle to reconstruct normality and regain their sense of self. For others these experiences were felt differently some reporting that their partners did not understand what they were experiencing in terms of their depression. Friends were also reported to be important in the process of recovery through providing support and assistance during times of need.

4.1 Failing to understand

In this study, all of the women had partners, some describing supportive and helpful relationships whilst others felt that although their partners tried they did not understand what was happening. Some women felt as if they were having somewhat bizarre thoughts and occasionally tried to explain them to their partners. They described that sometimes their partner's response showed a lack of understanding or was unsympathetic. These responses could reinforce the woman's sense of inadequacy as it took courage to admit to their innermost thoughts. However, women explained that this was not because partners did not care for them rather that they simply could not, or did not try to, understand:

> **When you said your husband was a bit dismissive of when you said about her name...how did you feel when you thought people were maybe dismissing.../**
> /...em... when I said that to him... it took me everything...I said to him I had been thinking for two at three weeks before I said it so when I plucked up the nerve to kind of say it because I knew it sounded weird to say, I think we called {baby's name} the wrong name...em... he just, kind of, I don't think he tried to understand how I was feeling, he just, kind of, said you know "oh that's ridiculous, that's her name and that's it" he didn't want

to go into any further as to why, like, you know, maybe it had something to do with my depression, or whether it was just that I didn't like the name and he just, kind of dismissed it. *(Sarah)*

Although women expressed that often partners did not understand what they were experiencing they identified that the partners were also struggling to make sense of what had happened to their lives and this could lead to inter-relational tension:

I feel that the depression that I had after I had my son has affected the relationship greatly because he doesn't understand the way that I feel, he can't see it as an illness I've got and I feel as if it's all my fault for the way things are because he doesn't understand me and I try to explain to him every day...it's like going into a brick wall because he just doesn't understand why I'm crying, why I am the way I am and it's just...it's real hard for him as well. *(Pam)*

4.2 Achieving an understanding

In contrast to feeling that their partners, family and friends may not understand what they were going through many of the women found that there was a great deal of support around them during their illness. The support available was often described in practical rather than emotional terms but the majority of the women felt that they had a strong connection with their partners and families and that this support had been crucial to them. The excerpts below exemplify some of the strong feelings of support the woman felt:

It was very, very hard on all of us...em... I mean for {husband's name} when I was in hospital he was having to work and come in and be here for me...em... and visit every day and obviously when he couldn't make it to my family were trying to come in and

> be about so between them all they... you know they visited and they tried to pass a few hours here and there but mostly {husband's name} was there with me from morning till night. *(Gillian)*

> I was wasted with exhaustion, I would go to my bed and he would stay up and like do two feed's in a row and he was really supportive in that way, he did what he could around the house to help... em... he didn't sit and talk about it much, he understood how I was feeling, accepted what I was feeling, kept saying, this is going to go away, you are going to get better, you'll be fine, he was very matter-of-fact about it. *(Debbie)*

This support also came from parents and in-laws many of the women in the study describing close family support. Help came in the form of practical support like baby-sitting and emotional support by being available to talk to when needed. The excerpts below reflected the wide range of support being offered by fathers, mothers, siblings and in-laws and illustrated the importance women placed on receiving care and support:

> I had the support of my sister, my dad, my brother, my sister in law...everyone... *(Pam)*

> I phoned my mother in law and she calmed me down and she said she would be right over in the morning and that's what I wanted... I wanted her to come and take care of me... so she came in the morning...first thing in the morning... she was at my door...she's lovely. *(Cathy)*

The process of reconstruction

The women's narratives revealed that they are not passive recipients of their experiences of postnatal illness rather that they are active agents who constructed a sense of meaning around their experiences of postnatal depression. They constructed and tested these meanings by generating and developing different coping responses to their situations and then reconstructed their experiences within the paradigm of regaining a sense of normality, their former self and therefore reintegration back into society. This process of reconstruction was strongly embedded in their bonding with

their children, in relating to others and also their attachment relationships with partners and family and was important to understanding recovery. Throughout this process there was constant change and retesting of different strategies as they moved towards recovery.

Part of this process involved constructing a meaning around their experience of illness. The women in this study talked about both negative and positive aspects of this experience. For some, difficulties in the postnatal period were described as a negative experience which hindered their ability to bond with their new infant and drained the enjoyment away from their experiences of motherhood. It impacted on relationships with partners and family and left them feeling isolated and unable to talk to previously supportive friends.

> **Do you think that your postnatal illness hindered the relationship in any way?**
> I would say in the early stages yes...em...from the point of view that I... I didn't feel in control of what was happening in my life really... I felt as if I needed so much help from other people so I didn't feel as closely bonded to {baby's name} as I possibly might have been had I not been ill at the time...em... you know other people were perhaps more involved in... would say oh he's maybe needing this or I think he's needing a wee sleep and it wasn't necessarily me that was tuned in to him as other people were and at the time I was just taking the advice that was given...em...you know but I think looking back (sighs) I don't think I bonded as well with him as I would have otherwise...em... although I was doing things for him I was just too...too down at times to enjoy him and too worried about... I think that was my two major things was that I felt awful low and I think the way I felt low was because I wasn't enjoying my time with him I was just worrying too much...so too many barriers in the way really... *(Gillian)*

However, sometimes they expressed the perhaps surprising finding that both they and their baby may have benefited from having lived through the experience of

postnatal illness and that it had somehow made them stronger, some expressing that if they could cope with this they could cope with anything.

> I obviously expected to be the same with {baby's name} the way I was with my older son but it's helped me realise that I can do things whereas before I thought I can't do this but I'm an adult now and I feel a lot older and wiser and I feel able to cope...cope with {baby's name} and fit him into my life more better than I could with my older son when I was a lot younger...it's helped me be a mum basically it's shown me that you can do it...you can get up and you go out and do your daily tasks, you can go to your work and you can fit your baby in around your daily life and it's made me more capable its gave me the ability to be capable I think and just be normal and be a mother basically. *(Pam)*

The Perinatal unit involved in helping mothers reconstruct a sense of normality around their lives, those of their family and baby were spoken of very highly during this study. In contrast to a previous study (McIntosh, 1993) where the majority of mothers were dissatisfied with professional assistance provided by healthcare professionals in general, all of the mothers in this study talked positively about their experiences with healthcare professionals, particularly the Perinatal unit, and spoke highly of the staff involved.

> ... I couldn't have done it on my own and had I not had such a loving family or a family that care as much or this... you know... the perinatal unit here with good doctors and nurses and what have you... God knows where I'd be right now... a sorrier state probably so I think... you know... that I was very lucky to have had the care and attention I got at the time. *(Gillian)*

When asked what they might tell a new mother going through similar experiences mothers spoke of hope, the importance of telling others like doctors and health visitors, friends and family and that although there might still be bad days and good

that they did start to feel better about themselves and their baby. As *Caroline* reflected over her experiences her advice to others was:

> So...I think...don't give up fighting...because you will get through it...definitely. *(Caroline)*

Discussion

This study aimed to provide an understanding of mothers' experiences of postnatal depression and of their attachment relationships thereby expanding on existing research in this area. It provides an account of the complex processes these mothers negotiated during this difficult period and is grounded in individual's experiences which are reported throughout the study. Four core themes emerged which highlighted the intense feelings of stress and inability to cope with the demands of motherhood being experienced by the mothers in this study. The first theme, 'a version of normality – "not of this world" conceptualised the views of the mothers revealing that depression was seen as a disorientating and disorganising experience. Mothers expressed how difficult it was for them to maintain a sense of normality describing frightening thoughts and feelings of losing their former identity. Many of the women believed that their responses, which were described as feelings of 'madness', were not 'normal' reactions. This led to the mothers acting out normality in an endeavour to convince others that everything was under control and to meet societal expectations of motherhood. They were then able to reconstruct a version of normality by generating and testing coping strategies and these became embedded in the recovery process.

There were many other processes feeding into the mothers' reconstruction of normality during their experience of depression. This led to the second theme, 'the experiences and complexities of bonding' emerging from the data. Within this core theme it became apparent that there were complex disruptions in early bonding relationships between the mothers and their children including; physical problems such as being unable to breastfeed; medication, which could both disrupt and repair bonding, and; difficulties in establishing who was in control. However, these disruptions were mediated and repaired through; developing reciprocal interactions with their infants; by the strength of feelings of underlying love, and; through the mothers generating coping strategies to reach out and bridge the barrier between them and their child.

The third theme, '[not] wanting to tell' encapsulated how feeling physically and mentally different to others often left the mothers not wanting tell family and friends about their actual feelings in case they were judged as "bad" mothers. The mothers also faced experiences of inter-relational tension with their partners and families, some of whom failed to understand what they were going through, which was evident in their avoidance of telling partners and family how they felt. These disruptions resulted in complex and competing responses where mothers tried to engage in caregiving activities but also elicit care for themselves, all of which contributed to mothers' experiences of depression.

The fourth theme, 'conflict and caring' described how difficult it was for the mothers to maintain existing relationships with partners, family and friends which led to feelings that those around them failed to understand some of the difficulties they

were going through. However it also highlighted how achieving supportive care and understanding from others ameliorated some of the distress being experienced by the mothers and helped towards the reconstruction of their sense of normality. These processes became embedded in the course of mothers' recovery.

The four core categories that emerged encompassing the mothers' experiences reflected above; 1] A Version of Normality – "Not of this World"; 2] Experiences and Complexities of Bonding; 3] [Not] Wanting to tell; and 4] Conflict and Caring, were expanded to reflect the wide range of experiences reported in the narratives. The emerging themes were constructed into a theoretical account (Figure 1) which reflected a recursive model of postnatal depression experiences. That is to say mothers' experienced a disruption in their lives which jeopardised their view of their identity and the role of motherhood. During this time they also experienced difficulties with bonding, looking after other children, social interaction and familial relationships. The stages during this period all interacted to form the experience of postnatal illness but were also involved in the process of recovery. The activation of caregiving responses, receiving care from others and engaging in the process of reintegration back into their lives with family and friends all interacted to help in this process. Mothers were active agents in making sense of these experiences and in their subsequent recovery.

Previous studies, which have focused on attachment theory and how relationships are constructed, have postulated that a mother "approaches her infant with an inner established role of mothering" (Shulman, Becker & Sroufe, 1999; p960). Internal working models consisting of expectations about the self, others and the interaction

between the two develop from childhood and it is these aspects of maternal personality, which are a product of their developmental experiences that influence the ways in which they perceive and react to their infants (Pietromonaco & Feldman Barrett, 2000). The woman's narratives in this study revealed that they had expectations about motherhood, their internal models being developed from experiences of their own childhood. Disruption to these internal working models, caused by their experiences not matching their expectations, resulted in some mothers enacting out the role in an endeavour to try and repair this disruption and meet the perceived expectations of others. This resulted in many mothers avoiding disclosure before eventually expressing relief at being able to tell others how they felt. Maternal narratives also revealed contradictions within internal models regarding how mothers felt their new baby would react to them. Disappointment was expressed when expectations were not met. However, by enacting out the role of motherhood, the mothers in this study began reaching out to their infant, the bonding process being strengthened through reciprocal interaction. Other attachment relationships, such as those with partners and family also underwent the process of disruption and repair resulting in initial conflict before achieving an understanding and support.

Byng-Hall (1998) suggested that it was inevitable that previous family experiences would be recreated by the parents in the following generation thereby becoming replicative scripts. In the case of difficult childhood experiences attempts would be made to alter the way in which they brought up their own children thus becoming corrective scripts. The narratives in this study suggested that many of the mothers felt unable to replicate their own childhood experiences of motherhood resulting in

concern that they were "bad" mothers. This failure to live up to their internal models led to feelings of inadequacy which they felt unable to communicate to their significant others. Others expressed a desire to approach motherhood differently from their own childhood experiences reporting distress at feeling unable to do so. Failing to engage in desired replicative or corrective scripts resulted in mothers expressing distress at interruptions to the bonding process. However, all of the mothers in this study reported a strong love and developing bond with their child(ren).

Previous research has also conceptualised the processes involved in depression in the context of social mentalities (i.e. how a person creates certain roles with others, interprets how others enact social roles with them and guides affective responses with self and others) (Gilbert, Baldwin, Irons, Baccus & Palmer, 2006). Social mentality theory (Gilbert, 1989) highlighted the importance of creating social and reciprocal relationships indicating that people used different strategies and social mentalities (such as care giving, care eliciting and forming alliances for example) to navigate their social worlds (Gilbert, 2005). The narratives in this study suggested that a number of these social mentalities were disrupted during the process of experiencing depression. The stories suggested that mothers experienced an initial disruption in their ability to form relationships with their infants, changes to their existing relationships with partners and family, and difficulties in maintaining social interactions with friends. Mothers became self-critical, self-blaming and felt guilty. A breakdown in the ability to elicit care, engage in caregiving activities and maintain previously formed alliances resulted in mothers experiencing a loss of identity and feeling removed from their previous place in society. The model proposed in this

study suggested that despite this initial disruption mothers actively engaged in reconstructing their experience of bonding with their child(ren) and repaired relationships with partners, family and friends, each stage of which interacted in the process of recovery. Activating feelings of warmth and compassion towards selves, infants, partners and friends became part of this recovery process. The subsequent reactivation of care giving, care receiving and social interaction *mentalities* interacted to promote mothers feelings of connectedness to those around them and was an important aspect of the recovery process and their return to 'normality'.

The feelings of loss of self and difficulties in maintaining a sense 'normality' described in this sample were similar to other studies that have considered postnatal depression. Wood, Thomas, Droppleman and Meighan (1997) found that women engaged in hiding their depression from others under what they termed 'the façade of normalcy'. Women described losing their former self and their sense of identity which resulted in a new persona emerging. This was also found in this study where women strived to regain and reconstruct a sense of normality based on their former self and their previous experiences; 'loss of self' has also been reported in other studies (Nicolson, 1990; Beck, 2006; Beck & Indman, 2005; Beck, 2002). Mothers in this study were not passive recipients of their illness rather they became active agents in striving for normality, engaging in acting out roles within the social world around them. This was similar to the findings of Mauthner (1999) where mothers constructed their own notion of what it meant to be a 'good' mother. In this study mothers constructed 'acts of normality' and as they became more successful in doing so were able to reconstruct their own sense of normality and regain a form of identity; a process which defined their recovery. Regaining identity and a return to

normality became an indicator of recovery not only for the mothers themselves but also for their partners and friends:

> ... do you know my husband said to me about a fortnight ago "you're looking yourself now... you've got that sparkle back in your eyes...and that's only a fortnight ago you know". (*Cathy*)

A number of the other findings in this study have been documented in the empirical and theoretical literature: breastfeeding and bonding difficulties (Shakespeare, Blake and Garcia, 2004; Rapley, 2002; Wood et al, 1997); the importance of reciprocity during interaction (Dallos, 2006; Trevarthen & Aitken, 2001; Murray & Cooper, 1997; Isabella & Belsky, 1991); inter-relational difficulties (Buultjens & Liamputtong, 2007; Mason, Rice & Records, 2005; Mauthner, 1999; Beck, 1998); and avoiding disclosure (Dennis & Chung-Lee, 2006; Hall, 2006).

Taking a social constructionist stance allowed the author to gain an understanding of mothers' narratives and interpersonal views of their experiences through the use of their language (Dallos, 2006) and through acceptance of the role played as researcher during the interview process (Neimeyer, 1998). This process allowed for collaborative interaction between the interviewer and interviewee facilitating engagement and a shared understanding of the mothers' experiences. The researcher accepted that their own thoughts, actions and values they brought to the process were a fundamental part thereof (Marecek, 2001) and that they too were an active agent taking an integral role in interpreting participants' meanings and actions (Charmaz, 2006). The theory was therefore constructed through the process of interaction between the researcher, participant and with the data.

From a clinical perspective the accounts reported herein could help to provide a basis for understanding and exploring the experiences of postnatal illness and attachment. The themes generated revealed complex links between bonding, other relationships and interpersonal experiences. If as suggested in this study social mentalities (such as caregiving, care receiving and formation of alliances) are disrupted by depression and mothers struggle to generate a warm supportive image of self and/or others, becoming self-critical in the process, it might be useful to consider interventions that target reconstructing internal scripts and role relationships based on warmth and compassion (Gilbert et al, 2006). Therapies such as compassionate mind training (CMT) for example have been developed particularly for people with problems associated with shame and self-criticism (Gilbert & Irons, 2005). Allowing mothers the space to develop warmth and compassion towards the self perhaps connected with an intervention aimed at enhancing the bond with their child(ren) and promoting mothers feeling connected to those around them may prove useful in the recovery process.

Other therapies, such Interpersonal Psychotherapy, that facilitate mothers being able to construct and reconstruct their experiences, allowing them to explore interpersonal issues relating to feeling unwell and loss of former identity, might also facilitate the recovery process. When considering interventions clients need to be conceptualised in an interpersonal context in terms of their experiences (Nemade, Reiss & Dombeck, 2007). The themes constructed in this study could also provide mental health services with further information about the complexities of the emerging attachment relationship between mother and child and the disorientating impact of

mothers' experiences of their own internal representations of attachment relationships. Finally, the themes reported herein revealed that others, such as partners and family, were also active agents in the process of women's recovery and it might therefore be useful to involve them in the therapy process whether through providing psychoeducation, group therapy or family therapy interventions.

The participants in this study were a low-risk sample of relatively mature (over 30), predominantly middle-class, well-educated, multiparae mothers, all of whom had a partner. Future qualitative research could consider undertaking a similar study looking at high risk samples of first-time mothers to establish whether their experiences reflected similar themes to those constructed herein.

Limitations

The construction of maternal experiences of postnatal illness and attachment was based on the interviews of ten women and analysed by the author. The findings herein are connected to the context in which the interviews occurred and conditions of this study. It is therefore worth noting that the presentation herein is only one possible construction of the data. An understanding of mothers' experiences was generated based on their narratives. However causal relationships cannot be extrapolated from qualitative data and any suggested relationships between themes would require further quantitative study. It is acknowledged that respondent validation allowing the participants the opportunity to monitor the accuracy of the transcripts or provide feedback on the theory developed may have been beneficial (Charmaz, 2006). However, inter-rater coding undertaken by a qualified researcher

experienced in qualitative techniques and regular meetings with the author's research supervisor provided validation of the themes that emerged.

Conclusion

This study, using a grounded theory approach, has identified factors important to mothers experiencing postnatal mental health illness and early attachment difficulties. This adds to the existing literature on postnatal depression and provides further understanding of the complex processes between postnatal depression and attachment. Mothers and babies cannot be treated as separate entities (Wood et al, 1997); they are inextricably linked together, with others (partners, family, friends) and within the social world around them. The theory constructed within this study highlighted the importance of mothers feeling 'not of this world', the complexities of the bonding experience and how it could be disrupted, the disruption in relationships with partners, family and friends, and the shame and guilt felt which resulted in mothers avoiding disclosure with others. However, it also revealed that mothers experiencing psychological distress were active agents in their recovery process. They described maternal feelings of underlying love for their child, reaching out to develop relationships with them, repairing relationships with family and friends and their active involvement in regaining a sense of normality, sense of self and eventual reintegration back into society. It was suggested that there was a role for psychological therapies facilitating this recovery process.

References

Austin, M-P. (2003). Perinatal mental health: opportunities and challenges for psychiatry. *Australasian Psychiatry,* **11** (4), 300-403.

Austin, M-P. & Priest, S. R. (2004). New developments in perinatal mental health. *Acta Psychiatrica Scandinavica*, **110** (5), 321-322.

Austin, M-P. & Priest, S. R. (2005). Clinical issues in perinatal mental health: new developments in the detection and treatment of perinatal mood and anxiety disorders. *Acta Psychiatrica Scandinavica*, **112** (2), 97-104.

Barbour R. (2001). Checklists for improving rigour in qualitative research: A case of the tail wagging the dog? *British Medical Journal* **322**, 1115-1117.

Beck, C. T. (1996). Postpartum depressed mothers' experience interacting with the children. *Nursing Research,* **45**, 98-104.

Beck, C. T. (1998). The effects of postpartum depression on child development: a meta-analysis. *Archives of Psychiatric Nursing,* Vol. **XII (1)**, 12-20.

Beck, C. T. (2002). Postpartum depression: a metasynthesis, *Qualitative Health Research,* **12 (4)**, 453-472.

Beck, C. T., & Indman, P. (2005). The many faces of postpartum depression. *Journal of Obstetric, Gynecologic, and Neonatal Nursing*, **34(5)**, 569-576.

Beck, C. T. (2006). Postpartum depression: it isn't just the blues. *American Journal of Nursing*, **106(5)**, 40-50.

Brockington, I. (2004). Postpartum psychiatric disorders. *Lancet,* **363**, 303-310.

Buultjens, M., & Liamputtong, P. (2007). When giving life to starts to take the life out of you: women's experiences of depression after childbirth. *Midwifery*, **23**, 77-91.

Bus, A. G. & van Ijzendoorn, M. H. (1995). Mothers reading to their 3-year-olds: the role of mother-child attachment security in becoming literate. *Reading Research Quarterly,* 30, 998-1015.

Byng-Hall, J. (1990). *Rewriting family scripts: improvisation and systems change.* New York: Guildford Press.

Charmaz, K. (2003). Grounded Theory. In Smith, J. A. (Ed.) *Qualitative Psychology: A practical guide to research methods.* (pp 81-110). London: Sage Publications Ltd.

Charmaz, K. (2006). *Constructing grounded theory: a practical guide through qualitative analysis.* London: Sage Publications Ltd.

Cicchetti, D., Rogosch, F. A., Toth, S. L (1998). Maternal depressive disorder and contextual risk: contributions to the development of attachment insecurity and

behaviour problems in toddlerhood. *Development and Psychopathology*, **10**, Abstract.

Dallos, R. (2006). *Attachment narrative therapy: integrating systemic, narrative and attachment approaches*. Berkshire: Open University Press.

Dennis, C. L., & Chung-Lee, L. (2006). Postpartum depression help-seeking barriers and maternal treatment preferences: a qualitative systematic review. *Birth*, **33(4)**, 323-331.

Dey I. (1999) *Grounding grounded theory: guidelines for qualitative enquiry.* San Diego, CA: Academic Press.

Downey, G. & Coyne, J. C. (1990). Children of depressed parents: an integrated review. *Psychological Bulletin,* **108**, 50-76.

Gilbert, P. (1989). *Human nature and suffering.* Hove: Lawrence Erlbaum.

Gilbert, P. (2005). *Compassion: conceptualisations, research and use in psychotherapy*, London: Routledge.

Gilbert, P., & Irons, C. (2005). Focused therapies and compassionate mind training for shame and self attacking. In P. Gilbert (Ed.). *Compassion: conceptualisations, research and use in psychotherapy*, (pp. 263-325), London: Routledge.

Gilbert, P., Baldwin, M. W., Irons, C., Baccus, J. R., & Palmer, M. (2006). Self-criticism and self-warmth: an imagery study exploring their relation to depression. *Journal of Cognitive Psychotherapy: An International Quarterly,* **20(2)**, 183-198.

Glaser, B.G., & Strauss, A.L. (1967). *The discovery of grounded theory: Strategies in qualitative research,* Chicago: Aldine.

Glaser, B. G. (2004). Remodelling grounded theory. *The Grounded Theory Review,* **Vol. 4, (1)**, 1 - 24.

Goldberg, S. (2000). *Attachment and development.* (pp 3-15). London: Arnold.

Hall, P. (2006). Mothers experiences of postnatal depression: an interpretive phenomenological analysis. *Community Practitioner*, **79(8)**, 256-260.

Henwood, K., & Pidgeon, N. (2003). Grounded theory in psychological research. In Camic, P. M., Rhodes, J. E., & Yardley, L. (Eds.) *Qualitative research in psychology: expanding perspectives in methodology and design.* (pp 131-155), Washington, DC: American Psychological Association.

Isabella, R. A., & Belsky, J. (1991). Interactional synchrony and the origins of the infant-mother attachment: a replication study. *Child Development,* **62**, 373-384.

Jones, I. & Craddock, N. (2001). Familiality of the puerperal trigger in bipolar disorder: results of a family study. *The American Journal of Psychiatry*, **158** (6), 913-917.

Kaye, K. (1982). *The mental and social life of babies: how parents create persons.* Chicago: The University of Chicago Press.

Marecek, J., Fine, M. & Kidder, L. (2001). Working Between Two Worlds: Qualitative Methods and Psychology. In D. Tolman & M. Brydon-Miller (Eds.) *From Subjects to Subjectivity: A Handbook of Interpretive and Participatory Methods*, pp 29-40, London, University Press.

Martins, C. & Gaffan, E. A. (2000). Effects of early maternal depression on patterns of infant-mother attachment: a meta-analytic investigation. *Journal of Child Psychology and Psychiatry*, **41(6)**, 737-746.

Mason, W. A, Rice, M. J., & Records, K. (2005). The lived experience of postpartum depression in a psychiatric population. *Perspectives in Psychiatric Care*, **41 (2)**, 52-61.

Mauthner, N. S. (1999). 'Feeling low and feeling really bad about feeling low': women's experiences of motherhood and postpartum depression. *Canadian Psychology,* **40 (2),** 143-161.

McIntosh, J. (1993). Postpartum depression: women's help-seeking behaviour and perceptions of cause. *Journal of Advanced Nursing,* **18**, 178-184.

Murray, L. & Cooper, P. (1997). Postpartum depression and child development. *Psychological Medicine,* **27,** 253-260.

Murray, L., Fiori-Cowley, & Cooper, P. (1996). The impact of postnatal depression and associated adversity on early mother-infant interactions and later infant outcome. *Child Development*, **67**, 2512-2526.

Nemade, R. Reiss, N. S. & Dombeck, M. (2007). Depression (unipolar) interpersonal psychotherapy.http://mentalhelp.net/poc/view_doc.php?type=doc&id=13026&cn=5

Neimeyer, R. A. (1998). Social constructionism in the counselling context. *Counselling Psychology Quarterly*, **11(2)**, 135-150.

Nicolson, P. (1990). Understanding postnatal depression: a mother-centred approach. *Journal of Advanced Nursing*, **15**, 689-695.

Pietromonaco, P. R. & Feldman Barrett, L. (2000). The internal working models concept: what do we really know about the self in relation to others? *Review of General Psychology,* **4 (2)**, 155 - 175.

QSR NVivo 7 (2006). QSR International Pty Ltd. www.qsrinternational.com

Rapley, G. (2002). Keeping mothers and babies together - breast-feeding and bonding. *Midwives*, **5 (10),** 332-334.

Robertson, E. & Lyons, A.C. (2003). Living with puerperal psychosis: A qualitative analysis. *Psychology and Psychotherapy: Theory, Research and Practice,* **76**, 411-431

Rogoff, B (1990). *Apprenticeship in thinking: cognitive development in social context.* Oxford: Oxford University Press.

Sciarra, D. (1999). The Role of the Qualitative Researcher. In M. Kopala & L. A. Suzuki (Eds.) *Using Qualitative Methods in Psychology*, pp 37-47, London, Sage.

Shakespeare, J., Blake, F., & Garcia, J. (2004). Breast-feeding difficulties experienced by women taking part in a qualitative interview study of postnatal depression. *Midwifery*, **20**, 251-260.

Shulman, S., Becker, A., & Sroufe, L. A. (1999). Adult-child interactions as related to adult's family history and child's attachment. *International Journal of Behavioral Development*, **23(4)**, 959-976.

SIGN Guidelines (2002). *Postnatal depression and puerperal psychosis*, Publication No. 60.

Strauss, A. & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory,* (2nd Ed), California: Sage.

Trevarthen, C. & Aitken, J. (2001). Infant intersubjectivity: research, theory and clinical applications. *Journal of Child Psychology and Psychiatry*, **42**, 3-48.

Willig, C. (2001). *Introducing qualitative research in psychology; adventures in theory and method,* Buckingham: Open University Press.

Wood, A. F., Thomas, S. P. Droppleman, P. G., Meighan, M. (1997). The downward spiral of postpartum depression [professionally speaking]. *The American Journal of Maternal/Child Nursing*, **22(6)**, 308-316.

Table 1: Participant codes, demographics and Diagnoses

ID*	Age	Diagnosis	Number of Births	Education in years	Period of Recovery
Sarah	37	PND	2	14	1 month
Pam	36	PND	2	12	Ongoing
Mary	36	PND	4	17	Ongoing
Gillian	38	Bipolar Disorder	1	17	6 months
Caroline	34	PND	1	16	3 months
Angela	37	Recurrent Depressive Disorder	2	16	9 months
Rachel	32	Moderate Depressive Episode	2	15	3 months
Cathy	35	Adjustment Disorder	3	18	5 months
Carol	36	PND	3	12	1 month
Debbie	33	PND	2	18	Ongoing

Pseudonyms have been used to protect confidentiality of participants

Graph 1. Level of comfort before and after interview

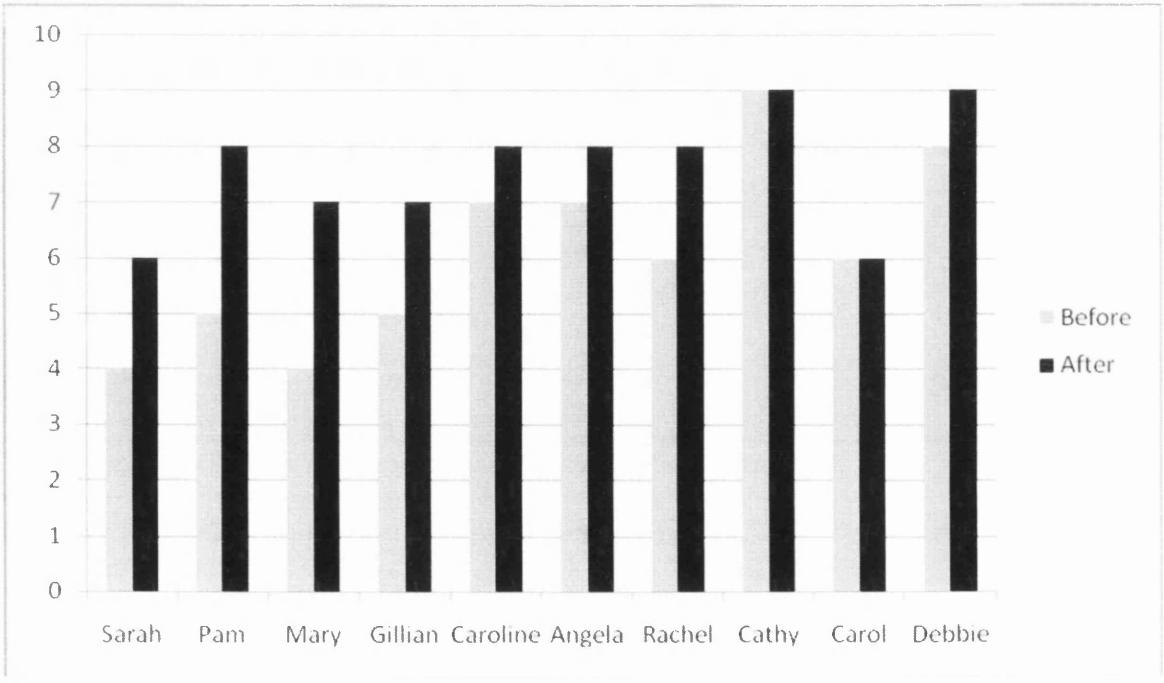
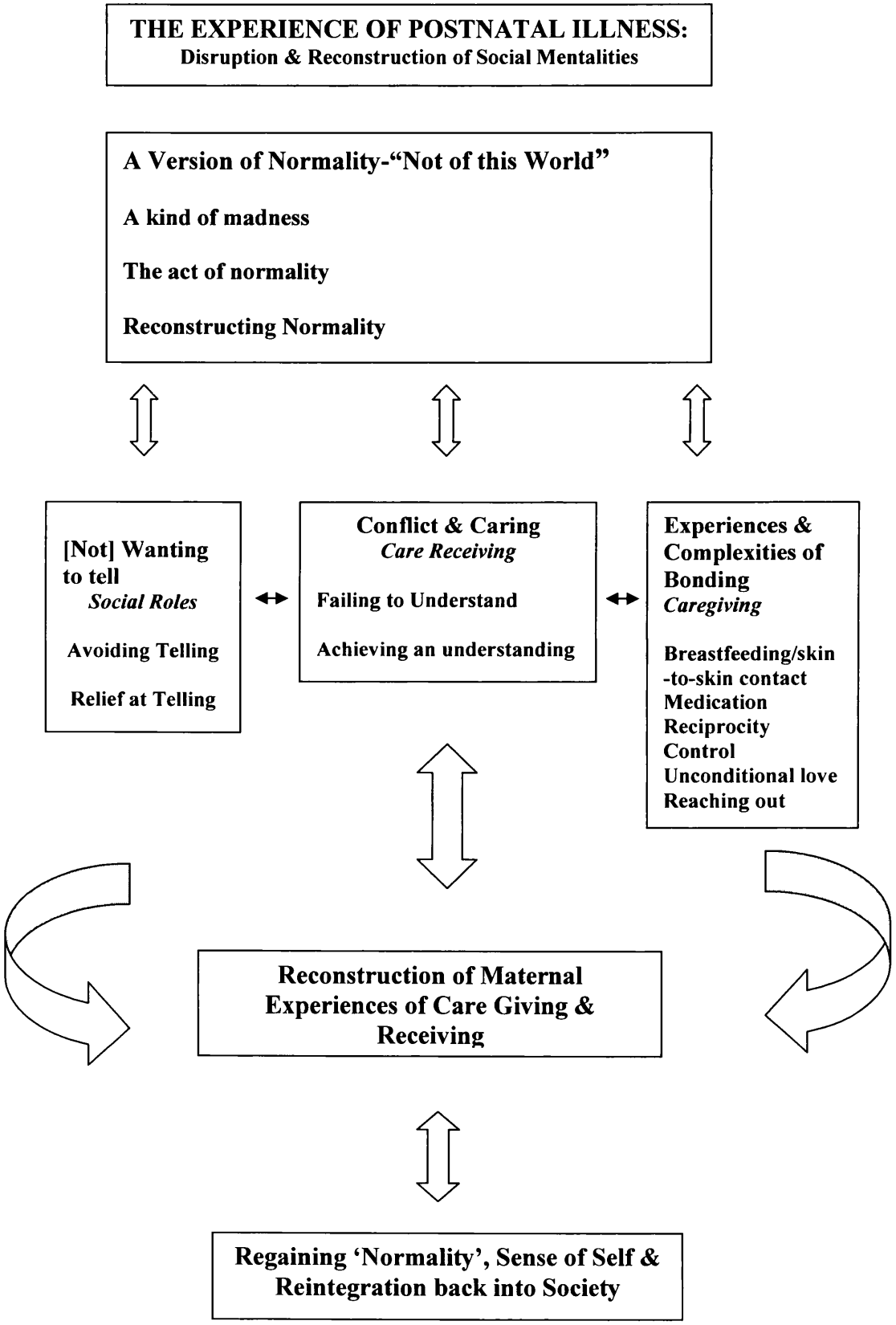


Figure 1: Theoretical Account of Interaction of Themes – Postnatal depression & Attachment



Chapter 5: Single Case Research Design Proposal

Title:

An experimental investigation of a multiple intervention package including a maternal cognitive intervention component and infant behavioural interventions to ameliorate sleep difficulties in a two-year old child.

Fiona A Smith

Section of Psychological Medicine

Division of Community Based Sciences

University of Glasgow

Academic Centre

Gartnavel Royal Hospital

1055 Great Western Road

Glasgow G12 OXH

Tel: 0141 211 3920

Fax: 0141 357 4899

Submitted in partial fulfilment of the requirements for the degree of Doctor in Clinical Psychology (D.Clin.Psy)

Abstract

Objectives: Infant sleep difficulties are thought to affect up to 45% of parents and impact on the family as a whole. Interventions to date concentrate mainly on teaching behavioural strategies and often do not take into account the cognitions of the primary caregiver. Whilst there is good evidence to support behavioural intervention alone, parental involvement in delivering the strategies is crucial to its success. The aim of this single case design will therefore be to consider the efficacy of a multi-component treatment package for sleep difficulties which will include a cognitive component addressing maternal cognitions and behavioural components aimed at reducing reliance on night-time feeds and the number and duration of night-waking episodes. **Method**: The participant is a two-year-old boy with mild asthmatic symptoms who was referred for sleeping and behavioural difficulties. A single case design (A, B, C1, C2) is proposed which will investigate the effects of cognitive and behavioural interventions presented sequentially including investigating maternal cognitions, elimination of night-time feeds and teaching the procedures for carrying out standard extinction (systematic ignoring). **Ethical issues:** Caution is needed when treating an infant who presents with medical symptoms to ensure that there are no contraindications to psychological treatment. Furthermore, care also needs to be exercised when teaching behavioural interventions to parents, which include ignoring a child's distress, as they may find the procedure stressful and socially unacceptable. **Practical applications:** Research has found a correlation between persistent infant sleep related difficulties and later behavioural problems. Parents play an important role in facilitating the development of their infant's sleep-wake patterns. It is often the mother who presents to services and it may be useful and important therefore to understand and explore maternal cognitions surrounding their infant. This information should then be incorporated into the process of planning interventions. This may have implications for future service needs.

RESEARCH PORTFOLIO APPENDICES

Appendix 1.1- Guidelines for submission to *Journal of Mental Health*

Journal of Mental Health is an international journal adhering to the highest standards of anonymous, double-blind peer-review. The journal welcomes original contributions with relevance to mental health research from all parts of the world. Papers are accepted on the understanding that their contents have not previously been published or submitted elsewhere for publication in print or electronic form. See the **Evaluation Criteria of Qualitative Research Papers** and the **editorial policy document** for more details.
Submissions. All submissions, including book reviews, should be made online at Journal of Mental Health's **Manuscript Central site**. New users should first create an account. Once a user is logged onto the site submissions should be made via the Author Centre. **Please note that submissions missing reviewer suggestions are likely to be un-submitted and authors asked to add this information before resubmitting.** Authors will be asked to add this information in section 4 of the on-line submission process. The total word count for review articles should be no more than 6000 words. Original articles should be no more than a total of 4000 words. We do include the abstract, tables and references in this word count. Manuscripts will be dealt with by the Executive Editor, Professor Til Wykes, Department of Psychology, Institute of Psychiatry, De Crespigny Park, London, SE5 8AF, United Kingdom. It is essential that authors pay attention to the guidelines to avoid unnecessary delays in the evaluation process. The names of authors should not be displayed on figures, tables or footnotes to facilitate blind reviewing. **Book Reviews.** All books for reviewing should be sent directly to **Martin Guha**, Book Reviews Editor, Information Services & Systems, Institute of Psychiatry, KCL, De Crespigny Park, PO Box 18, London, SE5 8AF. **Manuscripts** should be typed double-spaced (including references), with margins of at least 2.5cm (1 inch). The cover page (uploaded separately from the main manuscript) should show the full title of the paper, a short title not exceeding 45 characters (to be used as a running title at the head of each page), the full names, the exact word length of the paper and affiliations of authors and the address where the work was carried out. The corresponding author should be identified, giving full postal address, telephone, fax number and email address if available. To expedite blind reviewing, no other pages in the manuscript should identify the authors. All pages should be numbered. **Abstracts**. The first page of the main manuscript should also show the title, together with a structured abstract of no more than 200 words, using the following headings: Background, Aims, Method, Results, Conclusions, Declaration of interest. The declaration of interest should acknowledge all financial support and any financial relationship that may pose a conflict of interest. Acknowledgement of individuals should be confined to those who contributed to the article's intellectual or technical content. **Keywords**. Authors will be asked to submit key words with their article, one taken from the picklist provided to specify subject of study, and at least one other of their own choice. **Text**. Follow this order when typing manuscripts: Title, Authors, Affiliations, Abstract, Key Words, Main text, Appendix, References, Figures, Tables. Footnotes should be avoided where possible. The total word count for review articles should be no more than 6000 words. Original articles should be no more than a total of 4000 words. We do include the abstract, tables and references in this word count. Language should be in the style of the APA (see *Publication Manual of the American Psychological Association*, Fifth Edition, 2001). **Style and References**. Manuscripts should be carefully prepared using the aforementioned *Publication Manual of the American Psychological Association* , and all references listed must be mentioned in the text. Within the text references should be indicated by the author's name and year of publication in parentheses, e.g. (Hodgson, 1992) or (Grey & Mathews 2000), or if there are more than two authors (Wykes *et al* ., 1997). Where several references are quoted consecutively, or within a single year, the order should be alphabetical within the text, e.g. (Craig, 1999; Mawson, 1992; Parry & Watts, 1989; Rachman, 1998). If more than one paper from the same author(s) a year are listed, the date should be followed by (a), (b), etc., e.g. (Marks, 1991a).

The reference list should begin on a separate page, in alphabetical order by author (showing the names of *all* authors), in the following standard forms, capitalisation and punctuation:

a) For journal articles (titles of journals should *not* be abbreviated):

Grey, S.J., Price, G. & Mathews, A. (2000). Reduction of anxiety during MR imaging: A controlled trial. *Magnetic Resonance Imaging, 18* , 351–355.

b) For books:

Powell, T.J. & Enright, S.J. (1990) *Anxiety and Stress management* . London: Routledge

c) For chapters within multi-authored books:

Hodgson, R.J. & Rollnick, S. (1989) More fun less stress: How to survive in research. In G.Parry & F. Watts (Eds.), *A Handbook of Skills and Methods in Mental Health Research* (pp. 75–89). London:Lawrence Erlbaum.

Illustrations should *not* be inserted in the text. All photographs, graphs and diagrams should be referred to as 'Figures' and should be numbered consecutively in the text in Arabic numerals (e.g. Figure 3). The appropriate position of each illustration should be indicated in the text. A list of captions for the figures should be submitted on a separate page, or caption should be entered where prompted on submission, and should make interpretation possible without reference to the text. Captions should include keys to symbols. It would help ensure greater accuracy in the reproduction of figures if the values used to generate them were supplied. **Tables** should be typed on separate pages and their approximate position in the text should be indicated. Units should appear in parentheses in the column heading but not in the body of the table. Words and numerals should be repeated on successive lines; 'ditto' or 'do' should *not* be used. **Accepted papers**. If the article is accepted, authors are requested to submit their final and revised version of their manuscript on disk. The disk should contain the paper saved in Microsoft Word, rich text format (RTF), or as a text or ASCII (plain) text file. The disk should be clearly labelled with the names of the author(s), title, filenames and software used. Figures should be included on the disk, in Microsoft Excel. A good quality hard copy is also required. **Proofs** are supplied for checking and making essential corrections, not for general revision or alteration. Proofs should be corrected and returned within three days of receipt. **Early Electronic Offprints**. Corresponding authors can now receive their article by e-mail as a complete PDF. This allows the author to print up to 50 copies, free of charge, and disseminate them to colleagues. In many cases this facility will be available up to two weeks prior to publication. Or, alternatively, corresponding authors will receive the traditional 50 offprints. A copy of the journal will be sent by post to all corresponding authors after publication. Additional copies of the journal can be purchased at the author's preferential rate of £15.00/$25.00 per copy. **Copyright**. It is a condition of publication that authors transfer copyright of their articles, including abstracts, to Shadowfax Publishing and Taylor & Francis Ltd. Transfer of copyright enables the publishers to ensure full copyright protection and to disseminate the article and journal to the widest possible readership in print and electronic forms. Authors may, of course, use their article and abstract elsewhere after publication providing that prior permission is obtained from Taylor and Francis Ltd. Authors are themselves responsible for obtaining permission to reproduce copyright material from other sources.

Appendix 2.1 - Guidelines for submission to *Development and Psychopathology*

Instructions for Contributors

Development and Psychopathology strongly encourages contributions from a wide array of disciplines because an effective developmental approach to psychopathology necessitates a broad synthesis of knowledge. Manuscripts will be considered that address, for example, the causes and effects of genetic, neurobiological, biochemical, cognitive, or socioemotional factors in developmental processes with relevance to various risk or psychopathological conditions. The journal also seeks articles on the processes underlying the adaptive and maladaptive outcomes in populations at risk for psychopathology.

Manuscript Review Policy

Manuscripts will have a blind review by at least two scholars. Every effort will be made to notify authors within 90 days of submission concerning the reviewers' recommendations and comments. *Development and Psychopathology* has no page charges.

Manuscript Submission

Five paper copies of each manuscript and a disk file ~Word or WordPerfect! should be submitted to:

Dante Cicchetti, PhD
Department of Psychology
Director, Mt. Hope Family Center
University of Rochester
187 Edinburgh Street
Rochester, NY 14608, USA

Manuscript Preparation and Style

General. All manuscripts must be typed on 8.5" _ 11" or A4 white bond paper with ample margins on all sides. The entire manuscript—including abstract, tables, and references—must be double-spaced. Manuscript pages must be numbered consecutively. The language of publication is English.

Style and Manuscript Order. Follow the general style guidelines set forth in the *Publication Manual of the American Psychological Association* ~5th ed.!. The Editor may find it necessary to return manuscripts for reworking or retyping that do not conform to requirements. Do not use embedded references, end notes, or bookmarks. Manuscripts must be arranged in the following order:

Title Page ~page 1!. To facilitate blind review, all indication of authorship must be limited to this page; other pages must only show the short title plus page number at the top right. The title page should include the ~a! full article title; ~b! Name and affiliations of all authors; ~c! mailing address and telephone number of the lead author; ~d! address of where to send offprints, if different from the lead author; and ~e! short title of less than 50 characters.

Abstract Page ~page 2!. Include ~a! a full article title, ~b! An abstract of no more than 200 words, and ~c! up to five keywords for indexing and information retrieval.

Acknowledgments ~page 2!. These should be placed below the abstract. Use this section to indicate grant support, substantial assistance in the preparation of the article, or other author notes.

Text ~page 3!. Use a five character paragraph indent. Do not hyphenate words at the end of lines. Do not justify right margins.

References. Bibliographic citations in the text must include the author's last name and date of publication and may include page references. Examples of in-text citation styling are Brown ~1983!, Ingram ~1976, pp. 54–55!, Smith and Miller ~1966!, ~Smith & Miller, 1966!, ~Peterson, Danner, & Flavell, 1972!, and subsequently ~Peterson et al., 1972!. If more than one, citations must be in *alphabetical* order. Every in-text citation must be included in the reference section; every reference must be cited in the text. Examples of reference styling:

Journal Article

Sroufe, L. A., & Rutter, M. ~1984!. The domain of developmental psychopathology. *Child Development, 55,* 17–29.

Book

Piaget, J. ~1962!. *Play, dreams, and imitation in childhood.* New York: Norton.

Chapter in an Edited Book

Cicchetti, D., & Pogge–Hesse, P. ~1982!. Possible contributions of the study of organically retarded persons to developmental theory. In E. Zigler & D. Balla ~Eds.!, *Mental retardation: The developmental-difference controversy* ~pp. 277–318!. Hillsdale, NJ: Erlbaum.

Appendix ~optional!. Use only if needed. May be useful for review, but not appropriate for publication.

Tables. Tables must appear as a unit following the reference section. Each table should be typed double-spaced on a separate sheet, numbered consecutively with an Arabic numeral, and given a short title. ~Example:Table 5. Comparisons on language variables.! All tables must be cited in the text.

Figures. Figures must appear as a unit following the tables. Each figure must be numbered consecutively with an Arabic numeral and a descriptive legend. Legends must be typed together, double-spaced, on a separate sheet preceding the artwork. ~Example: Figure 3. The progress in language development.! Figures, which should normally be in black and white, must be supplied no larger than 8"_10" and ready for photographic reproduction. If authors have color figures, CUP will provide a price quotation for the cost to the author. Diagrams must be professionally rendered or computer generated. All labels and details must be clearly printed and large enough to remain legible at a 50% reduction. Artwork should be identified by figure number and short title and be carefully packaged in a protective envelope. All figures must be cited in the text.

Copyediting and Page Proofs

The publisher reserves the right to copyedit manuscripts to conform to journal style. The lead author will receive page proofs for correction of typographical errors only. No rewriting of the original manuscript as submitted is allowed in the proof stage. Authors must return proofs to Cambridge within 48 hr of receipt or approval will be assumed.

Offprints

The lead author will receive 25 free article offprints of his or her article. A form accompanying the page proofs allows the lead author to order complete copies of the issue and0or purchase additional offprints. All coauthor offprint requirements must be included on this form. Orders received after the issue is printed are subject to a 50% reprint surcharge.

Copyright and Originality

It is a condition of publication that all manuscripts submitted to this journal have not been published and will not be simultaneously submitted or published elsewhere. All authors must sign the Transfer of Copyright Agreement, which is available from the publisher, before an article can be published. Government authors whose articles were created in the course of their employment must so certify in lieu of copyright transfer.

Authors must obtain written permission from the copyright owners to reprint any previously published material included in their article and provide the permission~s! to CUP.

Appendix 2.2 - Methodological Quality Checklist

Study		Campbell et al (2004)	Dawson et al (1992)	DeMulder & Radke-Yarrow (1991)	Easterbrooks et al (2000)	Espinosa et al (2001)	Hipwell et al (2000)	Lyons-Ruth et al (1990)
A) Aims & General Procedure								
1. Were the aims of study clearly stated?	Yes = 2 No = 0	2	2	2	2	2	0	2
2. Were the hypotheses clearly stated?	Yes = 2 No = 0	2	0	2	2	2	2	2
3. Were the procedures used clearly stated?	Yes = 2 No = 0	2	2	2	2	2	2	0
4. Is the study replicable given the information stated?	Yes = 2 No = 0	2	2	2	0	2	2	0
Total: 4 items section worth	Maximum = 8	**8**	**6**	**8**	**6**	**8**	**6**	**4**
B) Sampling								
1. Is the sample a: Convenience sample e.g. clinic attenders, referred patients or geographic cohort e.g. all participants eligible in a particular area	geographic cohort (score 10) convenience sample (score 5) highly selective sample e.g. volunteers/not stated (score 0)	10	5	0	5	5	5	5
2. Were refusal/drop-out rates indicated?	Yes = 2 No = 0	2	2	0	0	2	2	2
3. Were analyses conducted comparing participants and those who refused to participate/dropped out?	Yes = 2 No = 0	2	0	0	0	2	0	2
4 Did it state whether participants were inpatients/outpatients?	Yes = 2 No = 0	2	2	2	2	2	2	2
5. Were diagnoses of participants reported?	Yes = 2 No = 0	0	0	2	0	2	2	2
6. With regard to diagnoses – was a homogeneous population used?	Yes = 2 No/not stated = 0	0	0	2	0	0	0	0
7. Were the diagnostic criteria explicitly stated (e.g. DSM-IV, ICD-10)?	Yes = 2 No = 0	0	0	2	0	2	2	0

8. Were ages of participants and their infants reported?	Yes = 2 No = 0	2	2	2	2	2	2	2
9. Were genders of the infant's reported?	Yes = 2 No = 0	2	2	2	2	0	2	2
10. Inclusion criteria explicitly stated and appropriate?	Yes = 2 No = 0	0	0	0	0	0	2	0
11. Exclusion criteria explicitly stated and appropriate?	Yes = 2 No/the study had no exclusion criteria = 0	2	2	2	0	2	2	0
Total: 11 items: Section worth =	Maximum = 30	**22**	**10**	**14**	**11**	**19**	**21**	**17**
C) Covariate assessment								
1. Was the prevalence rates of comorbidity measured and clearly stated?	Yes = 2 No = 0	0	0	0	0	2	2	0
2. Was it reported if participants were taking medication or not?	Yes = 2 No = 0	0	0	0	0	0	2	0
3. Was social economic status taken into account and clearly stated?	Yes = 2 No = 0	2	2	2	2	2	2	2
4. Were other factors such as marital status, education, ethnicity, number of other children reported?	Yes = 2 No = 0	2	0	2	2	2	2	2
5. Were other risk factors reported e.g. marital discord, childhood illness?	Yes = 2 No = 0	0	0	0	0	2	2	2
6. Were the effects of gender of infant measured?	Yes = 2 No = 0	2	0	2	2	0	0	2
Total: 6 items: Section worth =	Maximum = 12	**6**	**2**	**6**	**6**	**6**	**10**	**8**
D) Postnatal Depression Assessment								
1. Was it explicitly stated that postnatal depression was being assessed in relation to attachment relationship and/or factors associated with the experience of attachment (illness related; treatment,	Yes = 2 No = 0	2	2	2	2	2	2	2

etc)								
2. What was the method of depression assessment:	Clinician Administered Diagnostic Interview e.g. SCID = 8 Self-report depression checklist e.g. EPDS, CES-D = 5 Postal Survey only = 2 None = 0	5	5	8	5	8	8	5
3. Indication of who assessed participants i.e. their qualification and training on measures?	Yes = 2 No = 0	2	0	2	0	2	2	0
4. Was depression assessed longitudinally i.e. 2 or 3 different time points?	Yes = 2 No = 0	2	0	0	2	2	2	2
5. Were the number of previous episodes of depression, if any reported?	Yes = 2 No = 0	2	0	2	0	2	2	0
6. Length of time since first episode (length of illness) reported?	Yes = 2 No = 0	2	0	2	0	2	2	0
7. Was depression rated blind to levels of other forms of psychopathology and attachment?	Yes = 2 No/not stated = 0	0	2	2	0	2	0	2
8. Was severity of depression reported (e.g. whether unipolar, bipolar etc)?	Yes = 2 No = 0	0	0	2	0	2	2	0
9. Were depression symptoms assessed with a reliable and valid measure?	Yes = 2 No = 0	2	2	2	2	2	2	2
10. Was the prevalence rate of those meeting depression caseness clearly described?	Yes = 2 No = 0	2	2	2	2	2	2	2
11. Were the prevalence rates of patients meeting depression caseness with different psychopathology reported?	Yes or Not applicable/Homogenous sample = 2 No = 0	2	0	0	0	2	2	0

Total: 11 items: Section worth =	Maximum = 28	**21**	**13**	**24**	**13**	**28**	**26**	**15**
E) Attachment Assessment								
1. Was attachment assessed longitudinally i.e. 2 or 3 different time points?	Yes = 2 No = 0	0	0	0	0	0	0	0
2. Were attachment classifications A,B,C & D measured using the recognised method described by Ainsworth et al 1978; Main & Solomon, 1990?	Yes = 2 No = 0	0	2	2	2	2	2	2
3. Were the classifications reported separately throughout the study?	Yes = 2 No = 0	2	0	2	2	2	0	0
4. Were analyses carried out on all 4 classifications?	Yes = 2 No = 0	2	2	2	2	2	0	0
Total: 4 items: Section worth=	Maximum = 8	**4**	**4**	**6**	**6**	**6**	**2**	**2**
F) Methodology (Design, Power and Analysis)								
1. What type of design was employed for the study?	Longitudinal Prospective = 2 Cross-sectional = 1	2	1	1	2	2	2	2
2. Was the statistical power sufficient?	Yes = 2 No/not reported = 0	0	0	0	0	0	0	0
3. Was alpha modified in multiple statistical analyses to reduce the probability of type 1 error?	Yes or Not applicable/No correlation = 2 No/Not discussed = 0	2	2	0	2	2	2	2
4. Were between group comparisons made between those with/without postnatal depression?	Yes = 2 No = 0	2	2	2	0	0	2	2
5. Were attempts made to match individuals with/without postnatal depression for between group comparisons (no of depressive episodes etc)?	Yes = 2 No = 0	2	2	2	0	0	2	2
6. Was the treatment of missing data reported?	Yes = 2 No = 0	2	0	0	0	0	0	0

7. Were attempts made to statistically control for confounding variables e.g. marital discord	Yes = 2 No = 0	2	0	0	0	0	2	2
Total: 7 items: Section worth =	Maximum = 14	**12**	**7**	**5**	**4**	**4**	**10**	**10**
Overall Total: out of 100		**73**	**49**	**63**	**46**	**73**	**75**	**56**

Study		McMahon et al (2006)	Murray (1992)	Murray et al (1996)	Poehlmann & Fiese (2001)	Seifer et al (1996)	Teti et al 1995	Tomlinson et al (2005)
A) Aims & General Procedure								
1. Were the aims of study clearly stated?	Yes = 2 No = 0	2	2	2	2	2	2	2
2. Were the hypotheses clearly stated?	Yes = 2 No = 0	2	2	2	2	2	2	2
3 Were the procedures used clearly stated?	Yes = 2 No = 0	2	2	2	2	2	2	2
4 Is the study replicable given the information stated?	Yes = 2 No = 0	0	0	0	0	0	0	0
Total: 4 items section worth	Maximum = 8	**6**	**6**	**6**	**6**	**6**	**6**	**6**
B) Sampling								
1. Is the sample a: Convenience sample e.g. clinic attenders, referred patients or geographic cohort e.g. all participants eligible in a particular area	geographic cohort (score 10) convenience sample (score 5) highly selective sample e.g. volunteers/not stated (score 0)	5	5	5	5	5	5	10
2. Were refusal/drop-out rates indicated?	Yes = 2 No = 0	2	2	2	2	0	2	2
3. Were analyses conducted comparing participants and those who refused to participate/dropped out?	Yes = 2 No = 0	2	0	0	0	0	2	0
4 Did it state whether participants were inpatients/outpatients?	Yes = 2 No = 0	2	2	2	2	0	2	2
5. Were diagnoses of participants reported?	Yes = 2 No = 0	2	2	0	0	2	2	2
6 With regard to diagnoses – was a homogeneous	Yes = 2 No/not stated = 0	0	0	0	0	0	0	0

population used?								
7 Were the diagnostic criteria explicitly stated (e.g. DSM-IV, ICD-10)?	Yes = 2 No = 0	2	2	2	0	2	2	2
8 Were ages of participants and their infants reported?	Yes = 2 No = 0	2	2	2	2	2	2	2
9 Were genders of the infant's reported?	Yes = 2 No = 0	2	2	2	2	2	2	2
10 Inclusion criteria explicitly stated and appropriate?	Yes = 2 No = 0	2	2	2	0	0	0	0
11 Exclusion criteria explicitly stated and appropriate?	Yes = 2 No/the study had no exclusion criteria = 0	0	0	0	0	2	2	0
Total: 11 items: Section worth =	Maximum = 30	**21**	**19**	**17**	**13**	**15**	**21**	**22**
C) Covariate assessment								
1. Was the prevalence rates of comorbidity measured and clearly stated?	Yes = 2 No = 0	0	0	0	0	0	0	0
2. Was it reported if participants were taking medication or not?	Yes = 2 No = 0	2	o	0	0	0	2	0
3. Was social economic status taken into account and clearly stated?	Yes = 2 No = 0	2	2	2	2	2	2	2
4. Were other factors such as marital status, education, ethnicity, number of other children reported?	Yes = 2 No = 0	2	2	2	2	2	2	2
5. Were other risk factors reported e.g. marital discord, childhood illness?	Yes = 2 No = 0	0	2	2	2	2	0	2
6. Were the effects of gender of infant measured?	Yes = 2 No = 0	2	2	2	2	2	2	0
Total: 6 items: Section worth =	Maximum = 12	**8**	**8**	**8**	**8**	**8**	**8**	**6**
D) Postnatal Depression Assessment								
1 Was it explicitly stated that postnatal depression was	Yes = 2 No = 0							

being assessed in relation to attachment relationship and/or factors associated with the experience of attachment (illness related; treatment, etc)		2	2	2	2	2	2	2
2 What was the method of depression assessment:	Clinician Administered Diagnostic Interview e.g. SCID = 8 Self-report depression checklist e.g. EPDS, CES-D = 5 Postal Survey only = 2 None = 0	8	8	8	5	8	5	8
3 Indication of who assessed participants i.e. their qualification and training on measures?	Yes = 2 No = 0	2	2	2	2	2	2	2
4 Was depression assessed longitudinally i.e. 2 or 3 different time points?	Yes = 2 No = 0	2	2	2	0	0	2	2
5 Were the number of previous episodes of depression, if any reported?	Yes = 2 No = 0	2	2	2	0	0	2	0
6 Timeline of depression episodes (length of illness) reported?	Yes = 2 No = 0	2	2	2	0	2	2	0
7 Was depression rated blind to levels of other forms of psychopathology and attachment?	Yes = 2 No/not stated = 0	2	2	2	2	2	2	2
8 Was severity of depression reported (e.g. whether unipolar, bipolar etc)?	Yes = 2 No = 0	0	2	0	0	2	2	0
9 Were depression symptoms assessed with a reliable and valid measure?	Yes = 2 No = 0	2	2	2	2	2	2	2
10 Was the prevalence rate of those meeting depression caseness clearly described?	Yes = 2 No = 0	2	2	2	0	2	2	2
11 Were the prevalence rates of patients meeting	Yes or Not	0	0	0	0	0	0	0

depression caseness with different psychopathology reported?	applicable/Homogenous sample = 2 No = 0							
Total: 11 items: Section worth =	Maximum = 28	**24**	**26**	**24**	**13**	**22**	**23**	**20**
E) Attachment Assessment								
1. Was attachment assessed longitudinally i.e. 2 or 3 different time points?	Yes = 2 No = 0	0	0	0	0	0	0	0
2. Were attachment classifications A,B,C & D measured using the recognised method described by Ainsworth et al 1978; Main & Solomon, 1990?	Yes = 2 No = 0	2	0	2	2	2	2	2
3. Were the classifications reported separately throughout the study?	Yes = 2 No = 0	2	0	2	0	2	2	2
4. Were analyses carried out on all 4 classifications?	Yes = 2 No = 0	2	0	2	0	2	2	2
Total: 4 items: Section worth=	Maximum = 8	**6**	**0**	**6**	**2**	**6**	**6**	**6**
F) Methodology (Design, Power and Analysis)								
1 What type of design was employed for the study?	Longitudinal Prospective = 2 Cross-sectional = 1	2	2	2	1	1	2	2
2 Was the statistical power sufficient?	Yes = 2 No/not reported = 0	0	0	0	0	0	0	0
3 Was alpha modified in multiple statistical analyses to reduce the probability of type 1 error?	Yes or Not applicable/No correlation = 2 No/Not discussed = 0	2	2	2	0	0	2	0
4 Were between group comparisons made between those with/without postnatal depression?	Yes = 2 No = 0	2	2	2	2	2	2	0
5 Were attempts made to match individuals with/without postnatal depression for between group comparisons (no	Yes = 2 No = 0	0	2	2	0	0	2	0

of depressive episodes etc)?								
6 Was the treatment of missing data reported?	Yes = 2 No = 0	2	0	0	0	0	2	0
7 Were attempts made to statistically control for confounding variables e.g. marital discord	Yes = 2 No = 0	0	2	2	2	2	2	2
Total: 7 items: Section worth =	Maximum = 14	**8**	**10**	**10**	**5**	**5**	**12**	**4**
Overall Total: out of 100		**73**	**69**	**71**	**47**	**62**	**76**	**64**

Study		Toth et al (2006)
A) Aims & General Procedure		
1 Were the aims of study clearly stated?	Yes = 2 No = 0	2
2 Were the hypotheses clearly stated?	Yes = 2 No = 0	2
3 Were the procedures used clearly stated?	Yes = 2 No = 0	2
4 Is the study replicable given the information stated?	Yes = 2 No = 0	2
Total: 4 items section worth	Maximum = 8	**8**
B) Sampling		
1. Is the sample a: Convenience sample e.g. clinic attenders, referred patients or geographic cohort e.g. all participants eligible in a particular area	Geographic cohort (score 10) convenience sample (score 5) highly selective sample e.g. volunteers/not stated (score 0)	5
2. Were refusal/drop-out rates indicated?	Yes = 2 No = 0	2
3. Were analyses conducted comparing participants and those who refused to participate/dropped out?	Yes = 2 No = 0	2
4 Did it state whether participants were inpatients/outpatients?	Yes = 2 No = 0	2

5 Were diagnoses of participants reported?	Yes = 2 No = 0	2
6 With regard to diagnoses – was a homogeneous population used?	Yes = 2 No/not stated = 0	0
7 Were the diagnostic criteria explicitly stated (e.g. DSM-IV, ICD-10)?	Yes = 2 No = 0	2
8 Were ages of participants and their infants reported?	Yes = 2 No = 0	2
9 Were genders of the infant's reported?	Yes = 2 No = 0	2
10 Inclusion criteria explicitly stated and appropriate?	Yes = 2 No = 0	2
11 Exclusion criteria explicitly stated and appropriate?	Yes = 2 No/the study had no exclusion criteria = 0	2
Total: 11 items: Section worth =	Maximum = 30	**23**
C) Covariate assessment		
1. Was the prevalence rates of comorbidity measured and clearly stated?	Yes = 2 No = 0	2
2. Was it reported if participants were taking medication or not?	Yes = 2 No = 0	0
3. Was social economic status taken into account and clearly stated?	Yes = 2 No = 0	2
4. Were other factors such as marital status, education, ethnicity, number of other children reported?	Yes = 2 No = 0	2
5. Were other risk factors reported e.g. marital discord, childhood illness?	Yes = 2 No = 0	0
6. Were the effects of gender of infant measured?	Yes = 2 No = 0	2
Total: 6 items: Section worth =	Maximum = 12	**8**
D) Postnatal Depression Assessment		
1 Was it explicitly stated that postnatal depression was being assessed in relation to attachment relationship and/or factors associated with the experience of attachment (illness related; treatment, etc)	Yes = 2 No = 0	2
2 What was the method of depression assessment:	Clinician Administered Diagnostic Interview e.g. SCID = 8 Self-report depression checklist e.g. EPDS, CES-D = 5 Postal Survey only = 2	8

	None = 0	
3 Indication of who assessed participants i.e. their qualification and training on measures?	Yes = 2 No = 0	2
4 Was depression assessed longitudinally i.e. 2 or 3 different time points?	Yes = 2 No = 0	2
5 Were the number of previous episodes of depression, if any reported?	Yes = 2 No = 0	2
6 Timeline of depression episodes (length of illness) reported?	Yes = 2 No = 0	2
7 Was depression rated blind to levels of other forms of psychopathology and attachment?	Yes = 2 No/not stated = 0	0
8 Was severity of depression reported (e.g. whether unipolar, bipolar etc)?	Yes = 2 No = 0	2
9 Were depression symptoms assessed with a reliable and valid measure?	Yes = 2 No = 0	2
10 Was the prevalence rate of those meeting depression caseness clearly described?	Yes = 2 No = 0	2
11 Were the prevalence rates of patients meeting depression caseness with different psychopathology reported?	Yes or Not applicable/Homogenous sample = 2 No = 0	0
Total: 11 items: Section worth =	Maximum = 28	**24**
E) Attachment Assessment		
1. Was attachment assessed longitudinally i.e. 2 or 3 different time points?	Yes = 2 No = 0	2
2. Were attachment classifications A,B,C & D measured using the recognised method described by Ainsworth et al 1978; Main & Solomon, 1990?	Yes = 2 No = 0	2
3. Were the classifications reported separately throughout the study?	Yes = 2 No = 0	2
4. Were analyses carried out on all 4 classifications?	Yes = 2 No = 0	2
Total: 4 items: Section worth=	Maximum = 8	**8**
F) Methodology (Design, Power and Analysis)		
1 What type of design was employed for the study?	Longitudinal Prospective = 2 Cross-sectional = 1	2
2 Was the statistical power sufficient?	Yes = 2 No/not reported = 0	0
3 Was alpha modified in multiple statistical analyses to reduce the probability of type 1 error?	Yes or Not applicable/No correlation = 2	0

	No/Not discussed = 0	
4 Were between group comparisons made between those with/without postnatal depression?	Yes = 2 No = 0	2
5 Were attempts made to match individuals with/without postnatal depression for between group comparisons (no of depressive episodes etc)?	Yes = 2 No = 0	2
6 Was the treatment of missing data reported?	Yes = 2 No = 0	2
7 Were attempts made to statistically control for confounding variables e.g. marital discord	Yes = 2 No = 0	2
Total: 7 items: Section worth =	Maximum = 14	**10**
Overall Total: out of 100		**81**

Appendix 3.1- Interview Schedule for Postnatal Illness: a qualitative analysis of maternal experiences of attachment.

Interview Questions and Probes

1. **General Orientation**

   Question: **Tell me about your family and who is in it?**

   Probes: Can you tell me more about them?
   Can you describe your current relationships?
   Relationships – child, partner, family, grandparents.
   Any other significant relationships – describe?

2. **Experiences of depression/psychosis**

   Question: **What do you recall about your experience of postnatal illness?**

   Probes: When did you first experience these feelings?
   How did that make you feel?
   What did you learn from that?
   How would you have described yourself then?
   As you look back on that, are there any particular occasions that stand out? Could you describe them for me?
   How do you think that time affected you? Your family? Your child?
   What helped you to cope at that time?
   Who did you find helped you at that time – what supports were around?
   In what ways did they help?
   What did you do that helped you cope?

3. **Attachment**

   Question: **Tell me about your bond with your child?**

   How do you feel your experience of postnatal illness has helped you the development of this bond?

   How do you feel it's hindered it?

   What fears and concerns have you maybe had in this regard?

What do you think others thought or what did they say at the time?

Can you give me some examples that describe how your relationship is?

Probes: Tell me about a particular example that comes to mind that relates to X being (*insert adjective).*
Could you describe an event that included an incident of (*insert adjective*)?

4. **Here and now.**

Question: **How do you feel these early experiences have affected the overall development of your relationship with X?**

Probes: Tell me how this relationship developed.
What positive/easy experiences have you had involving....?
What difficult experiences have you had involving...?
Any experiences that were not so good?

5. **Current relationship.**

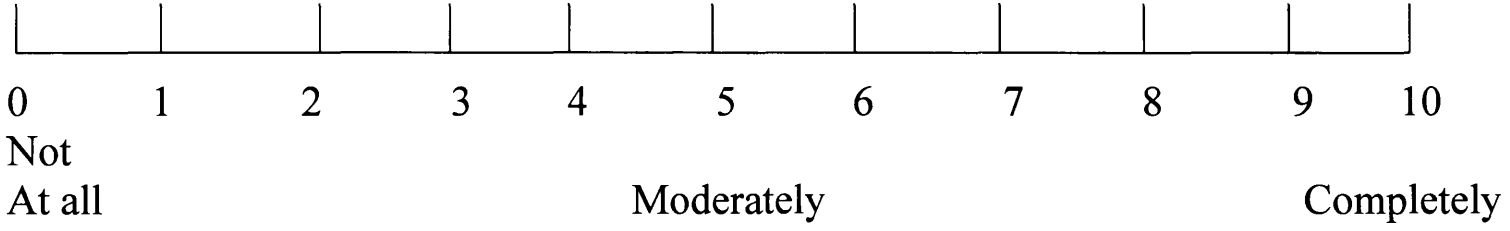
Question: **How it is your relationship with X now?**

Probes: How do you see your current relationship with...?
What do you think the most important aspect of this relationship is?
Describe a recent occasion that demonstrates this....
How has your relationship developed since then?
Now that you have reflected on your experiences what would you tell a new mother who was going through the same process?
Is there anything else you would like to add or that you feel I haven't asked about?

Appendix 3.2 – Participants Subjective Wellbeing Scale

SUBJECTIVE WELLBEING - HOW ARE YOU FEELING?

Please show below how relaxed you are currently feeling by placing an X at the point that best indicates your current mood.



Appendix 4.1 - Guidelines for submission to Journal of Psychology and Psychotherapy: Theory Research and Practice

Notes for Contributors *Psychology and Psychotherapy: Theory Research and Practice* (formerly *The British Journal of Medical Psychology*) is an international scientific journal with a focus on the psychological aspects of mental health difficulties and well-being; and psychological problems and their psychological treatments. We welcome submissions from mental health professionals and researchers from all relevant professional backgrounds. The Journal welcomes submissions of original high quality empirical research and rigorous theoretical papers of any theoretical provenance provided they have a bearing upon vulnerability to, adjustment to, assessment of, and recovery (assisted or otherwise) from psychological disorders. Submission of systematic reviews and other research reports which support evidence-based practice are also welcomed, as are relevant high quality analogue studies. The Journal thus aims to promote theoretical and research developments in the understanding of cognitive and emotional factors in psychological disorders, interpersonal attitudes, behaviour and relationships, and psychological therapies (including both process and outcome research) where mental health is concerned. Clinical or case studies will not normally be considered except where they illustrate particularly unusual forms of psychopathology or innovative forms of therapy and meet scientific criteria through appropriate use of single case experimental designs.

1. Circulation The circulation of the Journal is worldwide. Papers are invited and encouraged from authors throughout the world.

2. Length Papers should normally be no more than 5000 words, although the Editor retains discretion to publish papers beyond this length in cases where the clear and concise expression of the scientific content requires greater length.

3. Reviewing The journal operates a policy of anonymous peer review. Papers will normally be scrutinised and commented on by at least two independent expert referees (in addition to the Editor) although the Editor may process a paper at his or her discretion. The referees will not be aware of the identity of the author. All information about authorship including personal acknowledgements and institutional affiliations should be confined to the title page (and the text should be free of such clues as identifiable self-citations e.g. 'In our earlier work...').

4. Online submission process

1) All manuscripts must be submitted online at http://paptrap.edmgr.com.

First-time users: Click the REGISTER button from the menu and enter in your details as instructed. On successful registration, an email will be sent informing you of your user name and password. Please keep this email for future reference and proceed to LOGIN. (You do not need to re-register if your status changes e.g. author, reviewer or editor). **Registered users:** Click the LOGIN button from the menu and enter your user name and password for immediate access. Click 'Author Login'.

2) Follow the step-by-step instructions to submit your manuscript.

3) The submission must include the following as separate files:

- Title page consisting of manuscript title, authors' full names and affiliations, name and address for corresponding author - A title page template is available to download.
- Abstract
- Full manuscript omitting authors' names and affiliations. Figures and tables can be attached separately if necessary.

4) If you require further help in submitting your manuscript, please consult the Tutorial for Authors - Editorial Manager - Tutorial for Authors
Authors can log on at any time to check the status of the manuscript.

5. Manuscript requirements

- Contributions must be typed in double spacing with wide margins. All sheets must be numbered.

- Tables should be typed in double spacing, each on a separate page with a self-explanatory title. Tables should be comprehensible without reference to the text. They should be placed at the end of the manuscript with their approximate locations indicated in the text.
- Figures can be included at the end of the document or attached as separate files, carefully labelled in initial capital/lower case lettering with symbols in a form consistent with text use. Unnecessary background patterns, lines and shading should be avoided. Captions should be listed on a separate page. The resolution of digital images must be at least 300 dpi.
- For articles containing original scientific research, a structured abstract of up to 250 words should be included with the headings: Objectives, Design, Methods, results, Conclusions. Review articles should use these headings: Purpose, Methods, Results, Conclusions: Psychology and Psychotherapy: Theory, Research and Practice - Structured Abstract Information
- For reference citations, please use APA style. Particular care should be taken to ensure that references are accurate and complete. Give all journal titles in full.
- SI units must be used for all measurements, rounded off to practical values if appropriate, with the Imperial equivalent in parentheses.
- In normal circumstances, effect size should be incorporated.
- Authors are requested to avoid the use of sexist language.
- Authors are responsible for acquiring written permission to publish lengthy quotations, illustrations etc. for which they do not own copyright.

For guidelines on editorial style, please consult the APA Publication Manual published by the American Psychological Association, Washington DC, USA (http://www.apastyle.org).

6. Brief reports These should be limited to 1000 words and may include research studies and theoretical, critical or review comments whose essential contribution can be made briefly. A summary of not more than 50 words should be provided.

7. Publication ethics Code of Conduct - Code of Conduct, Ethical Principles and Guidelines
Principles of Publishing - Principles of Publishing

8. Supplementary data Supplementary data too extensive for publication may be deposited with the British Library Document Supply Centre. Such material includes numerical data, computer programs, fuller details of case studies and experimental techniques. The material should be submitted to the Editor together with the article, for simultaneous refereeing.

9. Post acceptance PDF page proofs are sent to authors via email for correction of print but not for rewriting or the introduction of new material. Authors will be provided with a PDF file of their article prior to publication.

10. Copyright To protect authors and journals against unauthorised reproduction of articles, The British Psychological Society requires copyright to be assigned to itself as publisher, on the express condition that authors may use their own material at any time without permission. On acceptance of a paper submitted to a journal, authors will be requested to sign an appropriate assignment of copyright form.

11. Checklist of requirements

- Abstract (100-200 words)
- Title page (include title, authors' names, affiliations, full contact details)
- Full article text (double-spaced with numbered pages and anonymised)
- References (APA style). Authors are responsible for bibliographic accuracy and must check every reference in the manuscript and proofread again in the page proofs
- Tables, figures, captions placed at the end of the article or attached as separate files

Appendix 4.2 – Ethics Committee Approval Letter

Primary Care Division

NHS
Greater Glasgow

Divisional Headquarters
Gartnavel Royal Hospital
1055 Great Western Road
GLASGOW G12 0XH
Telephone 0141 211 3600
www.nhsgg.org.uk

Mrs Fiona A Smith
Trainee Clinical Psychologist
Department of Psychological Medicine
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow
G12 0XH

Date 11 August 2006
Your Ref
Our Ref

Direct line 0141 211 3824
Fax 0141 211 3814
E-mail anne.mcmahon@gartnavel.glacomen.scot.nhs.uk

Dear Mrs Smith

Full title of study: **Postnatal illness: a qualitative analysis of maternal experiences of attachment**
REC reference number: **06/S0701/61**

Thank you for your letter of 24 July 2006, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information was considered at the meeting of the Committee held on 10 August 2006. A list of the members who were present at the meeting is attached.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised.

Ethical review of research sites

The favourable opinion applies to the research sites listed on the attached form.

Conditions of approval

The favourable opinion is given provided that you comply with the conditions set out in the attached document. You are advised to study the conditions carefully.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	*Version*	*Date*
Application	5.1	15 May 2006
Investigator CV	1	01 December 2005
Protocol	1.1	
Protocol	Home Visit Safety	01 December 2004
Covering Letter	1	
Interview Schedules/Topic Guides	1	

POSITIVE ABOUT DISABLED PEOPLE

INVESTOR IN PEOPLE

GP/Consultant Information Sheets	1	
Participant Information Sheet	1.1	17 July 2006
Participant Information Sheet: PIS	1	27 March 2006
Participant Consent Form: Participant Consent Form	1	
Response to Request for Further Information	1	24 July 2006
Letter	2TmcM	15 May 2006
Letter	1RC	11 April 2006
CV	1 AG	01 December 2005
CV	RC	30 April 2006

Research governance approval

The study should not commence at any NHS site until the local Principal Investigator has obtained final research governance approval from the R&D Department for the relevant NHS care organisation.

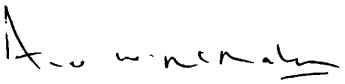
Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

06/S0701/61	**Please quote this number on all correspondence**

With the Committee's best wishes for the success of this project

Yours sincerely



A W McMahon
Research Ethics Co-ordinator (Manager) on behalf of Dr Paul Fleming, Chair

Email: Anne.McMahon@gartnavel.glacomen.scot.nhs.uk

Enclosures: *List of names and professions of members who were present at the meeting and those who submitted written comments*

Standard approval conditions

Site approval form

Copy to: Research and Development Directorate
Gartnavel Hospital
1055 Great Western Road
Glasgow
G120XH
[R&D Department for NHS care organisation at lead site]

SF1 list of approved sites

NHS
Greater Glasgow and Clyde

NHS Greater Glasgow Primary Care

RESEARCH ETHICS COMMITTEE

Meeting held on: **10th August 2006**

Board Room
Gartnavel Royal Hospital
1055 Gt Western Road
Glasgow G12 0XH

Committee Members present:

Mr Philip Dolan	Lay Member (Vice Chair)
Dr Jacqui Anderson	Consultant Psychiatrist
Dr John Baird	Consultant Psychiatrist
Dr Susan Carr	Consultant in Family Planning & Sexual Health
Ms Lorna Cuthbertson	Principal Pharmacist
Mr Martin Hattie	Senior Clinical Nurse Specialist
Mr John Leinster	Lay Member (seconded from PCD2)
Dr Dorothy Moodie	Consultant Psychiatrist
Dr Robert McNeil	General Practitioner
Ms Gillian Notman	Head of Profession (AHPs)
Dr David Watt	Consultant Occupational Health

Comments Received -

NHS Greater Glasgow Primary Care Division (Community & Mental Health)

LIST OF SITES WITH A FAVOURABLE ETHICAL OPINION

For all studies requiring site-specific assessment, this form is issued by the main REC to the Chief Investigator and sponsor with the favourable opinion letter and following subsequent notifications from site assessors. For issue 2 onwards, all sites with a favourable opinion are listed, adding the new sites approved.

REC reference number:	06/S0701/61	**Issue number:**	1	**Date of issue:**	11 August 2006
Chief Investigator:	Mrs Fiona A Smith				
Full title of study:	Postnatal illness: a qualitative analysis of maternal experiences of attachment				

This study was given a favourable ethical opinion by NHS Greater Glasgow Primary Care Division (Community & Mental Health) on 10 August 2006. The favourable opinion is extended to each of the sites listed below. The research may commence at each NHS site when management approval from the relevant NHS care organisation has been confirmed.

Principal Investigator	*Post*	*Research site*	*Site assessor*	*Date of favourable opinion for this site*	*Notes* [1]
Mrs Fiona A Smith	Trainee Clinical Psychologist	Mother and Baby Mental Health Unit	NHS Greater Glasgow Primary Care Division (Community & Mental Health)	11/08/2006	

06/S0701/61

Approved by the Chair on behalf of the REC:

.....(Signature of Chair/Administrator)

(delete as applicable)

.....(Name)

Appendix 4.3 – Research & Development Management Approval Letter

Primary Care Division

Research & Development Directorate

Gartnavel Royal Hospital
1055 Great Western Road
Glasgow G12 0XH
Tel: 0141 211 3600
www.nhsgg.org.uk

NHS
Greater Glasgow

Date 21 August 2006
Your Ref
Our Ref BR/AW/approve

Direct Line 0141 211 3661
Fax 0141 211 3814
Email annette.watt@
gartnavel.glacomen.scot.nhs.uk

Mrs Fiona A Smith
Trainee Clinical Psychologist
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow
G12 0XH

Dear Mrs Smith,

Project Reference Number: **PN06CP011**
Project Title: **Postnatal Illness: A Qualitative Analysis of Maternal Experiences of Attachment**

Thank you for completing the Research & Development (R&D) Management Approval Application for the above study. I am pleased to inform you that R&D management approval has been granted by Greater Glasgow Primary Care Division subject to the following requirements:

- You should notify me of any changes to the original submission and send regular, brief, interim reports including recruitment numbers where applicable. You must also notify me of any changes to the original research staff and send CV's of any new researchers.
- Your research must be conducted in accordance with the National Research Governance standards. (see CSO website: www.show.scot.nhs.uk/cso)
  Local Research Governance monitoring requirements are presently being developed. This may involve audit of your research at some time in the future.
- You must comply with any regulations regarding data handling (Data Protection Act).
- Brief details of your study will be entered on the National Research Register (NRR). You will be notified prior to the next submission date and asked to check the details being submitted.
- A final report, with an abstract which can be disseminated widely within the NHS, should be submitted when the project has been completed.

Do not hesitate to contact the R & D office if you need any assistance.

Thank you again for your co-operation.

Yours sincerely

pp **Brian Rae**
Research Manager

POSITIVE ABOUT DISABLED PEOPLE

D161181

Appendix 4.4 – Participant Information Sheets

Participant Information Sheet (Version 1.1; 17 July 2006)

Study Title: Mothers experiences of postnatal illness.

I would like to invite you to take part in a research study. My name is Fiona Smith and I am a Trainee Clinical Psychologist. I am interested in learning about your experiences of Postnatal Depression or Puerperal Psychosis following childbirth. You have been given this sheet as you may be able to help me in this study. Before you decide if you would like to take part it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to discuss it with others, relatives and your GP if you wish.

Please ask me any questions. You can phone me on the following number (*insert clinical base number*) or you can leave a message with my secretary and I will get back to as soon as possible. The best time to contact me is a Tuesday, Wednesday or Thursday.

Thank you for reading this.

What is the research about?

I am interested in understanding your experiences of postnatal depression and puerperal psychosis, in particular how you have coped and how the relationship between you and your child has developed over time.

In this study I would like to explore these experiences which may or may not have involved unusual experiences such as feelings of paranoia or hearing voices.

This kind of research is important to developing new psychological therapies aimed at alleviating emotional distress. The duration of this study will be from April 2006 to August 2007.

Why have I been asked to take part?

We are asking people who have experienced postnatal illnesses following childbirth to take part in this study. A total of approximately 12 mothers are being sought.

Do I have to take part?

You do not have to take part in this study. It is your decision whether or not you wish to take part. If you decide to take part you will be given this information sheet to keep and be asked to sign a consent form. The consent form is a way of making sure you know what you have agreed to. If you decide to take part you

are still free to withdraw from the study at any time and you do not have to give a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of care you receive.

What will happen next?

If you decide to take part please contact me and I will arrange to meet with you for an initial chat. Before seeing you, I will also seek permission from your doctor who knows you well. If you still want to take part you and I can meet for a discussion that is likely to last for about 45 minutes to one hour. However, this is flexible depending on how you find the experience. If you are happy to meet again it may be useful to get together for a second or third time but you can decide whether you are happy to do that following our first meeting.

What do I have to do?

Initially, please contact me and we will arrange a time to meet. At our first meeting I will answer any questions or concerns you may have. I will ask if the meeting(s) can be recorded on the digital recorder. I will show you the equipment and demonstrate how it works before starting recording. You are free to stop the recording at any time during the interview(s). I will then ask you about your experiences of emotional difficulties following childbirth.

Importantly, there are no right or wrong answers. It is your perspective that I would like to hear.

Why are the interviews being recorded?

I will need to record the interviews to make sure that I carefully understand your experiences and our conversation. All information will be kept strictly confidential. During our conversation I will check with you that I have understood correctly, and later I will provide you with written feedback to further check I have understood your perspective.

What is the downside?

It is possible that our meeting(s) may cover topics that are difficult or distressing for you to talk about. However if you do not want to continue you can end the interview at any time. If you wish to take a break during the interview you can also do that at any time.

If you feel at all distressed following the interview I will be available to talk with you until you feel comfortable.

What are the possible benefits taking part?

There are no direct benefits to you in taking part in this study. The information we learn from the study will help us plan future research and develop new psychological therapies to help alleviate the distress of experiencing these types of difficulties following childbirth.

Will my taking part in this study be kept confidential?

As indicated above I will contact your Doctor before our initial meeting. The medical doctor responsible for your treatment, usually your Consultant Psychiatrist, will therefore know that you are taking part in this study. However they will not have access to the recordings of our conversations or the transcriptions of these. This is confidential. Your GP will know that you are taking part.

What will happen to the results of the research study?

I will provide you with a summary of the results of the study. The final results and conclusions of the study will be published in a scientific journal and will form part of my qualification in Clinical Psychology. Your identification will not be included in any publication.

Who is organising and funding the research?

The University of Glasgow.

Who has reviewed the study?

The study has been reviewed by the Department of Psychological Medicine to ensure that it meets important standards of scientific conduct and has been reviewed by NHS Greater Glasgow Primary Care Division Research Ethics Committee to ensure that it meets important standards of ethical conduct.

Thank you very much for reading this and for any further involvement you may have with the study.

Further Information

What is Postnatal Depression?
Postnatal Depression (PND) is what happens when you become depressed after having a baby. Sometimes, there may be an obvious reason, often there is none. It can be particularly distressing when you have looked forward to having your baby through the months of pregnancy.

Around one in every ten women suffers from PND after having a baby.

What is Puerperal Psychosis?
Puerperal psychosis is a mood disorder which can result in symptoms such as loss of contact with reality, hallucinations, severe thought disturbance, and abnormal behaviour. This disorder can develop in a woman shortly after she has given birth. This is often a shock, because there is no obvious reason why it should happen - it's not that the baby was unwanted, or that the pregnancy or

birth was complicated or, generally, that there was anything wrong with the baby.

Puerperal psychosis is rare and happens in only 1 to 2 of every 1000 births. A woman is most likely to be affected if she has already experienced such an illness previously, or if someone in her family has suffered a serious mental illness.

Where can I get more information on Postnatal Illnesses?
There are a number of good websites that give you information about postnatal illnesses. I have listed a few below and of course you can talk to your Doctor if you want further information.

http://www.mind.org.uk

Mind produces a wide range of publications, including fact sheets and booklets covering anxiety, depression, schizophrenia and other mental health problems, and a 'How to...' series, promoting ways of coping and strategies for living. Over 100 Mind publications are available in full on this site.

http://www.apni.org/

This is the website for The Association for Post Natal Illness and provides support and information to mothers suffering from these illnesses.

http://www.pni.org.uk/

This is a website started by a woman who suffered from a postnatal illness. She provides this site about how to find the information you need rather than providing
it for you. It has some useful links for further information.

http://www.patient.co.uk/showdoc/506/

This site provides UK sources of information and /or support for people with postnatal illnesses.

Appendix 4.5 – Participant Consent Form

Consent Form (Version 1.0)

Title of Project: Postnatal illness: a qualitative analysis of maternal experiences of attachment.
Short Title: Mothers experiences of postnatal illness.
Name of Researcher: Mrs Fiona Smith
Patient Identification Number:

Please initial box

1. I confirm that I have read and understand the information sheet dated 17 July 2006 for the above study and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and I am free to withdraw at any time, without giving a reason, and without my medical care or legal rights being affected. ☐

3. I understand that the interview will be tape-recorded solely for the purpose of the research study as described in the Participant Information Sheet 17 July 2006. ☐

4. I understand that sections of my clinical medical records may be examined by the researcher or by regulatory authorities where it is relevant to my taking part in research. I give permission for these individuals to have access to my records. ☐

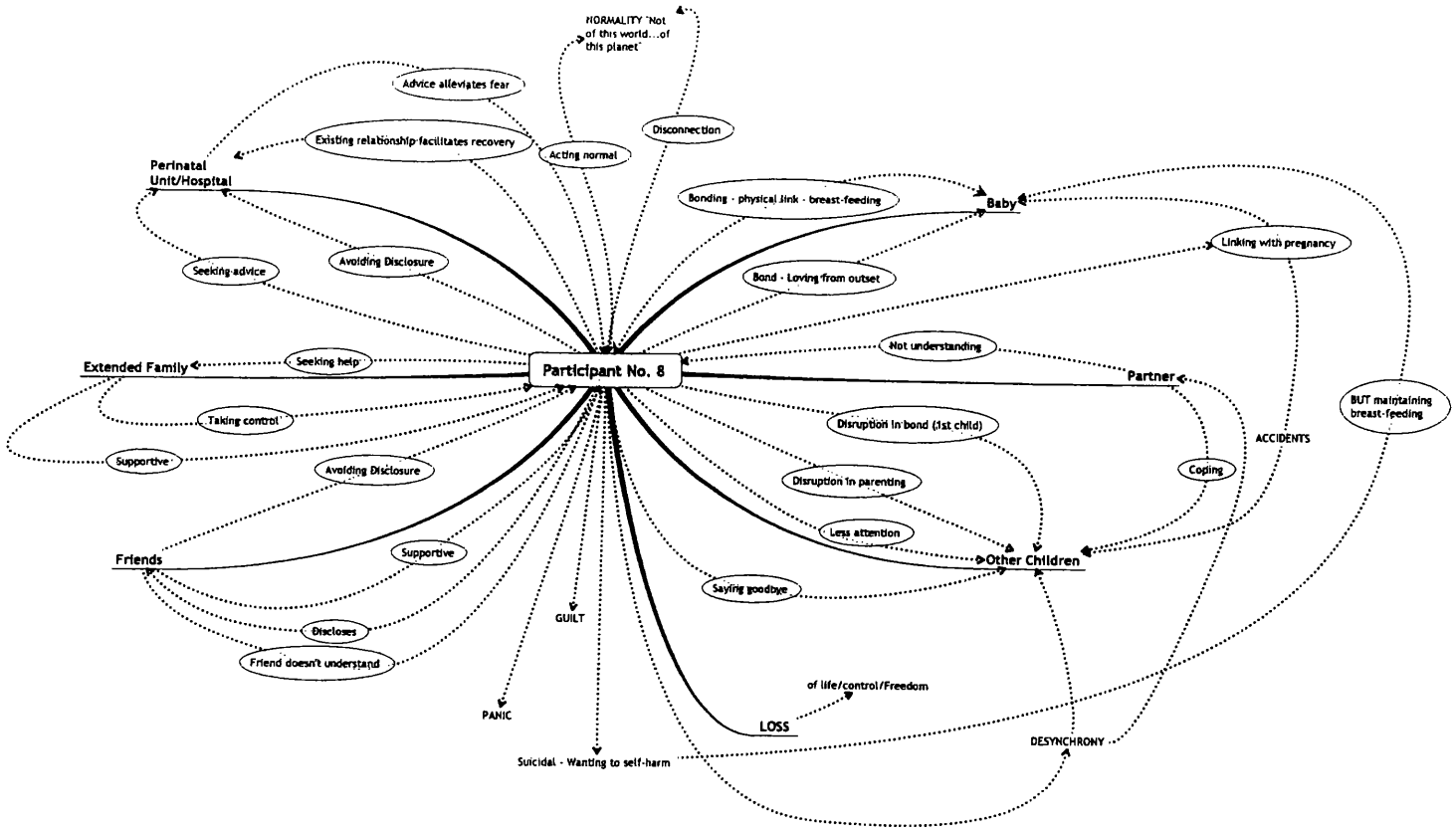
5. I understand that direct quotations may be published but that all names, places and identifiers will be removed beforehand. ☐

6. I agree to take part in the above study ☐

Name of participant	Date	Signature
Researcher or name of person taking consent (if different)	Date	Signature

1 copy for participant, 1 for researcher, 1 to be kept with hospital notes.

Appendix 4.6 – Example of Spider Map for Participant



Participant No. 8 (2).mmap - 25/05/2007 -