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Implementing the nursing process in a teaching hospital ward: an action research study

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February, 2004

Copyright Declaration

I declare that this thesis embodies the results of my own research, that I am the full author of this thesis and that it does not include work forming part of a thesis presented by me for another degree in this or another University.

Date 9-2-2004 **Signature** Amparo Zaragoza

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Abstract

An innovative and complex action research study was carried out in a teaching hospital ward in order to implement the nursing process and to contribute to theory regarding the factors that facilitate or hinder this implementation. An experimental approach of action research with elements of the professional one according to Hart & Bond's (1995) typology was used. The neurology and orthopaedic ward of the hospital was selected among 12 wards according to pre-established criteria. The sample was composed of Registered Nurses from the study ward (n=11), and a purposive sample of senior and nursing managers, doctors and the director of the school of nursing (n=7).

The action research contained three phases: baseline data collection (phase1), implementation of change (phase 2) and formative evaluation (phase 3). The role of the researcher on the study varied from 'participant as observer' to 'observer as participant' according to each phase. Methodological and data source triangulation were used in phase 1 and 3 of the study in order to obtain data regarding the use of the nursing process and the conditions influencing the introduction.

The findings from the baseline phase showed a very poor implementation of the nursing process on the ward. Nevertheless, the culture of the organisation was favourable towards the nursing process implementation. The five months implementation of change phase was led by a steering group composed of two nursing managers, two staff nurses and the researcher. They decided on the interventions needed which consisted in the clarification of nursing competencies and the nursing philosophy of the ward; the design and implementation of nursing documentation, and an education course on the nursing process. A formative evaluation took place immediately after phase 2 and identified improvements in the use of the nursing process on the ward.

The findings from the study showed that action research was a useful and appropriate approach for implementing the nursing process. The flexible and context-based nature of this approach, the fact of providing a facilitator of change and finally the participative nature influenced positively the implementation of the nursing process. Among the factors that facilitated the implementation were the education programme on the nursing process with special attention to increasing knowledge, changing attitudes and developing skills; and to introduce nursing documentation facilitating the development of nurses skills, specially communication and problem-solving. Among the barriers found was the use of a medical model for care; nurses lack of preparation to lead their own changes and the lack of co-ordination with doctors and auxiliaries as well as excessive dedication to bureaucratic maters. Important recommendations have been made for nursing practice, education and research.

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List of Abbreviations

ACENDIO	Asociación Española de Nomenclatura, Taxonomía y Diagnósticos de Enfermería
ANA	American Nurses' Association
DHSS	Department of Health and Social Security (UK)
FD	Frequency of Distribution
FHP	Functional Health Patterns
DNS	Director of Nursing
GNC	General Nursing Council
NANDA	North American Nursing Diagnosis Association
ND	Nursing Diagnosis
NDs	Nursing Diagnoses
NDET	Nursing Documentation Evaluation Tool
NHS	UK National Health Service
SD	Standard Deviation
SPSS	Statistical Package for Social Science
RCN	Royal College of Nursing
RN	Registered Nurse
UK	United Kingdom
WHO	World Health Organisation

Introduction

The introduction of the nursing process was considered as a 'revolution' by the nursing profession (DHSS, 1986; Walton, 1986). The nursing process was seen as providing the basis for nursing theory development (Mason & Atree, 1997); as the systematisation of nursing practice (Serrano, Saracibar, Diaz, Tina, & Narvaiza, 1997); and facilitating improvements in the quality of care (RCN, 1980). Nevertheless, if there were great expectations from the nursing process, there were also criticisms (Latimer, 1995; Henderson, 1982). In fact, some authors such as O'Connell (1998) doubted that the nursing process could ever be compatible with nursing practice.

Walton (1986) questioned whether the difficulties with the implementation of the nursing process were not reflecting the deficiencies in nursing practice and nursing education. Furthermore, there is a considerable amount of literature highlighting the insufficient preparation of nurses and the profession for the introduction of the nursing process during the 1970s and early 1980s (DHSS, 1986; De la Cuesta, 1983). There have been great changes in nursing since the 1980s and the question remains whether the nursing process can be successfully implemented given the current nursing conditions and taking into account past experience.

The aim of this study was to introduce the nursing process at the teaching hospital of the University of Navarre. Prior to the main literature review and based on a preliminary examination of the literature, the researcher considered the following questions: How could the nursing process be best implemented in this hospital? Is action research an appropriate methodology for the implementation of the nursing process? What are the factors that, according to the literature, influence the implementation of the nursing process?

Given these questions, the literature review concentrated on both the nursing process (chapter 2) and action research (chapter 3). From the literature review, the scarcity of research-based literature on the implementation of the nursing process was recognised; while, on the other hand, it was also recognised that the characteristics of action research were appropriate for this type of study.

Chapter 4 deals with the overall study design: that is, the research method used, phases of the study, samples selected, development of tools, methods of data collection, data analysis and the pilot study. Each one of the 3 phases of the action research is described in a different chapter. Chapter 5 corresponds to the baseline data collection; chapter 6 deals with the implementation of the intervention, and chapter 7 with the evaluation of change. The three phases correspond to the main study and each includes the role of the researcher in that phase of the study, data collection,

data analysis process and findings obtained. Final discussion of the whole study is included in chapter 8. The conclusions of the study and recommendations for education, practice and research are presented in chapter 9.

Given that this action research took place in Spain, specifically in the teaching hospital of the University of Navarre, it was considered necessary to provide some general descriptions of the context where the study was conducted (Chapter 1).

Chapter 1: Background to the Study

1.1. Introduction

To facilitate an understanding of the context of nursing and nursing practice in Spain, and specifically within the study setting, that of the hospital of the University of Navarre, a general description of the hospital and the nursing school follows. In addition, some information regarding nursing studies in Spain and nursing practice in the hospital is also provided.

1.2. Characteristics of the setting

The teaching hospital of the University of Navarre (Spain) is a private centre but cares for both private and state patients. It is highly specialised in the fields of oncology, and liver and heart transplants, which accounts for the high proportion of patients coming from other cities in the country. Most nurses working at the hospital have studied at the school of nursing of the university. The students from the nursing school have their hospital placements at this centre. Both the nursing school and the university hospital share the same guiding principles as the university, which are the Christian values of freedom, personal responsibility, pluralism, and the transcendent value of work (University Information Service, 1997). It had a total of 500 beds at the time of the commencement of the study.

The nursing school of the University of Navarre was founded in 1954. In agreement with the Ministry of Education, in 1962 the nursing school was formally associated to the faculty of medicine. The three years' nursing course was medically oriented, with an emphasis on technical training. Due to national changes in nursing education legislation, nursing studies became a university diploma course in 1977, with a focus on the study of the human being, illness prevention and health promotion. From then on, this nursing school became independent of the faculty of medicine and for the past 15 years the head of the department has been a qualified nurse. During the past decade, there has been an emphasis on a nursing-led approach in the educational content of nursing studies.

The nursing school offers a pre-registration university diploma programme. There is only one type of pre-registration nursing diploma in Spain, which is a three year course. In addition, the teaching hospital offers nine clinically-based nursing specialities such as orthopaedics or paediatrics. Nurses

attending these specialities obtain a certificate which has recognised prestige. The duration of these courses is a year or a year and a half, depending on the speciality. Nurses doing a speciality work in the hospital at the same time; they have a special working contract and are usually newly qualified nurses. Other than nurses doing specialities, the nursing workforce at the hospital is generally quite stable.

There is only one nursing grade in Spain. Therefore, for the purpose of this study the term nurse and registered nurse are interchangeable. Nursing auxiliaries have a different education and preparation and entrance requirements are also different.

Generally, the educational system in Spain, and therefore in nursing, follows the traditional lecturer-centred approach. Since 1995, the school of nursing of the University of Navarre has been steadily incorporating teaching methods more in line with a student-centred approach, which is believed to develop critical thinking and facilitate life-long learning. Nevertheless, many of the staff nurses working in the hospital were taught under the traditional system.

The Faculty of the School of Nursing supervises nursing students during their placements at the hospital investing three hours per student per module[1]. Each nurse lecturer looks after nursing students from one ward. This involvement of nurse lecturers in students' clinical practice is relatively new (from 1998) and there are expectations that it will facilitate teacher and staff nurses' collaborations in education, practice and research.

Since 1990 the school of nursing has been introducing the nursing process as the framework for many of the subjects of the nursing diploma. The introduction of the nursing process in the hospital has been the objective of four research projects developed jointly by the school and the hospital between 1988 and 1999. These projects took place in two wards of the hospital and the results have been published by Serrano et al (1997) and Serrano, Saracibar, Diaz, Tina, & Narvaiza (1994). During the academic year 1999-2000, that is, during the time the present study was taking place, another joint project was carried out between the nursing school and the hospital looking at nurses' difficulties with the assessment phase of the nursing process in four wards. These are, so far, the research projects carried out jointly by both school and hospital.

In spite of the research already undertaken in the hospital related to nursing process implementation, there was concern at the nursing school that the nursing process was not yet fully developed in every ward of the hospital. In fact it was well known that different wards had different

[1] Each module has a duration of a approximately a month.

levels of implementation. The implementation of the nursing process was perceived by the school as essential for students' learning and for delivering appropriate nursing care. Although the university hospital was interested in fully implementing the nursing process, there was no clarity about how much knowledge, commitment or planning the managers of the hospital had for that implementation. The managers' policy had been that each ward should try to develop it by themselves, which explains, in part, the differences in implementation among the wards. There were no general guidelines on how to implement it, apart from published papers.

Nursing practice at the hospital was based on the medical model: that is, focussed on disease and dependent on medical orders (Serrano et al, 1994). Nursing research at the hospital was still very scarce, apart from the projects already mentioned and other research studies carried out by the intensive care unit staff. Most of the research projects developed in the hospital were carried out by doctors and within the quantitative paradigm. Occasionally, nurses collaborated in these studies by participating in data collection. There was no tradition of qualitative research in this hospital. With few exceptions, nurses' practical and theoretical knowledge of research methods was very poor.

1.3. The role of the researcher in the organisation

The researcher obtained her nursing qualifications at the School of Nursing of the University of Navarre; and worked for five years as a staff nurse on one of the two general surgical wards of the hospital. From 1996 to 1998 she held a joint appointment between the hospital and the School of Nursing, teaching the Basics of Nursing, which included the nursing process as an important subject. In 1998 she obtained a grant from the School of Nursing to study out for a PhD in an area of interest for both the School of Nursing and the researcher. Following the research track already established in the school regarding the implementation of the nursing process, it was decided to carry out research on how to facilitate the implementation of the nursing process in the hospital.

The researcher had a limited time of three years to carry out the research and, given that nursing studies in Spain are at the diploma level, it was not possible to register for a higher degree in nursing even though the researcher had a Master of Science degree from a university of the United Kingdom. Therefore, the decision was made to apply for a PhD abroad while trying to undertake the study in the hospital. This presented several challenges to the researcher as discussed in chapter 8.

Chapter 2: Nursing Process Literature Review

2.1. Introduction to the literature review

The literature review related to the study is spread over several chapters. The present chapter deals with the literature review on the nursing process. Chapter 3 contains the literature review on action research and includes a section on action research studies conducted to implement the nursing process (3.4.1). Finally, chapter 4, which deals with the study design, contains a section on the literature related to data analysis (4.10).

Regarding the present chapter, a literature review on the definition and implementation of the nursing process was carried out in order to clarify what the nursing process is, its purpose, and the factors that facilitate its implementation. The nursing process literature review is structured in the following way. First, an explanation of how the literature search was conducted is given (2.2); Second, a critique of the nursing process literature is provided (2.3). Then the first steps and diffusion of the nursing process through the USA and Europe are presented (2.4); Through the historical development of the nursing process its nature becomes clearer, but in section 2.5 there is a more complete description of each one of the phases of the nursing process. Section 2.6 deals with the main theoretical aspects discussed in the nursing process literature. The last part of the chapter, that is section 2.7 and 2.8, deals with the way the nursing process was implemented and ends with the presentation of a synthesis of the main factors that have been acknowledged in the literature as influencing the implementation of the nursing process.

2.2. The conduct of the literature search on the nursing process

The literature on the nursing process as it appears on computer data-bases was mainly American and British. Because the author was interested in the context of the nursing process in Europe, the decision was made to select mainly British and Spanish literature: British, for the amount of literature on the subject and because it was one of the first countries in Europe to adopt and integrate the nursing process; and Spanish, given that it is the country where the study was conducted and therefore the context of the nursing process there needed review.

A systematic review was conducted following a chronological sequence from the early 1970s to the present time (September, 2003), focusing on the theoretical and practical implications of this innovation as well as on its historical development. Only papers in Spanish and English were considered. In addition, given the vast amount of literature on the nursing process, the author was

very selective in the papers chosen as will be indicated through this section of the chapter. The literature search was conducted in the following way:

1. First, other literature reviews were selected, specifically the work of Walton (1986) and the Report of the Nursing Process Evaluation Working Group (DHSS, 1986).

1.1 Walton (1986) was appointed by the Department of Health and Social Security of the UK (DHSS) in order to review and evaluate the effectiveness of the nursing process. Her review covers the period 1973-86 of the nursing process.

Of the more than 600 British and American references used in the report, 50 were reviewed for this study in order to validate the congruency and accuracy of the review from the theoretical and methodological perspective. The accuracy and depth of knowledge and understanding of Walton's review was found to be highly satisfactory, as indicated by other authors; e.g. Smith, Editor of the Journal of Advanced Nursing, in the foreword to Walton's review: "The review of the literature on the nursing process is honest, rigorous, scholarly and extremely informative" (Walton, 1986). Walton's work is recognised as a benchmark in relation to the introduction of the nursing process in the UK.

1.2 DHSS review (1986): The Nursing Process Evaluation Working Group was appointed by the DHSS (Department of Health and Social Security) to evaluate the effectiveness of the nursing process in Britain and to set priorities for future research. It was made up of 14 members from different areas of nursing: management, education, practice and nursing process co-ordinators' groups. This report was based on more that 550 references, on observations of the nursing process in practical areas, and on interviews.

The nine-month review period which was limited and members' dedication to this task are acknowledged in the report. Nevertheless, the principal value of this report was the systematic summary of research priorities related to the implementation of the nursing process presented at the end of the report. This systematic summary showed the areas of nursing process implementation which required more attention and research.

2. Hand searching of official documents that dealt with the nursing process in the first years of its introduction in Europe: Royal College of Nursing (RCN) (1986); RCN (1981); World Health Organisation (WHO) (1981); RCN (1980); RCN (1979); General Nursing Council (GNC) (1977); Briggs Report (1972).

4. Theses related to the nursing process, its implementation and effectiveness, found in the Index of British Theses covering the period 1980-2001: Sirra (1987); Brooking (1986); Farmer (1982).

5. Computer data-bases: Medline and Cinalh from 1985-2003 were reviewed using the keyword: 'nursing process', and limited to review articles. A total of 216 articles was obtained and all the abstracts reviewed by the researcher. The criteria for selection of these articles were the following: i) only papers directly related to conceptual aspects of the nursing process or its implementation were selected; ii) when there were several review articles dealing with similar topics, the most updated and complete ones were selected. In total 15 articles were selected according to the above-mentioned criteria and they were: Thompson (2002); Frauman & Skelly (1999); Pesut & Herman (1998); Mason & Attree (1997); Robb (1997); Walsh (1997); Lindsey (1996); Varcoe (1996); Wilkinson (1996); Latimer (1995); Fonteyn & Cooper (1994); Mason & Webb (1993); White (1993); Sutcliffe (1990); and Rew & Barrow (1989).

6. Computer data-base: Medline, from 1986 to 2003 was reviewed using the keywords 'nursing process and implementation and change' or 'nursing process and change'. A total of 125 articles was obtained. Some of these papers were omitted because they were not in the English or Spanish language, and others because they dealt with peripheral aspects of the nursing process. The researcher selected those articles (n=5) that dealt conceptually with the implementation of the nursing process or reported descriptions of implementations: Hansebo, Kihlgren & Ljunnggren (1999); Masson & Atree (1997); Bousmans & Landeweerd (1996); Miller, Steele & Boisen (1987) and Specht & Drey (1987). From the Cinalh data-base, and following the same steps as Medline, 29 new articles were obtained. After reviewing the abstracts, some were discarded because of poor quality or because they were unpublished theses from the USA and difficult to obtain. Finally, five papers were selected: Bjorvell, Wredling & Thorell-Ekstrand (2003); McAllister (2003); Dunnion, McCarthy, O'Shea & Barrett (1999); Waterworth, (1991) and Krellwiz, Friesen & Rogers (1990).

7. A search of articles in the Spanish journal, 'Revista de Enfermería', was conducted in Medline. This journal had the second highest impact ratings in Spain: Fl_h: 2,86. and had a great diffusion in the country. The search was limited to 1980-2002, and the key word used was 'nursing process'. The selection criteria were the same as the ones chosen with the previous data-bases. Eleven papers were selected: Llamas (2003); Izquierdo, Perez, Ramírez, Serrano, Torres & Conde (2002); Luis (1997); Martín, García & Asenjo (1997); Serrano et al (1997); Anonymous (1996); Serrano et al (1994); García-Carpintero & Piñón (1994); Moreno (1994); Sediles, Lacarta, Esquivias, Martínez, Sáez & Lou (1992); Álvarez (1987).

8. From the papers and reviews identified, a snowballing technique was used to identify other relevant papers dealing with theoretical aspects of the nursing process or its implementation. In addition some books were also reviewed, such as Iyer, Taptich & Bernocchi-Losey (1997); Gordon (1996); Phaneuf (1993); Carpenito (1989a) and Carpenito (1989b), as they were classic nursing process literature used in nursing education on the nursing process.

Summarising, a vast amount of literature on the nursing process was identified. In order to be able to manage the existing literature on the nursing process, the researcher selected that which was related fundamentally to theoretical aspects of the nursing process or its implementation. This literature has been treated with rigor and caution.

2.3. Methodological critique of the nursing process literature

The literature regarding the nursing process can be divided within two differentiated groups. The first group covers the period of the early 1970s up to middle 1980s. Research-based articles from this first period are very scarce except for the work of Brooking, (1986); Miller, (1985b)[2]. and Miller (1985c). This situation can be explained by the fact that development of research in nursing in Europe during the 1970s and 1980s was still at an embryonic stage. The articles and publications from these years are weak and unsystematic. They are mostly opinion-based articles about the nursing process and/or its implementation (Filkings, 1986; Chiarella, 1985; Gooch, 1982; Henderson, 1982; Bains, 1981; Castledine, 1981; Cawill & Johnson, 1981; Brinham, 1980; Darcy, 1980; Alexander, 1979; Crow, 1979; Clark, 1978; Davis, 1978).

Regarding the review articles, some of them, as already indicated, have been considered as benchmarks for this early period of the diffusion of the nursing process (DHSS, 1986; Walton, 1986). There are others reviews which have also been frequently cited in later works and are representative of this first period (De la Cuesta, 1983; Keyzer, 1983; Webb, 1981; Hall, 1980, Yura & Walsh, 1978); Finally, there are some other reviews which, although not comprehensive and systematic did explore aspects of the nursing process which are relevant (Field, 1987; Aggleton & Chalmers, 1986; Ashworth, 1980a & b).

The second group refers to articles and publications from 1987 up to the present time. The literature on the nursing process in this period is very extensive as it deals with a wide range of

[2] Papers related to the nursing process and action research are not considered here. They are discussed in chapter 3.

topics such as each one of the phases of the nursing process, critical thinking and decision-making, nursing theories and models, and nursing autonomy.

As indicated in 2.2, the literature search was limited to English and Spanish papers. It is important to highlight that the bulk of literature come mainly from English authors. The Spanish literature was much more scarce and consisted mainly in opinion-based papers or accounts of implementations (Luis, 1997; García Carpintero & Piñon, 1994; Moreno, 1994; Álvarez, 1986), with a few research-based and review studies (Izquierdo et al, 2002; Riopelle & Teixidor, 2002; Martín et al, 1997; Zaragoza, 1996; Serrano et al, 1994).

On the other hand, English language literature is prolific in papers dealing with conceptual aspects of the nursing process, most of them review articles (Frauman & Skelly, 1999; Baker, Norton, Young & Ward 1998; Pesut & Herman, 1998; Gottlieb & Gottlieb, 1998; Masson & Atree, 1997; Varcoe, 1996; Duff, Kitson, Seers & Humphris 1996; Latimer, 1995; Fonteyn & Cooper, 1994; Masson & Webb, 1993; White, 1993; Sutcliffe, 1990; Rew & Barrow, 1989). Regarding research-based papers there are very few (Björvell et al, 2003; Hansebo et al, 1999; Waters & Easton, 1999; O' Connell, 1998; Dunnion et al, 1997; Davis et al, 1994; Miller et al, 1987). There are many methodological elements missing in these studies, such as the selection of sound research designs (Martin et al, 1997; Miller et al, 1987), lack of descriptions of data collection tools or the data analysis process (Dunnion et al, 1997). Continuing with methodological aspects, in most of these studies there was an absence of objective and complete evaluation of the degree of implementation of the nursing process (Hansebo et al, 1999; Davis et al, 1994) which is an important limitation given that, before establishing relationships between the use of the nursing process and quality of care, it is essential to evaluate whether the nursing process has really been implemented, and for that, appropriate methods should be employed.

The next section of the chapter deals with the origins of the nursing process and its initial diffusion through the USA and Europe.

2.4. Nursing process: An innovation in nursing

This section of the literature deals with the first steps of the nursing process: that is, from its development in the USA to its diffusion through Europe and specifically through the UK. In order to understand why the nursing process came into being and what the expectations were, it is essential, as indicated by Walton (1986), to acknowledge the historical, social and professional context in which this concept emerged.

2.4.1. First appearance of the nursing process

Although the first references to the nursing process are related to Orlando (Varcoe, 1996; De la Cuesta, 1983), the first to develop and operationalise it were Yura and Walsh at the Catholic University of America, Washington during the 1960s. Yura and Walsh published on the nursing process for the first time in 1967 (Varcoe, 1996). They described the nursing process as being composed of four phases: assessment, planning, implementation and evaluation; and defined it as "an orderly, systematic manner of determining the client's problems, making plans to solve them, initiating the plan or assigning others to implement it, and evaluating the extent to which the plan was effective in resolving the problems identified" (Yura & Walsh, 1978, p 20). Brooking (1986), in her review of the nursing process, indicates that whereas the ideas of nursing as a process and the importance of planning individualised care plans appeared in the 1950s and 1960s, it was in the 1970s when the stages of the nursing process started to develop.

Henderson (1982) explains that the nursing process evolved largely from a series of movements that took place in nursing in the USA in the 1930s and 1940s, such as an increased concern for planning and individualising patient care, concern about psycho-social as well as physical problems of patients, the increased emphasis of nursing as a science, and the need to recognise the independent role of the nurse.

During the 1950s, the rapid and continuing changes operating in the health care systems, given scientific advances and new technology, were leading the different health professions to question the scope and boundaries of their practice. Nursing had to make its specific contribution to society explicit and establish itself as a profession. In order to achieve this professional status, the development of its own body of knowledge and the promotion of autonomy in practice were considered paramount (Yura & Walsh, 1988).

The rapid diffusion of the nursing process in North America was due mainly to the following factors. In the 1960s the American Nurses' Association (ANA) compelled already qualified nurses to undertake a post-training course in order to upgrade their qualifications. This course had as a central core, the nursing process (De la Cuesta, 1983). Also, in the 1970s, the Joint Commission on the Accreditation of Hospitals (JCAH) introduced a law by which patient care plans were a prerequisite for the accreditation of nursing services; hence, nurses were obliged to use the nursing process documentation. In addition, some nursing programmes in the USA were, from the 1950s, integrated within the university sector at degree level with the possibility of having access to master's and doctoral programmes. The developments in nursing education increased nurses'

concern for their development as a profession; in this context, the nursing process was seen as an important means for that development (Yura & Walsh, 1988).

2.4.2. The European nursing context in the 1950s

The situation of health care systems in Europe in the mid 1950s was increasingly unsatisfactory (Hall, 1980). As indicated by Hall more resources were being used for expensive curative care, but they only reached a small part of the population. The need to use resources more effectively, together with a concern for the continuity of care, were moving health service systems from a disease approach to a more preventive one (Farmer, 1983; Hall, 1980). This meant that there had to be a shift in the roles of the different professions.

Given that nurses represented the largest human resource in the UK National Health Service (NHS), a review of their situation was considered a priority, not only by their own professional bodies but also by governments and international organisations (Hall, 1980; Briggs Report, 1972).

WHO (1981) noted that nursing, at that time, was characterised by a lack of clarity with regard to the nurse's role, not only in the eyes of the general public but also by many professionals. The fact that other unqualified workers were considered under the title of 'nurse' also contributed to the confusion (WHO, 1981). It was thought that the increasing development of hospital work during the 20th century and the pivotal role of the doctor had pushed nursing towards a curative role based on doctors' prescriptions rather than concern for developing nurses' own caring role (Hall, 1980).

Another important aspect of nursing context was the deficiencies in basic nursing education and in service training (WHO, 1981; Briggs Report, 1972). These seemed to be the result, among other things, of low standards for entrance into nursing education and the variety of institutions which provided nursing education (WHO, 1981). At the end of the 1970s only four countries in Europe were offering an undergraduate nursing programme at university level: Iceland, Turkey, the United Kingdom and Spain (WHO, 1981). Nursing education was mainly disease-oriented and taught by medical staff. Therefore, nursing' s own body of knowledge remained at a very rudimentary level (Hall, 1980).

Other studies carried out at national level, such as the Briggs Report (1972) conducted in the United Kingdom, highlighted, apart from the already-mentioned areas, the fact that basic nursing was being delegated increasingly to untrained staff, while qualified staff were employed in managerial positions, thus taking them away from the direct care of patients (Calton, 1980; RCN, 1980; RCN, 1979). This situation led to a task-oriented approach to care with a corresponding lack

of authority and responsibility on the part of the individual nurse towards that care (RCN, 1980; Briggs Report, 1972). The reasons cited in the Briggs Report as to why many nurses were leaving the profession seemed to be related to difficult working conditions and dissatisfaction with the care given.

Nursing at the beginning of the second half of the 20th century therefore seemed very dependent on other professionals, with its own role underdeveloped and with a task-oriented approach to care, routine and lack of accountability. However, attempts by nurses to improve the situation also started to spring up, as for instance, seen in the increased importance given, at least in theory, to patient-centred care, individualised care, and to different ways of organising care, such as team nursing (De la Cuesta, 1983).

2.4.3. The introduction of the nursing process in the UK

The initial driving forces towards diffusion and implementation of the nursing process in the United Kingdom came from two directions. First, from nursing bodies and nurses in higher education domains, in their desire to develop nursing and improve quality of care; for example DHSS (1986); RCN (1986); Casteldine, Pembrey, Logan, Chapman, Wells, Wilson-Barnett, Asworth, Chavasse, Ryland, Myco, Gowers & Quinn (1981); Castledine (1981); RCN (1981); RCN, (1980); RCN (1979); GNC (1977). Secondly, from bodies external to the profession, especially WHO (Farmer, 1983). WHO had a decisive role in the initial implementation of the nursing process in Europe, through a multidisciplinary study conducted at the end of the 1970s, described by Farmer (1986). Although there was a desire from within and outside the profession to introduce the nursing process in order to improve both quality of care and nursing status, the reality was that the implementation was not an easy and smooth process. The reasons for the difficulties are explained next.

Regarding nursing bodies, while the influence of the GNC on the introduction of the nursing process in education and practice was acknowledged (DHSS, 1986; Walton, 1986), it is also important to consider that the concept of the nursing process as providing "a unifying thread for the study of patient care and a helpful framework of nursing practice" (GNC, 1977) was not followed up with clear guidelines on how to implement it. Why this omission occurred is unknown but it may indicate that there was not a clear understanding of the nursing process within nursing itself and therefore there was an inability to prepare the groundwork for introducing this new concept. The Report of the Nursing Process Working Group (DHSS, 1986) also recognised the lack of familiarity with the nursing process on the part of many nurse teachers and nurse managers, which led to a failure to give the necessary support to nurses who were being urged to implement it.

The role that the nursing departments of the Universities of Manchester and Edinburgh played in the diffusion and teaching of the nursing process in the UK was remarkable (DHSS, 1986; Walton, 1986; De la Cuesta, 1983). For instance, Manchester's post registration diploma course had the nursing process as a central core. Yet at service level, the preparation that many hospital nurses received consisted mainly of some study days or workshops. Authors such as Hunt (1978) or Gooch (1982) questioned whether nurses attending hospital study days were ready to take on the demands in terms of decision-making or interpersonal skills that the nursing process approach made on them. Furthermore, the rapidity with which the nursing process was introduced in the UK is believed to have been detrimental to any adequate preparation (DHSS, 1986).

In addition to the efforts from within the profession, there was a general concern from outside nursing to identify and clarify its domain, e.g. WHO (1981). In the early 1980s, WHO carried out a multinational study in Europe with the participation of 15 countries (Farmer, 1983). The aim was to identify those patients' needs that were best met by nurses in order to improve the appropriate provision of health care. The study also intended to research the knowledge, skills and methods appropriate for identifying those patients' needs. The nursing process was used as the tool for gathering data and therefore was introduced in all the participating centres as a prerequisite for the study. According to WHO's (1981) report, the nursing process was considered "to involve the use of scientific methods for identifying the health needs of the patient/client/family or community and for using these to select those which can be most effectively met by nursing care; it also includes planning to meet those needs, providing the care and evaluating the results" (WHO, 1981). It is not the purpose of this present review to detail the results from this study but to highlight that the nursing process was considered early on as a device that could help nurses to identify their own scope for practice.

De la Cuesta (1983), in her sociological analysis of nursing process development carried out in the late 1970s, highlights that while in the USA the nursing process developed mainly as a professional strategy, in the UK the emphasis was placed mainly on enhancing quality of care with less on autonomy or clinical decision-making. This opinion was refuted by Walton (1986) who, based on her review, indicated that accountability was present equally in the UK nursing literature. As Hall (1980) noted clearly regarding the relationship between the nursing process and the search for nursing professional status: "no personal service-based discipline, be it law, medicine or nursing, can be developed unless the professional level workers in that discipline practise in a one-to one relationship with the individuals or groups served. The need for nurses to assess patient/client needs for nursing care, and to plan, provide and evaluate that care as an integrated whole which they document and study in terms of outcomes, not only to the single individual served but to others presenting the same nursing diagnosis (ND), is basic to the development of the discipline."

Again, in refuting de la Cuesta (1983), Rhodes (1986) found in a study of British staff nurses' perception of their role, that most nurses espoused the professional ideology: that is, they wished to assume accountability for independent decision-making. Therefore, it can be concluded that the nursing process was introduced in the UK with the expectation of both improving the quality of care and enhancing professional status.

2.4.4. Introduction and diffusion of the nursing process in Spain

In Spain the introduction of the nursing process took place in the late 1970s when the nursing studies became a university diploma. The curriculum of these new nursing studies included the concept of the nursing process within the subject 'Basics of Nursing' and in other subjects such as medical-surgical nursing. The analysis of nursing curricula manifests that the nursing process was considered as a scientific methodology for delivering nursing care (Universidad Nacional a Distancia, 1991). At the same time courses set up for those nurses already registered (RNs) but who had to obtain a university diploma included the study of the nursing process.

As in the USA and UK, the nursing schools in Spain and the 'Asociación de Enfermería Docente' (AED) were the first to promote the use of the nursing process in the country. Well-known promoters of the nursing process in the USA were invited to give courses and seminars in Spain: i.e. Rosalina Alfaro, Lydia Carpenito. In addition, US literature on the nursing process (i.e.; Gordon; 1996; Iyer, 1997; Carpenito, 1989) was widely spread in nursing education and also in nursing practice.

In Spain, the nursing process was considered to be a scientific and humanistic method for nursing practice and for research in nursing (Izquierdo et al, 2002; Garcia-Carpintero et al, 1994; Serrano et al, 1994) and as a vehicle for professional development (Álvarez, 1987). According to Álvarez (1987), by using the nursing process, nurses would be able to identify the body of knowledge appropriate for nursing care. The number of Spanish articles dealing with strategies followed to implement the nursing process (i.e. Izquierdo et al, 1997; Serrano et al, 1997; Serrano et al, 1994) shows that it is an area of interest for many nursing professionals in the country. On the contrary, the number of UK publications dealing with conceptual aspects of the nursing process (i.e; Masson & Atree, 1997; Latimer, 1995; Fonteyn & Cooper, 1994; Masson & Webb, 1993; White, 1993; Sutcliffe, 1990) seems to indicate that there is a more critical approach to the nursing process and that it is not a generally accepted reality.

This section of the chapter has dealt with the first years of the nursing process and its diffusion through the USA and Europe, especially the UK and Spain. The next section explores of each one of the phases of the nursing process.

2.5. The phases of the nursing process

Yura & Walsh (1978) described the nursing process as containing four distinctive phases: assessment, planning, implementation and evaluation. Later on, authors such as Iyer et al (1997); Phaneuf, (1993); or Alvarez, (1987) among others, considered the ND which was traditionally seen as part of nursing assessment as a separate phase and described the process as containing five phases: assessment, diagnosis, planning, implementation and evaluation. In this section, the phases of the nursing process are presented and explained according to the traditional way: that is as a four-phase process.

2.5.1. Assessment

The care received by the patient should be based on the assessment of his/her needs (Ashworth, Bjorn, Dechanoz, Delmotte, Farmer, Kordas, Kristiansen, Kyriakidou, Slajmer-Japlej; Sorvettula & Stankova, 1987; Farmer, 1986; Casteldine et al, 1981; Yura & Walsh, 1978; Crow, 1977). According to Hunt & Marks-Maran (1986) "before we can assess we must have an explicit understanding of what we feel it is important to assess and what the underlying values and beliefs about what needs to be assessed are" (p 83). Nursing models and theories help nurses to identify their own approach to nursing assessment and in general to nursing care (Riopelle & Teixidor, 2002; Meleis, 1997). Meleis (1997) highlights that nurse theorists provide nursing with an orientation towards aspects such as what to assess, the type of problems to identify, or goals to set up. Nursing models and theories are seen as helping to identify the essence of nursing and therefore they contribute to clarify the focus of nursing practice. The use of these models has been recommended in the literature for directing the nursing process (Luis, 1997; Mason & Atree, 1997; Meleis, 1997; Aggleton & Chalmers, 1986a; Field, 1987; Keyzer, 1983; Lauri, 1982).

British nurses tend to use the activities of the Daily Living Model developed by Roper, Logan & Tierney (1985 in Davis et al, 1994) as a framework for the assessment of patients and planning of care (Davis et al, 1994). In Spain different models are used, such as the 14 basic needs of Henderson (Serrano, et al, 1994); Orem (Martín et al, 1997) or Roy (Serrano et al, 1994); More recent authors have adopted models of nursing such as Gordon's (1996) model, which is based on the American Nursing Association's (ANA) definition of nursing: that is, the diagnosis and treatment of the human responses to real or potential problems (Iyer et al, 1997).

There is general agreement that nursing assessment should be documented and that an assessment tool can help (Serrano et al, 1997; Sediles et al, 1992; Alvarez, 1987; Sirra, 1987; Brooking, 1986; Wright, 1985). Certain skills are considered essential for assessing appropriately, such as interviewing (Alvarez, 1987) and communication skills (Wright, 1985). In addition, a sound knowledge-base on the part of the nurse is considered paramount (Sutcliffe, 1990; Brooking, 1986).

It is important to assess the patient at admission as this constitutes a reference point for the patient's stay (Phaneuf, 1993). According to Phaneuf, the assessment should be continuous during the patient's stay in hospital and/or follow up. Iyer et al (1997) argue that a continuous assessment helps nurses to confirm the existence of problems previously identified and also shows the progress or otherwise of the patient toward the expected outcomes.

Once the information is gathered, nurses should make inferences from the evidence obtained and interpret them in the light of professional knowledge in order to identify and formulate nursing problems (Phaneuf, 1993; Brooking, 1986). Each nursing problem is therefore a synthesis of the information gathered by the nurse and her/his interpretation of the data (Phaneuf, 1993). It is very common in the nursing process literature to use the word ND to designate nursing problems (Luis, 1997). There is agreement among authors that the formulation of a nursing problem should include the cause of the problem or aetiology; The problems identified can be potential or real (Phaneuf, 1993).

In conclusion, the assessment phase of the nursing process includes data gathering and data processing. The depth, extent and focus of the assessment depends on: i) the nursing model used, which at the same time is based on the nurse's understanding and assumptions of their role; ii) the nurse's knowledge-base; and iii) nurses' communication and interviewing skills. The assessment phase concludes with the identification of nursing problems.

2.5.2. Planning

According to Phaneuf (1993) the planning phase consists of the identification of those interventions which are most appropriate for solving the nursing problems identified according to the goals decided.

The planning of long-term and short-term goals is recommended as an essential step in the planning process (Sutcliff, 1990). These goals have to be realistic, patient-centred, concise and should indicate a date for evaluation (Brooking, 1986). Nursing interventions to attain these goals should be selected as determined by the nurse's knowledge and experience and be research-based

(Iyer et al, 1997). Goals should be written in a concise, clear way and contain in their description all the elements necessary to implement them (Phaneuf, 1993). It is recommended to document the planning of care as this helps to guide implementation, makes the evaluation and the continuity of care possible by facilitating communication, contributes to research, and theory development, and can be used as a tool for nurses' development (Yura & Walsh, 1988).

Care plans were initially hand-written and usually were composed of three columns, one each for problems, outcomes and interventions. In order to facilitate the use of care plans, standardised care plans appeared (Iyer et al, 1997). These standard care plans contained the nursing problems, goals and interventions most frequently associated with a specific medical problem. According to Iyer et al (1997) the use of standard care plans had advantages and disadvantages. The advantages were that they were usually developed by expert clinicians based on updated bibliography and they reduced the amount of time needed to detail the care plan. The disadvantage was that if the care plan was not been properly individualised, it could limit patient care.

There is a current tendency towards integrated care plans (ICPs), which are developed and used in conjunction with the different professionals dealing with a certain group of patients (Walsh, 1997). The integrated care pathway "describes the best care to be expected for the average patient within that identified group, for each day or phase of the episode of care, and forms part of all the multidisciplinary record of care" (Johnson & Smith, 2000). The problem here is that in many occasions they are developed following a medical model and therefore the richness of nursing care and its focus are very reduced. If ICPs are going to be developed with the input of all the professionals involved, nurses need to be clear about their contribution.

2.5.3. Implementation

The care implemented with a nursing process approach is intentional and directed towards certain goals or objectives (Brooking, 1986). When implementing the care, the personal qualities of the nurse are essential. For instance Field (1987) indicated that "the sort of person that we are, may substantially influence our relationships, our communication skills, the way in which we care for another, and these in turn may influence our ability to nurse...". Qualities such as delicacy, gentleness, respect for the human being, among others, can make a difference in the care provided. Phaneuf (1993) stresses that frequently, when looking after patients, nurses focus too much on what they do, rather than on the person behind. Nurses should assess the patient continually to see whether conditions have changed before implementing the intervention.

Webb (1981) indicated that the nursing process needs ways of organising nursing work that facilitate nurses' responsibility for all aspects of care of their patients. She also argued that approaches such as task allocation favoured passive patients and non-accountable nurses. There are suggestions that approaches such as team nursing or primary nurses are more appropriate to the use of the nursing process (DHSS, 1986; RCN, 1986).

2.5.4. Evaluation

Evaluation consists of the assessment of patient outcomes in order to compare them with the expected goals (Brooking, 1986). Evaluation of the results should be done using specific criteria in order to be able to determine whether the goal has been achieved. Iyer et al (1997) draws a distinction between assessment which is data gathering, and evaluation in which there is a comparison between data gathered and goals previously set up. According to this comparison, a judgement is made and corrections to the care plan are carried out. Therefore, the nursing process follows a cyclical movement because the evaluation phase leads again to the revision of the care plan and modification of this when necessary according to the findings from evaluation.

Evaluation is one of the areas most neglected in the nursing process (Izquierdo et al, 2002; DHSS 1986). According to the DHSS (1986) report, the reason for poor evaluation is that this phase requires the other phases to be properly implemented.

Summarising, the nursing process is a problem-solving tool through which the nurse identifies the individual nursing problems of her patients, determines the goals that should be achieved in order to solve them and determine the nursing interventions appropriate to achieving those goals. After implementing those interventions, the nurse evaluates whether the goals have been achieved and modifies the care plan accordingly. The nursing process is guided by the nursing philosophy and nursing model of the nurse who carries it out. This process also requires intellectual and interpersonal skills.

2.6. Theoretical aspects of the nursing process

In this section theoretical aspects related to the nursing process as identified through the literature review are explored. They can be summarised as follows: the place of the nursing process within nursing, the nursing process as a linear problem-solving approach, the nursing process as a vehicle for establishing nursing as a profession, and the ND movement.

2.6.1. Nursing process: its place within nursing

The literature abounds with the description of the nursing process as a problem-solving tool, that is, as a *method* of work (Mason and Atree, 1997; Phaneuf, 1993; Field, 1987; Aggleton & Chalmers, 1986a; Chiarella, 1985; Ashworth, 1980b; Darcy, 1980; Luker, 1979; Davis, 1978; Crow, 1977; Hargreaves, 1975).

Although there were authors such as Henderson (1982) who highlighted the danger, with the arrival of the nursing process, of reducing nursing to a mere process, this does not seem to have been a real problem, as most authors highlighted that the nursing process did not make sense unless it was used with a model of nursing (Riopelle & Teixidor, 2002; Luis, 1997; Mason & Atree, 1997; Field, 1987; Aggleton & Chalmers, 1986a; Keyzer, 1983; Lauri, 1982). For these authors there is a clear distinction between the essence of nursing which has been clarified through the development of nursing models and theories and the method used to deliver that care: the nursing process.

For the purposes of this study, the nursing process is seen as an approach to work which needs to be used always within the context of a philosophy and model of nursing. In the following section the scope of the nursing domain and its relationship with the nursing process are discussed.

2.6.2. Nursing process as a vehicle for establishing nursing as a profession

The development of the nursing process coincided with a greater emphasis on developing the independent domain of nursing (Pesut & Herman, 1998) and the development of the nurse as an autonomous professional (Waters & Easton, 1999; Martín et al, 1997; Álvarez, 1987; Specht & Drey, 1987). In fact, as indicated by McCarthy (1981), the nursing process requires the nurse to make informed clinical judgements and "such an approach is a way of clarifying the objectives of nursing and justifying it as an independent discipline".

Many authors highlight that nursing activity has two main domains: the independent, and the interdependent one (Riopelle & Teixidor, 2002; Iyer et al, 1997; Gordon, 1996; Carpenito, 1989b). The independent domain corresponds to those patient problems that the nurse is professionally and legally prepared to identify and treat. The interdependent component corresponds to those aspects of care that cannot be solved by the nurse alone, although she has a responsibility for implementing and monitoring interventions to collaborate in the solution (Carpenito, 1989b). The patient problems which are identified by nurses and for which they are accountable are generally called ND in nursing process literature (Riopelle & Teixidor, 2002; Luis, 1997; Masson & Attree, 1997). The aspects of care that the nurse identified but for which she is not accountable are called

collaborative problems (Carpenito, 1989b). There is a danger of putting the emphasis of nurses' work mainly on collaborative problems and that is what happens when nurses only look after medical aspects of their patients, following the doctor's medical diagnosis (Riopelle & Teixidor, 2002). This is defined as following the medical model.

Fields (1987) asserts that the models and theories of nursing help to define the interdependent and independent aspects of the nurse's role, and Keyzer (1983) indicates that it is a mistake to use the nursing process without changing from the medical model to a nursing model. The medical model exclusively emphasises the interdependent domain of the nursing role while the nursing model considers and fosters the development of the independent one.

One important criticism of the nursing process coming from both within and outside the profession, has been a fear of the nursing profession seeking to be too independent of the medical profession and wanting to create their own empire (Mitchell, 1984; Dickinson, 1982). What seems to underline these criticisms, as pointed out by Tierney (1984), is a lack of understanding of the nature of nursing, which embraces much more than attention to the disease. In addition, in order to make a good contribution to the multidisciplinary team it is important that each discipline brings a clear understanding of its own scope and limitations (Brooks, 1998; Gottlieb & Gottlieb, 1998). Until now the place of the nursing process within the nursing domain has been explored. The next section deals with aspects related to the nature of the nursing process as a problem-solving approach.

2.6.3. The nursing process as a linear problem-solving approach

The nursing process is generally identified as a logical and lineal problem-solving approach (Rew & Barrow, 1989; Yura & Walsh, 1978).

In an attempt to unfold the intellectual process through which nurses identify problems and plan care, a great quantity of nursing process literature since the late 1980s is related to nurse's diagnostic reasoning and nurse's critical thinking (Wilkinson, 1996; White, 1993; Harbison, 1991; Miers, 1990; Rew & Barrow, 1989). In the area of clinical reasoning, research conducted is indicating that nurses, particularly expert ones, manifest different approaches to problem-solving (White, 1993, Rew & Barrow, 1989). Benner's research (1984) indicated that expert nurses do not follow rigid, logical problem-solving when making decisions. Other authors also consider that there is an opposition between the nursing process and intuition, and have criticised the nursing process for being a constraint to expert and contemporary practice (Fonteyn & Cooper, 1996; Lindsay, 1996; White, 1993).

Rew & Barrow (1989) carried out a review of all the issues from the American Journal of Nursing from 1900 to 1985. They found an increasing body of research around intuition, especially present in expert and successful nurses. According to these authors 'intuition' is also a way of knowing and therefore influences nursing decisions. Rew & Barrow's findings are in line with Benner (1984), in that nursing decision-making does not necessarily follow the logical, linear process with which they identified the nursing process. They believe that the nursing process could be especially useful for beginners and for nursing education, a view also shared by Barnum (1994).

Varcoe (1996) supports Rew & Barrow's (1989) ideas, asserting that the nursing process is compatible with other ways of knowing. Varcoe (1996) carried out a review (n=41 references) of the American and British nursing process literature from 1964 to 1994. In her paper, Varcoe summarised the different critiques that have surrounded the nursing process, such as those relating to the nursing process as a lineal and rational problem-solving approach. Varcoe (1996) answers those critics by explaining that the nursing process has been used in the literature with different philosophies and for different, often contradictory, purposes. She believes that there is a danger of asking too much of the nursing process as if it were everything for nursing. Varcoe (1996) indicates that the nursing process is in a developmental stage, as nursing itself is, and that it could be developed in congruence with contemporary philosophies of nursing. Frauman et al (1999) also consider the need to integrate the nursing process with new research and understanding of diagnostic reasoning. According to them, the nursing process should reflect on and articulate the intuitive and rapid thinking of expert nurses. This intuition and experience are valuable elements for making decisions.

Consequently, for the purposes of this study, the nursing process is understood as a linear decision-making approach which is not in contradiction with other ways of knowing, such as intuition. These two ways of knowing should be complementary and the use of one or another depends on the degree of expertise of the nurse and the situation. The next section deals with an important aspect of the nursing process literature, that is, ND.

2.6.4. The nursing diagnosis movement

In the early 1970s a movement started in the USA with the objective of identifying and classifying those nursing problems identified by nurses as part of their independent domain, that is, nursing diagnosis. This movement was promoted by the North America Nursing Diagnosis Association (NANDA), which was set up in 1973 (Gordon, 1996). Mason & Atree (1997) indicate that the development of ND in the USA in the 1980s and 1990s helped to introduce the nursing process in practice.

According to Field (1987) the ND emerged as a need to clarify and determine the practice of nursing as different from the practice of medicine and other health professionals and also as the end result of the assessment phase of the nursing process. Mason & Webb (1993) argue that "by focusing on what they can do in the health system, rather than what they assist others to do, nurses may at last be able to establish themselves as health-care providers in their own right".

Since 1973, the North American Nursing Diagnosis Association (NANDA) has actively worked towards the elaboration of a taxonomy which includes those nursing diagnoses (NDs) that compose the nursing independent domain. In the USA, the use of ND, and specifically the NANDA taxonomy, has been impelled by the Joint Commission of Hospital Accreditation (Mason & Webb, 1993). However, there is no such encouragement for using the NDs from any association or organisation in the UK. In Spain, the NDs movement started in the 1980s and the interest in NDs and use of taxonomies among educators and clinical nurses is increasing, as perceived by the quantity of studies indicating the use of the taxonomies (Luis, 1997; Martín et al, 1997; Serrano et al, 1997; Serrano et al, 1994; Sediles et al, 1992). There is an association promoting the development and use of NDs in Spain called Asociación Española de Nomenclatura, Taxonomía y Diagnósticos de Enfermería (AENTDE) which was set up in the 1990s. Although within this organisation there is no official taxonomy, the NANDA is the most used and promoted one. As indicated by Luis (1997) there is a danger of identifying the word ND with NANDA taxonomy, which is just one way of defining and classifying NDs (Luis, 1997).

Mason & Webb (1993) indicate that the development of NANDA diagnosis follows a deductive/inductive process where firstly diagnoses are described from practice and then tested in practice. In this sense, nursing practice helps to develop theory, as indicated by Aggleton & Chalmers (1986). Meleis (1997) considers that these classification systems do not constitute a nursing theory yet: they have to be tested and developed in different areas in order to be considered so, but they could be considered as a first step towards theory development given that they help to specify and classify nursing phenomena in an inductive way.

To summarise this section, it could be highlighted that the nursing process is considered in the literature as a problem-solving method to provide nursing care. As a method its use is recommended within a philosophy and model of nursing which gives meaning, content and direction to the process. The nursing process has undergone a process of maturation, especially regarding the diagnosis component. In that sense, the nursing process is intrinsically united to the understanding of nursing as an autonomous profession and to the clarification of the nursing domain. It has been highlighted that the nursing process should be used with nursing approaches that understand the nursing independent domain.

Theoretical and methodological aspects of the nursing process have already been considered. The next section of the chapter deals with aspects related to the implementation of the nursing process.

2.7. The implementation of the nursing process

This section of the literature review deals specifically with the way the nursing process has been introduced in practical areas. UK studies are presented first, followed by those carried out in Spain and those conducted elsewhere. Each account is presented according to the following structure: strategy, type of study, and limitations. A summary of the main factors contributing to the implementation of the nursing process concludes the section.

2.7.1. The implementation of the nursing process in the UK

The literature relating to the implementation of the nursing process is particularly abundant in the 1970s and early 1980s. This literature reports many early attempts to implement the nursing process, how this was carried out, and the benefits obtained (Miller, 1985a; Miller, 1985b; Keyzer, 1983; Gooch, 1982; Cawill & Johnson, 1981; Darcy, 1980; Alexander, 1979; Marks-Maran, 1978; Pemberton, 1978). In general, these were not research-based studies (Gooch, 1982; Baines, 1981; Cawill & Johnson, 1981; Alexander, 1979; Hunt, 1978; Marks-Maran, 1978) and therefore it is difficult to evaluate the process, outcome and degree of implementation of the nursing process achieved through them. In the late 1980s and 1990s the literature on the implementation of the nursing process as a whole decreased. Nevertheless, there were several interesting studies, such as Waters & Easton (1999); Davis et al (1994), Brooking (1986) and Farmer (1986). In this section the studies of Waters & Easton (1999); Davis et al (1994) and Brooking (1986) are reported. Farmer's (1986) study is reported in 3.4.1.

Waters & Easton (1999) conducted a case study using an ethnographic approach to evaluate the degree of individualisation of care on a developmental ward caring for patients with medical problems. The main data collection methods were observation, interviews and reflective diaries. The findings from the study indicated that there was not a great level of individualisation on the ward. The study highlighted that the constant interruptions that the nurse had such as telephone inquiries, doctor's rounds, or supervision of students were a difficulty for delivering individualised care. These authors recognised that the co-ordinator role of the nurse was a problematic and difficult one.

Davis et al (1994) designed a questionnaire to assess the quality of nursing documentation used in a hospital to evaluate the degree to which nurses were using a systematic and individualised

approach to care. The individualised approach had been implemented 3-4 years before the 1994 study and was based on the principles of Yura & Walsh (1978) and the nursing model of Roper, Logan and Tierney (1985) (in Davis et al, 1994).

The hospital where the study was based had 11 wards and one admission ward. A questionnaire was used to evaluate 42 sets of nursing documentation: four for each of the 10 wards and two for the Coronary Care Unit. A convenience sample of nurses' documentation was used. The questionnaire was composed of seven sections related to the different phases of the nursing process (assessment, statement of problems, aims, nursing interventions, evaluation), one related to special occurrences, and another related to the documentation of implemented nursing interventions. The questionnaire contained items that required a quantitative answer: i.e. 'how many problems are identified from the information given in the assessment?' and others that required a yes/no answer. Most of the items allowed space for examples and comments. Parts of the data gathered were coded for quality according to criteria which were not specified. Other data were just quantified.

According to the authors, the findings showed that: i) nursing care was too focused on the physiological and medical aspects of care as opposed to the psychological or social aspects; ii) that problems identified were too broad or medical instead of nursing problems; iii) that there was not much evidence of the correlation between assessment and problem identification; iv) that goals and nursing interventions lacked specificity and behavioural information to allow evaluation; v) and there was little evidence of attempts to evaluate care given. David et al (1994) commented that the emphasis on physiological aspects could be due to the emphasis given in many nursing schools to the use of a medical model of training. The lack of correlation between assessment and problem identification seems to have been influenced by the structure of the hospital in which the assessment was carried out.

The main limitations of the study, as also acknowledged by the authors were: i) the use of a convenience sample of nursing documentation instead of a randomised one; ii) the results could not be generalised; iii) and, most important in designing this study, the researcher noted Davis et al's comments that "without observations of nurses at work and following through the decision-making aspects and the whole process, it is difficult to make criticism with a high level of confidence from an analysis of the documentation" (Davis et al, 1994).

Brooking (1986) conducted a study on surgical general wards of four hospitals in order to compare the degree of patient and family participation in nursing care in wards using the nursing process and those using traditional systems. Prior to carrying out the comparative evaluation, Brooking (1986) measured the degree of implementation of the nursing process achieved on the study wards.

In order to do that she developed a scale to measure the degree of implementation on the wards (see 3.7.2.1). As Brooking (1986) indicated, before making conclusions regarding the outcomes of using the nursing process there must be an assurance that the nursing process is really in place.

2.7.2. The implementation of the nursing process in Spain

There are only three research-based studies in Spain dealing with the implementation of the nursing process: Izquierdo et al (2002); Martín et al (1997) and Serrano et al (1994).

In the first one, Serrano et al (1994) carried out a four-year evaluative study of the implementation of nursing documentation based on the nursing process and nursing diagnoses of NANDA in a medical ward of a teaching hospital in Spain. The steering group who implemented the change was composed of ward managers, nurse educators and a researcher. They developed nursing documentation consisting of an assessment form based on Gordon's (1996) Functional Health Patterns (FHP) and a new care plan form which contained two different areas to document the independent and dependent care. Staff nurses had the support of the educators and researcher during the implementation phase. Education was provided during this time, consisting of 36 sessions. The sessions were directed at knowledge, attitudes and skills development. The findings of the implementation were evaluated through interviews, a questionnaire to staff nurses and the evaluation of nursing documentation according to selected criteria, such as degree of completion of assessment form for each one of the FHP, correct labelling of nursing diagnoses, frequency and number of nursing interventions planned for each patient, and whether they were dependent or independent interventions. Evaluations took place at three different points during the implementation and showed an improvement in the completion of the assessment, in the labelling of nursing diagnoses, and an increase of independent nursing interventions.

One of the Serrano et al's (1994) study limitations was the omission, at least in their article, of the procedure for sample selection. It appears that the researchers followed an action research approach, although this was not mentioned in the accounts. Another limitation is related to the main purposes of the study, which were: a) to design appropriate nursing documentation according to the nursing process approach; b) to contribute to individualised nursing care and c) to enhance nurses' scientific approach to care. There were objective data to support that the first objective was achieved, but there were no objective data to support that nursing care was individualised or that a more scientific-based approach was achieved. Finally, the authors presented the findings of the study but they did not place them in the context of the existing literature.

Martín et al (1997) described the process and outcomes of a strategy to implement the nursing process and nursing diagnoses in a community area of Spain caring for a population of 253,000 through 12 surgeries, over a period of three years. The initiative came from nursing managers as they perceived the need to define the scope of nursing practice in the community and specify their contribution to the population and the multidisciplinary team. Orem's model was selected by consensus among nursing managers but it was presented to all the professionals involved in the area to get a general debate and not only a nursing one. There was no indication in the accounts of the professionals' opinion about it.

This model was used to guide the assessment and identification of problems. Eight committees were created, each in charge of identifying the more frequent nursing diagnoses within an area of Orem's model. The committees were composed of volunteer nurses from different surgeries: 70% of nurses working within the study area wanted to participate. A steering committee was also created, composed of the chief members of each one of the other committees plus three nurse directors. The aim of this group was to design standardised care plans based on the nursing diagnoses identified by the other groups. As a consequence of this first stage of the implementation, 30 nursing diagnoses (NDs) were identified, labelled and suggested activities indicated. Important organisational changes were introduced by managers and NDs became the basis for workload. Nurse training and incentives were granted according to the use and development of NDs. In-training preparation was continuous during the implementation, consisting of courses and workshops, together with multidisciplinary sessions to help doctors recognise the nursing approach to patient care, and case studies. Martín et al (1997) recognised that the project helped them to define the scope of nursing practice and that this was possible given the involvement of managers in the study and the participation of the staff nurses.

Martín et al's (1997) study had the characteristics of an action research study (3.2), that is, introducing change in practice, involvement of all those affected by the changes, consensus, great diffusion and information system throughout the study. Nevertheless, the authors did not indicate they were using this research approach and therefore there were many methodological aspects that were not indicated in the paper, such as sample selection or data collection methods employed.

Izquierdo et al (2002) conducted a descriptive study to evaluate the use of the nursing process in Primary Health Centres in Spain. A questionnaire based on 11 questions elaborated by the researchers, which included a brief description of the phases of the nursing process, was sent to a randomised sample of 500 health centres in different Spanish provinces. The results revealed that the nursing process was implemented in 43% of the 390 centres which answered the questionnaires. Although this method has the limitation of subjective interpretations of the nursing

process by nursing managers of the Health centres, it is nevertheless an indication of the widespread diffusion of this method within community care in Spain. Through this study, Izquierdo et al (2002) also found that in those centres where there had been nursing process educational programs, almost double the number of nurses used this process than in centres where there had been no nursing process courses.

2.7.3. Implementations of the nursing process in Europe and in the USA

Specht & Drey's (1987) paper is a description of the implementation process of nursing diagnoses in a long-term care facility home in Iowa over a period of 10 years. The initiative emerged from the nurses but they were helped by the staff development committee. A precursor of this implementation was the nurses' desire to define their scope of practice and to increase their accountability. As a consequence, they decided to introduce the nursing diagnoses (NDs). The NDs of the North American Nursing Diagnosis Association were selected and introduced, together with in-training education consisting of seminars to give an overview of NDs and their use, and case studies to practice identification of diagnosis. ND became the basis of nursing practice, nursing interventions, quality assurance, staff education, computer application, and specialisation. According to these authors, the introduction of ND helped them to identify nursing problems more accurately and facilitated their identification of nursing interventions and desired outcomes.

Miller et al (1987) also described the implementation of the nursing process and nursing diagnoses over a period of 10 years, although this time in a long-term care setting for a disabled population in Wisconsin (USA). The initiative came from the top, that is, from nursing managers and staff development services. First of all, a nursing model was identified and in that way a shift from a medical model took place. Education was provided in the organisation and it embraced different forms ranging from nurses formation to master level to workshops and theoretical classes. Each phase was introduced sequentially. After a year of commitment to use ND, 659 care plans were evaluated to identify whether they were using NANDA terminology. The results were that 42% of the problems identified were using correct and complete labels; 24 % incomplete and the remaining 34 % were medical diagnoses or other things. For the five NDs more frequently used, care plans were developed.

Rundio & Cericola (1992), in their description of the implementation of nursing assessment in a middle-sized hospital in New Jersey, stressed the importance of appointing a full time dedication post to direct and facilitate the introduction of the assessment for the success of the project. The authors concluded by highlighting the importance of nursing administrators making their

appreciation of the nursing process explicit and providing staff nurses with the role models and support necessary for the implementation of the nursing assessment to take place.

A more recent attempt to introduce the nursing process and nursing diagnoses of NANDA took place in a hospital in Ireland under the Practice Development Team initiative (Dunnion et al, 1997). Baseline data were gathered regarding nursing documentation and nurses' opinions of the documentation. In order to facilitate the implementation, a study day was held and repeated over 30 days to allow all nurses to attend it as many times as desired. The nursing process was introduced sequentially, that is according to its phases. During a period of four weeks nurses in the hospital were provided with continual support, guidance and close follow up. The evaluation took place two moths later and consisted in evaluation of documentation and nurses' opinions. Data from the documentation showed a 73% compliance rate with the new framework. There are no explanations as to how the sample was selected or data analysed, nor whether there was any follow-up study.

O'Connell (1998) conducted a grounded theory study in order to explore, describe and generate theory about the application of the nursing process in acute settings, the factors that hinder or assist it, and nurses' perceptions of how they used the nursing process in their practice. The study was carried out in a major teaching hospital in Western Australia. The author used a theoretical sampling technique. The data collection tools were semi-structured interviews, mainly with clinical nurses of varying levels of experience, but also doctors, patients and relatives; field observation; informal interviews (n>50 nurses) from a total of five acute medical and surgical wards in the teaching hospital; and an in-depth analysis of patient case-notes. Data were analysed using the constant comparative method.

The findings of the study indicate that some of the factors negatively influencing the use of the nursing process were fluctuating and uncertain working conditions, such as lack of stability of nurses on a ward. This provoked a difficulty for the nurses in getting to know the patient in a meaningful way and thus carrying out individualised care. In addition, the study showed that the method of care was fragmented and inconsistent: for instance, nursing assessments were not always carried out and nurses tended to base their care on medical notes; nursing diagnoses were derived from medical problems; and care plans were developed primarily based on doctors' prescriptions and hospital's routines.

O'Connell also suggested that the necessary link of nursing care to patients' medical conditions in acute wards has to be acknowledged and indicates that, given the difficulties and the present conditions in the acute ward, the use of the nursing process should be questioned. This conclusion of the author does not follow the findings necessarily, given that he had previously acknowledged

the contextual factors that were working against optimising the way care was provided. Nevertheless, this study highlights the difficulties already stressed in the literature (Walton, 1986) of attending to the collaborative aspects of care without losing sight of those other aspects of care that are exclusively within the nursing domain. The research account does not sufficiently reflect the criteria used for the sampling, nor the placements from which samples were obtained. Wards were believed to be using the nursing process but criteria used to evaluate this were not described. There is no explanation in the article about the content of the interviews or how they where conducted, about field observation and the criteria for the study of documents. A detailed account about how data were analysed is also missing. Given the importance of all these aspects in order for the reader to make judgements about the validity of the study, their absence is a serious threat to the use of the findings of the study.

Hansebo et al (1999) carried out a study to compare nursing documentation in three nursing-home wards in Sweden, before and after a one-year period of supervised intervention. The intervention consisted in the introduction of nursing documentation (assessment form and care plan form) according to the nursing process structure. In order to facilitate the introduction there was an organisational change on the wards towards team nursing and patient allocation in order to increase nurses' responsibility for patient care. In addition, the researcher did a two-hour per month follow-up with each team. The nursing diagnoses were not introduced because staff nurses did not want them. The researcher also indicated that, given the skills and education needed to use the nursing process, it was important not to confront the nurses with the nursing diagnoses. Instead, they identified patient problems or needs. Evaluation was made by analysing nursing documentation in each phase in terms of whether it followed the nursing process structure: assessment, identification of problem/needs, goals, intervention and evaluation. In addition, the researcher did a content analysis of care under each phase of the nursing process and then compared the frequency of distribution before and after the implementation of change. The results showed that the nursing process documentation was more fully adopted after the intervention and that the amount of care increased as well. One of the limitations of the study is that there is no description of how the intervention was carried out. Another limitation is whether the evaluation of nursing documentation alone is really representative of nurses' real care.

Björvell et al (2003) conducted a study to find out Swedish RNs' perceptions regarding the prerequisites and consequences of using nursing process documentation. As explained by the study's authors, Swedish nurses were required to document their nursing care following the nursing process approach since 1986. A comparative descriptive study using a questionnaire was conducted. The sample consisted of 377 RNs divided into two groups. Nurses in both groups received a 3-day course on nursing documentation and the nursing process. In addition, nurses in

group A (n=34) received a two-year comprehensive intervention about the nursing process which included theoretical and practical education in the nursing process, support by a document specialist on the wards, support and advice from nursing managers regarding organisational changes, and help to develop nursing documentation. Nurses in group B (n=343) had received the three-day course. The differences in terms of sample numbers between the both groups is striking. It seems to be related to the comprehensive intervention which probably could not be carried out with a greater sample; nevertheless, there was no authors' explanation.

The questionnaire was developed by the authors based on the literature and their clinical experience and consisted of 20 items related to the following areas: documentation effects in daily practice, organisational and leadership issues related to documentation routines, knowledge needed, and responses by other professionals to nursing documentation. The questionnaire was piloted by the authors but there are no authors' indications that studies of validity and reliability were carried out to the tool. Among the results it was found that RNs from both groups highlighted the lack of time and organisational issues as the main barriers to using nursing process documentation. Among these organisational barriers, aspects such as the opportunity to sit undisturbed were indicated. In addition, the study showed that, regardless of the group, most participants perceived nursing documentation to be beneficial to them in their practice and to increase patient satisfaction.

For Group B it was also found that the less meaningful parts of the nursing process were ND and nursing goals. Björvell et al (2003) consider that this is probably due to the fact that Swedish nurses have traditionally followed the biomedical paradigm and therefore are not used to approaching care from a nursing perspective which facilitates the identification of nursing problems and needs.

In summary, the literature on the implementation of the nursing process shows that there is an abundance of articles, most of them descriptions or accounts of specific implementations, but very few are research-based. The research-based articles are not sufficiently robust or lack methodological rigour. Some do not indicate the research methodology used (i.e. Martín et al, 1997; Miller et al, 1987) or other methodological aspects such as data collection tools or data analysis. Some of the studies evaluated the degree of implementation of the nursing process or individualised nursing care (Waters & Easton, 1999; Davis, et al, 1994; Brooking, 1986). Among them special attention should be given to the work of Brooking (1986) as she was the only one who developed a comprehensive and validated tool for measuring the implementation of the nursing process. The next section deals with strategies and factors that have been highlighted in the literature as facilitating or inhibiting the implementation of the nursing process.

2.8. Factors influencing the implementation of the nursing process

Most of the papers noted previously contain descriptions of strategies for the implementation of the nursing process or describe the use of it. These accounts have the value of throwing light on factors in the change process that should be taken into account for the implementation of the nursing process. In this section the author synthesised the factors that according to the literature are important to consider when implementing the nursing process. This synthesis can be used as a conceptual framework to guide and direct the introduction of the nursing process in practice. These factors are:

- *Education and training on the nursing process;*
- *Use of appropriate and meaningful nursing documentation;*
- *Nurses assuming accountability for an independent role;*
- *Understanding the culture of the organisation;*
- *Appropriate ward conditions and nursing work organisation.*

2.8.1. Education and training

Review papers regarding the first decades of the introduction of the nursing process in the UK highlighted that deficiencies in nursing education were a barrier for the implementation of the nursing process (DHSS, 1986; Walton, 1986; De la Cuesta, 1983). Specifically Farmer (1986) pointed out that one of the causes of the difficulties in using the nursing process was the lack of emphasis on critical skills in nursing education in the past.

In more recent studies (Björvell et al, 2003; Martín et al, 1997; Serrano et al, 1994) nurses' preparation to use the nursing process was an important prerequisite to introducing the nursing process. There was variety regarding the length of the preparation, from one-day course (Dunnion, et al, 1997) to 36 sessions over a period of one and a half years (Serrano et al, 1994). Most studies highlighted that preparation was directed towards providing nurses with the knowledge and skills needed for using the nursing process and that a variety of educational methods, such as case studies, seminars, workshops, were used (Martín et al, 1997; Serrano et al, 1994; Miller et al, 1987; Specht & Drey 1987). In addition to the transmission of knowledge and development of skills, some authors such as Serrano et al (1994) have also stressed the importance of education programmes taking into account nurses' attitudes towards the nursing process.

In summary, education and training in the nursing process is an important requisite for its implementation. This education should help to develop knowledge, skills and positive attitudes towards the nursing process. This education usually takes time.

2.8.2. Use of appropriate and meaningful nursing documentation

Unfortunately, many early accounts of the introduction of the nursing process showed how nursing process documentation was imposed on environments still using task allocation and routines. Consequently, this new documentation was perceived as a difficult, lengthy and meaningless burden (DHSS, 1986; Walton, 1986; Keyzer, 1983). Walton (1986) indicated that over-emphasis on documentation without understanding the principles of the nursing process or without the adequate conditions put the nursing process in danger of being misunderstood. As found in the study conducted by the Nursing Process Evaluation Working Group, "nursing process has been solely seen as a different system of record keeping rather than a different approach to nursing itself, with all the organisational and educational changes that this entails" (DHSS, 1986, p 39).

The introduction of documentation appeared to be more successful when staff were involved in its development (i.e. Martín et al, 1997). The mastery of problem-solving skills was believed to reduce the time need to elaborate the care plan considerably (Wright, 1985a). Most studies used an already existing classification of nursing diagnoses, specifically North American Nursing Diagnoses Association (NANDA) for the identification of nursing problems (Dunnion et al, 1997; Martín et al, 1997; Serrano et al, 1994; Miller et al, 1987; Specht & Drey, 1987). NANDA classification was taught usually to nurses in these studies.

In general, the implementation of the nursing process was carried out through the introduction of documentation reflecting the nursing process approach, that is, assessment forms with a nursing approach and care plans based on the problems identified (Serrano et al 1994; Lauri, 1982).

2.8.3. Understanding the culture of the organisation

One of the recommendations made by the DHSS (1986) regarding the implementation of the nursing process was to understand the culture of the organisation where the implementation is going to take place. It is important to know whether managers and staff nurses and other health professionals understand and favour this introduction and whether the management style facilitates a climate of inquiry and enough flexibility to implement changes (DHSS, 1986; Farmer, 1986). In some of the studies reviewed, staff nurses were involved during the change process in terms of participating in decision-making (Martín et al, 1997; Specht & Drey, 1987).

Within the culture of the organisation, consideration should be given to the nursing philosophy held at the institution. It is important to assess whether the nursing process approach is compatible with this philosophy (Farmer, 1986; Darcy 1980). In the studies presented above, there was no explicit concern regarding the nursing philosophy of the institution or any evaluation as to whether the nursing process and the institution philosophy were compatible.

2.8.4. Nurses' assuming their independent role and accountability

It is essential in order to introduce the nursing process that nurses assume their independent role and accountability for nursing patient care (Riopelle & Teixidor, 2002; DHSS, 1986; Keyzer, 1983). In many studies the introduction of the nursing process had the aim of helping them to define with greater clarity nurses' scope for practice and in this way to specify their contribution to the population (Martín et al, 1997; Specht & Drey's, 1987; Farmer, 1986). In addition, there was a general understanding in more recent studies that to incorporate the nursing process required a change from nursing dependent on medical indications to an accountable nurse (Björvell et al, 2003; Serrano et al, 1994; Miller et al, 1987). The nursing model selected to direct the use of the nursing process was mentioned in different studies. For instance, in the study of Serrano et al (1994), they selected the Gordon's (1996) FHP model; and Martín et al (1997) introduced the Orem's model.

2.8.5. Ward Conditions and nursing work organisation

The nursing process as a problem-solving tool requires an individualised approach to patient care (Brooking, 1986; Keyzer, 1983; Webb, 1981). Team nursing, which is a type of ward organisation that facilitates this approach, was employed in the studies of Hansebo et al, (1999) and Serrano et al, (1994).

Nevertheless, it has to be taken into account that the use of a certain approach to care is not, in itself, a guarantee to individualised care. In fact, in the ethnography study conducted by Waters & Easton (1999) to evaluate the degree of individualisation of care on a medical ward, it was found that there was no such individualisation and that on many occasions care was delivered according to ward routines instead of being adapted to the patient's specific needs.

Regarding working conditions, the study of O'Connell (1998) highlighted the detrimental effect that the lack of stability of staff nurses on a ward, and nurses' constant interruptions within the course of a shift had for nursing care and especially for individualised care. This latter situation was also mentioned by the staff nurses in the study conducted by Waters & Easton (1999).

As a summary, this section of the literature review has dealt with specific implementation of the nursing process in the UK, Spain and other countries of Europe and USA. From the literature a conceptual framework has been developed which includes the main factors that have been highlighted in the literature as facilitating the implementation of the nursing process.

2.9. Summary

The present literature review has contributed to deepening in the concept of the nursing process, its main characteristics and requirements for implementation. The nursing process is considered in the literature as a problem-solving method to provide individualised nursing care. As a method it should be used within a philosophy and model of nursing which gives meaning, content and direction to the process. The nursing process has undergone a process of maturation, especially regarding the diagnosis component. In this sense, the nursing process is intrinsically united to an understanding of the nurse as an autonomous professional and to the clarification of the nursing domain. It has been highlighted that the nursing process should be used with nursing approaches that understand the nursing independent domain.

The nursing process has bee defined for the purpose of this study as a problem-solving tool through which the nurse identifies the individual nursing problems of her patients, determines the goals that should be achieved in order to solve them and decide the nursing interventions appropriate to achieve those goals. After implementing those interventions, the nurse evaluates whether those goals have been achieved and modifies the care plan accordingly. This process requires intellectual and interpersonal skills.

The literature regarding the implementation of the nursing process manifests the many factors that should be taken into account for implementing the nursing process and its complexity. A synthesis of the factors that according to the literature are important to consider when implementing the nursing process has been elaborated and includes: education and training in the nursing process, use of appropriate and meaningful nursing documentation, nurses assuming accountability for an independent role, understanding the culture of the organisation, and appropriate ward conditions and nursing work organisation.

Given the relevance of the nursing process and the complexity of its implementation, it was decided to contribute to the literature on the implementation of the nursing process by conducting a study to implement it and also by eliciting the factors that facilitated it or made it difficult. The following chapter will examine whether action research methodology is an appropriate means for the implementation of the nursing process.

Chapter 3: Literature Pertaining to the Selected Methods

3.1. Introduction

The review of selected methods outlines the review search parameters, followed by a discussion of action research theory, its methodological characteristics and its use in nursing. The presentation of action research integrates a justification for the use of this method as a theoretical framework. The various data collection methods employed in this study are then presented with reference to validity and reliability.

3.1.1. Search parameters

A literature review was conducted searching for both action research within social science in general and in the nursing field in particular.

The work of Parra (1995) is of special significance for the present review because he carried out an examination of the literature on action research from its origins through to its later evolution and applications in the social science fields, covering the period of 1946-1994. Arguably, his work presents a comprehensive summary of the theoretical characteristics of action research given the breath and depth of his review. He encompassed more than 160 references embracing the different approaches undertaken by action researchers in different countries (e.g. United Kingdom, Italy). He reviewed papers in different languages including Spanish, French, Italian, English, and from education, psychology, sociology and philosophy, focusing particularly on the education domain. Given the characteristics of his work, his review has been considered for the purposes of the present study as a benchmark on the theoretical aspects of action research up to 1995.

In order to locate more recent reviews on action research a search was conducted on the database Web of Science between 1995-2002 looking at "action research reviews". A total of 11 review papers were identified and their abstracts examined. Some of the articles were discarded because they dealt with areas that were too specific and not relevant for the present study or because more recently selected papers already cover these areas. As a consequence, four papers were identified and reviewed: Dash (1999); Baker, Norton, Young & Ward (1998); Berragan (1998); and Israel, Schulz, Parker & Becker (1998). In addition, recent published books or book chapters dealing with action research were reviewed: Winter & Munn-Giddings (2001) and Webb (1997). Of special

significance is the recent interpretative systematic review on action research conducted by Waterman, Tillen, Dickson & de Koning (2001). They reviewed fourteen electronic databases and other relevant journals and conference proceedings, contacted 400 NHS research and development managers and 300 action researchers, and carried out seven focus groups with action researchers.

In order to review the literature on action research in nursing, review articles were identified and from them individual papers were also selected. A Medline literature search was conducted from 1987 to 1992 and another from 1993 to 2003 (September) looking at "action research" and limiting the search to review articles. Only five articles were found in relation to the first search. After examining the abstracts, four of the five papers were discarded because they did not relate directly to action research methodology. The only one selected was Giblin (1989). From the second search, Medline 1993-2003 a greater number of articles was found (n=55). After reviewing the abstracts, six of them were considered relevant to the study and the other 49 were discarded because they were too specialised, did not relate to methodological and theoretical aspects of action research, discussed areas covered in more recent articles, or had already been selected from the Web of Science database such as the work of Baker et al (1998). The final papers selected were: Chenoweth & Kilstoff (2002); Williamson & Prosser (2002); Meyer (2000); Waterman (1998b); Hart & Bond (1996); and Waterman, Webb & Williams (1995).

From these selected papers, a snowballing technique was used to identify other relevant papers dealing with methodological and theoretical aspects of action research. These papers were: Bellman (1996); Rolf (1996); Hart & Bond (1995); Titchen & Binnie (1995); Titchen & Binnie (1994); Holter & Schwartz-Barcott (1993); Meyer (1993); Titchen & Binnie (1993a); Titchen & Binnie (1993b); Titchen & Binnie (1993c); Webb (1989); and Hunt (1987).

Literature related to the use of action research in the area of the nursing process was also reviewed according to the following parameters: Medline from 1966 to 2003, keyword: "nursing process and action research". A total of seven articles were found and the abstracts examined. Two papers were discarded as the content was not directly related to the implementation of the nursing process. As a consequence, five papers were finally selected: Boomsma, Dingemans & Dassen (1997); Moen, Helleso & Olsen (1997); Lauri (1990); Stevenson (1990) and Lauri (1982). The same search was conducted in the Cinalh database and only one new article was found: Gibbon & Little (1995).

3.1.2. Presentation of the action research literature

In the following section, the literature pertaining to action research is presented. Firstly, theoretical aspects are discussed, including characteristics, different approaches, and current debates relating

to the place of action research in the research domain. Secondly, methodological characteristics are presented, such as the use of multiple triangulation; and thirdly, the use of action research for the implementation of the nursing process is evaluated. The approach selected for the present study is explained and justified alongside the previous sections. The literature from social sciences and nursing is presented simultaneously as both provide theoretical insights into the nature and characteristics of action research.

3.2. Theoretical aspects of action research

3.2.1. Main characteristics and diversity of approaches

Holter & Schwartz-Barcott (1993) reviewed action research literature from the social sciences (n=26 papers) and from nursing (n=29 papers) with the aim of identifying the central characteristics and major approaches to action research. As a consequence of their review, they identified the following four core characteristics: involvement and collaboration of the practitioners in the research process; focus on practical and context-base problems; bringing about change in practice; and theory development. Based on these characteristics and on other criteria such as the philosophical base, Holter & Schwartz-Barcott (1993) identified three different approaches to action research: the technological, the mutual collaborative and the enhancement type of action research.

The typology of Holter & Schwartz-Barcott

Holter & Schwartz-Barcott (1993) describe the technical approach as a natural science type of inquiry in which the researcher seeks to test in practice an intervention designed from a pre-specified theoretical framework. Although the intervention is defined in advance, researchers may introduce changes to the initial plan based on insights gathered into the situation during the action research process. Researchers seek interaction with practitioners in order to gain their agreement to participate and their help for the implementation of the intervention.

The mutual collaborative approach is based on the historical-hermeneutical paradigm (Holter & Schwartz-Barcott, 1993). Within this approach there is a more equal participation between the researchers and practitioners in the design and implementation of the study than in the technical approach. The practitioners involved in this type of action research are believed to gain a better understanding of their practice thus contributing to a more lasting effect of the change. The knowledge generated by this type of action research is mainly practical and emerges from the reflection of practitioners on their own practice. This knowledge is inductive and descriptive.

The enhancement approach is based on the critical science paradigm and aims "to increase the closeness between the actual problems encountered by practitioners in a specific setting and the kind of theory used to explain and resolve those problem...[and] to assist practitioners in identifying and making explicit fundamental problems by first raising their collective consciousness" (Holter & Schwartz-Barcott, 1993). Local theories are developed from collective reflections among the practitioners. The knowledge generated is descriptive and predictive.

Although Holter & Schwartz-Barcott (1993) clarified the nature of action research, their work has limitations. One limitation is the absence of a description of the process they followed for the identification of the core characteristics of action research. Although these characteristics are consistent with the literature, nevertheless, the absence of methodological explanation makes it difficult to judge the validity of their study. Hart & Bond (1995) also identified some limitations regarding Holter & Schwartz-Barcott's (1993) typology: for example, Holter & Schwartz-Barcott (1993) did not place the different approaches in their historical context; nor did they consider that action research has a dynamic nature and that therefore the project's orientation may change during the course of the study.

Hart & Bond reviewed the English literature on action research (n=233 papers) in health and social sciences, covering the period 1945-1994. As a consequence, they identified the following characteristics: action research is educative; problem-focused; context specific and future oriented; aims at involvement of participants; follows a cyclical process of research, action and evaluation; involves a change intervention; and has a collaborative nature which means that participants are involved in the research process. Hart & Bond (1995) then, based on these characteristics, classified the different action research studies they reviewed and identified four different approaches: experimental, organisational, professional and empowerment.

The typology of Hart & Bond (1995)

The experimental approach is associated with the early days of action research. Here a problem is defined in relation to a pre-established theoretical framework and brought into practice by the researcher to be tested. The study outcomes are pre-established and controlled by the researcher. The aim of this approach is to give rise to general laws that may contribute to policy-making. Change is seen as a rational activity, planned and controlled. Researcher and participants have clearly differentiated roles. According to Hart & Bond (1995), this approach is closely allied to the technical collaborative approach of Holter & Schwartz-Barcott (1993).

The organisational approach focuses on the solution of organisational problems, usually defined in terms of management interest. Change tends to be top-down. Therefore considerable energy needs to be placed in overcoming resistance and creating more productive working relationships. Education and training are the means to bring about change in behaviour. Researcher and participants have differentiated roles: the researcher is the consultant and the practitioners are viewed as participants. There is a focus towards tangible outcomes which are usually predefined. Within this approach there may be tension between research and action "arising from the dual aim on the part of the consultant-researcher to meet the requirements of both managerial problem-solving and social science research" (Hart & Bond, 1995, p 46). According to these authors this approach is related to the mutual collaborative approach of Holter & Schwartz-Barcott (1993).

The professionalising approach of action research is concerned with professionals and professional development together with the development of a research-based practice. The problem selected for action research is negotiated between the researcher and practitioners and emerges from practitioners' everyday practice. Study outcomes are defined in terms of practitioners' improvements in practice. Education is understood as reflective practice. The research components are dominant in this type of action research. The researcher's and practitioners' roles are merged, and as a consequence the latter are seen as collaborators. This approach is related to the enhancement approach of Holter & Schwartz-Barcott (1993).

The empowering approach is associated with community development approaches and is characterised by "an explicit anti-oppressive stance to working with vulnerable groups in society" (Hart & Bond, 1995, p 44). Education takes the form of consciousness-raising in which, instead of relying on abstract knowledge, learning is rooted in the everyday experience of vulnerable groups. The problem, the object of the study, emerges from the group and is bottom-up. The bottom-up approach brings with it the possible danger of powerful groups not being involved (e.g. managers) thus creating potential blocks to progress in the future. Usually the problem is not very clear at the beginning and is generally related to areas such as improvement of communication. The direction of the intervention is agreed among the practitioners. The action components are dominant. The relationship between researcher and practitioners is one of co-agents or co-researchers.

Hart & Bond (1995) write that their typology describes how action research, as a method, has shifted over time from an initial scientific approach to social change to a qualitative and social constructivist approach in recent times. In addition, Hart & Bond (1995) stress that the use of an approach is not static and that an action research project may shift from one type to another as it moves through the spiral of cycles. For instance, in the study Hart & Bond (1995) conducted, the organisational approach they used at the beginning changed towards an empowering type later on

as the project developed and practitioners became actively involved (Hart & Bond 1996). Also, according to Hart & Bond (1996), the use of a typology can facilitate the selection of the most appropriate style of action research for the context and should help the researcher to foresee problems and difficulties.

Holter & Schwartz-Barcott (1993) indicated that most of the nursing studies they reviewed fell within the technical collaborative approach. On the other hand while a growing interest has been noted among nurse researchers in more participative types of action research such as the professional or empowering approaches, nevertheless, these last two approaches have many practical and methodological difficulties which cannot be ignored (Hart & Bond 1996; Meyer 1995; Waterman *et al.* 1995). Hart & Bond (1996) comment that the professional and empowering types of action research create conflicts of power and control that can generate practical and methodological difficulties. Meyer (1995) stresses that although desirable, these approaches to action research are more idealistic than realistic, given the reluctance of practitioners to self-reflection and the limitations of time for practitioner involvement in the research process. Waterman et al (1995) indicate that the process of action research is as complex and difficult as the problem of bridging theory and practice. They stress the complexity of transporting the experience of others into written words.

In conclusion, there are different approaches to action research, the appropriateness of each one depending on the aims of the study and the context in which the study is taking place. Precisely because it is context-based research and takes place in a real situation, it is not surprising for action research to adopt different approaches during the course of a study.

The action approach selected for the present study was the experimental one. This selection was made after taking into account the characteristics of the setting (see 1.2) and the aims of the study. Therefore the following factors were considered:

- the constraints of time to carry out the study and therefore a more controlled approach was thought to help shape change more efficaciously.
- the researcher's awareness of both nurses' lack of familiarity with research methods and a nursing education based on the traditional lecturer-centred approach. Therefore there was no plan to involve staff nurses (participants) in the research process.
- the fact that the researcher was based in Glasgow and the research was going to take place in Spain made her concerned about the support and expertise she could get in the setting. This,

together with her inexperience in action research, influenced her decision to plan as much as she could before starting data collection.

The action research approach selected contained elements of the experimental and professionalising approaches according to Hart & Bond's (1995) typology. From the experimental approach it shared the following: (1) the decision about the "problem" to be studied, that is, the implementation of the nursing process, which was proposed by the researcher to the participants; (2) the theoretical framework regarding the nursing process, which came from the literature review and was therefore brought from outside; and (3) participants were expected to collaborate in the decision-making but were not expected to engage in the study as co-researchers. The approach selected also shares some elements of the professionalising type because the principles that inspired the action research were ones of practice development as a result of staff maturation in critical thinking and reflection.

In the following section action research as a process is discussed.

3.2.2. Action research as a process

Regardless of the approach, action research is generally described as a process composed of different phases that are continually in interrelation (Waterman et al, 2001; Parra, 1995). According to Parra, the traditional phases of action research as described and used by Lewin are planning, action and evaluation. These phases are usually represented in a spiral (cyclical process) in which each curl contains the three phases and is linked to the following curl by the evaluation phase that feeds back the results of the action and contributes to the next planning. Parra (1995) highlights that there are authors such as de Miguel Díaz (1988, in Parra, 1995) who indicate that action research can exist within a linear approach; for instance when used to validate whether a specific strategy works in practice. For other authors such as Waterman et al (2001) the cyclical process is a distinguishing feature of action research. They describe this cycle as containing problem identification (which includes reflection), planning, action and evaluation. They consider that reflection is a key element in the research process and therefore should be constantly present. Nevertheless, they also recognise that this process is sometimes difficult to follow in practice and to be reported.

Each phase is now described following the framework highlighted by Parra (1995). The first phase is the planning phase where the problem is defined, placed in context and explored. Once the problem is explored, the goals, actions to attain the goals and the mechanisms for evaluation are specified, including the competencies of the researcher and practitioners, together with the ethical criteria for keeping and handling information. The second phase of action research is the action,

which consists of carrying out the previous plan, step by step. In order to facilitate the action it is important to prepare the field through appropriate communication and information. The third phase is the evaluation, which encompasses the validation and analysis of the data obtained from observation of the action, interpretation of data from the perspective of the expectations of the action, and decisions reached about continuation or revision of the plan. This evaluation is essentially formative as it takes place alongside the study and leads to corrections and modifications of the plan.

Given its simplicity and clarity and its fit with the experimental approach, the traditional model of action, planning and evaluation was used according to a linear process as the framework for the present study. The planning phase assessed the current situation of the study setting, regarding both the nursing process and the factors that, according to the literature, influence its implementation. The action phase sought to develop and implement strategies to facilitate change and the evaluation phase aimed to carry out a formative evaluation of the process and outcomes of change.

3.2.3. The place of action research in the research domain

Is action research a valid research method? How shall it be judged? What is the type of knowledge generated by action research? These are some of the questions that are still under debate in the action research literature, as indicated recently by Dash (1999). Some of the key aspects of these discussions are presented next.

Research is understood for the purpose of this discussion as a systematic process of inquiry through which theories are generated or tested. This process leads to a better understanding of the reality under study. Traditionally, there have been two major research paradigms: quantitative and qualitative (Roe & Webb, 1998; Polit & Hungler, 1995). Quantitative research has as its main purpose " to explain nature through the testing of hypothesis and development of theories" (Getliffe in Roe & Webb, 1998). The main purpose of qualitative research is to explore and make sense of the meaning people give to their experience. This type of research also contributes to theory generation (William in Roe & Webb, 1998).

According to Parra (1995) "any research process seeks knowledge of a reality, but in the case of the action research, it seeks the implementation of actions to modify it". Action research has both research and action components. It is a way of doing research and solving practical problems at the same time (Webb 1997).

There is agreement among authors that action research contributes to both changes in practice and generation of knowledge (Waterman et al, 2001; Parra, 1995) but there is no conformity as to the type of knowledge generated and under what criteria it should be judged.

According to Dash (1999) and Parra (1995), action research cannot contribute to the creation of laws or general theories given that it is context-based and the action researcher has an active role in the study. However, according to Waterman et al (2001), who do not include Dash or Parra in their review, the knowledge generated by action research can be of different types, prepositional or practical depending on the type of philosophy underpinning the action research. Waterman et al stress the importance of this knowledge generation as an significant element although they also recognise that "the low prevalence of aims and objectives relating to theory may indicate that, although there may be an awareness of the value of theory development, it is not a primary concern of action research as they are currently undertaken" (Waterman et al, p 40).

Parra (1995), on the other hand, indicates that the knowledge that comes from action research does not need to be validated outside of practice because, as it is knowledge aimed at improving practice, it is therefore context-bound and dynamic. According to Parra (1995), action research belongs to a paradigm of change and not to an epistemological paradigm; therefore the criterion against which it should be judged should be whether that knowledge contributes to the professional and personal "improvement" of practitioners. "The paradigm of change cannot be considered as an epistemological paradigm but as an ethical or moral paradigm because the former one refers not so much to the correction of knowledge as to the correction of practice and only refers to the knowledge in relation to its influence in practice" (Parra 1995, p114). Nevertheless, the problem here remains as to the criteria under which we should consider this "improvement".

To conclude, the scientific validity of action research cannot be judged according to the cannons of traditional research as action research attempts, precisely, to overcome the limitations of this paradigm. Although there is agreement among action researchers that this type of research contributes to changes in practice, there is less conformity with regard to the type of knowledge generated through action research and how it should be judged.

3.2.4. Summary of the theoretical aspects of action research

Action research is a type of research that is essentially united with practice and for practice. Action research has been used within the framework of different scientific paradigms, such as natural science, qualitative or critical science, which explains the variety of approaches that have emerged. Regardless of the approach, there are certain characteristics constitutive of action research such as

its collaborative nature between researcher and practitioners; its focus on practical and context-based problems; the involvement of a change intervention; and its combination of research, action and evaluation. There is considerable debate as to what type of knowledge is generated through action research and how it should be evaluated.

3.3. Methodological aspects of action research

Having considered some theoretical aspects of action research, the following section deals with methodological characteristics of this research method.

3.3.1. The role of the researcher in the action research

The role of the detached and neutral researcher, which is essential in natural science research, such as in randomised control trials, has limitations. According to Dash (1999), it may prevent researchers from studying those issues which call for some type of active involvement, e.g. issues in education, social welfare, criminology and public health. In addition, as a consequence of the separation between research and the real world where findings should be put into practice, research is not easily used by practitioners.

Action research followers attempt to overcome the limitations of traditional research by promoting a type of research which is carried out in practice and with participants. The separation between researcher and participants becomes blurred (Waterman et al, 2001). Although this involvement of the researcher with the participants and the setting is similar to the notion of participation in qualitative research, there are some differences between them. The purpose of researcher involvement in natural settings in qualitative research is to get to know how participants in that particular setting live and act by sharing in their lives (Frankfort-Nachmias & Nachmias, 1996), while the purpose of participation in action research is essentially to facilitate change (Dash, 1999; Parra, 1995; Waterman, 1994). The following affirmation from Winter & Munn-Giddings (2001) summarises what has been said: "the main purpose of action research ...is not only to improve their understanding [researchers] of a situation with which they are already intensively involved, but also to engage in an attempt to change things (even if only on a small scale) and to describe what is learned from the change process as it occurs" (p19). The researcher therefore usually has a participatory and observational role in the study.

According to Holloway & Wheeler (1996), there are four types of participant observation: 1) complete participation, in which the researcher is an insider in the setting and conceals his/her role as observer; 2) participant as observer, that is, the researcher's role in the setting is similar to the

participants, but his/her role as observer is known by the participants; 3) observer as participant, in which the main role of the researcher is observation and therefore has little participation; and 4) complete observer in which there is no active involvement of the researcher in the setting, and his/her unique role is observation.

It is difficult for an action researcher to hold a complete observer or complete participant role given the action and research components of the research. The action researcher's role normally falls somewhere between "participant as observer" and "observer as participant". Possibilities available, the type of action research selected, the researcher's background and participants' expectations are factors that influence the researcher's decision regarding his/her degree of involvement and participation in the setting. For instance, Webb's (1989) account provides an example of how she decided her role on the ward (participant as observer) based on her teaching and nursing background and her view of participants' expectations.

The role of the researcher can also vary according to the study phases and the variety of data collection methods and tools used within each phase (see 3.3.2). Moreover, unexpected situations during action research can oblige the researcher to take on roles not initially foreseen as occurred in Pontin' s 1997 study. Initially Pontin planned to be 'observer as participant' to evaluate the change process towards primary nursing. However, during the course of his research he had to get involved directly in the developmental work for primary nursing, giving guidance, education and working closely with the staff. Thus, his role changed to participant observer.

The role of the researcher for this study was decided according to the study phase. In phases 1 and 3 where the purpose was to gather baseline data pre and post intervention, the researcher adopted an 'observer as participant' role with minimal influence or participation in the setting. For phase 2, the intervention phase, it was decided to adopt the role of 'participant as observer' (Holloway & Wheeler 1996) in order to promote more direct collaboration with, and integration of, the researcher in the setting. These roles are in tune with an experimental type of action research.

Field notes

Participant observation data are normally collected in the form of field notes (Morse & Field, 1996). Field notes are a common data collection tool in action research studies, as shown in the studies of Waterman (1994); Pontin (1995) and Webb (1989).

Webb (1989) gathered observational notes related to events and conversations that took place during the study; she also recorded notes regarding occurrences with methodological implications,

and theoretical notes on themes that started to appear as the study advanced. Waterman et al's (2001) field notes focused on the description of incidents, researcher's feelings, methodological and theoretical ideas, and analytical commentaries. In both cases field notes were recorded using a notebook, as a notebook is easy to carry and not unduly noticeable. Brief notes can be taken during an observation period, to be completed later if there is not time available during observation or if to write them in the setting is not seen as opportune (Morse & Field, 1996).

Given the collaborative nature of action research it is important to gather data related to interactions, such as group meetings or discussions (Kemp 2001). Kemp also stresses the importance of keeping a reflective diary with personal feelings, interpretations and reflections related to the study, as well as analytical notes regarding emergent ideas, new ways of understanding and conceptualising a situation, and suggestions for new evidence-gathering. Field notes allow the researcher to analyse the research process as well as their own thinking when kept as a reflective diary (Winter & Munn-Giddings, 2001).

For the present study field notes were maintained to record the process and content of the action research, as well as the researcher's reflections, thinking, feelings, and role during the course of the study.

3.3.2. The use of triangulation in action research

According to Waterman (1995) the practical focus of action research and its collaborative nature demand a flexible research approach. This flexibility is made possible by using adaptable data collection methods (Waterman 1995). Data are collected with the intention of directing the change, describing the process and evaluating both the process and outcomes of the change.

The varieties of data collection methods adhere to the different objectives of the planning, action and evaluation phases of action research and the need to use appropriate data collection tools for each one. During the planning phase both qualitative and quantitative methods are generally used. The aims of data collection in this phase are twofold; to collect baseline data for later comparisons; and to become familiar with the setting. For instance, Webb (1989) used participant observation and questionnaires as the main data collection tools during the first stage of her action research study on the development of nursing practice in a hospital ward. Through these tools she became familiar with the setting and collected data regarding both the ward as a learning environment and the level of stress of trained staff. Meyer (1995) used several questionnaires and interviews during the planning phase of her action research on the development of lay participation in care in a hospital ward.

During the action phase, data collection methods such as participant observation, semi-structured interviews and groups discussion are frequently used, while in the evaluation phase, researchers try to capture the process and outcomes of change through methods like participant observation, interviews, focus groups and questionnaires. Meyer (1995) repeated the data collection tools used in the planning phase to measure if change had occurred post intervention. The used of varied data collection methods is characteristic of many nursing action research studies and is designated "triangulation".

Redfern & Norman (1994) describes triangulation as a combination of "methodologies" used with the purpose of validating and completing the study of a phenomenon. They describe each one of the five types of triangulation as follows: i) Method triangulation means that different methods are used in the study and that "the methods are selected as a combined strategy so that the strengths of each are maximised and their limitations minimised"; ii) Data source triangulation can be of three types: 1) person, in which data are collected from different individuals and/or groups so data from one source are used to validate data from another; 2) time, which means that data collection is repeated over time to check congruency; and 3) space, in which data from different locations are gathered in order to check validity; iii) Unit of analysis triangulation consists of using different perspectives to analyse data so as to get a better understanding of the phenomenon under study; iv) Investigator triangulation means that the knowledge and theories of different researchers are taken into account when analysing data so that the bias of a single researcher can be reduced; v) and Theory triangulation consists of using different theories or hypotheses in order to test their utility to explain the phenomenon under study.

According to Norman, Redfern, Tomalin & Oliver (1992) the term triangulation refers both to the aim of increasing the validity of data and to the idea of obtaining more complete information about the object under study. They call these two objectives, confirmation and completeness respectively and clarify that the second one usually involves the first purpose but not the other way round. When the purpose is to gain a more complete picture, then the researcher tends to maximise the data gathered. This broader use of triangulation is called "multiple triangulation", and is defined by Redfern & Norman (1994) as the combination of more than one type of triangulation in a research study, such as methods, data sources, unit of analysis, investigator triangulation and/or theories triangulation.

According to Israel et al (1998), the use of triangulation involving multiple sources of data, methods and investigators is an important technique to increase the trustworthiness of an action research study: that is, its validity and reliability. Polit & Hungler (1995) assert that the use of

triangulation, understood as the use of multiple sources of data to draw conclusions about what constitutes the truth, is one of the techniques to assure the credibility of qualitative studies.

In spite of the benefits of using "triangulation", such as overcoming bias, increasing confidence in results, providing an understanding of the domain under study and allowing divergent results to enrich explanation, Redfern & Norman (1994) also highlight its challenges such as, for instance, linking all data gathered while avoiding loss of complexity, interpreting the significance of data, weighting the importance of data and interpreting divergent results. Meyer (1993), who used methodological triangulation, stresses the enormous demands in terms of skill and time that it places on the action researcher who, at the same time as collecting data, should be facilitating change.

Norman et al (1992) advise researchers to clarify their aim in using triangulation and to describe the type of triangulation used. Although not always explicitly stated, in many action research studies triangulation serves the purpose of completeness, which, in addition, contributes to the confirmation purpose.

In this study the selection of data collection methods was influenced by the objectives of each phase. Multiple triangulation, specifically method and data source triangulation were selected to describe the setting's readiness for the implementation of the nursing process, its current degree of implementation and the degree of change achieved after the intervention. Method triangulation was selected because it allowed data to be gathered related to the same phenomena from different angles and in that way to complete and validate the data obtained. Data source triangulation was selected to gather data from a range of sources: nursing staff, managers and doctors.

3.3.3. Summary

Researchers' involvement and collaboration of participants in the study are key features in action research. The researcher's role normally falls between "participant as observer" and "observer as participant". The degree of researcher involvement in the setting will depend on the type of action research selected, the possibilities available, researcher background, participant expectations and data collection methods. Field notes are used to gather data regarding the role of the researcher, the nature of collaboration and the change process. Given the variety of aims of an action research study such as to direct, describe and evaluate change, it is common to employ triangulation.

3.4. Action research and the nursing process

So far in this chapter the discussion has dealt with the theoretical and methodological aspects of action research. This section critically evaluates action research studies related to the implementation of the nursing process. The literature in this section is presented as follows. First, a description of the main studies using action research in the implementation of the nursing process are presented, followed by a critique of content and methods used in those studies.

3.4.1. Action research studies related to the implementation of the nursing process

It should be noted that literature related to this area is scarce. Only six papers: Boomsma et al (1997); Moen et al (1997); Gibbon & Little (1995); Lauri (1990); Stevenson (1990) and Lauri (1982) were found in the Medline and Cinalh databases. The unpublished theses of Sirra (1987) and Farmer (1986) are also considered here because both used action research for the introduction of the nursing process. The studies are presented in chronological order and the following parameters discussed: aim of the action research, type of approach, and a brief description of the content and methodological characteristics of the action research carried out or proposed. In the case of Lauri (1982) and Stevenson (1990), their papers do not describe the study each conducted but they deal with the implementation of the nursing process from a theoretical perspective, therefore in presenting their papers the author will not follow the criteria mentioned above.

Lauri (1982) argues that the participative nature of action research, by involving nurses in the process of implementation, facilitates the adoption of the nursing process and its application in practice. According to Lauri, the researcher's role is that of consultant and of co-ordinator with expertise in the nursing process. The collaboration of practitioners in the decision-making process is considered an essential element. Regarding the action phase, Lauri considers the development of nursing documentation and the clarification of the content of nursing as a key to implementation. She also indicates that evaluation has to take into account not only the implementation achieved in terms of hard data but also changes in nurses' perceptions and attitudes together with their participation in the research process. According to Hart & Bond's (1995) typology, Lauri's action research fall within the experimental approach.

Farmer's (1986) unpublished thesis describes the introduction of the nursing process in two clinical areas in Scotland as part of a wider WHO medium-term project aimed at identifying what patients' needs could be met by nurses using an action research approach. The overall study design was determined by the project leaders and Farmer was selected as one of the co-ordinators for Scotland. Her study contains elements of the professional approach and the experimental one. Although

lacking methodological rigor, as noted by Farmer, this study is interesting as it describes some of the strategies and interventions used in action research, and it represents one of the first attempts to introduce the nursing process using an action research approach.

Farmer (1986) used strategies of change that promoted decision-making and personal growth because they were in agreement with the patient-centred focus of the nursing process. During the assessment phase of the study she carried out discussions with nurses to elicit nursing concepts. The action phase of action research was directed towards re-education using seminars and self-help groups to work with nurses towards person-centred nursing as opposed to disease or task-centred nursing. Self-help groups were composed of staff nurses and led by nursing officers who acted as internal change agents. Farmer also established a steering group with the purpose of involving practitioners and managers in decision-making. During the action phase systematic documentation was introduced. Evaluation was ongoing with a summative evaluation nine months post-study based on a review of nursing documentation and informal discussions with nurses and managers. Organisational data regarding workload and staff numbers were also gathered.

The changes achieved were not overwhelming. Nursing records showed little improvement in the recording of psychological needs of patients or the identification of their problems. The self-help groups discontinued at the point of evaluation. The researcher acknowledged that the time dedicated to education was probably insufficient and that limited human resources in the study settings was another element negatively influencing the stabilisation of changes.

Nevertheless, Farmer (1986) went further than Lauri (1982) in her understanding of nurses' preparation for use of the nursing process because she understood that, besides working on nursing documentation and the content of nursing, nurses' development of critical thinking skills were essential elements for the successful introduction of the nursing process. Given the methodological limitations of the study it is not possible to evaluate whether these last factors, taken into account by Farmer (1986), did have an impact on the implementation of the nursing process.

Sirra's (1987) unpublished thesis describes both the change process and outcomes related to the introduction of the nursing process in five medical-surgical wards in two different middle-range hospitals in India. The hospitals and wards were selected purposefully as they were familiar to the researcher, had students, and the length of hospital stay was long enough to allow the use of care plans.

Sirra's (1987) action research contains elements of the experimental and organisational approach according to Hart & Bond's typology (1995). The focus of change was decided by the researcher

and suggested to hospital managers. The approach followed was top-down given that the managers and nurse managers were the gatekeepers during the study. It appears that collaboration with practitioners was adopted as a means to avoid resistance and to facilitate the introduction of expected change. Sirra acted as an external change agent with the role of developing awareness of the need for change, and initiating and influencing change. She demonstrated competence in knowledge, practice and communication skills, which she mentioned as being very useful for developing trust among nurses. Ward sisters were prepared by Sirra as internal agents in order to continue with the nursing process implementation after her withdrawal.

The study contains the following phases: an initial survey of the environment that lasted two months and in which data regarding the preparation for change and the use of documentation were collected through participant observation and informal interviews. The second phase labelled preparation for the study, contained three main actions: development and testing of a teaching course for nurses on the nursing process; elaboration (by the researcher) of nursing documentation based on the principles of the nursing process and the setting up of three types of groups: a Steering Group, an Advice Group and several Support Groups, to direct and monitor the changes during the main phase and to provide assistance with in-service training and organisational changes. During the main phase of the study, which lasted three months, the introduction of the documentation relating to each one of the phases of the nursing process took place together with the teaching course. Finally, the stabilising change phase, in which the internal agents received a course to reinforce their role, took place and lasted for two months.

Evaluation was ongoing with a final evaluation carried out three months after the departure of the researcher. Data were collected through interviews, observation and evaluation of documentation. The opinions regarding the implementation process indicated satisfaction. The documentation continued to be used several months after the researcher's withdrawal from the ward. The collaboration between managers, practitioners and educators together with the plan for the change process were considered essential for the implementation of nursing process.

Participant observation and interviews were used in the study but no detailed account of how data were collected and analysed is presented. Furthermore, in Sirra's (1987) study there were no objective data comparing the degree of change obtained. In spite of the methodological limitations, Sirra's study provides clear guidelines in terms of study design, strategies and action plans, and how the nursing process can be successfully implemented.

Lauri's (1990) study deals with a specific area of the nursing process, that is, nurses' decision-making skills. Lauri (1990) examined whether the systematic teaching of decision-making affected

nurses' understanding and practice of decision-making and what organisational factors were related to the learning process. A three-phase study was carried out in five wards of a Finnish University Hospital, each ward corresponding to a different field of medicine. In the first phase different forms of triangulation (methods, researcher and data sources) were used to obtain baseline data regarding the nurses' use of decision-making. During the second phase, a teaching programme took place consisting of formal sessions, discussions and teamwork related to different aspects of the decision-making process. These sessions, lasting between one and two hours, took place every four nights in each ward during five months. In the third phase of the study, some of the quantitative and qualitative methods used in phase 1 were repeated to assess improvements in decision-making. Results showed an increase in the decision-making score in the simulated test and moderate improvement of decision-making in practice. Lauri's (1990) study shows a maturity regarding methodological aspects of action research such as the use of objective measures to evaluate the effects of change by collecting baseline data and comparing them with post-intervention data. Nevertheless, there is no mention as to how qualitative data were gathered through interviews and which specific criteria were used for the observation; nor how both qualitative and quantitative data were analysed. She used the experimental approach of action research according to Hart & Bond's (1995) typology.

Stevenson (1990) was the project nurse for the implementation of Orem's model of care in a rehabilitation ward in Ladywell Hospital. Stevenson's opinion-based paper reflects on why the nursing process was not introduced successfully in the past. He acknowledges that on most occasions it was introduced without appropriate support from managers and without the necessary nursing investment; that is, nurses had only their roster time to develop practice, which led them to an "energy crisis" and failure to cope with all the demands of change while carrying out their duties on the ward. According to Stevenson, what is needed in the ward is to invest in an action researcher with expertise in conducting change in order to facilitate the introduction of the nursing process. The action researcher, in addition to continually operating within the ward, collects and analyses data in order to evaluate the changes. Taking into account Stevenson's views, the studies of Sirra (1987), Farmer (1986), and Lauri (1990) fulfil Stevenson's requirements as the three authors were action researchers and none were members of the staff; therefore they had the freedom to carry out their role as facilitators and evaluators of change, as did Lauri's (1982).

Gibbon & Little (1995) carried out action research to improve the care and rehabilitation of stroke patients in a general medical ward. They used a quasi-experimental research design and followed Hart & Bond's (1995) experimental and professional framework of action research. Among the different aims of this 12-month study, one was to introduce and evaluate the effectiveness of nursing process documentation. Through staff ward group discussions, it was identified that the

current assessment tool and care plans were too vague, that there was little connection between the assessment and the plan of care, and that nursing problems were not recorded. As a consequence new nursing process documentation was developed and introduced, consisting of a more comprehensive assessment using Roper et al's (1985) model (in Gibbon & Little, 1995) along with a new column for problems identified during the assessment. After a trial period, the revised tool was evaluated. The findings of the study in relation to nursing documentation indicated that the new tool provides: more comprehensive documentation which is more sensitive for eliciting nursing problems; and facilitates the continuity between assessment and care plans. The methods and criteria used to evaluate the documentation were not specified in the paper and therefore it is difficult to assess the validity of these results.

The action research of Moen et al (1997) aimed at improvements of nursing documentation in three clinical wards in a medium-sized acute hospital in Norway as a preparation for the implementation of an electronic health care record system in the hospital. The assumption was that changing documentation involved more than changing the paper format. In contrast with the study of Sirra (1987), practitioners in Moen et al's (1997) study were fully involved in the development of the nursing process documentation and the study seems to indicate that this involvement had a positive effect on nurses' attitudes towards documentation and its integration into their practice. Although the methods of evaluation of the process and outcomes of change are not clearly stated and described, Moen et al (1997) asserted that the action research contributed to a more positive attitude on the part of nurses towards documentation. This was corroborated by the fact that the new documentation was introduced successfully and used in one department. The changes were still underway at the publication of the paper and no further work was identified.

Boomsma et al (1997) carried out an action research study through which they aimed to develop methods to support the nursing process in crisis-oriented psychiatric home care in the Netherlands. Four psychiatric home-care teams were included in the study. There is no indication as to how collaboration took place between practitioners involved in the action research and the researchers, and this is an essential element of an action research study. It appears from the study accounts that the change strategy was led by the researchers. The focus of the paper is on the main actions they undertook during the action research, which were to develop an assessment form appropriate to the characteristics of the patients, and to identify the main nursing diagnoses of the patients assessed with this new form. The assessment tool developed was based on the FHP typology of Gordon (1994) (in Boomsma et al, 1997) and the nursing problems were based on the classification of nursing diagnoses of NANDA (Carpenito, 1993) (in Boomsma et al, 1997). The article concluded highlighting areas of future research as the project was still underway at the publication of the

paper. It is not possible to know the results of the action research as the outcomes and project evaluation have never been published.

3.4.2. Critique of the action research studies presented

It is interesting to notice that with the exception of Sirra (1987) who cited Lauri (1982), none of the papers presented in section 3.4.1 cross reference each other. In fact, there are no signs of a research track record in the implementation and use of the nursing process. The quality of the papers and theses is, from the methodological point of view, weak: there is no description of research elements such as sample selection, data collection tools' criteria, data analysis process. And although the accounts of Gibbon & Little (1995), Lauri (1990) and Sirra (1987) demonstrate a greater concern with methodological rigor, there are still important methodological elements missing: for example, management of qualitative data (Lauri, 1990; Sirra, 1987), and a description of the role of the researcher (Gibbon & Little, 1995). As a consequence, the robustness of these studies is questionable.

All the studies can be said mainly to follow an experimental or organisational action research approach according to Hart & Bond's (1995) typology. The researchers, outsiders to the settings, had expertise in both the problem being studied and the change process. The researchers and participants had differentiated roles.

The nature of the collaboration of participants in these studies varies. For instance, in Sirra (1987) and Lauri (1990) the action plans were decided mostly by the researcher and the practitioners' participation in the study was mainly collaborative and instrumental. In the studies of Farmer (1986) and Moen et al (1997) there was greater emphasis on the practitioners' participation and their professional development as practitioners was seen as a necessary objective in order to achieve the desired changes. It can be said, according to the typology of Hart & Bond (1995), that the studies of Farmer (1986) and Moen et al (1997) contain some elements of the professional approach and are more in line with current approaches of action research which understand this type of approach as a vehicle for practitioners' development and as a consequence for improvements in practice. Given the methodological deficiencies of these studies, it is impossible to evaluate whether a professional approach to action research influences the introduction of nursing process more positively, as opposed to the experimental or organisational approach. In fact, it seems that the experimental approach brought better results in terms of implementation of the nursing process (Sirra, 1987) or decision-making skills (Lauri, 1990).

In terms of study designs, most of these action research studies describe their action research as following a linear process of problem identification, action and evaluation. It is not surprising as it seems in agreement with an experimental approach (Parra, 1995). In addition, it may be also possible that action researchers failed to describe in their action research accounts their internal process of reflection, their continuous evaluation, and how it shaped the study. In Sirra's (1987) and Farmer's (1986) studies, there are indicators that the evaluation was ongoing. In addition, in the study of Farmer (1986) reflection was an important feature of her action research study, which took place along the study. In most studies, evaluation consisted mainly of an account of changes achieved in terms, for instance, of the use of nursing process documentation or practitioners' perceptions of the changes obtained.

From the action research studies presented there are only two, Farmer (1986) and Sirra (1987) which attempted to implement the nursing process as a whole. The other studies aimed to introduce specific aspects of the nursing process such as nursing process documentation (i.e. Moen et al, 1997; Gibbon & Little, 1995) or problems-solving skills (Lauri, 1990). Farmer's (1986) findings regarding the degree of implementation of the nursing process after the study were not overwhelming and she recognised that the education given to nurses was probably not sufficient and the ward conditions inadequate. In the case of Sirra (1987), although the study indicated that the nursing process was introduced, the already mentioned methodological limitations of the study put in doubt the validity of the results. Nevertheless, what has been recognised through the review of the literature on action research and the nursing process is the complexity of implementing the nursing process due to all the requirements that the nursing process implies, such as skills, knowledge, ward conditions, or nursing philosophy; hence the need to allocate enough time and resources to these types of studies.

3.4.3. Summary

There have been some studies using action research to implement the nursing process or aspects of the nursing process but no progressive research development has taken place. Studies were conducted in different countries and areas of nursing. Most have methodological weaknesses regarding research design, description of data collection methods and data analysis. In addition, important methodological aspects regarding action research, such as the role of the researcher, collaboration or evaluation, are missing in the study description; consequently findings should be treated with caution. Most studies indicate positive outcomes in relation to the adoption of new documentation for nursing process and changes in attitudes.

Therefore, taking into account the conclusions reached through the present literature review and the review carried out in Chapter 2, the following research questions emerged:

1. Does an action research approach facilitate the implementation of the nursing process?

2. In relation to the factors that the literature acknowledges as influencing the implementation of the nursing process (see 2.8 and 3.4), how do they contribute to implementation of the nursing process in this study?

In the next section the main elements of the action research planned for this study are presented.

3.5. The use of action research in this study

In spite of the methodological limitations mentioned previously, action research appears to be a valid and convenient research method for the implementation of the nursing process. Among the advantages of using this approach are:

- Action research guides, facilitates and stimulates the change process (Lauri, 1990; Sirra, 1987; Farmer, 1986);

- It facilitates the involvement of different professionals in a study and allows them to have different degrees of participation (Sirra, 1987; Farmer 1986);

- It takes into account the specific characteristics of the settings and adapts the action to those characteristics (Gibbon & Little, 1995; Sirra, 1987; Farmer, 1986);

- It contributes to theory generation regarding implementation of the nursing process through the description and evaluation of the process of change. For instance these studies have highlighted that educational preparation (Lauri, 1990; Sirra, 1987; Farmer, 1986), participation of nurses and managers in the introduction of the nursing process through the creation of steering groups (Moen et al, 1997; Sirra, 1987; Farmer, 1986), development and introduction of nursing documentation and the involvement of nurses in this development (Boomsma et al, 1997; Moen et al, 1997; Gibbon & Little, 1995) were positive elements in the implementation of the nursing process.

Given the mentioned advantages of using action research to introduce the nursing process, it was decided to use this approach for this study. The aim was to contribute to nursing knowledge regarding nursing process implementation.

3.6. Action research approach selected for the study

The action research approach selected for this study was the experimental one according to Hart & Bond's (1995) classification. Elements of the professional approach were also integrated as the study aimed to enhance professional development. In line with the experimental approach, the intervention and the framework were decided by the researcher, based on the literature, prior to the commencement of the study. The researcher was therefore the designer while the participants were collaborators.

This research was designed as a three-phase study corresponding to the planning, action and evaluation phases of the action research described by Parra (1995). In order to obtain a complete picture of the situation and to be able to evaluate the degree of change obtained, multiple triangulation according to Redfern & Norman (1994) was planned, specifically methods and data source triangulation.

Given the limited time for conducting the research (1.3) and the complexity of the enterprise it was considered that a full implementation of the nursing process would be probably out of the question in this study. In line with the action research linear process, it was decided that the evaluation phase would be a formative one and therefore the present study was considered to be the first buckle of a spiral.

The role of the researcher and the nature of collaboration

The researcher is of the view that change requires the collaboration and participation of those affected by it and that communal thinking may reduce the possibility of error. The different perspectives and factors brought into consideration by the different participants help to give a more objective picture of a situation. But in order for participants to be able to make sound decisions, they need to be properly informed; that is, to know and understand the topic under consideration. This explains why the consultation process might be also an educational one, and therefore the role of the researcher cannot be just that of facilitator in a neutral way.

The researcher decided to set up a steering group in order to secure the real and systematic collaboration of nurses, supervisors and educators in the design of the interventions for the

implementation of the nursing process. This promotion of collaboration is very much in tune with action research (Hart & Bond, 1995; Holter & Schwartz-Barcott, 1993) and with the implementation of the nursing process (Moen et al, 1997; Sirra, 1987; Farmer 1986).

The steering group composition was planned to include managers, educators and staff nurses as indicated in the literature (Moen et al, 1997; Sirra, 1987; Farmer, 1986); specifically, the researcher decided to include: the study ward manager, the line manager in charge of the study ward as she was part of the nursing board of management, the researcher supervisor of the hospital because of her experience in research and in the nursing process, the nurse teacher in contact with the study ward who could provide theoretical expertise on the nursing process, some of the staff nurses from the study ward, and the researcher.

The fact that the composition of the group was decided by the researcher is in line with the experimental type of action research in which the researcher leads the decisions regarding the research methods and theoretical approach (see 3.2.1). In order to involve participants in the decision-making and ensure agreement, nurses were asked to choose the staff nurses representing them in the steering group and to approve the group composition.

The aim of the steering group was to be the change agent and to direct the decision-making towards the implementation of the nursing process. The role of the researcher was to be an integrated member of the group regarding decision-making and to collect data from meetings, write minutes, provide theoretical expertise and facilitate group dynamics. Part of the purpose was to contribute to steering group members' expertise and prepare for the implementation of the nursing process, so that they could continue the implementation process after the researcher's withdrawal from the ward.

In order to be aware of her influence on the group and to reduce bias and to evaluate her role, it was decided to tape-record the steering group meetings. By listening to the tapes the researcher had a more objective picture regarding the decisions made, the group dynamics and her role. The researcher also decided to participate on the ward in relation to the theoretical and practical formation of the ward nurses in the nursing process study. This participation was appropriate within the experimental and professional approach to action research.

An additional element determining the approach and design of the action research was the fact that the study was in pursuit of an academic degree. As a consequence there was a time limit for completion of the study at the desired level. These factors oriented the researcher towards a greater emphasis on the research components of the action research.

Table 1 presents a summary of the phases of action research followed in this study and the data collection methods selected.

Table 1: Study Design

Phases	**PHASE 1** Baseline data collection	**PHASE 2** Implementation of intervention	**PHASE 3** Evaluation of change
Action research stages	Planning	Action	Evaluation
Data collection methods	• Nurses' and ward manager structured self-report questionnaires • Documentation review • Participant observation • Interviews	• Participant observation • Steering group minutes	• Nurses' and ward manager structured self-report questionnaires • Documentation review • Participant observation • Interviews
Researcher's role	Observer as participant	Participant as observer	Observer as participant

In the next section the justification and theoretical base of each one of the data collection methods proposed for the study are discussed.

3.7. Justification and theory underpinning the selected data collection methods

In the following section the data collection methods used in the study are justified and the theoretical base of each data collection method presented along with some issues regarding the validity and reliability of data collection tools.

3.7.1 Validity and reliability of data collection tools

In considering the validity of the study, serious consideration must be given to the validity and reliability of the data collection methods as the process of measurement is easily affected by error, especially when considering abstract concepts (Brink & Wood, 1994).

Validity and reliability of measurement instruments

Validity refers to whether an instrument measures what it intends to measure; that is whether it measures the intended attribute (Polit & Hungler, 1995). There are different ways of supporting the degree of validity of a tool: face validity, content validity, criterion validity and construct validity. Polit & Hungler (1995) define each of these types of validity as follows. Face validity refers to whether a tool looks like being able to measure the intended phenomena. It is not a very powerful type of validity but can be used to complement other sources of validity. Content validity examines the degree to which an instrument's content area is representative of the area under study. Ways of improving content validity are by consulting experts in the area when developing a tool, consulting previous scales and research done in the particular field and by the careful development of a scale. Criterion-related validity consists of assessing the correlation between the tool and a certain criterion which also measures the area under study. The difficulty here is to find a valid and reliable criterion with which to measure the instrument. Construct validity looks at what the device is really measuring, that is, the theoretical basis of the tool. There are different ways of assessing construct validity: for example, the "known-group technique", which is a procedure where groups that are expected to differ on the critical attribute are administered to the instrument. If the differences are not picked up by the tool, the validity of the instrument should be questioned. Another way of assessing construct validity is the multi-trait-multimethod-matrix method, which consists of using different instruments, to measure two different criteria that are inversely related and obtaining the correlation between them. If the correlation confirms what is expected, then the tool is considered to have construct validity.

Reliability refers both to the degree of consistency with which the tool measures the attribute it is supposed to be measuring and to the extent to which error is absent from the score obtained (Polit & Hungler, 1995). In order to assess reliability, the stability, internal consistency, and equivalence of a tool should be considered (Polit & Hungler, 1995). The way to assess the stability of a tool is by repeating the measures of the tool on the same sample after a period of time and studying the test-retest's reliability coefficient. The reliability coefficient is a numerical index of the magnitude of the test's reliability (Polit & Hungler, 1995). It is a correlation measure, which means that the number represents how perfect a relationship is. The possible values for a reliability test range from 0 to 1, where 0 indicates that there is not correlation at all and 1 maximum correlation. A reliability coefficient >0.70 in general is considered as satisfactory although in some situations a higher coefficient may be required. This correlation distinguishes whether the changes are due to random fluctuations or to true modifications. The problem of using test-retest reliability is that some attributes do change over time. In fact stability tests are more appropriate for enduring characteristics such as personality, abilities, or physical attributes (Polit & Hungler, 1995).

A tool has internal consistency when all the subparts of the tool measure the same characteristic. One method used to calculate the internal consistency is the split-half technique, which consists of splitting the test into two halves and studying the correlation coefficient between each half. The problem here is that depending on the way the test is split, reliability estimates change. Therefore nowadays it is more frequent to use the coefficient alpha, also called Cronbach alpha, to give an estimate of the split-half correlation for all the possible ways of dividing the tool in two halves. An alpha coefficient above 0.7 is considered as a high coefficient and shows that the variables are measuring the same thing (Anthony, 1999).

The dependability or equivalence is assessed by examining the equivalence between the scores of two researchers using the same tool for the same sample or by the same researcher using two different tools, but that measure the same attribute. This type of reliability is called interrater reliability and can be obtained by simply applying the formula:

$$\frac{\text{number of agreements}}{\text{number of agreements + disagreements}}$$

or by using correlation techniques. When using the formula, it should be noted that it tends to favour agreements and therefore is not as exact a test as statistical tests.

3.7.2 Data collection methods employed

In the following section the data collection methods used in this study are justified and described from a theoretical perspective. Issues of validity and reliability within each method are also discussed.

3.7.2.1. Structured self-report questionnaires

To gather information regarding the degree of implementation of the nursing process two structured self-report questionnaires, one for ward nurses and the other for the ward manager, were used in phase 1 of the study. In addition the ward nurses' self-report questionnaire was also used in phase 3 of the study.

The reasons for using questionnaire to collect data were:

- the belief that nurses are an important source of information regarding their own practice;
- and the fact that there was an already developed tool, Brooking's (1986) Nursing Process Measuring scale, which was validated and reliable.

Brooking (1986) scale measures the degree of implementation of the nursing process in general wards and is composed of a ward nurses' self-rating scale (containing 37 questions to answer); a ward observation scale based on the same 37 items which requires two consecutive midweek days of observation; and a nursing officer's ward-rating scale (one page self-completion questionnaire). The author developed the scale from American and British nursing process literature, elucidating the main themes and selecting from them items in order to operationalise the nursing process into a scale. These items were presented to and corrected by a panel of experts (academics, managers, practitioners) in the subject in the UK (n=50). Seventy four per cent of the experts (n=37) collaborated in the initial validation of the scale. The scale was tested by Brooking first, and then used on 16 wards in a hospital in order to measure the extent of implementation of the nursing process.

Among the advantages of using a questionnaire are that they are relatively cheap and quick for gathering data, although they have the disadvantages of a potential low response rate and the respondents' possible inability to, or difficulty in understanding the wording of questions (Murphy-Black, 2000). Other advantages of questionnaires are that they allow for anonymity and facilitate rapid analysis using computerised statistical packages (Muhall, in Roe & Webb, 1998). Muhall indicates that one of the limitations of the questionnaire is the risk of bias caused by respondents' desire to give expected answers or by the inaccurate reporting of events or behaviours. One way to deal with these potential problems is to use methodological triangulation in order to compensate for the limitations of subjective data.

Using structured questionnaires with closed, forced responses allows the researcher to ask the same questions, in the same order with the same set of options (Polit & Hungler, 1995). Questionnaires therefore allow both for comparisons between participants and rapid analysis. Polit & Hungler (1995) also indicate that generally closed-ended questionnaires are more easily answered than open-ended ones. Nevertheless, a negative aspect of questionnaires is that they do not allow for open comments to be included and therefore there is arguably less richness of data. Another potential limitation is that important responses can be overlooked or neglected by the researcher during tool design.

Closed-ended questionnaires can contain a numerical score which allows participants to be placed on a continuum with respect to attributes being measured (Polit & Hungler, 1995). For instance, the Brooking's ward nurses' self-rating scale was constructed as a check list questionnaire in which a numerical value was given for each one of the possible answers.

For this study, the two self-report questionnaires, one for ward nurses and the other for ward managers, developed by Brooking (1986) were adapted as reported in 4.8.1. The disadvantages of questionnaires did not present a problem given the accessibility of the sample, the fact that the researcher was to administer the questionnaires and the continuous contact of the researcher with the participants. Equally, the limitations of using closed-ended questionnaires were overcome by multiple triangulation.

Brooking's (1986) scale contains high levels of test-retest reliability; internal consistency, inter-rater reliability; face validity; and content validity. Nevertheless, as Brooking (1986) also indicated, construct validity was not fully tested. In addition, criterion-related validity was carried out by comparing the ward nurses' self-rating scale with the nurse officer ward-rating scale and the ward observation scale, all of them part of the same tool, therefore these other scales were not already validated tools. The sensitivity of the scale to make finer discriminations is also questioned, although according to the author, the fact that she did not work with wards which had either a full or null implementation of the nursing process make it difficult to be sure how sensitive the scale is.

3.7.2.2. Documentation review

Review of nursing documentation was used in phases 1 and 3 of the study to collect baseline data regarding the use of the nursing process.

Document review was used because:

- Nursing documentation should reflect the process and philosophy of nursing held by the institution and practitioners (Currell et al, 2001). Therefore, by reviewing it, information regarding the process and philosophy of nursing can be obtained.

- Nursing documentation is an integral element in the nursing process as it is difficult to deliver systematic and individualised care if information is not recorded (Serrano et al, 1994; Sirra, 1987).

- Evaluation of nursing documentation has been used by authors such as Davis et al (1994); Serrano et al (1994); Sirra (1987) and Brooking (1986) to evaluate the degree of systematisation and individualisation of the nursing care of clinical nurses.

Each of the mentioned authors elaborated a tool to gather information from nursing documentation in a consistent way (see 2.7). Each tool was designed according to the purpose of the study and the

characteristics of the setting. For this study, the researcher elaborated a tool to evaluate nursing documentation, based on the existing literature as will be explained in 4.8.3.

Among the advantages of using document review are that problems of co-operation, response bias and reactivity are avoided and that it is a relatively cheap data collection method (Polit & Hungler, 1995). However, bias may arise from incomplete data sets either through failure to collect all necessary information, or through lost or misplaced records, causing concern about the validity and accuracy of the written material (Polit & Hungler, 1995). Therefore, it is necessary for the researcher using the documentation review to make explicit what material was used, its representativeness, completeness and how it was retrieved. In this study, potential problems of missing data were found during the pilot study and therefore some measures were put in place (see 4.9.3.5).

Another problem when using records from hospitals is the reluctance of some institutions to allow their material to be used for scientific studies in order to protect patients' rights to privacy. Therefore it is essential for researchers to consider how to treat data with sensitivity, being aware of the need to preserve patients' anonymity and to be specific about it when asking for permission to use these data, according to the indications of the Data Protection Act, 1992 (BOE número 262). For this study, hospital managers' permission to access nursing documentation was sought (see 4.6.2).

3.7.2.3. Observation

Observation in the form of naturalistic or participant observation was employed alongside action research, with a twofold purpose: i) to validate and complete the data gathered through self-report questionnaires and the documentation review; and ii) to facilitate and describe the process of change.

Observation is considered appropriate for collecting data related to nursing activities, skill performance and environmental characteristics (Polit & Hungler, 1995). According to Patton (1990), observation allows the researcher to gain data that could be difficult to obtain from other methods, for instance, interviews, as participants may consider certain things as routine aspects of their practice or role and not acknowledge them in interviews. Also, the danger of participants not understanding researcher queries is avoided when the researcher is the one directly gathering data. Turnock & Gibson (2001) assert that observation provides firsthand experience in relation to current practice. Observation can also be used to validate data gathered through other methods such as interviews or questionnaires by comparing participants' accounts with a researcher's direct

observation (Pontin, 2000b; Polit & Hungler, 1995). Finally, by using observation the researcher can explore the situational factors that influence the phenomena under study (Pontin, 2000b) gaining in this way a deeper understanding of it.

Among the disadvantages of using observation is the amount of time required to gather observational data (Pontin, 2000b), mainly because of the need to became familiar with the setting in order to both gain access and know what and how data should be collected. Another important consideration with observational research is that because the researcher is the main data collection tool, adequate training is essential to avoid problems of bias that could affect validity and/or reliability of the data gathered.

Given the impossibility of absorbing a great amount of detail, it is necessary to specify what is going to be observed and how. "Structured observational methods differ from unstructured techniques in the specificity of behaviour or events selected for observation, in the advance preparation of record-keeping forms and in the kinds of activities in which the observer engages" (Polit & Hungler, 1995). Within structured observational methods the researcher usually decides the categories to be observed and elaborates an operational definition for each one which specifies the data that should be gathered. Once the categories are defined the researcher elaborates a checklist, which is the instrument he will use to record the observed phenomena (Polit & Hungler, 1995).

With participant observation, data collection can be either loosely structured or structured (Polit & Hungler, 1995). Among the disadvantages of less structured observation are: i) the problem of observer bias in relation to what data are collected and ii) the greater dependency of this type of observation on the researcher's observational qualities (Polit & Hungler, 1995). The advantage of using less structured approaches is that there is less danger of excluding behaviours or events which cannot be predicted in advance (Pontin, 2000b).

Although less structured observation allows for flexibility in the content of observation, Patton (1990), highlights the convenience of entering the setting with an idea of what needs to be observed, which he calls "sensitising concepts", that is, a certain framework of ideas, events or activities that the researcher has considered prior to data collection.

An important aspect when planning observation is to decide when the observation is going to take place. Time-sampling consists of the selection of periods in which observation will take place. Event sampling is appropriate when specific integral situations are to be observed and the researcher either knows when they are going to happen (handover, or ward rounds) or is in a

position to await their occurrence. Also, whether single, multiple or mobile positioning will be used needs to be considered.

Although observation is a powerful data collection tool, it is also very vulnerable to many distortions and biases due to human perceptual errors and inadequacies (Polit & Hungler, 1995). Nevertheless, there are ways of reducing the risk of bias, such as appropriate researcher training, piloting the observational tool or using, when appropriate, structured tools carefully pre-test and designed.

An important consideration when using observational methods is the potential problem of reactivity, that is, the change of behaviour in participants as a consequence of the presence of the observer (Polit & Hungler, 1995). There are different ways of dealing with that: for example, to make the researcher's presence explicit to the observed without being too specific about the nature of the observation, changing the times of observation and the subjects observed or waiting to start observation after spending a period of time in the setting to help the observed to get used to the researcher (Polit & Hungler, 1995).

For this study a less structured observation tool in line with Patton's (1990) "sensitising concepts" was decided on in order to collect data regarding the use of the nursing process on the ward. The researcher elaborated the framework content for observation (4.8.2). Given the inexperience of the researcher with this data collection method it was very important to pilot the tool (4.9.3). To avoid reactivity the decision was made to inform participants in a general way and make observations on different days and shifts.

3.7.2.4. Interviews

Interviews in the form of semi-structured interviews and focus groups were used in phases 1 and 3 of the study. Focus groups with staff nurses were used with the objective of gathering nurses' understanding of, and attitudes towards the nursing process before and after the change. Semi-structured interviews with senior managers and health professionals from the Institution were conducted in phase 1 to gather information regarding the culture of the organisation and its readiness for the implementation of the nursing process; nursing philosophy; and different professional perceptions of the nursing role. Semi-structured interviews in phase 3 sought to evaluate the process and outcomes of change from the participants' perspective.

Interviews are an appropriate method to explore people's perceptions and attitudes (Hammersley & Atkinson, 1983) and therefore useful when exploring perceptions and attitudes regarding the

nursing process (Zaragoza, 1999). Interviews allow for obtaining in-depth data about the setting under study (Gilham, 2000). Gilham (2000) describes "elite" interviews" as interviews conducted with key people in an organisation because of their authority or expertise to provide the information required by the researcher. One of the advantages of using interviews as opposed to self-report questionnaires is that data are gathered immediately and directly, which allows the interviewee to ask for question clarification and for interviewers to probe or request more detailed information if needed (Pontin, 2000a). Another important strength of this data collection method is the richness of data that can be obtained (Gilham, 2000). Among the disadvantages are that this method is time-consuming, especially regarding aspects such as accessing people or data analysis (Gilham, 2000) and it requires researcher training. In addition, the participant cannot preserve his/her anonymity before the researcher (Gilham, 2000).

Unstructured interviews are appropriate when little is known about an area or when the researcher does not want to impose her/his views on informants (Polit & Hungler, 1995). When there are specific areas to be explored and the researcher wants to make sure that the interview will cover certain topics then it is better to use a semi-structured interview (Polit & Hungler, 1995). One variant of semi-structured interview is the focus group, which consists of eliciting informants' views through group discussion. One advantage of this methodology is that it allows for gathering views from different individuals in a short time although the disadvantage is that the level of depth is not the same as in individual interviews and some people may not disclose their views in a group (Polit & Hungler, 1995).

In order to distinguish the specific contribution of focus groups and to distinguish it from other qualitative data collection methods such as interviews or observation, Morgan (1997, p2) stresses that "the hallmark of focus groups is their explicit use of group interaction to produce data and insights that would be less accessible without the interaction found in a group". According to Jackson (1998) focus groups are appropriate to identify key issues, to ensure the researcher has a complete a picture as possible of participants' thinking, to elicit participants' perceptions, insights and attitudes towards a particular topic or proposed change, and/or to clarify data collected by an alternative method.

The ideal number of focus group participants is between 7 and 12 and an homogeneous sample is recommended (Jackson, 1998). The researcher acts as moderator and the participants are the main protagonist. The moderator aims for a balance between participants' accounts and making sure that they cover the pre-determined topics (Morgan, 1997). Recording the focus group (Krueger, 1998) and validating the content with the participants (Morgan, 1997) improves validity. Prior to the start

of the group discussion, it is recommended the moderator give an introduction and explain to participants the method, their role and that of the facilitator.

Regarding the analysis of focus group data, Krueger (1998) recommends, among others, the following strategies: to validate the data gathered during the focus group with the participants by summarising the main ideas at the end of the focus group and asking them if it is what they meant; if the focus group is used with other data collection tools, to compare and contrast the data gathered with the data from the other tools. According to Jackson (1998), when the focus group has been used together with another data collection methods approach, then the analysis could consist in making an abridged transcript that contains the pertinent data.

In interviews the researcher is directly responsible for collecting data. It is important to be aware of possible researcher bias at the different stages of the study such as during data collection (influencing participants' responses) or data analysis (personal interpretation of data). Respondent bias, also called "social desirability", can take place as well. Social desirability refers to the tendency of some individuals to give answers in agreement with social mores (Polit & Hungler, 1995).

Measures that can be employed to reduced bias are, for instance, to avoid leading questions, and to help respondents insofar as possible by sharing beforehand the study aims and content of the interview and assuring confidentiality (Polit & Hungler, 1995). It is important the interviews be conducted in a quiet, if possible private, place, to avoid interruptions. Also, in order to enhance the validity of the data collected, it is recommended to tape the interviews or take careful notes (Polit & Hungler, 1995).

For this study, semi-structured interviews to gather information on the organisation's readiness to implement the nursing process were decided on. Given the size of the organisation and the fact that the researcher was working at the university access to the participants was not considered a difficulty. The time limit for conducting the research influenced the researcher's decision to use focus group with staff nurses instead of semi-structured interviews. In addition, she was also interested in their views as a group. In spite of the complexity of using interviews as a data collection method, the researcher decided to use it given the richness of data that can be obtained and the fact that she already had previous experience in using this method.

3.8 Validity and reliability as referred to action research

Validity and reliability refers to the robustness of a study and whether the findings can be taken seriously and used in other contexts (Roe & Webb, 1998). According to Brink & Wood (1994) these concepts relate to avoiding or minimising sources of error at all phases of a research study (Brink & Wood, 1994). Validity and reliability of a research project should be studied taking into account the peculiarities of that type of research (Brink & Wood, 1994). For instance, probability samples are the most appropriate in experimental research in order to assure the sample represents the population under study and that the results can be generalised to the population (Polit & Hungler, 1995). In qualitative research such as grounded theory, an important aspect regarding the sample is that it should provide the insight needed for the understanding of the phenomenon under study and therefore a theoretical or purposive sample is the most appropriate (Brink & Wood, 1994). Therefore, in order to consider the validity of an action research study, it is important to take into account the theoretical and methodological characteristics of this research approach, as has already been discussed in sections 3.2 and 3.3 of the present chapter.

Action research seeks to improve practice and therefore it is in relation to the process and outcomes of change that action research validity and reliability should be judged. According to Waterman (1998a), the readers are the ones who judge the validity of the findings and whether they think they can carry out a similar study. In order to facilitate the study of validity, the researcher has to be clear about how the process was conducted, and so the tensions and ethical dilemmas that take place alongside the study should be clearly stated (Waterman, 1998a). This requires a reflexive approach on the part of the researcher, by means of which he/she recognises and makes explicit his/her possible influences on the study.

Titchen (1995) asserts that action researchers should use their biases, values and beliefs, otherwise it is difficult for them to facilitate the desired change. Commenting on the study she carried out with Binnie (Titchen & Binnie 1994), Titchen (1995) asserts: "It would have been impossible for Alison Binnie and myself to help nurses to change their practice if we had not believed that a patient-centred style of nursing was better for patients". She concludes that what is important is to recognise the nature of this influence through a process of self-validation such as an audit trial of study field notes. In the same way, Waterman (1998a) asserts that inevitably the process and outcomes of research are coloured by the researcher's culture and life experiences and therefore she advises researchers to adopt a reflexive stance in order to "explore and analyse how they have influenced the research, to justify the reasoning behind their method and to reassure readers that they were attempting to be aware of how they affected the research" (Waterman, 1998a). Webb (1997) comments that by putting themselves on the line, action researchers, on one hand, help

readers to evaluate critically the validity of the study and on the other contribute to methodological developments.

In conclusion, through comprehensive documentation of how action research is carried out, based on a process of reflexivity, readers should be able to evaluate the validity of the study and apply it to their settings if they consider it appropriate (Roe & Webb, 1998; Waterman 1998a). For this study, the researcher decided to follow this reflexive approach: that is to be aware of her influences on the study and to try to make them explicit through field notes regarding her role, ideas, decisions and assumptions.

3.9. Summary of the chapter

In this chapter the literature related to action research has been examined. The main theoretical and methodological characteristics of action research have been discussed. Action research studies dealing with the implementation of the nursing process have been critically evaluated. These studies manifested that action research is a valid and convenient research approach for implementing the nursing process. Finally, the specific action research approach and design selected for the study has been explained and justified. A summary of the main ideas discussed through out the chapter is presented in the following paragraphs.

Action research is a type of research directed to and conducted in practice. There are a great variety of approaches to action research as it has been used within the framework of different paradigms such as the natural science, qualitative and critical science. In spite of the differences among the different approaches, certain core characteristics have been identified as constitutive of any action research. These are: collaborative nature, context-based, containing a change intervention and using a combination of research, action and evaluation.

Several studies using action research have been conducted to implement the nursing process. In general, they can be classified as using an experimental/organisational approach to action research. These studies show that using action research helped to integrate the nursing process in practice and improved nurses' attitudes towards it. Nevertheless, the findings from these studies should be treated with caution given their methodological weaknesses. For instance, the studies did not measure the degree of change obtained in an objective way. In addition, most of the studies lacked descriptions of the data collection methods and data analysis process. Methodological characteristics of the action research, such as the nature of collaboration of the participants in the study or the researcher's role, were not present either in some of these studies.

As a consequence, in addition to the main aim of facilitating the implementation of the nursing process, through this action research study it was intended to measure in an objective way the change obtained by comparing pre and post implementation of the nursing process. A three-phase study was designed mirroring the three components of the action research used in a linear process. Multiple triangulation was planned in order to gather data related to the use of the nursing process and the characteristics of the setting. This multiple triangulation consisted of method triangulation (questionnaire, observation, documentation review and interviews) and data source triangulation (by gathering data from different sources in the organisation). The role of the researcher in the study varied from observer as participant and participant as observer according to the different phases. In order to enhance the validity of the study it was decided to use a reflective approach through out the study.

Chapter 4: Material and Methods

4.1. Introduction

This chapter presents a description of the study design, the population and sample selected, the development of the data collection tools, the pilot study and the theory underpinning data analysis used for the main study.

4.2. Research questions

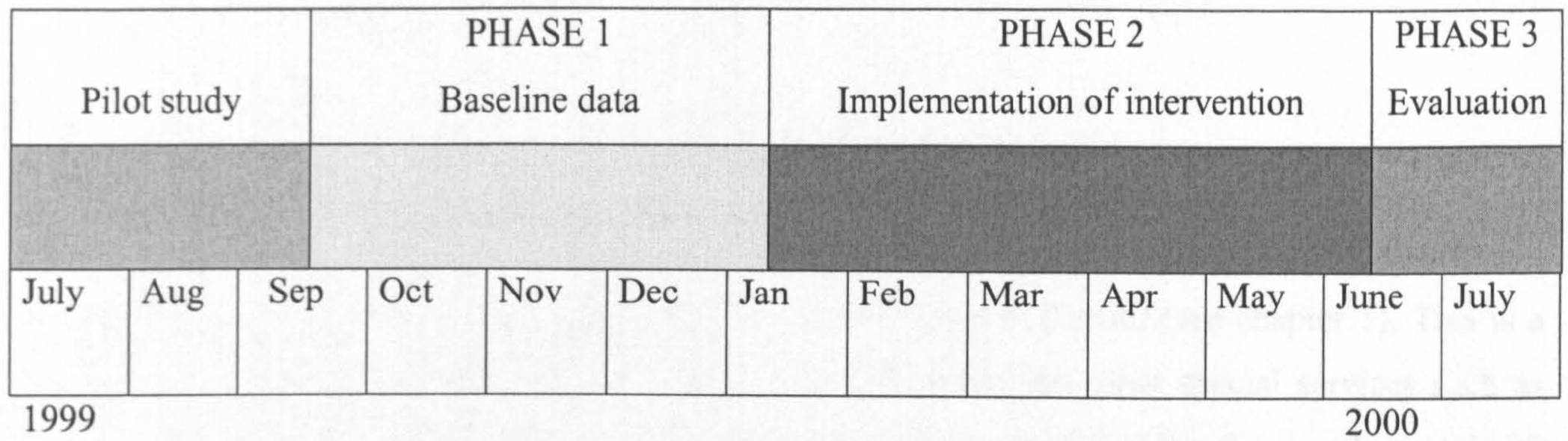
The main research questions for this study were:

- Does an action research approach facilitate the implementation of the nursing process?
- In relation to the factors that the literature acknowledges as influencing the implementation of the nursing process, how do they contribute to the implementation of the nursing process in this study?

4.3. Study design

This was a three-year action research study with data collected over one year on an orthopaedic ward of a University Hospital in Spain. The study was composed of three phases: baseline data collection, implementation of intervention, and evaluation of change (see Figure 1). These three phases were interrelated and constituted a unity. Nevertheless, as each phase had its own data collection methods, and data from each phase were analysed separately, for the purpose of this study, each phase is presented as a mini study. It should be noted that in presenting any comments from staff, all names have been changed to provide anonymity (see 4.7).

Figure 1: Chronology of the Phases of the study



4.3.1. Phase 1: Baseline data collection

The objectives of the first phase of the study were twofold: first, to gather baseline data regarding the current level of implementation of the nursing process on the ward in order to facilitate any agreed change and be able to measure the changes obtained; secondly, to gather data regarding the factors that, according to the literature, influence the introduction of the nursing process (see 2.8). The role of the researcher during this phase was `observer as participant' (see 3.3.1). Different types of triangulation, specifically method and data triangulation, were used in this phase such as review of nursing documentation, interviews with different managers in the organisation or focus group with registered nurses.

4.3.2. Phase 2: Implementation of intervention

The objective of this phase was to facilitate the implementation of the nursing process in one hospital ward using an experimental approach to action research with elements of the professional approach (see 3.6). During phase 2 the main data collection method was participant observation and the researcher adopted the `participant as observer′ role. She facilitated participants' involvement in decision-making through the setting up and running of the steering group. In addition, she worked with the study ward nurses in the implementation of the decisions taken by the steering group.

The data during phase 2 consisted of the researcher's field notes, which included the steering group's minutes, data recorded during the meetings, and observations made on the ward.

4.3.3. Phase 3: Evaluation of the change

The purpose of this phase was to carry out a formative evaluation in order to assess the degree of implementation of the nursing process as a consequence of the intervention phase and to inform

further implementation. The data collection tools used in phase 1 were repeated in phase 3 (see Table 1).

4.4. Study site

The study was conducted at the University Hospital of Navarre (Spain) (see chapter 1). This is a private teaching hospital with 460 beds. It contains 12 wards and other special services such as intensive care, theatre and a maternity unit. There are different ward designs; five wards contain 20 single rooms; another five contain 38, two-bedded rooms; and two other wards contain both single and two-bedded rooms. As indicated earlier (see 1.2), each ward had a different degree of implementation of the nursing process.

4.4.1. Study ward selection

Given the complexity of the study design, the study was conducted in one hospital ward. The principles of action research (Hart & Bond 1995; Holter & Schwartz-Barcott 1993) meant that it was not necessary to carry out the study in more than one ward.

Two criteria were decided for ward selection:

- that no previous research related to the nursing process had been conducted on the ward;
- ward size should be 20 beds in order to keep data collection manageable.

Therefore there were only three wards which fitted the above criteria: the orthopaedic/neurology ward, the general-surgical ward and the endocrine-haematological ward. Among these three wards, then, the decision was made to select the orthopaedic ward in the first place. The other two wards were relegated to second place with the possibility of being selected in case nurses on the orthopaedic ward did not want to collaborate. The reason for not using the general surgical ward was that it was the ward where the researcher had been employed for five years and there was, therefore, more risk of bias. The researcher selected the orthopaedic/neurology ward over the endocrine-haematology ward because the former had surgical patients who according to the literature (Walton, 1986), present more difficulties for the use of the nursing process.

4.4.2. Ward description

The study ward had two main specialities: orthopaedics and neurology. The orthopaedic department had four different consultants, each one with their own speciality training doctors. The neurology department also had four consultants with their respective trainee doctors.

The ward staff was composed of the nurse ward manager (sister), the registered nurses (RNs) (n=11), two newly qualified nurses doing the speciality course in orthopaedics, and nursing auxiliaries (n=3)[3]. There were also nursing students, the number and academic year varying each month, according to placement. Among the RNs, nine worked full-time and the other two worked part-time. All staff nurses followed a shift of one week of days; one week of evening; and two weeks of nights. The speciality nurses were allowed to leave the ward when they had classes. The three nursing auxiliaries worked full time on day and evenings shift. One of them acted as ward clerk and had a split timetable from 8 a.m. to 1 p.m. and from 5 p.m. to 7 p.m. The implications of organisation of nursing auxiliaries, and especially the ward clerk, appeared later on in the study (Vignette 11).

Staff nurses followed a team nursing approach which meant that there was a group of nurses in charge of the patients in each of the medical specialities: orthopaedics, neurology and others (oncology, neuro-surgery, etc.). Usually the total number of staff nurses and speciality nurses on the ward during the day and evening shifts was three on each and during the night shift, two.

4.5. Population and Samples

As this study was conducted on only one ward and it was concerned with the implementation of the nursing process on that ward, it was decided to collect data purposively from health professional staff who would be involved in the change process and/or who worked on the ward. The samples were purposive (Polit & Hungler 1995; Burgess 1984) in that the individuals concerned could provide the data required for the study. All participants were volunteers. The health professional staff were the following:

- registered nurses (n=11) employed on the study ward;

[3] Although the newly qualified nurses doing the speciality are also registered nurses, for the purpose of clarification when I want to refer only to the 11 nurses I will call them registered nurses and when I include also the speciality nurses I will refer to them as staff nurses. Nursing auxiliaries are therefore not included under this category.

- all nurse managers connected to that ward: that is the ward manager and line manager;
- two hospital consultants who represented the two main ward specialities: that is orthopaedics and neurology;
- two senior hospital managers: the Director of Nursing (DNS) and a hospital director;
- the nursing research supervisor of the hospital;
- and the director of nursing education at the university.

In addition to the health professional sample, a review of nursing documentation was conducted. The sample size for the nursing documentation was set at 25 consecutive discharges in phase 1 and 25 consecutive discharges in phase 3. In order to be entered into the document review, the following criteria had to be met:

- the patient had to be on the ward > 24 hours;
- the patient had to be admitted directly to the ward as opposed, for example, to via casualty or as a transfer, otherwise the nursing documentation would not be just from the study ward.

This study did not set out to produce generalisable results. Therefore the sample size of 50 for the documentation review was an arbitrary number which was considered sufficient to allow comparison between phase 1 and phase 3 given that there were only 20 beds on the ward and the average patient stay was seven days.

4.6. Access

4.6.1. Access to the hospital and to the study ward

While the researcher was in the United Kingdom completing her research proposal (1998), the nursing school initiated contact with the hospital to ensure that the study was going to be possible. Once general agreement was given, the researcher proceeded with the formal proposal which contained details of the research design and the sample needed for both pilot and main study (Appendix 1). Full approval from the Hospital Managers was required because, although not sponsoring the study, their understanding of the many changes and requirements that the research

could place on the nurses' roles, nursing documentation, nursing practice, ward organisation, and hospital management was essential to carry out the study.

Because managers were also part of the action research approach, keeping them informed from the beginning was very important. In addition, because the management style of the hospital was in a sense hierarchical, it seemed to the researcher that an appropriate way to get introduced into the study ward was through the hospital managers. Nevertheless, in order to avoid the possible danger of registered nurses and the ward manager feeling obliged to collaborate because of managers' encouragement, the researcher was very clear with the nurses and ward manager from the study ward about the nature of the research, their free agreement to it and, if they agreed to be involved, the importance of their collaboration for the success of the study.

Therefore, once official permission to carry out the study was given (Appendix 2), the researcher approached the selected ward to seek their permission and agreement to be involved in the study. Staff free choice to participate is essential when using an action research approach as it is not possible to carry out this research method without the involvement and collaboration of participants (Hart & Bond 1995; Holter & Schwartz-Barcott 1993). The researcher tried to encourage ward manager and registered nurses participation by explaining the study and the advantages that it could bring to them, but without using any kind of coercion. The same explanation was given to each one of them, individually or in small groups, during the month of September, beginning with the ward manager. The objectives of the research study, a brief summary of the benefits of using a systematic tool for nursing care together with the possible benefits of participating in an action research project were explained (Appendix 3). The phases of the study and the data collection methods, such as observation, questionnaires and evaluation of nursing records, were explained.

The ward manager and most registered nurses welcomed the idea with enthusiasm, although with some apprehension as well. Nevertheless, some of them expressed concerns regarding the scarcity of time or the usefulness of the nursing process. For instance, Pilar, a registered nurse, indicated that the staff nurses usually had a lot of work and did not have time for other things. Another nurse, Mercedes, welcomed the idea and stressed that they recognised that improvements were needed on the ward and that it was a good thing to have somebody helping them. Others welcomed the idea and indicated that their ward was one of the less developed ones in terms of research and that they needed a lot of knowledge on the nursing process.

If the nurses had not agreed to participate the researcher would have asked for permission to proceed to the next best ward in terms of stated criteria. Nevertheless, this was not necessary because, although it was clear that not all had the same attitude towards the study, they all decided

to participate and signed the informed consent (Appendix 4). The researcher recognised that bias may have been introduced into the study through the acceptance of the study by hospital managers. This element, together with the fact that the researcher was a university lecturer, could have influenced nurses who were less willing to participate.

4.6.2. Access to the remaining sample

In relation to the remaining sample, that is, the other health professionals and hospital managers selected for the study, and the nursing documentation review, access was gained in the following way:

- Each of the two doctors, the hospital managers, the nursing research supervisor and the director of nursing education, was approached individually by the researcher once the study was approved in order to ask their permission to be interviewed. The purpose, interview topics and the way the interview was going to be conducted were explained to each one, together with issues regarding anonymity of data obtained. An informed consent letter (Appendix 5) was given to each one during this conversation, that took place a week before the interview. All of them freely accepted to participate.
- To use nursing documentation (patients' nursing records), permission was requested from hospital managers in the initial proposal and once granted, permission from the ward manager was also sought and agreed.

4.7. Ethical Issues

Ethical considerations in conducting a research study have the final objective of protecting the rights of people who participate in the study (Polit & Hungler, 1995). Polit & Hungler consider three important ethical principles: beneficence, respect for human dignity and justice.

The principle of beneficence relates, above all, to doing no harm (Polit & Hungler, 1995). According to Polit & Hungler (1995) the risk of psychological harm can be less obvious than the risk of physical harm and for this reason researchers should be sensitive and attentive to this area. The risk is greater when conducting research involving relationships, such as interviews or participant observation, because participants may expose themselves more personally.

One way of protecting the participants from possible harm is by informing them of the risks and benefits of the research and being sure that the benefits are greater than the possible risks (Polit &

Hungler 1995). Nevertheless, with action research, it is difficult to foresee all the implications that the research may have for participants and the setting. The researcher was conscious of the many organisational issues that this study could make explicit and of the implications that this study could have for individual nurses, organisation, management and nursing education. She made this explicit in the discussions she held with the staff nurses to gain access. By sharing with them her doubts regarding the consequences of the research, while also making clear the possible positive benefits of the study, the researcher wanted to provide staff with a realistic picture of the situation. It should be noted that in terms of the Data Protection Act (1999), this was not in force in Spain at the time of seeking permission to conduct the study and so this study was conducted in line with the Data Protection Act, 1992 (BOE, núm. 262).

The second principle, the respect for human dignity, means that participants are autonomous and free subjects and therefore they should freely decide whether they want to participate in the research or withdraw from it at any point without undegoing any penalties or `bad´ treatment as a consequence (Polit & Hungler, 1995). In order to be able to act freely, participants should be fully informed about the study so that they can make informed decisions. The participants in this study received a written and oral explanation about the content of the study, the different data collection methods, the role of researcher and general nature of their collaboration (see 4.6). In addition they were asked to sign an informed consent form which summarised again the main points of the study. During the course of the study, the researcher continued seeking their collaboration in an informal way, and in fact participants were totally free to decide whether they wanted to continue participating in the study by freely collaborating in the decisions reached in the steering group.

Finally, Polit & Hungler (1995) consider the principle of justice, which includes the right for the participants to be treated fairly and the right to privacy. The right to privacy means that data collected during the study are kept in strict confidentiality. This confidentiality can be kept through anonymity or other confidentiality procedures. Anonymity means that it is not possible to know what data came from which participant. The action researcher has to find ways to ensure that participants will not be reported on in a manner that identifies the subjects or makes data accessible to parties other than those involved in the research. This confidentiality can be problematic firstly because action research is usually carried out in a particular setting, and it is not difficult for the people related to the organisation to identify the place and the participants (Meyer, 1993). Secondly, because the data obtained during action research by interviews or participant observation are continually fed-back to the participants, the vulnerability of participants can be an issue. In relation to this study, participants' names were kept confidential, and fictitious ones were used instead. The author deals with ethical issues related to confidentiality and other areas when reporting the action research study in phase 2 in agreement with Waterman (1998a) who asserts

that this issue should be treated alongside the report of the study and not in a separate section in the methodology chapter.

Another important ethical consideration, especially with qualitative research such as observation, is, what degree of implication should the nurse researcher have when she witnesses in her role of observer, a nursing practice that is or could be harmful? Should the researcher abandon her role of `observer´ for that of `participant´? It was decided for this study that the researcher would intervene, at least to point out the harmful practice, when she considered that a damaging practice was being carried out. This decision of intervening only when patient safety was compromised is in line with other action researchers' decisions (i.e Turnock & Gibson, 2001).

4.8. Development of data collection tools

The data collection tools used for each one of the phases of the study are presented in Table 2.

Table 2: Data collection tools used in each phase of the study

PHASE 1 Baseline data collection	PHASE 2 Implementation of intervention	PHASE 3 Evaluation of change
• Brooking® (2004) ward nurses' self-report questionnaire • Brooking® (2004) ward manager self-report questionnaire • Participant Observation: observer as participant using a semi-structured format • Nursing Documentation Evaluation tool (NDET) • Semi-structured interviews • Focus group with registered nurses	• Researcher's field notes from participant observation • Steering group minutes	• Brooking® (2004) ward nurses self-report questionnaire • Participant Observation: Observer as participant using a semi-structured format • NDET • Semi-structured interviews • Focus group with staff nurses

A variety of tools were used throughout the action research. Some of the tools were previously designed and were adapted for this study and others were specifically designed. The process followed for the development of each data collection tool is presented next.

4.8.1. Structured self-report questionnaires[4]

Brooking ® (2004) ward nurses' self-report questionnaire (Appendix 6)

The ward nurses' self -rating scale developed by Brooking (1986) as part of her 'Nursing process measuring scale' was adapted for use in this study in order to reflect current terminology, to facilitate its use and understanding, and to take into account that the tool was going to be used in a different language. Brooking's tool was the only one identified in the literature which dealt with the measurement of implementation of nursing process and reported on validity and reliability (see 3.7). In addition, this tool was appropriate for surgical wards which was the setting for the present study. The changes that the original scale underwent are summarised next, with a detailed analysis of each item presented in Appendix 7.

As originally devised, Brooking's (1986) ward nurses' self-rating scale had 37 questions. Of 37 questions, 17 remained the same as they were considered relevant for the study and were clearly worded: (Brooking 1986: 1,2, 6-8, 11, 20-22, 26-29, 31-33, 36). Modifications to the remaining questions were carried out to:

a) change the wording of questions in order to clarify meaning or to adapt initial criteria to this particular study (Qs 3, 4, 13, 18, 24, 25, 30, 37);

b) simplify initial criteria to make the tool appropriate for this study setting (Qs, 14, 16, 17; Qs 15,19; Qs 34,35);

c) specify some other criteria to increase sensitivity of scale (Q 9);

d) eliminate certain criteria given their unsuitability to context of the study (Qs 5, 10, 12, 23);

e) add several questions to reflect current practice (Qs 19, 20, 21, 22 and 29 from the Brooking ® (2004) questionnaire).

Another change made to the Brooking (1986) scale was in the number of response alternatives. The initial scale contained six possible answers between "yes always" and "no, never" and each was scored from 6 ('yes always') to 1 ('no, never'). The six choices were reduced to five in order to balance the positive and negative responses. The scores were also reduced, so 'yes always' was then scored 5. In addition, to help nurses to decide which response was the most appropriate, each response alternative was given an arbitrary percentage representing the frequency of occurrence:

[4] The appendices highlighted in each one of the following sections contain the tool as it was used for the main study, that is, after changes introduced as a consequence of the pilot study.

(5) yes, always ☐ (90-100%)

(4) yes, usually ☐ (50-90%)

(3) yes, sometimes ☐ (10-50%)

(2) Don't know ☐

(1) Never ☐ (0-10%)

For instance, to the first question: Is an assessment made of new patients admitted to the ward prior to the planning and implementation of care?, the staff nurses answered "always" if they estimated that an assessment was carried out in 90-100 % of patients admitted to the ward.

Finally, the format of the questionnaire was improved by changing the presentation of the questions, word size, paper colour, so to make it more attractive and user-friendly. The entire tool was translated by the researcher into Spanish. The tool was piloted in Spain and as a consequence some other changes were made (see 4.9.3.1).

Brooking® (2004) ward manager self-report questionnaire (Appendix 8)

This questionnaire was adapted from the Brooking's (1986) 'Nursing officer ward rating scale' which was composed of five questions, one relating to the nursing process in general and the other four to each phase of the nursing process (assessment, planning, implementation and evaluation. For each question there were five alternative answers. The adaptation consisted of updating the terminology and the format of the questionnaire design. In addition, the wording of the five alternative answers was modified from 'always, usually, sometimes, don't know, never' to 'totally implemented, mostly implemented, poorly implemented, I don't know, not implemented'. The tool was piloted (see 4.9.3.2) and no further changes were deemed necessary.

4.8.2. Observation recording instrument

Observation was planned in order to evaluate the use of the nursing process on the ward (see 3.7). A format was selected in line with Patton's (1990) "sensitising concepts", in which observing is guided by a framework of ideas and concepts that help to focus the observation.

Although Brooking (1986) developed, as part of her "Nursing process measuring scale", a "Ward observation scale", her observation scale was not used in this study for the following reasons: the tool contains too many categories to be observed in two consecutive shifts by only one observer; some of the categories appeared to overlap making it difficult to observe all categories during the

time given. Because the purpose of this study was to implement the nursing process and not only to evaluate its implementation, it was considered necessary to have a broader view of how nurses organised their care.

The criteria for observation were developed taking into account the criteria from other tools, mainly the ward nurses' self-report questionnaire, Davis et al (1994) and Serrano et al (1994). The purpose was to validate and complete via observation, the information gathered through these other tools. For instance, through Brooking ® (2004) ward nurses' self-report questionnaire, nurses were asked whether they used an assessment tool, and through observation it was intended to evaluate if nurses were really assessing patients and how they were carrying out assessments. The guideline decided for observation is presented in Figure 2.

Figure 2: Guideline for observation

Initial assessment and diagnosis

- What, when and how nurses assess; content of the assessment and description of the process (communication, patient/relative participation);
- Use made of the assessment: whether they identify nursing problems;
- Whether patients' views are taken into account and whether nursing problems are validated with patients;

Planning

- Whether care is planned according to protocols, medical orders, or nursing problems;
- Whether there are sessions held on the ward to discuss the care plans or consultation to literature;
- Patients'/relatives' participation in care planning, implementation and evaluation;

Implementation

- Patients' conditions reassessed before implementing care;
- System of care delivery: patient allocation, team nursing;

Evaluation

- Whether the handover is based on information regarding patient's care plan;
- Ward rounds: nurse shows a good knowledge of the patient and transmits useful information to the consultant;
- How care is evaluated.

The content validity of the tool was assured by the fact that observational criteria were developed in relation to the criteria of other tools, that is, Brooking (1986) Nursing process measuring scale, as indicated above, and after an in-depth review of the literature in the area. The tool was piloted in order to test the feasibility of the tool and as a consequence it became clearer to the researcher that a more structured approach was required (see 4.9.3.3 and 4.9.3.4).

4.8.3. Nursing Documentation Evaluation Tool (NDET)

(Appendix 9)

As noted previously, 50 patient nursing records were to be evaluated, 25 from 25 consecutive discharged patients in phase 1, and 25 from consecutive patients discharged in phase 3. Specifically, the nursing records for each patient to be evaluated were: assessment form, nursing care plan and nursing progress notes. An appropriate tool based on validated criteria was necessary to carry out this evaluation. Although there were already existing tools (Davis et al, 1994; Serrano et al, 1994), they had been developed for specific studies within specific settings and therefore, they were not totally appropriate for this study. Nevertheless, the criteria used by these other authors, together with the review of the literature were taken into account in developing the present tool. The NDET was intended to complete and validate data gathered through the questionnaire and the other tools. Figure 3 presents the criteria selected for this study, which are divided according to the phases of the nursing process.

Figure 3: Criteria selected for the Nursing Documentation Evaluation Tool (NDET)

Assessment and Diagnosis

- Presence of assessment form, degree of implementation (Davis et al, 1994; Serrano et al, 1994);
- Documentation of problems (Serrano et al, 1994; Davis et al, 1994);
- Number and label of nursing problems identified (Serrano et al, 1994);
- Nursing problems identified correctly (Serrano et al, 1994);

Planning

- Identification of goals (Davis et al, 1994);
- Nursing interventions are planned according to problems identified (Davis et al, 1994; Serrano et al, 1994);
- Number of nursing interventions (Davis et al, 1994; Serrano et al, 1994);
- Nursing interventions described with enough detail (Davis et al, 1994);

Implementation

- Completion of nursing interventions documented in care plan (Davis et al, 1994);

Evaluation

- Comparison of results obtained with pre-established goals (Davis et al, 1994);
- Specification of date for evaluation (Davis et al, 1994);
- Signs of care not evaluated on time, examples (characteristics of the setting)[5]
- Use of objective measures to evaluate care, explain and examples (Davis et al, 1994).
- Changes in patient condition are reflected on care plan: i.e. addition of new activities, elimination of others, examples (Davis et al, 1994). Care plan reflects care given to patients, all is reflected in the care plan.

The NDET was developed in the format of a structured pro-forma to be answered by the researcher for each of the records evaluated. The first part of the NDET recorded biographical data such as patient's age, sex, department, and medical diagnosis. The main part of the tool is divided into four parts, each one corresponding to the phases of the nursing process: assessment and diagnosis, planning, implementation and evaluation. The tool contains closed-ended questions such as rating questions and open-ended questions including, for instance, examples of the problems identified or nursing interventions planned. The different variables measured through the tool are of the nominal, ordinal, and ratio measurement type (see 4.10.1).

[5] The author knew that the evaluation phase of the nursing process was not implemented in the ward and that this kind of question could help to evaluate whether care was assessed on time.

The development of the tool was carried out to enhance content validity by using existing literature. The aim of the tool was to gather data rigorously and systematically in order to allow comparisons to be made before and after the intervention. The tool was piloted (see 4.9.3.5) and refined as a consequence.

4.8.4. Prompt schedules: semi-structured interviews

(Appendix 10)

Semi-structured interviews were conducted with different senior managers and health professionals in the institution in order to explore the factors that, according to the literature, should be taken into account when implementing the nursing process; for example management support (Martín et al, 1997; Sirra, 1987; DHSS, 1986); whether the nursing philosophy held by the institution is compatible with the nursing process (Farmer, 1986); and nurses' preparation to use the nursing process (Serrano et al, 1997; Sirra, 1987; DHSS, 1986). Different schedules were elaborated for each one of the participants.

The topics for the semi-structured interview with managers at different levels in the organisation (the medical depute director, the director of nursing, line manager, and ward manager from the study ward) focused on the culture of the organisation and management style, personnel development, nursing philosophy of the institution, views about nursing role, their understanding of the nursing process, and the possibilities for collaboration and support during the change process.

The interview with the director of nursing education sought to gather information related to the nursing philosophy of the school and nursing students' preparation in the school for using the nursing process. The interviews with doctors focused on their views of the nursing role, team work with nurses, and their knowledge and understanding of the nursing process. The interview with the research supervisor from the Hospital sought to gather information about her perceptions of the nursing process, its implementation, and her views on nurses' and hospital readiness for using the nursing process.

Semi-structured interviews were also held in phase 3 of the study with the aim of exploring the views of the steering group members regarding the change process and outcomes, difficulties encountered, and suggestions for further interventions. The interview schedule was the same for all the steering group members.

The content validity of the semi-structured interviews schedules was assured by the fact that the topic areas were developed according to the literature review on the nursing process and its

implementation. In order to avoid possible problems of respondent bias such as social desirability (see 3.7.2.4), questions were presented in an open and neutral way. One semi-structured interview was piloted before the main study (see 4.9.3.6) in order to assess the quality of data obtained as well as the researcher's use of the tool and participant's understanding of the wording of the questions.

4.8.5. Prompt schedule: focus groups with staff nurses

(Appendix 11)

It was decided to convene four focus groups to gather data regarding nurses' understanding of, and attitudes towards, the nursing process: two before and two after the intervention. It had been indicated that staff nurses' attitudes and perceptions with regard to the nursing process influence its introduction (DHSS, 1986). The data gathered through the focus groups were intended to provide a deeper understanding of nurses' preparation for the implementation of the nursing process and their opinions post implementation.

A semi-structured schedule was considered in line with focus group methodology (see 3.7.2.4) and as a consequence a prompt schedule for phase 1 was designed containing questions related to the areas which have been considered influential for the implementation of the nursing process: nurses' views about their role and competencies (Farmer, 1986; Keyzer, 1983); nurses' knowledge of the nursing process and their preparation to use it (Zaragoza, 1996; DHSS, 1986; Webb, 1981). The semi-structured schedule for phase 3 was intended to gather staff nurses' opinions on the process of change, on changes of perception of the nursing process, and on the difficulties and positive aspects they endured during its introduction.

The content validity of the tool was assured by the way the schedule was developed, that is, by an in-depth revision of the literature on the nursing process and its implementation (see chapter 2). In order to evaluate the understanding of the questions by the participants as well as become more familiar with the technique, the tool was piloted and the necessary changes made (see 4.9.3.7).

4.8.6. Field notes as a data collection tool

Field notes were used in the study to provide an account of the process of change and as an audit trial of decisions taken. Field notes were planned as follows:

- It was decided to take field notes and to tape the steering group meetings and to listen to the tapes as soon as possible after the meetings in order to keep a faithful record of the decisions

taken as well as the interaction and participation within the group. It was considered that recording the sessions would allow the researcher to have a more participative role during the steering group while at the same time still gathering data. Taping was only done once the members had given their informed consent in line with ethical principles.

- Also to take notes during interactions on the ward regarding conversations and events; implementation of decisions taken at the steering group, difficulties and positive factors during the implementation, and nurses' participation.

In order to make the possible influence of the researcher in the study explicit, it was decided to keep systematic and complete notes regarding the researcher's role as facilitator and change agent, that is, a process of reflexivity (see 3.8).

4.9. Pilot study

Once the tools were developed, a pilot study took place during the months of July to September 1999 (Figure 1) during which all the data collection tools used in phases 1 and 3 of the study were tested. Apart from being piloted individually, the researcher also wanted to test the feasibility of the study in general and the order in which the tools had to be employed in order to make the best use of each and to reduce bias. All pilot data were excluded from the main study with the exception of one semi-structured interview (see 4.9.3.6).

4.9.1. Objectives

The overall objectives of the pilot study were to:

- Test access procedures for the various samples;
- Test each one of the data collection tools in terms of the data collection process;
- Test the feasibility of the study design.

4.9.2. Sample selection and access

Permission from the hospital mangers and the DNS to carry out the pilot study was obtained in the same letter giving permission for the main study (Appendix 2).

A purposive sample (Seidman 1991) of two wards was selected by the researcher to conduct the pilot study, using the following criteria:

- to allow a sample of 8 nurses for the focus group;
- one of the two wards had to be familiar with the nursing process in order to assess the validity of the tools;
- one of the two wards needed to be similar to the study ward in terms of number of patients;
- not being used for other research studies;
- not a ward where the researcher had worked before.

The paediatric and the endocrinology wards were selected as they fulfilled the criteria already mentioned. The researcher approached both ward managers in the proposed pilot wards and explained the purpose of the study. Once the ward managers had agreed, the researcher was able to ask nurses for permission to collaborate. From these two wards, the researcher gathered a convenience sample of nurses working on the shifts she visited. All of them wanted to collaborate.

In addition:

- A stratified random sample of five nursing records (10% of the sample size for the main study) from the study ward according to the two main medical specialities on the ward: orthopaedic (n=2), neurology (n=2), and other possible specialities (n=1), were selected to review the NDET. As there were many different types of nursing documentation throughout the hospital, the researcher decided to select the nursing documentation from the study ward and not from the pilot ward in order to fit the tool to purpose.

- The director of nursing of the hospital was interviewed to test the semi-structured interviews. This interview was included in the main study data analysis as she was the only DNS in the hospital.

4.9.3. Testing and changes to the data collection tools

Each of the tools was piloted against the following parameters: sample, data collection process, adequacy of the tool to the setting, validity, quality of information gathered, and relevance for the study. Given that some of the tools underwent changes as a consequence of the pilot study, this section reports separately on each tool piloted.

4.9.3.1. Brooking ® (2004) ward nurses' self-report questionnaire

The questionnaire was administered to a convenience sample of nurses (n=10) from the two pilot wards. Although it is a self-report questionnaire, it was administered as a structured interview in order to evaluate nurses' understanding of the questions. Each structured interview was carried out in a quiet room of the ward and took approximately 20 minutes to complete.

In order to test the reliability of the questions, data obtained from the questionnaires from the paediatric ward were introduced in the statistical programme SPSS and the "standard deviation" (SD) for each one of the variables of the questionnaire obtained. The variables displaying a high SD (in this case statistician advice was to set the limit at SD=1.5) were considered not reliable. Four variables fell into the 'no reliability' category:

- patients' and relatives' participation in problem identification (Q9[6])
- apply research studies to the daily care (Q19)
- use of objective measures to evaluate care (Q32)
- patients' and relatives' participation in the evaluation phase (Q36).

On reviewing the questions, two possible explanations for the deviation in nurses' answers are suggested; that is, the questions were too general and/or the nurses were not familiar with the content of those items. Consequently, these few questions were re-drafted to facilitate understanding. Q9 changed from: "Are problem statements made with the knowledge and agreement of patients and/or relatives? to "Are patients'/relatives' opinions systematically taken into account when deciding on patient nursing problems?"[7].

In addition, there were also a few more changes: Q 31 'Is care evaluated with the frequency required by the patient's condition?' was deleted as the researcher realised that this question was already included elsewhere. Six other questions (Qs 15, 17, 20, 27, 28, 30) were reworded to facilitate their understanding. For instance Q 27 changed from 'Are nurses accountable for the content of nursing documentation?' to 'To what degree is it compulsory on this ward to work with the nursing process approach?'. Finally two sets of questions (Qs 1,2 & Qs 3, 4) were grouped together as they were originally in Brooking's (1986) tool, as the researcher realised that there was no need to separate them.

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[6] The numbering of these questions belongs to the pilot tool. The numbering is different in the main tool as a consequence of the changes after piloting the tool.

[7] It is to be noted that these questions have been translated and that they read more easily in Spanish.

The researcher considered that these were minor changes and no further re-piloting of the tool was required.

4.9.3.2.Brooking ® (2004) ward manager self-report questionnaire

This questionnaire was piloted with the ward manager of the paediatric ward as a structured interview in order to evaluate her understanding of it. It was carried out in a quiet room and took 5 minutes to complete. No changes were needed as the wording did not present difficulties and the data gathered were considered appropriate.

4.9.3.3. Observation recording instrument

The pilot of the observation tool took place in the paediatric ward. Only the nurses who participated in the questionnaire and in the focus group received more detailed information about the purpose of the observation. The remaining group of nurses were given a more superficial explanation, mainly to justify the presence of the researcher on the ward during the observation session. The researcher recognised that the lack of appropriate information could have affected the nurses' performance (problem of reactivity) as nurses may had thought the researcher was evaluating their activity. It was decided after the pilot study to make clear from the beginning the purpose of the observation to all the staff from the main study.

Observation was carried out over a period of 4 days, for a total of 6 hours, using the guideline developed for observation (Figure 2). The researcher maintained an "observer as participant" role as described in section 3.3.1. The observational periods for the pilot study are summarised in Table 3. It is important to note that the observation was nurse-focused; that is, it was the nurse as opposed to the patient who was the object of the observation.

Table 3: Pilot study: observational periods

OBSERVATION FOCUS	SHIFT	NUMBER OF HOURS
Ward general organisation: patient allocation v task allocation	Morning Afternoon	1 hour 1 hour
Assessment / planning	Afternoon	2 hours
Implementation/evaluation	Morning	2 Hours
Total		**6 hours**

The researcher took field notes during the observation period. These field notes recorded data related to events observed by the researcher. The focus of the observation varied according to the scheduled presented on Table 3. The observation notes were completed by the researcher either on the same day, once she was off the ward, or within the next 24 hours. Besides recording the data, the researcher added personal comments in the margins related to suggestions to improve the next data collection as well as comments related to her role as observer.

Reflecting on the appropriateness of the data gathered and the data collection process, the researcher recognised that the broad categories from the prompt schedule were not facilitating the gathering of information needed in the time anticipated. Having in mind the advice given by her supervisor regarding the use a more structured tool and researcher inexperience in observational methods, she decided to use a more structured observation approach for gathering baseline data. As a consequence of piloting the semi-structured observation tool, it was decided to develop a structured observation tool. The next section deals with the development and piloting of the structured observation tool.

4.9.3.4. Observation recording tool: tool development; and pilot of the tool (Appendix 12)

The starting point for the development of the structured observation tool was the criteria elaborated for the prompt schedule (Figure 2). Each one of these categories was specified and from these the final tool was constructed. The format is of a 4-section questionnaire, each section corresponding to each phase of the nursing process. The objective of the assessment and diagnosis section was to observe the initial assessment of the patient: if the nurse assessed the patient within the first hours of admission; whether an assessment format was used; if there was participation of patient/relative; and if there was identification of problems. The aim of the planning section was to observe how the initial care plan was developed and if there was participation of patient/relatives. The aim of the implementation was to observe the type of interventions carried out by the nurse and the place that the nursing process occupied in her activity. Finally, the objective of the evaluation section was to observe how care from the care plan was modified according to patients' changes and whether objective measures were used. In addition, the tool contained a brief section related to the characteristics of the workforce during the observational period.

The tool was designed to observe nurses as opposed to patients. The questions were of different types: ones which required the researcher to tick the appropriate answer, others a yes/no, and other closed-ended. In addition, for the observation of the implementation and evaluation phases of the nursing process, there were open-ended questions, e.g. "describe intervention": that is, here the researcher has to document the specific interventions carried out by the nurse on the patient during

the observation period. In order to gather data for the evaluation phase of the nursing process, the researcher needed to make judgements about the way nurses handled new information gathered from their patient during the observation session; whether they modified the care plan when new problems appeared or old ones disappeared; whether they used objective measures to evaluate progress; and whether patients/families were involved in the evaluation.

The structured observation tool was tested in one of the hospital wards in order to evaluate its feasibility and type of data gathered through it. To facilitate the observation of all the items, the tool was divided into two parts, one corresponding to the assessment and planning phases of the nursing process (A/P) and the other to the implementation and evaluation phases (I/E). It was possible to do so given the way the tool was developed. The piloting consisted of two observational sessions of two hours each, one for the A/P and the other for the I/E. For each observational session a different nurse was chosen. The findings obtained proved to be relevant tor the study. No changes were necessary. Data were not included in the main study analysis.

4.9.3.5. NDET

The tool was piloted with five sets of nursing documentation from the study ward (see sample selection) and three problems were detected.

Firstly, although the researcher was told at the commencement of the study that the nursing documentation was filed on the ward on the patient's discharge, through the pilot study she discovered that part of the nursing documentation of patients was not kept on the ward. The assessment form, if completed, was usually stored in the archives of the hospital, together with the medical records of the patient. The researcher recognised that this could bring problems in terms of the time needed for finding the form and the danger of missing data. As a consequence of the pilot study, the researcher decided to ask the ward manager to keep the complete nursing documentation from the discharged patient on the ward.

The second problem encountered was related to the content of the tool. As a consequence of becoming familiar with the nursing documentation used on the ward, the researcher realised that it would be more convenient to adjust the tool to the characteristics of the ward. As a consequence the following criteria were added:

- who carried out the assessment; and
- whether all nursing problems and interventions were documented in the care plans as opposed to registering them in the nursing progress notes.

Thirdly, some deficiencies regarding the effectiveness of the tool were found. First of all, the question:'Are nursing interventions written with enough detail?' was too vague and needed more specification. Consequently, further clarification of the term 'enough detail' was added. In addition, the researcher became aware that some of the questions required an additional rating for answers rather than the forced yes/no. As a consequence, the category 'sometimes' was included in the ranking of answers. Each category was allocated a percentage range in tune with the descriptor; for example 'yes' indicated that 60-100% of the nursing interventions were written with enough detail; 'sometimes' indicated that between 20-60% of the interventions were described sufficiently and 'no' that less than 20% were adequately recorded. It is recognised that the ranges were arbitrary; nevertheless, they were applied consistently to all cases.

The tool was re-piloted after the aforementioned changes with a further seven sets of nursing documentation and it was considered that the changes were helpful. Three of these sets were also examined by a colleague with expertise in the area and the findings compared. The agreement reached by the two researchers was studied by calculating the degree of agreement for each documentation according to the equation:

$$\frac{\text{Number of agreements}}{\text{Number of agreements + disagreements}}$$

(Polit & Hungler, 1995, p 352)

The three values obtained were: 1; 0.93; and 0.73. The mean value was: 0.88. Although this mean is technically appropriate, nevertheless, because this formula tends to favour agreements (Polit & Hungler, 1995), this result regarding the inter-reliability of the tool can only be treated as reassuring (see 3.7).

The time needed to evaluate each set of documentation was approximately 30 minutes. The quality of data gathered from the tool was considered relevant to the study. These data were excluded from the main study analysis.

4.9.3.6. Semi-structured interview

In order to pilot the semi-structured interviews with different senior managers and health professionals from the institution (see 4.8.4), the researcher conducted a semi-structured interview with the DNS.

The researcher approached the DNS of the hospital, explained the purpose of the study and sought her collaboration for the pilot study. After her agreement to participate, the researcher gave her a

copy of the interview schedule and the DNS proposed a suitable day for the interview. It was carried out in the hospital in an appropriate, quiet place. The interview was tape-recorded with her permission. The length of the interview was approximately 40 minutes.

The questions were understood perfectly by the interviewee. The interview was transcribed verbatim by the researcher and the content evaluated in order to assess the relevance and quality of the data obtained, which was judged as appropriate. Because it was one of the interviews proposed for the main study, the data were kept and used as part of the main study data. No changes in this schedule were needed.

4.9.3.7. Focus groups

A total of 9 nurses (n=5) from the endocrinology ward and n=4 from the paediatric) participated in the focus group. The session was held at the hospital, in a large, quiet room around a large table. The focus group took place at lunch time: from 2 to 3.30 p.m., as nurses considered it was the most convenient time for them. A simple aperitif was prepared for the session and was very much appreciated by all the nurses, especially those finishing the morning shift, and contributed to building up a relaxing atmosphere that enhanced communication among nurses.

A brief introduction was given by the researcher in which she explained to the participants the reasons for the focus group and the importance of knowing their opinions and views on the nursing process; she also explained her role as moderator and made their role as the main actors in the group discussion clear to them. Nurses maintained an active discussion and therefore the need for the researcher to intervene was minimal: just sufficient for putting over the topics for discussion.

The session was tape-recorded with the permission of the participants. After the session, the researcher transcribed the data verbatim and read the transcripts several times in order to assess the quality of the information gathered. Although Krueger (1998) suggests that to have a research assistant during the focus group may help both in the debriefing after the session and for data analysis, the researcher realised that it could be counterproductive to the participants' openness and spontaneity and therefore decided not to have anybody else. Nevertheless, in order to increase the validity of data gathered, it was decided for the main study to confirm the main points discussed in the group by checking them with the participants at the end of the focus group session.

4.9.4. Feasibility of the study design

As far as the researcher could appreciate through the pilot study, the study was feasible and appropriate. Nevertheless, it has to be noted that the data analysis process was not piloted and neither was the role of the researcher as facilitator of change, as it is not usual to do this. Therefore, the study of feasibility was limited to a part of the study: that is phases 1 and 3.

Another aspect that was taken into account was the order in which the different data collection tools were to be used to collect baseline data. Data collection tools were employed simultaneously but in a certain order so as to use them to the fullest, avoiding possible bias. For instance, observation was conducted after the questionnaire in order to allow more time for the researcher to become familiar with the ward. The focus group was held last so that the researcher had time to become more familiar with the ward and that was thought to be important in order to moderate and guide the session properly. Therefore the order decided for the main study was to start with the nurses' and ward manager self-report questionnaires, followed by observation, evaluation of documentation, semi-structured interviews and finally the focus group.

4.9.5. Summary

The pilot study was carried out between July and the first half of September. Each of the tools was tested in terms of the accessibility of sample, data collection process, validity and consistency of the tool, and quality and relevance of data gathered.

As consequence of the pilot study the following changes were introduced:

- regarding the sample selection: the criteria for the selection of nursing documentation was specified according to the characteristics of the setting. The observational sampling was also specified.

- in relation to the consistency of the tools, the observation tool underwent a major change from a loosely-structured tool to a structured one and was re-piloted. The NDET was also changed and re-piloted. It was not thought necessary to re-pilot the Brooking ® (2004)ward nurses' self-report questionnaire, although it underwent some changes, as these were considered minor.

- In relation to the internal validity of the tools, the NDET was refined as new criteria were added.

As the tools were developed in Glasgow and the study took place in Spain, it was expected that changes might be needed, especially those necessary to fit the tools to the characteristics of the setting. The pilot study was therefore an essential stage in the study and contributed to the final development, testing of the tools, and data collection process.

4.10. Data analysis

This section deals with the theory related to the type of data analysis followed for each data collection tool in phases 1 and 3, and for comparing data pre-post intervention in the case of the self-report questionnaire, observation and NDET. Data analysis was not piloted but it was planned before starting the main study. The type of data analysis used for a study is selected taking into account the purpose of the analysis and type of data generated through the tool (Polit & Hungler, 1995). Section 4.10.1 deals with the different types of data that can be obtained and 4.10.2, with the type of analysis for each type of data.

4.10.1. Types of data

There are two main kinds of data: quantitative and qualitative. Quantitative data can be of four types depending on the level of measurement: nominal, ordinal, interval and ratio (Polit & Hungler, 1995). Nominal data are categorical and therefore the numbers represent simply labels. For instance in gender, males may be coded 1 and female 2, but this does not mean that females are twice as numerous as males (Anthony, 1999). In ordinal data, the numbers have no inherent meaning but tell us about a position. For instance, data can be gathered about nurses' frequency of accomplishment in a certain activity according to the following scheme: never, coded as 1; sometimes, coded as 2; and always coded as 3. With interval data, besides indicating a rank-order, the numerical values represent an equal distance in the attribute being measured. An example is the temperature: the difference between 35°C and 36°C is the same as between 36°C and 37°C. In ratio measurement, in addition to the characteristics of the interval, the data have a meaningful zero. Because there is an absolute zero and it is not possible to have any other value below, it is perfectly correct to say for instance that 100 pounds is just twice 50 pounds. Ratio data subsumes the other three (Anthony, 1999) and allows for analyses that are not possible on lower types of data such as nominal or ordinal. The possibilities for data analysis depend on the type of data obtained. Table 4 shows the type of data obtained through each one of the tools and the type of analysis selected.

Table 4: Type of data analysis carried out for each data collection tool

DATA COLECTION TOOLS	TYPE OF DATA ANALYSIS	
	Type of data	**Analysis**
Self-report questionnaires	Ordinal	Descriptive statistics: frequency of distribution
Observation using a recording tool	Qualitative	Content analysis technique
	Nominal	Descriptive statistics: frequency of distribution
	Interval	Descriptive statistics: mean and standard deviation
Nursing Documentation Evaluation tool	Qualitative	Content analysis
	Nominal	Descriptive statistics: frequency of distribution
	Ordinal	Descriptive statistics: frequency of distribution
	Interval	Descriptive statistics: mean & standard deviation
Interviews and focus groups	Qualitative	Qualitative analysis

4.10.2. Analysis of qualitative data

Qualitative data can be analysed in several ways: they can be transformed into measurable entities, or can be analysed in a qualitative way, that is, trying to organise, synthesise and interpret the meaning of these data.

To analyse qualitative data with quantifiable purposes usually means to transform them into nominal or ordinal data. In order to do that, qualitative data are codified either according to pre-established categories or according to categories that are developed from the data. This technique is called content analysis (Polit & Hungler, 1995) and should not be confused with another type of "qualitative content analysis" referred to as qualitative analysis, as explained next. For this study, the quality data gathered through the NDET and observation were analysed following a content analysis technique with quantitative purposes and according to pre-established criteria.

To analyse qualitative data through a qualitative process, different procedures can be followed. For this study, qualitative narrative data obtained from the interviews and focus group were analysed

following a qualitative analysis according to Miles & Huberman's model (1994). The first step in this analysis consists of ensuring that data have been properly transcribed and that there are no missing data. The next step for content analysis of the interviews is to codify the data. Miles & Huberman (1994) indicate that "this part of analysis involves how you differentiate and combine the data you have retrieved and the reflections you make about this information" (Miles & Huberman, 1994, p56). There are different types of codes depending on the degree of the researcher's interpretation of the data: descriptive, interpretative, and pattern codes. The first ones entail little interpretation and the last ones are the result of the researcher's inferences from the data. In order to develop the codes, the researcher can follow either an inductive process, that is, the codes are developed from the data, or a deductive one, in which codes are already pre-selected. Miles & Huberman (1994) stress that the end purpose of the analysis is to relate the data to a theory or set of constructs. For the generation of codes according to the inductive process, the researcher needs to go through each one of the transcriptions identifying the units of meaning: that is, word or groups of words that represent a concept or idea relevant to the research purpose. Similar units of meaning can be fused together and in that way the subcategories and categories start to emerge. Once the categories are identified, the researcher should go back again to each one of the transcriptions to check if all the relevant data were included within these categories.

Regarding the analysis of field notes a similar process was followed. First of all the field notes were read several times by the researcher and descriptive codes identified following Miles & Huberman's (1994) model.

4.10.3. Analysis of quantitative data

Descriptive statistics

Statistical analysis is a method of interpreting quantitative information in a meaningful way (Polit & Hungler, 1995). Statistics at a basic level are used to synthesise data as, for instance, through frequency distributions (FD), which consist of "a systematic arrangement of numerical values from the lowest to the highest, together with an account of the number of times each value was obtained" (Polit & Hungler, 1995, p 376). For this study, frequencies of distribution were obtained from the Observation', NDET' and questionnaires' ordinal data. Besides the FD, there are other statistical measures that yield information about the overall characteristics of a sample: the mean or average and the standard deviation (SD). These measures are used widely to represent or summarise the information of a sample of interval and/or ratio data. The mean is equal to the sum of the scores divided by the number of scores. The standard deviation is an index of the sample variability.

In the present study, means and SD were obtained to summarise interval/ratio data obtained through NDET and observation.

Inferential statistics

The purpose of the study was not to test a hypothesis but to clarify whether action research facilitated the implementation of the nursing process and what factors enhanced it or made it more difficult. Nevertheless, as part of the study, data were gathered regarding the use of the nursing process before and after implementation and therefore a certain comparison of data using inferential statistics was possible.

When inferences are to be made then statistical tests can be applied. The appropriateness of using a statistical test and the type of test to be used, will depend on the type of variable under study (whether it is nominal, ordinal, interval or ratio); whether the two samples are dependent or independent; and whether they follow a normal distribution or not (Polit & Hungler, 1995). Tabla 5 shows the type of data analysis used to compare pre-post data for each tool.

Table 5: Type of analysis to compare pre-post intervention data from self-report questionnaires, observation and NDET

DATA COLLECTION TOOLS	TYPE OF DATA ANALYSIS
Self-report questionnaires	Wilcoxon test
Observation	Descriptive comparison analysis. Comparing frequencies or medians.
NDET	T-test Mann-Whitney U Chi-Square test Fisher's exact test

In general, these mentioned tests follow a similar pattern. There is a null hypothesis and an alternative hypothesis. The null hypothesis indicates that there is no significant difference between the two terms of the comparison. In order to determine whether the null hypothesis should be rejected or not, the concept of level of significance is very important. This level of significance establishes the limits within which the null hypothesis can be considered probable or not. Conventionally, this probability is p=0.05, that is, we are accepting the risk that of 100 samples, a true null hypothesis will be rejected five times, and accepted 95 times (Polit & Hungler, 1995). If

the probability is smaller that 5 in 100 ($p<0.05$), then there is less than 5% risk of committing an error (that is, saying that the samples are different when they are not) if the null hypothesis is rejected. On the contrary if the probability is higher than 0.05 there is a greater risk of mistakes if the null hypothesis is rejected, therefore the null hypothesis is assumed. Currently, computers very easily obtain the probability value for the different statistical tests.

For the present study, the level of significance was determined at 0.05, two-tailed test.

T-test or Student's test

This test is used when testing differences between two independent group means (Polit & Hungler, 1995) There are certain conditions that should be fulfilled in order to be able to apply this test which are: 1) that the two samples have to follow a normal distribution; and 2) that the two samples have to have homogeneity of variances (Martínez-González, 1997). There are different tests that can be applied to study the probability of a normal distribution of data, including the Shapiro-Wilks and the Smirnov-Kolmogorow (Martínez-González, 1997). These tests can be applied using SPSS. For these tests the null hypothesis is the normality. If the p value of both tests is > 0.05 then the null hypothesis is accepted which means that the variable follows a normal distribution. If, on the contrary, it is $p< 0.05$, then the null hypothesis is rejected and it can therefore be assumed that the variable does not follow a normal distribution. In this case the t-test cannot be applied and the non-parametric test Mann-Whitney U should be used instead (Martínez-González, 1997, p 157). In the present study the t-test was employed in order to find out whether there were significant differences between the ages of the patients whose records were evaluated through the NDET in phase 1 and those evaluated in phase 3.

In order to study the homogeneity of variances the test of Levene is used. The principles of this test are similar to the Shapiro-Wilks. The null hypothesis indicates that the variances are homogeneous and therefore if the p value is > 0.05 then it is assumed that the variances are similar. In the case that variances are not equal the t-statistic can still be used but the p value selected (when using the computer programme) has to be the one related to unequal variances (Martínez-González, 1997). In this study the test of Levene was employed when using the t-test.

Mann-Whitney U

The Mann-Whitney U test is a non-parametric procedure to test the differences between two independent samples when either the dependent variable is measured on an interval or ratio scale but does not fulfil the conditions of a normal distribution or is measured on an ordinal scale (Polit & Hungler, 1995; Martínez-González, 1997).

Wilcoxon test

The statistical test used to compare two paired groups containing data at ordinal level is the Wilcoxon test. (Pilot & Hungler, 1995). It is a non-parametric test.

Chi-Square test

The Chi-Square test is applied when making comparisons of nominal, independent and dependent variables (Polit & Hungler, 1995). Nevertheless, some requirements have to be fulfilled in order to be able to use this test, such as that none of the expected frequencies should be below five (Martínez- González, 1997): that is none of the cells can have a value zero (Polit & Hungler, 1995). In that case it is recommended to use Fisher's exact test.

Fisher's exact test

Fisher's exact test is used with nominal variables to test the difference in proportions in a 2x2 contingency table (Polit & Hungler, 1995).

4.11. Notes prior to presentation of findings

The researcher decided to write the accounts in the third person. Some authors such as Webb (1989) recommend the use of the first person when presenting action research data. Nevertheless, in line with Glasgow University's PhD standards and also in the researcher's context at the University of Navarre, she decided to use third person.

When the author is presenting direct examples from the field notes or descriptions of specific incidents she uses the first person and these accounts are presented in the form of vignettes. In this study, a vignette is a small account presenting examples from the field notes to corroborate or clarify a point. The researcher sometimes clarified the context in which the field notes were gathered in the first part of the vignette. The reason for using this device was to help the flow of the main narrative without interrupting it constantly with examples but at the same time allowing the provision of detail when opportune. When direct quotes from field notes are used, this is indicated by using italics and the abbreviation 'FN', together with the date on which the note was taken.

Chapter 5: Main Study: Phase 1

5.1. Introduction

The main study consisted of three phases (see 4.3). In order to facilitate the report of the study, each phase is presented separately in a different chapter and includes the role of the researcher, the data collection process, the analysis process, and the findings obtained.

Phase 1 took place from the middle of September (1999) to the middle of January (2000). In this phase baseline data regarding the use of the nursing process in the study ward were gathered both to inform decisions for the implementation of the nursing process and to allow for evaluation of the changes later on. In addition, data regarding the characteristics of the study setting, such as management style, philosophy of nursing and understanding of the nursing role were gathered in the light of the influence of these factors on the introduction of the nursing process (see 2.8).

5.2. The researcher's role and participants' involvement

Given the influence of the role of the researcher and participants' involvement in the action research project, the researcher decided to dedicate this first section to a brief description of these two areas.

The role of the researcher during phase 1 was that of 'observer as participant' (see 3.3.1). The main purpose of the researcher's role was to gather the baseline data necessary for the implementation of the nursing process. The researcher also gathered information about the ward and its organisation through informal talks with the ward manager and staff nurses. Participants were neither involved in data collection nor data analysis, in line with the experimental approach to action research (see 3.2.1). The registered nurses' and ward manager's participation during this phase consisted of their participation in the focus group/interview, and filling in a self -report questionnaire.

There were two issues during this phase, related to the role of the researcher: the first concerned keeping the balance between her role of observer and her role of participant, and the second related to the validity of data gathered.

Regarding the first issue, the DNS made explicit that it would be better if the researcher wore a nurse's uniform on the ward. Initially the researcher had planned not to wear a uniform in order to keep her role as observer 'safe'. However, wearing a uniform seemed to facilitate the researcher's

access to the ward, without being forced to participate in nurses' practice. This was possible because the permanent staff knew the researcher and were aware of her role. Nevertheless, to wear a uniform presented a problem with other professionals coming to the ward, such as physicians or pharmacists, who did not know about the study and considered the researcher as another member of staff. The researcher resolved this by trying to avoid contact with these professionals, or by giving an explanation to them about her position in the ward and directing them to the appropriate staff nurse. Although this situation was somewhat inconvenient for the researcher, it nevertheless seemed to be effective.

The second issue was the potential effect of the researcher on the participants' behaviour. This possible source of bias is called reactivity (see 3.7.2.3). In order to reduce this possible influence, the following measures were adopted: i) observational periods were carried out at different times and shifts; and ii) staff nurses were given the necessary information about the purpose of data collection, without going into great detail. Although these measures seem to have reduced the danger of reactivity, it is acknowledged later in the study that nurses' practice was influenced by the researcher's presence, especially in the early stages; for instance, nurses initiated the task of modifying the assessment tool by themselves during the first phase, presumably due the influence of the researcher's presence.

5.3. Data collection process

Different tools, methods and data sources were used to collect data during phase 1 (see Table 2). Figure 4 shows the time dedicated to each of the data collection tools and the order in which they were used.

Figure 4: Sequence of data collection tools used in phase 1

Data Collection	September 1999	October	November	December
Brooking ® (2004) ward nurses' & ward manager self-report questionnaires	→	→		
Observation using data recording tool		→	→	
NDET			→	→
Semi-structured interviews and focus-group			→	→

The principal features of the data collection process are described next. In presenting this section, the researcher was faced with the dilemma of whether to describe the overall process or present

each tool separately, commenting on the process as it pertained to each tool. It was decided to present each individually in line with multiple triangulation used in this phase (see 4.3.1). In addition, the researcher believed that in presenting each data collection method separately, the reader would be provided with the detail necessary to understand the overall process.

5.3.1. Self-report questionnaires

A few days before starting data collection one of the staff nurses from the study ward was exchanged with another nurse from another hospital ward. The newly-appointed nurse had done her clinical speciality in the study ward two years previously. The researcher did not include her in the questionnaire sample as she (the nurse) did not know the current ways of working on the ward in relation to the nursing process. Nevertheless, she was included in both the focus group and observation: the focus group because it took place two months after she started on the ward and therefore she could comment on how the nursing process was being used; in observation because her way of practising nursing was part of how the nursing process was being used on the ward.

All RNs on the ward with the exception of the most recently appointed one (n=10) were included in the sample for the Brooking ® (2004) ward nurses' self-report questionnaire. All of them had studied at the University of Navarre; five had obtained their registration prior to 1985 and by 1992 almost all (n=7) had obtained their university diploma in nursing. All had completed a one-year full time speciality course in orthopaedics. As can be seen in Table 6, there was a range of years of nursing working experience on the study ward.

Table 6: Number of years nurses have been working on the ward

Nº OF YEARS	Nº OF NURSES (N=10)
0-4	3
5-9	3
10-14	2
15-19	2

The researcher visited all the RNs on their respective shifts (morning, evening and night) and personally handed out the questionnaire to each one. The researcher made use of this opportunity to answer nurses' questions about the study. Although all RNs had completed a consent form to participate, the researcher confirmed their willingness to participate in the study verbally. They

were told they could answer the questionnaire either on the ward or at home and were asked to leave it in the researcher's pigeonhole on the ward once completed. Although nurses were asked to answer the questionnaire individually, one could not ensure this.

All 10 registered nurses completed and returned the questionnaire as requested. As the researcher received the questionnaires, she introduced the data into the SPSS. She realised that nurses were coming up with very different answers to some of the questions. At the same time, one of the registered nurses approached the researcher to clarify a few of the questions. Alerted by the fact that some questions could be interpreted in different ways, the researcher gathered all the nurses and went through the questionnaire describing what was meant by each question, especially the questions related to systematic participation of relatives and patients in decision-making and delivery of their care, and the questions regarding assessment using a written history. The participative and flexible nature of action research encouraged the researcher to act in this way. It was important to ensure that truthful data were gathered. The fact that some questions were not understood challenged the reliability of the tool. The researcher reached the conclusion that because patient and relative participation in decision-making was not commonly practised in Spain, it was difficult for the study nurses to really understand the meaning of these questions. Furthermore, in relation to the assessment part of the questionnaire, one question could be misinterpreted. These problems were not picked up during the pilot study, probably because the questionnaire was piloted as a structured interview and therefore the researcher may have emphasised the wording in a particular way. Consequently, nurses were allowed to change their answers and some did.

In relation to the ward manager questionnaire, it was administered by the researcher to the ward manager, who wished to answer it as a structured interview. The interview lasted 15 minutes, all data were gathered and the process was professional and uninterrupted.

5.3.2. Observation using data recording tool

In line with re-piloting, the observation recording tool (see Appendix 12) was divided into two parts reflecting the phases of the nursing process; part 1- assessment and planning (A/P); part 2- implementation/evaluation (I/E). The purpose was to collect baseline data on the use of the nursing process in order to validate data obtained through other tools and to provide comparative data post-implementation of the nursing process.

Observation sessions were selected in order to observe different nurses on different shifts, during different events (A/P and I/E) and over a period of three weeks to allow for variations in workload;

for example a sudden influx of patients. In each observation session, one nurse was observed in relation to the care of one patient. The number of observation sessions was determined according to the following criteria: to observe at least 50% of RNs for each of A/P and for I/E. The total number of observation sessions was 11. The number of different nurses observed was 9; that is, seven nurses were observed once and two nurses twice. The five observation sessions for A/P usually took place on the evening shift on Mondays and Wednesdays, as that was the time scheduled for patients' admissions[8]. The six observation sessions for I/E took place either in the morning (n=3) or evening (n=3) shift.

Within each observation session, only specific events were observed; that is, those related to the object of observation. However, because the researcher did not know when these events were going to happen, longer periods of researcher presence on the ward were necessary. The average length of time that the researcher was present on the ward was four hours. Within this period of time the researcher took breaks, taking advantage of the breaks taken by the observed nurse.

As previously noted the researcher's role was 'observer as participant'. Therefore the researcher was with 'the nurse under observation' while that nurse carried out patient care. In being with the 'nurse under observation', the researcher participated in giving patient care when appropriate (e.g. making a bed). However, in an effort to minimise the effect of the researcher's presence, the researcher refrained from commenting on patient care or giving an opinion and followed the nurse's initiative. The tool designed to record observation was not carried by the researcher during observation. Rather, the tool was completed following the observation session. This was not problematic as the researcher had designed and used the tool previously in the pilot study. However, the researcher discreetly made field notes in a pocket notebook.

Three relevant issues appeared during observation and are described briefly. The first relates to the relationship between observer and observed. Although nurses were not informed about the specific content of the observation tool or the days the researcher was collecting data, they knew that the researcher was collecting information regarding their practice. The researcher realised that a couple of nurses seemed less comfortable when the researcher was observing them, as shown by their comments and justifications. The researcher maintained a friendly relationship and in these situations reaffirming for them that the purpose was not to evaluate but to help them improve their practice. These measures seemed to work. Nevertheless, the researcher realised that spending more time on the ward prior to data collection would probably have helped the participants to get used to the researcher, thus reducing the problem of being very conscious about being observed.

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[8] Although admissions to study ward could take place any weekday evening, they normally occurred on Monday and Wednesday evenings because orthopaedic surgery takes place on Tuesdays and Thursdays.

On the other hand, the researcher believes that the fact that she had not worked before as a nurse on the study ward facilitated her 'observer as participant' role. Turnock & Gibson (2001), who had worked before in the ICU where they were conducting their observation, found it difficult to avoid participation and keep within their 'observer' role. In phase 1 of the study, the level of participation was kept minimal, but when observation was not compromised, the researcher offered a hand in whatever was needed. Nevertheless, on occasion, when the ward was very busy, the researcher felt uncomfortable in keeping to her observer role and not getting involved in the care.

The second issue was that sometimes the researcher was asked questions about her findings. She preferred not to give information because she felt it could influence the nurses and also because she felt that until all information was gathered and analysed, it was not prudent to deliver it. She explained that full information would be given at the end of phase 1 which she provided to the steering group members (see 6.4.1.). Although apparently these nurses seemed to understand this explanation, there is no evidence that they really accepted it.

The third issue related to ethical questions. In line with the literature review (see 4.7), the researcher had decided to intervene in any case where unsafe practice was observed. Nevertheless there was no need to do so as no unsafe practice was detected during observation.

5.3.3. Nursing documentation evaluation tool (NDET)

From the start of November, that is, when data collection for the NDET (Appendix 9) commenced, the records of 25 consecutively discharged patients fulfilling the study criteria (see 4.5) were reviewed. In anticipation of this data collection, the researcher had collected the documentation used on the ward; that is, the assessment form, care plan form and progress notes sheet.

The data collection period for the NDET lasted almost two months because not all the nursing record sets were retained on the ward as had been agreed after the pilot. It was necessary to remind staff to do so during the main study.

The 25 nursing records were reviewed by both the researcher and one lecturer from the nursing school familiar with the nursing process. The rationale for having two reviewers was to minimise possible bias during data collection due to the researcher's personal interpretation. The researcher believed that to have somebody else with whom she could discuss the records would help to increase the validity of the data gathered. Because the researcher was not intending to develop a tool which could be used in other circumstances and studies, she believed these measures were sufficient to ensure the validity of data gathered in this study. The researcher is aware that if this

tool were to be used by the general public it should undergo further work regarding reliability and validity.

The characteristics of the 25 consecutive patient records were: the average patient stay was 8 days; 14 were orthopaedic patients, five neurology patients and the remainder (n=6) other specialities. The average age was 56 (range 24-87; SD:18); and almost two thirds were women (n=16).

5.3.4. Semi-structured interviews

The researcher conducted eight audio-taped interviews during phase 1 with eight different members of the organisation (see 4.8.4). All were conducted individually, at their place of work, which was either the hospital or the nursing school at the University. The average time for each interview was 45 minutes. In general they took place in a relaxed but professional atmosphere. The fact that the sessions were tape-recorded did not seem to present a problem for the participants. Before starting the interviews the researcher assured each interviewee of the confidentiality and anonymity of the data, as noted in 4.7. It seemed that this explanation was sufficient for all interviewees. In addition to audio-taping the interviews, the researcher also took notes related to the content and the context, such as interruptions.

There were several factors which contributed to the good response of participants. First, the researcher approached each of the individuals selected to explain the purpose of the study and asked for collaboration (see 4.6.2). Secondly, the researcher agreed to the places and dates proposed by each participant. Thirdly, the researcher was known in the organisation and this seems to have facilitated the participants' response. Finally, some of the participants thought that the study was a good idea and were pleased to participate. For instance, before starting the interview, one of the doctors commented that he was curious about the study and about the effects the study would have on practice.

As the interviews took place in their respective places of work, interruptions occurred in several of the interviews. These interruptions consisted of phone calls, which in two cases the interviewees answered quickly. Although these interruptions could have affected the flow of conversation, this did not happen as in both cases the researcher helped the interviewee to return to the interview context by repeating the words or idea they had been discussing before the interruption.

5.3.5. Focus group

Only one focus group was held instead of the two originally planned as the registered nurses and ward manager thought it more convenient to arrange just one meeting. This fact did not present a problem as having all RNs together allowed for a more realistic picture regarding nurses' behaviour as a group. In addition, because the study was within an action research context, it was thought appropriate to follow participants' suggestion in this matter.

All nurses from the study ward but one who was on holidays, participated (n=10). Their presence in the focus group was as volunteers. It was very unusual to have this high rate of nurse participation if compared with other meetings in the organisation. The sample size, although larger than planned, was still within the recommended size for a focus group according to Jackson (1998). Although the ward manager wanted to come she was asked by the researcher not to do so because her presence could influence the nurses' responses.

The focus group was conducted in the same place as in the pilot. Some food and drink was prepared in order to ease the atmosphere before the session. Nurses from the study ward were quieter before starting the focus group than nurses from the pilot study. As with the pilot the researcher initiated the focus group by reminding everyone of the purpose of the group. As before, she emphasised the confidentiality of the data and asked the participants if they would agree to have the session audio-recorded. Although they accepted, it was obvious that they were quite aware of the tape recorder, given their gestures and the way they looked at the tape. This awareness of the tape-recorder seems to have influenced their lack of spontaneity during the first part of the focus group.

Once the introduction was given, the researcher provided the group with an opening question. Whenever the discussion flagged the researcher would introduce another question from the prompt schedule (Appendix 11). Consensual validation was sought throughout the focus group by asking members if they agreed with the points being made. At the end of the focus group, the researcher summarised the main points that had arisen during the discussion in order to validate them with the nurses. They all agreed with the summary of ideas.

The session lasted an hour. Once the focus group finished, the researcher chatted informally with some of the nurses and stayed in the place for a while in order to write down field notes regarding her impressions about the session and to listen to the tape.

Summary of the data collection process

The data collection process for phase 1 took place over three months. The process ran smoothly but took longer than foreseen, specifically regarding the NDET. Although the pilot in general proved to be valuable, there was a problem during the main study regarding the understanding of a few questions from the self-report ward nurses' questionnaire. Because the tool was used within the context of action research, this problem was solved by clarifying the questions with the nurses.

5.4. The data analysis process: phase 1

5.4.1. Introduction

A great amount of data was obtained during phase 1. The researcher was faced with the dilemma of how to 'make sense' of these data. Two ideas influenced the analysis process: first that data from each tool were gathered to complement and validate data from the other tools; and secondly that phase 1 findings were to be used to inform the second phase of the study.

Phase 1 analysis consists of a descriptive analysis of the data obtained. The data from each tool were analysed individually; then the questionnaire findings were compared to the findings obtained from the observation recording tool, the NDET and, when appropriate, from focus group and interview data. The analysis process regarding each individual tool is presented in the following section. It should be noted that for the sake of clarity, tables containing summaries of findings are presented in the findings section (5.5) only.

5.4.2. Self-report questionnaires data analysis

The ward nurses' self-report questionnaire contained 33 questions. Each question corresponded to a variable and all of them were ordinal. In order to summarise the information, data were introduced into the SPSS and the frequencies calculated. In addition, the total score for each variable of the questionnaire was also calculated. Given the small sample size, in presenting the findings from the questionnaire, the response alternatives for each question were aggregated in the way shown in Table 7.

Table 7: Response alternatives to the questionnaire used on presenting the findings

Response alternatives to the questionnaire	Responses used on presenting the findings
Always Usually	Usually yes
Don´t know	Don´t know
Sometimes Never	Usually no

Regarding the Brooking ® (2004) ward manager's self-report questionnaire, the analysis was as follows: this questionnaire contained five ordinal variables, each referring to one phase of the nursing process. As there was only one ward manager on the study ward, the questionnaire was used once. The data obtained were used to compare RNs' opinions of the implementation of the nursing process on the ward with those of the ward manager.

5.4.3. Observation data analysis

Different types of data were obtained through the observation tool. Frequencies were calculated for nominal data (i.e. whether the patient's assessment was carried out or not). For interval data, (i.e. duration of nursing assessment), descriptive statistical analysis was employed, specifically the mean and standard deviation (SD).

Regarding the descriptive data obtained, (i.e. nursing activities carried out by the nurse), the researcher followed a content analysis framework (Polit & Hungler, 1995). First, nursing activities carried out by the nurses during the observation of the implementation and evaluation phases of the nursing process were listed. This list was entered into Excel, printed off and examined for commonalties several times. Then a coding system was developed taking into account the literature review, with particular reference to the distinction between independent, interdependent and dependent care (Carpenito, 1989b). The researcher also took into account whether the activities were related to a specific phase of the nursing process (i.e. planning, implementation).

Six categories finally emerged: i) Planning/implementing dependent and interdependent interventions; ii) Consultation with physicians and ward rounds; iii) Planning/implementing independent nursing interventions; iv) Co-ordination and liaison activities; v) Assessment/evaluation; vi) Attending to patients' requests. Once the categories were obtained, all

nursing activities from the list were classified according to these categories. Each category contained a number which indicated the number of nursing interventions observed related to this category. Finally, the categories were ranked from the largest to the smallest according to the number of interventions each contained.

5.4.4. NDET data analysis

Data obtained through the NDET were of different types: nominal, ordinal, interval and also descriptive data. All data except descriptive were introduced into SPSS for analysis. For nominal and ordinal data (i.e. whether there was a nursing assessment or not; the degree of completeness of the assessment format), analysis consisted of calculating frequencies. For interval data (i.e. number of nursing problems identified), the mean and SD were calculated. Given the small sample size, in presenting the findings from the NDET, the response alternatives for the ordinal variables: 4a, 6f and 6h, were aggregated in the following way: the 'yes' and 'sometimes' alternative responses were aggregated as 'yes'; the 'no' response was kept as 'no'.

Descriptive data were analysed in different ways. Data from item 4.c of the tool, that is, the list of nursing interventions documented in the care plan for each one of the 25 records, was introduced into Excel. The researcher classified these interventions according to pre-established categories. As it was intended to study whether the care given was holistic, the pre-established categories were: care is directed to the: i) physiological dimension of the person; ii) psychological dimension; iii) social dimension iv) spiritual dimension. Once the interventions were classified they were quantified in order to know the number of interventions under each one of these categories.

Data from the item 4.f of the NDET, that is, the list of nursing problems and interventions not documented in care plan but noted in the progress notes, was introduced into Excel and quantified. The rationale for doing so was to be able to compare the number of nursing problems and interventions documented in the care plan with the number of nursing problems and interventions not documented in the care plans and in that way to know whether care was planned systematically.

The other descriptive data, that is, data obtained from items 2a, 2c, 4f, 6b, 6e, 6g, 6f of the NDET (i.e. examples of problems identified, or examples of care not evaluated on time) were used to provide examples to illustrate the quantitative data when presenting the findings.

Together with the analysis of the 25 patient nursing records evaluated through the NDET, the researcher conducted a descriptive analysis of the assessment, care plan and progress notes used on the ward during phase 1. For instance, regarding the assessment form, the researcher noted the

assessment structure, the type of questions and the format design; for the care plan form, whether there was space for including nursing problems, goals, interventions (independent/interdependent/dependent) and evaluations. Finally regarding the progress notes, the researcher described the format.

5.4.5. Semi-structured interviews and focus group data analysis

In line with the data analysis process for narrative data described in section 4.10, interviews and the focus group were transcribed verbatim using a word processor. Transcripts were printed with wide margins for analysis. The researcher read each transcription several times in order to become familiar with the data. The type of codes developed were descriptive, which means that little interpretation was sought (Miles & Huberman, 1994). The intention was to have a picture of the context as presented by the interviewees. Five broad categories emerged following the inductive process highlighted in section 4.10.2. These categories were: i) the culture of the organisation; ii) nursing philosophy at the hospital; iii) nursing role; iv) preparation; v) and the nursing process. When looking at the data the researcher took into account the purpose of both the interviews and the focus group, which was to obtain a deeper understanding of the institution in relation to the factors that, according to the literature review, appear to be related to the implementation of the nursing process (see 2.8); and to find out nurses ' understanding and attitude towards the nursing process and its utility for practice.

Summary of the data analysis process

Data from each tool were analysed independently. The analysis consisted of a descriptive analysis of both the qualitative and quantitative data. Frequencies, means and SDs or content analysis were carried out depending on the type of data. The complexity of the process was due to the different tools used and the fact that within each tool, many different types of data were obtained. The next section presents the findings obtained.

5.5. The findings from phase 1

5.5.1. Introduction

There were two objectives to phase 1 data collection: i) to evaluate the current degree of implementation of the nursing process on the ward; and ii) to explore the readiness of the institution and study ward for the introduction of the nursing process. Findings from phase 1 are

therefore presented in this section according to these two mentioned objectives. Pseudonyms are used throughout.

In order to describe how the nursing process was being used at the start of the study (objective 1), several ways of presenting findings were considered. One possible way was to present the findings from each one of the tools separately. However, the multiple triangulation used to validate and complete the use of the nursing process, suggested a more integrated presentation of findings. Given the preceding and the volume of data, it was decided to present the findings from Phase 1 within a nursing process framework rather than tool by tool. This would also help prepare the groundwork for Phase 2. In relation to the second objective, data gathered through interviews and the focus group are presented also in an integrated way.

5.5.2. Objective 1

To describe the degree of implementation of the nursing process in the study ward at baseline

Given the importance of the style of nursing documentation in the nursing process literature (Serrano et al, 1997; Yura & Walsh, 1988; Brooking 1986; Wright, 1985a), it was considered important to describe the type of nursing documentation used in the ward at baseline.

5.5.2.1. Existing nursing documentation

The nursing records used on the ward in relation to the nursing process were the nursing assessment form, the care plan form and the nursing progress notes sheet.

The nursing assessment form (Appendix 13) was divided into 13 areas corresponding mainly to the body systems (i.e.: cardio-vascular; respiratory system or neuro-muscular system). The assessment tool was highly structured, based mainly on "yes/no" questions and carried out through interview and observation of the patient. There was no space for nurses' comments. Physical assessment was not included apart from pulse rate, blood pressure, temperature, weight and height; nor was the assessment of the psychological, social or spiritual dimensions of the person. The design was not particularly user-friendly, i.e. there were no spaces between lines or tick boxes.

During Phase 1 another assessment form was 'spontaneously' developed by the staff which was more user-friendly (Appendix 14). It remained highly structured with "yes/no" questions but there was now space for nurses' comments. However, there was no justification or explanation regarding its theoretical base. This assessment was designed to assess mainly physiological aspects of the patient. Although the tool now took into account psychological needs, it was limited to selecting

one item from "normal, depressed, euphoric, anxious, delirious", to best represent the state of patient. The tool did not include assessment of spiritual or social needs.

The care plan form was designed for documenting nursing interventions but there was no place for documenting nursing problems and objectives or for reviewing evaluation (Appendix 15). The care plan form was divided into two areas: one for documenting nursing interventions specifying the time of day they should be carried out; and the other area to sign when the nursing intervention had been carried out.

The nursing progress notes sheet was just a plain sheet on which nurses wrote the main features of the patient during each shift. Each nurse specified the date at the beginning and signed it at the end.

5.5.2.2. Findings on the degree of implementation of the nursing process at baseline

In the following sections findings from the questionnaires, observation and NDET are integrated and cross-referenced using the phases of the nursing process as a framework. Within each nursing process stage, findings from the self-report questionnaires are presented first, followed by observation and NDET findings. At the end of each nursing process phase a table shows a summary of the findings from the different tools used.

Assessment

In relation to new patients admitted to the ward, most nurses[9] (n=9) agreed that they did not usually carry out an initial patient assessment (Table 8). However, if they did one, it was usually within 24 hours of patient admission. There was no agreement among nurses regarding the use of a written assessment. Half the nurses believed they usually used one and the other half that they usually did not. The ward manager believed that nursing assessment was seldom carried out in the ward.

From the five patients' admissions observed, the initial patient assessment was carried out in all five cases by a nursing student (Table 8). In four of these five cases an assessment form was used. The nurses were usually checking the medical history of the patient while nursing students were conducting the assessments. The average duration of assessment was 18 minutes (range 9-30 minutes). Of the 25 nursing records reviewed, 18 contained a nursing assessment form which was "mostly completed" or "completed" in 17 cases. Of these 18 assessments, nine did not specify who carried them out, while four were carried out by nursing students and five by nurses. Therefore,

[9] When using the term nurses, we refer here only to the registered nurses who completed the self-report questionnaire.

nursing assessments using a written form were usually carried out but by nursing students rather than by RNs.

The ward nurses' self-report questionnaire indicated there was no general agreement among the nurses as to whether they systematically identified nursing problems: half (n=5) indicated they usually identified nursing problems while the other half commented they usually did not (Table 8). Through the questionnaire more than half the nurses reported that the causes of nursing problems were usually not identified (n=7); nor were nursing problems arranged by priorities (n=6). In only one of the five assessments observed, were nursing problems identified. Of the 25 nursing records reviewed, only five identified nursing problems, producing a total of eight problems.

In conclusion, although nurses indicated that nursing problems were usually identified, the findings from observation and the document review demonstrated that problems were rarely identified (Table 8).

Table 8: Summary Table of Nurses' Use of the Nursing Assessment at Baseline

Brooking ® (2004) ward nurses' self-report questionnaire	Usually no	Usually yes	Total nº of nurses n=10
• Assessment at admission	9	1	10
• Use of an assessment form	5	5	10
• Assessment within 24 hours or prior to patient surgery	1	9	10
• Identification and documentation of nursing problems	5	5	10
• Identification of causes of problems	7	3	10
• Problems arranged by priority	6	4	10
Brooking ® (2004) ward manager's self-report questionnaire	**Usually no**	**Usually yes**	**Ward managers n=1**
• Assessment	1		1
Observation	**Sessions (n=5)**		
• Who carried out the nursing assessment?			
- RN	0		
- Nursing student	5		
• Nº of occasions when assessment form was used	4		
• Nº of occasions when nursing problems were documented	1		
NDET (Document review)	**Records (n=25)**		
• Degree of completeness of assessment form			
- Complete	4		
- Almost complete	13		
- Mostly incomplete	1		
- No assessment form	7		
• Who carried out nursing assessment?			
- RN	5		
- Nursing student	4		
- No signature	9		
• Nº of assessments where problems documented	5		

Planning

Although more than half the nurses said that care plans integrated the nursing problems identified after assessment, findings from observation and NDET showed that this was not the case (Table 9).

Nurses agreed via questionnaire that they almost never identified the goals for care. This was confirmed through observation and through the NDET as the nursing documents reviewed failed to identify any written goals.

While nurses indicated that care was documented in the care plans, the findings obtained through the NDET revealed that in many patients' documentation (n=22), nursing interventions and nursing problems were not included in the care plan but identified on the progress notes (Table 9). In fact the amount of those interventions and problems not planned (n=118) was found to be similar to the amount included in the care plan (n=125). Therefore, care plans did not represent actual nursing activity. This has enormous implications for practice and these are discussed in chapter 8.

Through the NDET it was found that in proportion, in most care plans (n=18) nursing interventions were well or partially well documented. Unsurprisingly, given the physiological approach of the assessment form, all the planned interventions related to the physiological domain of the person. Figure 5 shows two examples of the type of nursing interventions planned for two patients.

Figure 5: Examples of nursing interventions planned for two patients (data from NDET, item 4c) and type of care (physiological, social, psychological, spiritual)

	Care plan interventions	Type of care
Record 21: patient with diagnosis of Alzheimer	- Pass sheet to specify patient's on-off stages	- Physiological
	- Vital signs: special graphic sheet[10]	- Physiological
Record 24: patient with hip replacement	- Vital signs. Special graphic	- Physiological
	- Put table board under mattress	- Physiological
	- Breathing exercises	- Physiological
	- Elastic tights	- Physiological
	- Observation of drainage	- Physiological
	- Observe urinary catheter	- Physiological
	- Get up from bed	- Physiological

As indicated by staff nurses through the questionnaire, there were no formal discussions on the ward to plan care and this was corroborated through observation.

In summary, care plans neither integrated the nursing problems nor the goals; neither did they represent actual nursing activity (Table 9). Care planned only related to the physiological dimension of the patient. Nursing interventions were only partially described and no formal sessions to discuss care plans were observed on the ward.

[10] Special graphic means that the vital signs are taken by the nurse every 4 hours and the results written in a special graphic sheet.

Table 9: Summary Table of Nurses' Use of the Nursing Planning at Baseline

Brooking ® (2004) ward nurses' self-report questionnaire	Usually no	Usually yes	Total nº of nurses n=10
• Care plans incorporate nursing problems	4	6	10
• Goals are documented	10		10
• Goals provide enough detail	10		10
• Nursing interventions documented in care plans	2	8	10
• Nursing interventions written in detail	3	7	10
• Nursing care planning discussions held on the ward	10		10
• Reading of journals and participation in research projects	10		10
Brooking ® (2004) ward manager's self-report questionnaire	**Usually no**	**Usually yes**	**Ward managers n=1**
• Planning	1		1
Observation		**Sessions (n=5)**	
• Nº of times care plan based on problems identified		1	
• Nº of times care planned according to other criteria		4	
• Nº of times nursing goals identified		0	
• Nº of times for care planning sessions organised		0	
NDET (Document review)		**Records (n=25)**	
• Are care plans based on nursing problems identified? - Nº of nursing records where care plans based on problems identified. - Nº of nursing records where care plans based on nursing or medical protocols[11].		3 15	
• Nº of care plans where goals documented		0	
• Are all nursing problems and interventions documented in care plans? - Nº of records with nursing problems/interventions not documented in care plan. - Nº of records with all nursing problems/interventions documented in care plan		22 3	
• Are nursing interventions described with enough detail? - Nº of care plans where nursing interventions written with enough detail - Nº of care plans where nursing interventions partially written with enough detail. - Nº of care plans where nursing interventions not written with enough detail		7 11 6	

[11] There were seven nursing documents without an assessment form and therefore without the possibility of knowing if there were nursing problems and what care was needed.

Implementation

In the questionnaire all nurses reported they usually re-assessed patients each time they carried out any patient care (Table 10). This finding was confirmed by observation as five of six nurses observed assessed the patient before delivering any specific care to him/her. In the example below the nurse immediately recognised that the patient was old and that therefore she could not explain things to her in a rush:

> *"Patricia went to the room to see a patient who had undergone eye surgery and realised that she was an old lady. As a consequence, she spoke slowly so the patient could better understand"(Observation, case 1).*

Another example observed was the following:

> *"Lydia went to the patient's room to dress his wound. Before starting, the nurse explained to the patient what she was going to do and observed that the patient was ready for it" (Observation, case 5).*

All study nurses (n=10) indicated they usually followed a patient allocation scheme on the ward (Table 10). This was confirmed through observation, which showed that each nurse was in charge of the care of a group of approximately six patients. The average number of nursing auxiliaries per shift (morning and afternoon) was two, and of nursing students, three.

All nurses (n=10) agreed that they usually took part in medical rounds for their patients and this was confirmed through observation as four nurses of the six observed participated in the medical ward rounds for their patients (Table 10). In the two remaining cases the doctors did not come to the ward during the observation period.

From the analysis of descriptive observation data related to nursing activities (see 5.4.3), six categories emerged (Table 11). Of the six categories, the largest corresponded to planning and implementation of dependent/interdependent interventions such as administration of medication, or carrying out other medical orders such as taking out the patient's drainage or giving oxygen. The second largest group was consultations and exchange of information with doctors. The third category was related to the planning and implementation of independent nursing interventions (i.e. changing patient position to avoid skin sores or doing rehabilitation exercises with the patient). As

can be seen in Table 11, these findings indicated that nurses' activities were still very much dependent on doctors' orders.

In summary, nurses reassessed patients before implementing an intervention (Table 10). Staff nurses usually took part in medical rounds and they used a patient allocation approach to care. Nursing activities were still much dependent on medical orders.

Table 10: Summary Table of Nurses' Use of Nursing Implementation at Baseline

Brooking ® (2004) ward nurses' self-report questionnaire	Usually no	Usually yes	Total nº of nurses n=10
• The nurse reassesses patient's condition before intervention		10	10
• Patient participation in care is systematised on the ward	10		10
• The nurses use patient allocation or primary nursing		10	10
• The nurses are allocated to the same patients for several days	1	9	10
• The nurses participate in medical rounds		10	10
• The nurses are responsible for planning the care	1	9	10
• Care plans are the basis for care given		10	10
Brooking ® (2004) Ward manager's self-report questionnaire	Usually no	Usually yes	Total no of ward mangers n=1
• Use of implementation phase of the nursing process on the ward	1		1
Observation	Sessions n=6		
• Nurses assess patients' condition before implementing care	5		
• Nurses participate in ward rounds	4		

Table11: Categories Identified by Number of Nursing Activities

Categories	Nº of nursing activities
Planning/implementing dependent/interdependent interventions	14
Consultation and exchange of information with doctors	11
Planning /implementing independent nursing interventions	9
Co-ordination and liaison activities	6
Assessment/evaluation of patient condition	5
Attending patients' requests	5

Evaluation

More than half the nurses (n=6) reported they usually carried out a systematic evaluation of the effectiveness of care given and that it was documented either on the care plan or in the progress notes (Table 12). The ward manager indicated that the evaluation phase of the nursing process was not carried out on the ward. In the nursing records evaluated, there were no signs of comparisons being made between patient's outcomes and goals; nor any date for evaluation. Examples of care not evaluated on time were found in 11 of the 25 nursing records. Figure 6 shows some examples.

Figure 6: Examples of care not evaluated on time from NDET

Patient who underwent orthopaedic surgery: Lumbar arthrosis. The patient did not have a nursing assessment. It was recorded in the nursing progress notes of the admission day that the patient had a hiatus hernia. The care plan did not include any nursing problem or intervention related to this medical problem, such as special diet or posture. The supporting brace was not asked for on time by the nurse (Saturday) and they had to wait until Monday to receive it. Consequently, the patient stayed in bed 24 hours longer than expected. He developed stomachache due to his hiatus hernia and the fact that he was in a horizontal position for too long (Record 10).
Patient who underwent surgery: Knee arthrosis. The patient suffered from constipation after surgery and it was not detected by the nurse until the fourth post-operative day (Record 12).
Oncology patient admitted for chemotherapy with serious deterioration to her health. The patient suffered diarrhoea for several days. There were no changes in diet until the patient's situation became aggravated. In addition, there was no fluid balance chart (Record 16).

Six nurses indicated that objective criteria were not usually used to evaluate patient progress (Table 12). No objective criteria to evaluate patient progress were used by the six nurses observed. It was observed that nurses used sentences such as " the patient is better, he is less sleepy" (nurse 5) or "she feels rather bad" (nurse 4), to express the evaluation of a patient's condition.

In eight nursing records there were some indicators of objective criteria being used to evaluate patient progress: i.e. objective description of the tissue perfusion of a patient wearing a plaster (Record 1); or the degree of knee movement achieved by a patient operated on knee arthrosis (Record 12). The remaining 17 records did not contain any examples of objective evaluations of patient progress; e.g. degree of pain, quantity, and characteristics of the diarrhoea.

All nurses (n=10) recorded that they modified the care plan according to evaluation. Nevertheless observation revealed that in only two of six cases observed, were there modifications in the care plan as a consequence of changes in the patient's condition. Seventeen of the 25 nursing records reviewed, had a modified care plan (Table 12).

Seven nurses agreed there was no systematic participation of patient and relatives in the nursing process and only one instance was observed where a patient was consulted, despite opportunities where this could have happened.

Most nurses (n=8) believed that they did not have an obligation to use the nursing process. All 10 nurses agreed that they had not had any preparation on the ward related to the nursing process and six reported they had not had any preparation for the nursing process during their basic education.

In summary (Table 12), nurses did not undertake a systematic evaluation of care given. In addition, objective criteria to evaluate patient progress were not employed usually and care plans were not always modified when changes in patient condition occurred. Patients and relatives were not systematically involved in patient care. Finally nurses agreed they had not received any preparation to use the nursing process on the ward.

Table 12: Summary table of Nurses' Use of Nursing Evaluation at Baseline

Brooking ® (2004) ward nurses' self-report questionnaire	Usually No	Don't Know	Usually Yes	Nº of nurses(n=10)
• The nurse systematically evaluates the effectiveness of care given	4		6	10
• The nurse documents evaluation on the care plan or progress notes	4		6	10
• The nurse uses objective criteria to evaluate patient progress	6		4	10
• The nurse modifies care plans according to evaluation			10	10
• The nurse systematically takes into account patient /relatives opinion when deciding nursing problems	8		2	10
• The nurse systematically takes into account patient/relatives opinion when planning care	8	1	1	10
• The nurse systematically takes into account patient participation in care	10			10
• The nurse systematically takes into account patient/relatives participation in the evaluation of care	7		3	10
Brooking ® (2004) ward manager's self-report questionnaire	**Usually no**	**Usually yes**		**Nº of ward managers (n=1)**
Evaluation used on the ward	1			
NDET		**Records (n=25)**		
• Nº of nursing records where results are compared to goals		0		
• Nº of nursing records where date for evaluation of care set up		0		
• Nº of nursing records where patient care not evaluated on time		11		
• Nº of nursing records where objective criteria used to evaluate care		8		
• Nº where care plans modified according to changes in patient condition		17		
Observation		**Sessions (n=6)**		
• Nº of times care plans modified according to changes in patients condition		2		
• Nº of observations in which objective criteria to evaluate care was used		0		
• Nº of times patients' opinions sought regarding their care		1		

5.5.2.3. Summary of findings related to the degree of implementation of the nursing process at baseline (Objective 1)

- Nursing process was very poorly implemented on the ward;
- Nursing assessment was usually carried out by nursing students rather than RNs;
- Nursing problems were rarely identified and consequently care plans were not usually individualised;
- Care plans did not represent actual nursing activity;
- Nursing interventions were partially well-described and all them were related to the physiological dimension of the patient;
- Nursing activities were much dependent on doctors' orders;
- Nurses did not have formal sessions on the ward to discuss the care plan;
- Nurses used a patient allocation approach to care organisation;
- There was no systematic evaluation of care given;
- Objective criteria to evaluate patient progress were not usually employed;
- Care plans were not always modified according to changes in patients' condition;
- There was no systematic participation of patients and relatives in patient care;
- Most nurses agreed they did not have any preparation for the nursing process.

5.5.3. Objective 2

Readiness of the institution and study ward for the introduction of the nursing process.

In order to address objective 2, eight interviews and a focus group were conducted and analysed as described in 5.4.5. Figure 7 presents the categories that emerged from the analysis. Findings are presented using these categories[12] as a framework.

Figure 7: Categories identified from semi-structured interviews and the focus group in phase 1 of the study and the description of their content

CATEGORIES	CONTENT
Culture of the organisation • *Hierarchical organisation* • *Employee's development at the centre of management style* • *Sharing the Institution's ideology*	Includes the accounts related to the hospital ideology and the philosophy of management.
Nursing philosophy at the Hospital • *Holistic care of the person*	Includes accounts related to the nursing philosophy held at the Institution, whether it was implicit or explicit.
Nursing Role • *Nurses' place in the multidisciplinary team* • *Recognition of nurses' accountability*	Includes all the accounts dealing in some way with nurses' role, functions, competencies, autonomy and accountability and also nurses' role in relation to other professionals.
Preparation • *Nursing past and present education* • *Nursing training v nursing education*	Includes all the accounts related to nursing preparation and continuing education: content, methods, focus.
Nursing Process • *Perceptions* • *Implementation of the nursing process*	Includes the perceptions of the different participants about the nursing process and its implementation

[12] The researcher uses the word "interviews" throughout the presentation of findings meaning both semi-structured interviews and focus group.

5.5.3.1. Culture of the organisation

This category captured participants' accounts regarding the ideology and philosophy of the Institution.

- *Hierarchical Organisation*

From the participants' accounts it was shown that the organisation in which the study ward was located was hierarchical. Employees were expected to share in the Institution's ideology. One senior manager said:

> *"The Hospital Board of Management is made up of the Chief Executive, the Medical Director, the Medical Depute Director in charge of the management of the services (within which nursing is included), the Director of Human Resources and a Secretary. Also, there are other members associated with the Board who are in charge of more specific areas such as finances.... The Hospital Management Board is in charge of deciding the general politics and strategies of the hospital...Within the Hospital Board, it is I myself who makes the link with the Nursing Management Board. It is not impossible, moreover it is probable, that in the future somebody from the Nursing Management Board will become part of the Hospital Management Board. Now I am the one in charge of this and other areas" (1, 69-73; 63-64; 55-59)*

Therefore nurses at this hospital were not a part of the hospital's Management Board. The Nursing Management Board was under the direction of the Hospital Management Board.

Throughout the interviews with managers at different levels of the hospital, it was clear that there was a unity of vision and direction between central hospital management and nursing management. This fact was not surprising given the ethos of the organisation. For instance, another senior manager commented: *"Nursing Management carries out its activity in accordance with the objectives and directorship of the Hospital, within the general framework of the University" (2, 11-14).*

In summary, there was a management hierarchy within the organisation. Other aspects regarding employees' management within the organisation are considered in the next category.

- *Employee's development at the centre of management style*

From the content of the interviews certain values appeared to be essential to the organisation: the value of the person in him/herself, whether patient or employee; respect for all employees, which was manifested by the way the managers approached the management of personnel. For instance, in the interviews, nursing managers spoke about 'managing their nurses' in terms, for instance, of

'providing guidance', 'encouraging them' or 'facilitating participation'. One nursing manager described one of her objectives as: *"to make all the personnel under my direction and everybody on the ward share in the objectives and plans established for the ward" (4, 7-9).*

In relation to the clinical supervision of staff nurses, another nursing manager indicated: *"We would like it (PDP[13]) to be a process by which we can encourage people, in the sense of developing the good possibilities that everybody has, while also helping them to iron away the negative aspects; so we want the PDP to be established as a means of professional improvement"(2, 105-11).*

Another nursing manager commented that the PDP in one of the ward was seen as *"a very specific means to help the staff nurse to open up and share her difficulties with her supervisor" (3, 100-102).*

One senior manager indicated that in the study hospital they gave much importance to the individual developmental needs of each employee: *"the plan is to help each person (employee) in his/her professional growth, to establish individual objectives for their progress and to follow them up. This is quite complex." (2, 90-93).*

These accounts suggest that the management style encouraged and facilitated employees' personal and professional development. It would appear that there was respect for each employee and a desire for each one to assume his/her role in a responsible way.

- *Sharing the Institution's ideology*

The interviewees' accounts highlighted that values such as corporate unity[14], loyalty and personal commitment were fostered and expected in the organisation. One of the nursing managers commented:

> *"For the education of staff nurses and also ward managers in these last few years we are focusing on trying to achieve the three "Cs": competency, co-ordination and commitment...that they have a personal commitment with the Hospital to assume the values of the Institution, to respond to and to collaborate with them" (2, 153-164)*

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[13] The "plan de desarrollo profesional" (plan for professional development) (PDP) is a tool introduced a few years ago in the hospital, consisting in a structured interview that the supervisor holds once a year with each one of the nurses and auxiliaries on her ward in order to assess the quality of their professional activity.

[14] Corporate unity means sharing on institution's ideology and management objectives; being part of the organisation, to consider it one's own.

For that to happen it was important for employees to be personally identified with the ideology of the Institution. For instance, another nursing manager commented:

> *"a very important point, I think, is to actively contribute to help people work according to the ideology of the University and the nursing expectations of the Hospital...I personally take advantage of the PDP to talk about it...if the person [employee] shares the ideology of the university she will work as she is. Besides, I think that you can not dissemble how you are, very soon things will come up." (4, 52-54; 251-252; 262-265)*

In summary, there was a hierarchical management structure at the study hospital. The Nursing Management Board was under the direction of the Hospital Management Board. Management style in the organisation was such as to encourage employee development and responsibility. It was also expected for the employee to share the Institution's ethos.

5.5.3.2.Nursing philosophy at the Institution

This category gathers participants' accounts regarding the philosophy of nursing in the Institution.

- *Holistic view of the person*

There was no explicit definition of the nursing philosophy of the Institution. Nevertheless, from the accounts of managers, practitioners and the director of nursing education, there was a shared view that nursing care could not be reduced to technological dimensions and that human aspects were very important. There was a common understanding of a holistic approach to nursing care, for example it was said that the aim of nursing at this hospital was:

> *"to provide care of the best scientific, human and professional level in order to meet the physical, psychical and spiritual needs of each one of the patients" (2, 57-61)*

Although there was no explicit definition of the four nursing phenomena: person, health, nursing, and environment (Marriner & Raile, 1997), some of these concepts were assumed and understood in the same way by all the participants as, for instance, the concept of 'person', which was explained by most interviewees (n= 6) as being a 'bio-psycho-social, spiritual' being. One of the interviewees indicated:

> *" Another aspect which is implicit is [the concept of] 'man', who has a dignity; there is a Christian approach: son of God and all that is meant by this. The other degree courses and disciplines at the university also hold the same vision" (6, 10-13)*

Another participant also said:

"What I see is that when fulfilling our job we need to have clear that what we have in front of us is a 'person', moreover, a sick person. Essentially we have a suffering Jesus Christ. Then, what we have to do is physically, and also, if we can, psychologically and spiritually, to alleviate that person's suffering; to accompany him having certain values always in mind" (4, 234-244)

Clearly, from what has been mentioned above, there was a shared vision of a Christian concept of the human person among the different interviewees, which seems to be a reflection of the ideology of the Institution. Regarding the concept of health, there was not many mention of the scope of this concept in the interviews. The director of nursing education was the only one who indicated that health had been defined and its scope established in the nursing school:

" Another important aspect is the concept of health... there has been a change in the traditional understanding of 'illness' to understand health as beyond that [illness], that is, the person can function at different levels independently of having a pathology. What the individual person says is also important here" (6, 14-19)

In summary, there was no explicit definition of nursing philosophy but there were shared views regarding the concept of person: i) as having a dignity due to their being created and loved by God; ii) as being holistic and therefore not reducible to physiological aspects; and iii) as having individuality.

5.5.3.3.Nursing role

This category included participants' accounts regarding nursing role, competencies, autonomy and relationships with other professionals. Although managers, educators and one of the doctors perceived nurses as being part of the multidisciplinary team, staff nurses considered that this was not the case. Doctors expected nurses to act with autonomy and accountability; nevertheless, nurses did not have clarity about their scope for practice and their role.

- *Nurses' place in the multidisciplinary team*

Nurses in this organisation were considered by managers and educators as a key element within the multidisciplinary team of doctors, nursing auxiliaries, and other health professionals. For instance, the medical deputy director and the DNS considered nurses' contribution to the quality of care to be important, highlighting how one of the objectives of the Institution over the last few years has been to enhance the co-ordination of nurses with other professionals.

"Nursing is the key element of the hospital because the medical team, maintenance team, sports team and general services revolve around nursing. Nursing co-ordinates all that. Therefore, we [the Nursing Management Board] realise that in order to

achieve a patient's quality care there will have to be an appropriate co-ordination of care" (2, 30-39)

Doctors considered the contribution of nursing to the multidisciplinary team essential. Each one emphasised different aspects. For instance one consultant made it very clear that nurses and doctors needed to have joint discussions about the care of their patients:

> *"I believe that nurses should have more time to be able to discuss patients with doctors; this probably means that a larger workforce is needed because otherwise it is not possible to discuss these topics with the nurses for two hours if there are patients being left unattended. Personally, what I miss (from nurses) is having more time besides the periodical meetings that we already have...There has to be an investment of time for teamwork: doctors and nurses; nurses among themselves; there has to be teamwork and, of course, direct attention to the patient" (7, 151-157; 244-246)*

Another doctor emphasised the importance of the nurse being the bridge between the doctor and the patient as she is with the patient 24 hours:

> *"Therefore, the nurse should be the prolongation of the doctor, with immediateness in order to be able to give attention as soon as something happens to the patient"(8, 16-17)*

He also highlighted as an important aspect of this co-ordination nurses' readiness to participate in the ward rounds and good knowledge of the patient situation.

However, there were practical problems regarding co-ordination with doctors, on the day-to-day basis on the ward, as one nursing manager indicated:

> *"From my point of view, the co-ordination is not good at all. The medical team and nursing team each work separately, therefore, for instance, when considering coming to the ward for the rounds, the medical team does not think about the needs of the nursing team, which are the needs of the patients. The doctors only consider what suits them best, so when they have neither to see out-patients nor go to theatre then they come to see their patients [on the ward], without considering or asking if it is the best moment for the nurse to accompany the doctor. On many occasions, it is almost impossible to accompany the doctor, because we [nurses] are doing other tasks" (4,195-205)*

Nurses, on the other hand, had a very different perception regarding their contribution to the multidisciplinary team. They believed neither their comments nor their work were valued by doctors. One senior nurse commented:

> *"Another impression I have is that more and more we [nurses] are less respected by the doctors. They come to see the patients and they will come when they can or they want. I don't care, but they want the nurse to be there, waiting for them. They do not*

care if you are doing other things. They get angry if you are not there. When they come, they do not think if it is the best moment for you or for the patient. They do not care about it. And even more, if you told them, they would tell you that they do what they can. And, it seems that our work and our time does not count."(9,939-948)

Another senior nurse corroborated:

"You have to leave what you are doing to look after them [the doctors]". (9, 948-949)

Staff nurses tended to complain that they were the only ones concerned with everything related to the patients.

"You have to worry even about asking for an x-ray, bringing it to the ward so the doctor can look at it. They ask for an urgent blood test but if you do not call them with the results then 90% of the time nobody cares to come to check it. You are the one who has to be always attentive" (9, 27–39)

The nurses felt stressed at having to co-ordinate all the care of patients. They perceived they did not have time for all the things they were supposed to do, many of which they perceived were secretarial tasks or tasks that could be done by auxiliaries.

In relation to the participation of nurses in the multidisciplinary team as accountable members, the research supervisor noted the importance of preparing them for this role:

"Does the nurse have something to say? She has a lot to say to other professionals, but let's teach her and let us give her the necessary tools so that she can do it as a true professional, as a professional that has assumed her role in a scientific way, not just out of good will" (5, 143-147)

From the pervious account it became clear that there were different views on what nurses' contribution to the care team and their focus of work on the ward should be.

- *Recognition of nurses' accountability*

Throughout the interviews it was made explicit that there were different perceptions of the nurse's role among the interviewees. Managers and doctors alike on different occasions stressed the autonomy and accountability of the nurse. For instance one doctor indicated:

"I think that there are several patterns in nursing with which the doctor has nothing to do. They are already established, i.e. nursing diagnosis, nursing diagnoses before patient discharge. With regard to all these matters, the doctor does not even realise that they do them, in the same way that nurses do not know things doctors do. These are the independent aspects of nursing ...these are aspects that do not have anything to do with doctors because they are a totally independent and autonomous task [of the

nurse]. I do not know if this is the way it is in other hospitals, but at least in my unit, this is so" (7, 33-38; 40-42)

Another doctor indicated that nurses, especially the newly qualified ones, were afraid of making decisions in areas for which, according to him, they had both the knowledge and authority:

"I believe that they have to have initiative and autonomy and that they are qualified for that. If, at 3 in the morning, a nurse sees that a patient's bandage is too tight, his fingers are completely white, he does not feel them, she has the right to take the scissors and open the bandage to give a bit of space. In order to do this, she does not need to bother anybody. As she knows how to do it, and it has been explained to her, she should do it; -listen Doctor, it is a bit swollen; -open the bandage-; You already know; you do not need to ask about it. They have the knowledge, they know about it, but they do not do it because they lack confidence, security. They know, the problem would be if they did not know how to do it, but they do. They lack confidence" (8, 269-276)

Nurses on the other hand stressed that they did not have a clear idea of their area of autonomy. They said they felt insecure when having to take decisions because they were afraid of "putting their foot in it". They considered this insecurity to be caused by a lack of communication with the medical team and discussions about the scope of nursing actions.

"You have a patient with a dirty dressing and you start doubting. Shall I change it or not? It is night-time and you think: if I change it the patient will get annoyed. In the end you decide to do it and next morning the doctors complain; but if you decided not to do it, it would be the same. Then you are insecure in everything you do" (9, 817-820)

One manager, commenting on the study ward nurses, highlighted three problematic areas: not wanting to be accountable for decision-making, not knowing how to delegate to others, and assuming competencies that are not theirs. Regarding the last area, she gave the example of expert nurses advising health officer doctors on decisions that are not within nurses' scope of practice.

Concluding this category, there were different expectations regarding the nursing role. Managers and doctors alike expected nurses to be at the core of the care team and to be accountable. Nevertheless, accountability was understood by each doctor in a different way. Nurses manifested a lack of clarity about their area of autonomy and also highlighted some difficulties in the area of co-ordination with doctors. Staff nurses manifested their view that their work and comments were not value by doctors. It was mentioned by one nursing manager that nurses did not want to be accountable for decision-making. The research supervisor also mentioned the need to prepare nurses to have an active role within the health team.

5.5.3.4. Preparation

This category included participants' accounts related to nursing education. It highlighted the deficiencies of past nursing education and the problem of identifying nursing education with nursing training.

- *The influence of nurses' past preparation*

In relation to nursing education, participants recognised that some of the current deficiencies in nursing practice in Spain were due to the educational approach used in the past. For instance, one manager and one educator highlighted that the need for reflective practice and critical thinking had not been encouraged in the past:

> *"We are based on acquired knowledge and we lack reflexivity. It can be said that we are more dogmatic in our activity. You know that it is like this. There is not an appropriate culture of discussion, of reflection, the habit of questioning thing" (1, 325–330)*

The nursing educator for instance recognised the problem of nursing being too medically-oriented as a consequence of the type of nursing education received:

> *[referring to the second half of the 80s] "Until that time, nursing preparation was very much dependent on medicine, on the doctors. There was not a good nursing foundation. It was always seen as very focussed on the disease" (6, 226–227, 232–234)*

One nurse manager stressed that although nurses on the study ward were very competent practically, they lacked the initiative to improve practice and were resistant to change.

> *"I am very conscious that what is given priority is ancillary work. I must say that they are very professional, responsible nurses who know how to care holistically for their patients and their families. They are able to work with minimal supervision. But they lack initiative to give suggestions for improvement, and overall, they have great resistance to making changes. Even when they realise that the change is going to be positive. They have a lot of resistance to accept changes. And they also recognise this. (4, p 7)*

One of the interviewees acknowledged that there had been many changes in nursing education over the last decade. She specified that the focus of today's nursing education was on developing professionals with reflective thinking, capable of identifying problems and solving them, of questioning the reason for things, and with the inner desire to keep up-dated.

- *Nursing training v nursing education*

The different participants' accounts showed the variety of perceptions related to the focus of continuing education in nursing. Managers seemed to place emphasis on holistic and personal preparation; doctors and nurses gave more importance to technical preparation. Nursing educators emphasised continuing education based on concepts proper to nursing which, according to these educators, helped nurses to give reasons for what they did and why, and prepared them to be able to improve their practice.

> *"For instance, regarding liver transplants, to go where the best transplants in the world are being done and to learn how to deliver care and go back. This is an appropriate way of learning . But it is a kind of learning about: "how to do it"; meanwhile, nursing needs a preparation that is a constant feeding of the concepts while at the same time providing the practical support that allows one to improve those aspects that should change in practice" (5, 174–181)*

In summary, within this category it was found that nursing was still clinging on to the consequences of past education, such as a medically-oriented nursing, lack of reflexivity or lack of good nursing foundations, all of which affected nurses' initiative and contributed to their resistance to change. In addition, interviewees manifested different approaches to nursing education. Only the nurse educator and the research supervisor pointed out the need to deepen in concepts related to nursing.

5.5.3.5. Nursing process

This category included participants' perceptions about the nursing process and its implementation. It was considered by most participants as a necessary tool for clinical practice. Managers believed that the nursing process should be introduced in each ward by the ward manager and nurses, and not from outside. Educators believed that its introduction required a change their mentality on the part of nurses, together with an understanding of their role, and also changes in organisation.

- *Perceptions*

All the managers and educators interviewed manifested positive perceptions regarding the nursing process. They considered it a methodological tool for delivering nursing care which was systematic and rigorous. In addition, they considered that to work with the nursing process approach would contribute to the quality of care and professional development. For instance, one ward manager commented:

> *"I think that it is very useful, necessary, and I think it is going to be even more necessary as time goes on. Because we have to base [our work] on specific things to justify our actions and to record everything we do. It is the only tool that exists*

nowadays that can help us in our professional development. I'm very clear about that" (4, 358-365)

One nursing educator also indicated that the nursing process will contribute to enhance nurses' accountability for their own area of competence:

"I would start by saying that I think it is essential to have a method in your work. I think that it is essential. Saying that, I think that the method of the nursing process fits the purpose for clinical nursing. Firstly, because what it does is to systematise, and this is always very good (...) and secondly, because to have a system helps to individualise the care of the patient, not in a spontaneous way, but in a orderly way which assures all the phases of the nursing process and not just one. Another important aspect is that the nursing process forces the nurse to make professional decisions regarding her own area of competence and ensures a more scientific collaboration between the nursing and other professionals" (5, 123-147)

Staff nurses mainly perceived the nursing process as something added to their daily work, as a burden. They perceived that the reason for using the nursing process was the need to have complete nursing documentation. They did not see it as a method that would help them in their work and would contribute to improve quality of care. For instance, Ana, commenting on the reasons for using the nursing process, said:

"in order to have everything documented; more than to obtain any benefit; because in order to write everything down you need all the morning. More than anything else it is the composition: that everything looks nice, I think" (9, 194-196; 199-201)

- *Implementation of the nursing process*

Managers considered that nurses and ward managers should be the ones leading the implementation of the nursing process in each ward. Managers understood that the implementation of nursing process was a lengthy process that required a change in documentation and organisation. One nursing manager, the nursing educator and the nursing research supervisor stressed the importance of a change of mentality in nurses and the appropriate ward organisation in order to implement the nursing process.

"Maybe, on some occasions an attempt was made to develop the nursing process with standardised assessments of patients and giving a basic formation. But they were not supporting intellectual formation, a proper way of organising the nursing units, the nurses' continual responsibility for the patient. There is still a lot to be done. There are still fundamental topics, management of units"(3, 258-264).

The nursing educator indicated that an important element in implementing the nursing process is that nurses understand that they have an area of competence for which they are accountable and which they should go deeply into and develop.

"when somebody says that within the nursing process he accepts the assessment but not the diagnosis or judgement, it means then that you are not accepting that as a professional you have an area of competence. This is still happening.... Nurses need to develop knowledge, to research their own discipline... Then, of course, to talk about a tool when it is empty...sometimes it is empty of content, because the content is the nursing discipline, nursing science" (6, 483-495)

Nurses in general complained about the lack of time to carry out assessments, that assessments were carried out in a superficial way, and that usually they did not make use of them to plan the care: As Patricia noted:

"On Monday evening there are usually only two nurses on shift...when less time is available you have to carry out the assessments. So they are done in a rush and badly. Afterwards, we do not really look at them" (9, 232-235)

Alicia confirmed this saying:

"I usually refer to the medical history more than to the assessment form; or directly to the patient" (9, 251-253)

When discussing care planning in the focus group, nurses commented that they usually planned care, based on protocols and on what might arise more than on the problems identified. For instance, some nurses commented:

"What are the guides to elaborate the care plans? According to what you are finding at a first glance" (9, 332, Ana) "also a bit on what we already have: protocol" (9, 336, Alicia)

Some staff nurses acknowledged that the evaluation phase of the nursing process was sometimes neglected, specifically regarding stopping interventions that were no longer necessary given the improvements in patient condition. Beatriz commented:

"For example, you may have the following interventions planned: to apply a cream to a patient because he has got a bruise, and then you find out that it has already disappeared. Because it is in the care plan, you sign it, and plan to do it but there is nothing there (9, 359-363)

Nuria confirmed that this was the case and gave another example:

"For example, somebody has planned a special vital signs graphic and there it stays until the patient is discharged" (9, 367-368)

In summary, regarding this category, most interviewees except staff nurses, considered the nursing process as an appropriate tool for nursing practice. Staff nurses considered it as a burden,

something added to their daily work. Managers, the educator and research supervisor indicated that implementation of the nursing process will probably be a lengthy process and that this requires changes in organisation, but also changes regarding the understanding of nursing and the nursing role. The nurse educator mentioned that staff nurses will need to go deeply into nursing as a discipline.

Nurse managers considered that staff nurses and ward managers should be the ones leading the changes. According to staff nurses they did not have time to carry out patient assessment and it was done in a superficial way. Care plans were not based on problems identified but on protocols. Finally the evaluation phase was not carried out.

5.5.3.6. Summary of findings related to readiness of the Institution and study ward for the introduction of the nursing process (objective 2)

- The Institution had a hierarchical structure with a management style favouring employee development and personal responsibility. It was expected that personnel shared the Institution's ethos.

- There was no explicit definition of the nursing philosophy held at the Institution. Nevertheless, there were shared views regarding, for instance, the concept of person, which was considered within a Christian perspective: that is, including all the dimensions of the person: biological, psychological, social and spiritual; and considering the person as an individual having a dignity in him/herself.

- There were different views among doctors, managers and nurses regarding what nurses' contribution to the care team should be and also about the nature of their work on the ward. These differences could be summarised as understanding nurses either as doctors' supporters or as independent professionals.

- Staff nurses manifested a lack of clarity regarding their area of accountability and problems of co-ordination with doctors.

- It has been indicated by managers and educators that in the past preparation in nursing did not encourage reflective practice and problem-solving in nurses, and that this has contributed to nurses' resistance to make changes and to their lack of initiative.

- As a consequence of past nursing education, nursing has been illness- and doctor-centred.

- The focus of current in-service training was in technical and humanistic aspects but not in concepts related to the essence of nursing.

- Managers, educators and the research supervisor considered the nursing process as an important and necessary tool for nursing practice. In contrast, staff nurses perceived the nursing process as a burden added to their work.

- Managers and educators saw the implementation of the nursing process as a lengthy process requiring deep changes. Nursing educators considered an understanding that nurses have an area of competence for which they are accountable to be essential for using the nursing process.

- Nursing managers considered that staff nurses and ward managers should be the ones leading the changes.

- Nurses manifested that nursing assessments were usually carried out in a superficial way and they were not used to plan the care. They also indicated that the evaluation phase of the nursing process was not usually conducted;

- Nurses recognised their need for knowledge and preparation in the nursing process.

5.6. Summary of key messages

During phase 1 of the study, baseline data regarding the use of the nursing process and readiness of the setting for its use was evaluated. Quantitative and qualitative data collection tools were employed as well as different sources of information (multiple triangulation). The results show that the nursing process was in general poorly implemented. The positive and negative factors for the implementation of the nursing process were also identified. The following bullet points summarise the main aspects highlighted in this chapter.

- The nursing process was poorly implemented on the study ward;

- Staff nurses considered they did not have the knowledge and preparation to use the nursing process;

- Managers and doctors held positive views regarding the nursing process and its benefits for nursing practice. Nurses considered the nursing process as a burden to their daily work.

- There was no explicit definition of the nursing philosophy held at the hospital. The focus of current in service-training was on technical and humanistic aspects but not on concepts related to nursing essence;

- Different professionals such as managers and educators at the Institution considered that nursing education in the past did not favour the development of those necessary skills for using the nursing process, such as reflective practice and problem-solving. In addition, educators highlighted that the nursing process implies an understanding of nursing as having an area of competence for which nurses are responsible;

- There were different views among doctors, managers and nurses regarding nurses' role: as doctors' supporters or as independent professionals;

- It was considered by managers that the implementation of the nursing process was a lengthy process requiring conceptual changes. They also considered that the implementation should be lead by ward managers and staff nurses.

Chapter 6: Main Study: Phase 2

6.1 Introduction

Phase 2 was conducted immediately after phase 1: that is, from January to June 2000 (see Figure 1). During this phase the implementation of the nursing process took place which is the subject of this chapter. Data collection is presented in section 6.2 and the data analysis process is described in section 6.3. The researcher acted as 'participant as observer' both facilitating the change and collecting data regarding the change process. As indicated in 3.6, the steering group was the decision-making agent for the implementation of the nursing process. In section 6.3 the process of change is described including the role of the steering group and the role of the researcher. Section 6.4 describes the content and outcomes of change.

6.2 The use of field notes in phase 2

Field notes were the main data collection method during phase 2 and were collected from steering group meetings and the researcher's fieldwork on the ward (see 4.8.6). Tape recordings of the steering group meetings took place only during the first three encounters. The researcher was aware of the advantages of having the sessions taped (see 4.8.6) but, given the demands on the researcher who was acting as researcher, expert and facilitator of change, this had to be sacrificed due to time constraints involved in listening to the tapes. The decision was made to take more complete field notes instead. These field notes focused on the decision-making process during the meetings and on other aspects such as how the steering group members influenced each other's decisions. As the researcher was also a member of the steering group, she wrote field notes about her views, perceptions, and assumptions in order to make the researcher's influence explicit. This process is called reflexivity and has been recommended by authors such as Waterman (1998a).

On the ward the researcher tended to make brief notes according to plan (4.8.6) and complete them later, at home, at the library or waiting for the bus. Examples of the different types of field notes are shown in Vignette 1.

Vignette 1

Examples:

a) Field note post conversation with the ward manager on her perceptions of the role of the nurse:

She gave me two important details: first she had the impression that sometimes the doctors cared more about patients' needs than the nurses did; i.e. she told me that the patient in room 5 lived on her own and that she had many health problems. She explained to me how the doctor was sorting out the problems of this patient at home as she was going to be discharged. The ward manager concluded that nurses should have been the ones considering these potential problems and preparing the discharge plan. The ward manager also commented that one staff nurse gave a crutch and a walker but did not pay attention as to whether the patient was using them correctly. The patient did not know that she could rest her foot on the floor. [FN 15-March-2000]

b) Field note showing the researcher's decision-making regarding her role after the implementation of the new assessment form:

I think I should be observing what problems nurses are facing on the ward with the assessment forms: whether there are staff shortages; whether they have other priorities; whether they lack initiative to carry these assessments out. Also I should observe how they carry them out and how they label the problems. It will help me to see who usually does the assessment and to whom I have to give more support. [FN 24-March-2000]

Miles & Huberman's model (1994) was used to analyse the field notes (see 4.10.2). This analysis was undertaken with the perspective of highlighting the process of change, and the changes that took place, as well as attending to the communication and collaboration process, the factors that hindered or enabled the changes and the influence of the researcher as far as could be discerned. The researcher recognised the challenge of trying to describe the research undertaken in line with Waterman et al's (1995) comments about the difficulties of translating action research into coherent words.

Findings are presented following a chronological order according to the process of change. The first part (section 6.3) presents the setting up of the steering group and the role of the researcher in both the steering group and the ward. The second part (section 6.4) presents the main actions that took place during phase 2 of the study.

6.3. The process of change

6.3.1. The setting up of the steering group

Just before the end of phase 1, the researcher and ward manager decided that it was probably a good moment to set up the steering group. Nurses were beginning to wonder when the project would start as the study was running behind schedule. In order to set up the steering group, the researcher reminded all ward staff nurses of the aims of the group and emphasised the importance of reflection, discussion and planning within the group. The importance of their representation in this group was emphasised.

In view of the possible problems attending the steering group meetings such as a busy ward or being off duty, the researcher decided to discuss with the ward manager how to facilitate staff members' participation. The ward manager decided that the nurses participating in the steering group would have the facility to leave the ward for the meetings and also to have some days off duty according to the extra hours of work put in when coming to the meetings from home. The researcher and ward manager decided that two nurses would be the ideal number as it was not possible for more to leave the ward at one time, but not fewer because if one could not come or leave the ward, at least there was another one representing the ward.

The researcher could be criticised for making these decisions without taking into account the nurses' views. The ward nurses had been asked for their opinion on the group composition, as is explained next, but within an experimental action research approach, the researcher adopts a leader role in the research design (3.2.1). In addition, the researcher took into account the characteristics of the Institution in order to facilitate the conditions for staff nurses' participation.

A voting system was proposed so nurses from the study ward could select two staff nurses from the ward to represent them. The researcher suggested that nurses select one newly qualified nurse and one with more experience to represent the ward. Prior to voting, all staff nurses were encouraged to put their names forward as possible candidates. Some nurses seemed more keen to participate than others and that was taken into account by the staff nurses. The ward manager transmitted to the researcher in informal conversations her concern at a lack of motivation on the part of most of the experienced nurses, who did not show the same inclination to be members of the steering group as the younger ones. Nevertheless, the two nurses with most votes were one with nine years' experience and the other with just one year, and both stated they wanted to change practice.

Before approaching other potential members of the steering group (see 3.6), the researcher again asked staff nurses' opinion with regard to group composition. All agreed with the initial plan for group composition.

Originally it had been planned to have the nursing research supervisor of the hospital and a nurse educator as it is recommended to involve experts in the implementation of the nursing process (i.e. nurse educators) (Sirra, 1987). However, this was not possible. Regarding the nursing research supervisor of the hospital, she told the researcher that she preferred not to become part of the study.

> *I have been talking to the nursing research supervisor of the hospital. She has told me that she has had a leading role in past studies of the nursing process at the hospital and that now she considers that it is better to allow others to make changes in the way they see most important. I can see that she wants me to be freer to act in the way I think most appropriate, to get a move on.(FN, December, 1999).*

Regarding the nurse teacher, it was decided to include the nurse teacher in contact with the study ward considering that she could provide theoretical expertise on the nursing process. However, the nurse teacher linked with this ward was newly appointed at the university school and only on a part-time basis. She was not especially familiar with the nursing process. In a conversation with the researcher, the ward manager indicated that given the situation of the nurse teacher, she did not see it opportune to include her on the steering group. This absence was partially overcome by the fact that the researcher was a member of the academic staff and had theoretical expertise on the nursing process.

It had been decided also that the line manager in charge of the study ward would be part of the steering group (see 3.6). She held the position of line manager for a year before the study started. During the study she was involved in a joint project between the nursing school and the hospital, looking at nurses' difficulties in assessing the patients. Also she had a major role in a large hospital project auditing theatre services.

Therefore the steering group was finally composed of:

- The ward manager who had some experience with the introduction and use of the nursing process;
- A line manager;
- Two staff nurses from the study ward;
- The researcher.

6.3.2. The steering group as a change agent and the role of the researcher in the steering group

The composition of the group remained the same throughout the study. The attendance at meetings was very high except in the case of the line manager whose other commitments within the organisation made attendance difficult, especially over the last months of the project. Staff nurses usually did not have problems leaving the ward or coming in "off duty" which was especially striking and shows that when incentives are provided and facilities given for nurses to participate and get involved, the response is very good. In fact staff nurses were the ones who did not want to miss the meetings as shown in the following example:

> *" It was good that on Saturday, Sofia, who was on morning shift, told me that it was not suitable for her to come next Tuesday to the steering group meeting; she suggested to me to have another meeting on Friday because she did not want to miss it" (FN, 29, February, 2000).*

Steering group meetings took place during the six months of Phase 2 data collection period, mostly on a weekly basis. Each meeting lasted approximately 1.5 hours.

The researcher's role in the steering group was as an integrated member but providing theoretical expertise and facilitating group dynamics. As facilitator, she fostered other members' participation in the decision-making; and as expert she spontaneously contributed through her personal knowledge and expertise. For example:

> *(discussion in the steering group on Phase 1 findings) "It was pointed out to the members that the findings presented to them from phase 1 were without interpretation and that we all, on this basis, have to decide the plan"(FN, 26, January, 2000).*

One of the challenges the researcher had during the study was to help members to reflect on their nursing practice and on the measures they wanted to implement. Most members of the group wanted to implement things at a quick pace and with a directive style: for example the design and implementation of the assessment form. But there was a need for a holistic approach to the assessment content which the researcher helped the members to consider.

> *(discussion in the steering group about the content areas for the assessment form) "I know I have to listen to the steering group members but I am concerned about us not doing things well from the methodological point of view, that is, without a `close look'. Things need to be examined deeply. It is not just choosing this or the other, which is what I perceive in some steering group members. I do not know how to transmit this to them"(FN, 28, March, 2000).*

It was also part of the researcher's role to contribute to members' preparation as change agents to influence the implementation of the nursing process.

The researcher's eagerness to bring about change posed dilemmas for her as to how much direction she should give. Both the desire to improve practice and the commitment to implementing the nursing process 'properly' influenced her role at the beginning of the study towards a more directive one. Reflecting on this situation and remembering the advice given by her supervisor of avoiding taking control of the change direction, the researcher set up several measures to balance her 'expert' versus 'facilitator' role. These measures were, for instance, to allow the other members of the group to talk first; to listen carefully to their views and ideas; and to give suggestions when required about the principles of the nursing process and the literature recommendations for implementation. For instance:

> *(the researcher, working on her thesis in the library) "I think that I have to define, no...better: we [steering group] have to decide the objectives for this second phase of the study in the next meeting. These objectives will be very important in order to decide specific means and to evaluate progress" (FN 12, February, 2000)*

More specific examples of how this balance between direction and facilitation worked are shown throughout the next sections of this chapter.

This researcher's efforts to balance direction and facilitation are found in other action research accounts such as Waterman (1994). Waterman's (1994) action research was based on an educational course which aimed to develop nursing practice. Waterman acted as facilitator by helping nurses to decide the content of the sessions, to evaluate them and to modify their practice according to what they were learning. She describes how in relation to one of the sessions, participants were not able to recall key messages and how she decided to try to reinforce these points with them. This example shows how Waterman influenced nurses towards what she thought was important. Waterman (1994) considers that the researcher's direction could be valid although it should be acknowledged and described in the researcher's accounts.

In general, discussions at the steering group were open and all members had equal opportunity to intervene. The newly qualified nurse tended to be quiet during the first meetings but she became more confident and more participative as the study advanced. The ward manager exercised an important influence on the group throughout the study. She had strong views about the area of study and was also used to a directive role as manager of the ward. The absence of the line manager at some of the meetings was unfortunate given that the views of the senior nursing managers were not always known to the rest of the steering group. In addition, occasionally, decisions taken in her

absence were not approved by the nurse directors with consequent delays in the implementation of specific changes. In these cases the members of the steering group sought alternatives or had to reach a different solution.

6.3.3. Involving the ward staff

In addition to the steering group's role as change agent (3.6), the participation of ward staff nurses in the process of change was considered relevant for the success of the action research (see 3.2.1). As already indicated, the decision-making process was mainly the role of the steering group and staff nurses were expected to channel their views through the nurses from the steering group.

To facilitate the collaboration of staff nurses, the steering group members held informal and formal meetings with the staff nurses. In these meetings information was passed to the nurses regarding aspects discussed and decisions achieved by the steering group. The staff nurses were also asked their opinions regarding different aspects of their practice. In order for the transmission of information between steering group members and the staff to take place effectively, the researcher elaborated a bullet point summary at the end of each meeting and gave copies to each member. An example of a summary is shown in Vignette 2.

Vignette 2

Steering group: main ideas (FN 8-February-2000)

- *The most important thing is the patient: humanism. Patient comes first;*
- *For the nurse to assume responsibilities:*
- *to learn to delegate to other/ and supervise;*
- *the nurse has the ultimate responsibility for the tasks she delegates to nursing auxiliaries, students, other nurses;*
- *To learn to establish priorities: to distinguish what can be done by others, what has to be done by the nurse and what is most important for the patient at each particular moment;*
- *To develop nursing competencies;*
- *Efficient communication within the organisation: loyalty to say whatever necessary through the appropriate channels in order to facilitate the finding of solutions to problems;*
- *Motivation versus routine: awaken the desire to be up to date and to improve their own professional formation, not to blame the organisation or the structures.*

These bullet form summaries were considered useful by the steering group members, as indicated in the following FN:

The ward manager has told me that the summary I wrote at the end of past session has been very useful; she said that it was a good summary of what we were talking about (FN; 11, February, 2000).

Formal general meetings with all staff nurses were sometimes set up so as to transmit information and/or discuss certain matters (see 6.4.2 and 6.4.3) but these meetings did not take place as often as they should have done. In fact when the best way to deliver the educational programme to the staff nurses was discussed by the steering group, the ward manager and staff nurses from the steering group decided not to gather all staff nurses together, given their difficulties in coming out of their shift to the sessions (see 6.4.4). Hence, the transmission of information and the discussions with staff nurses were carried out mainly in smaller groups taking advantage of the different shifts and also depending on the work-load. Another problem with the informal transmission of information was that there were weeks when staff nurses from the steering group were on night shifts or had several days off, and this made it more difficult for information to be shared with all staff nurses.

In addition the researcher was not always able to evaluate how much information the ward nurses actually received. Vignette 3 contains an example of the researcher's difficulties, on occasion, in getting to know the quality of information that the steering group members were giving to the nurses.

Vignette 3

The ward manager advised me that I did not need to be present at the meeting with staff nurses in which she was going to pass on to them, among other things, the ideas from the steering group. Although it does not mean that attendance is forbidden, I prefer to act according to the principles of action research and respect other members' autonomy of decision even though it means in this case that I am not going to be able to evaluate exactly what information staff nurses receive and their attitude towards it. (FN, 8-February-2000)

The involvement of the participants in the study was also facilitated by the fact that the researcher spent time working with staff nurses and nursing auxiliaries on the ward as explained in 6.3.4. Finally, in the same way that information was transmitted to the other participants by the steering group members, the participants' views and problems were also fed back to the steering group (6.3.5).

6.3.4. The researcher on the ward

In order to work more closely with the study ward nurses, the researcher spent several days each week working with them on the implementation of the nursing process. The researcher adopted 'the participant as observer' role (see 3.3.1) working with nurses on patient care but always with the focus of helping them to implement the nursing process. At the same time she was gathering information regarding the process of change and the nurses were aware of this.

Although the role of action researcher on the ward seemed clear and easy in theory, the researcher found it stressful and difficult to find her way in order to facilitate the accomplishment of the steering group objectives. The first weeks the researcher spent on the ward during phase 2 coincided with the first meetings of the steering group. The first steering group decisions regarding the implementation of the nursing process on the ward were related to theoretical activities such as the development of the nursing model used and clarification of the nurse's role. This made the practical work of the researcher on the ward vague as shown in Vignette 4.

Vignette 4

"Today I have been on the ward morning and afternoon. I felt completely lost. I did not know what exactly to do. First I worked with Sofia but she did not have much to do. Later on I followed Marta. It was good that at least I could transmit to them the decisions agreed in the steering group, especially the information sessions. We also discussed competencies" (FN, 23-February-2000).

The researcher's feelings during the first days were similar to the doubts and insecurities expressed by Webb (1989) during her first days on the ward where she was conducting her action research. The researcher felt she needed direction and although she was in touch with her research supervisor by e-mail, she was in Spain and her supervisor in Scotland, and therefore it was difficult to give an accurate account of the situation by e-mail and be able to discuss it in depth. Also, she did not feel it appropriate to share these feelings with the other members of the steering group as she thought it could influence them negatively. This situation is in line with comments of other action researchers (Waterman, 1994; Meyer, 1993) on the need for the action researcher to have mentoring and support from an outsider to the study.

Nevertheless, as the researcher and staff got used to one another and the decisions taken in the steering group became more specific and practical, the researcher felt more useful on the ward. But

what was more important was that the nurses started to turn to her for practical advice on how to assess a patient or to discuss specific patient problems.

Another source of difficulty for the researcher on the ward was the need to separate her role as action researcher from her own role as a surgical nurse. This conflict of roles is acknowledged in the literature as a frequent problem for nurses undertaking clinical research (Morse & Field, 1996). As a practitioner, the researcher felt inclined to deal with patients and to carry out the nursing care that was needed. In order to avoid getting too involved in the immediate needs of the patients or the ward, thereby denying her role as action-researcher, she decided to share nursing care insofar as this care provided the researcher with the opportunities to work on the implementation of the nursing process. Because this role was not always explicitly clarified, there were situations in which staff nurses expected the researcher to behave as a member of the staff (Vignette 5).

Vignette 5

Today I went to the ward in the afternoon. I was working with Sofia. At some point she needed to leave the ward for an hour to evaluate one of the students and she asked me to look after her patients. As I did not know them well I felt it was not ethical or appropriate to take responsibility for looking after them and so declined to do so. I think this decision probably influenced her views about my contribution to the ward negatively. (FN, May-2000)

Morse & Field (1996) also talk about the conflict of roles, highlighting that when the ward becomes busy, both the researcher and the staff may feel that the researcher should abandon her role to take on her 'nurse' role. As a consequence, it seems that although the researcher role as facilitator of the implementation of the nursing process was known generally, it should have been negotiated and clarified in more detail with the staff nurses in order to avoid unrealistic expectations on the nurses' side and feelings of guilt on the researcher's part.

6.3.5. Closing the circle: feeding back from the ward to the steering group

As a consequence of the time spent on the ward working with nurses, the researcher became aware of the sort of difficulties nurses were facing when trying to implement the nursing process such as the shortage of staff or the overlap between nursing auxiliaries and nurses when dealing with bureaucratic matters. Those aspects detected by the researcher when acting as 'participant as observer' on the ward or mentioned by staff nurses at informal meetings, were brought for discussion to the steering group as Vignette 6 illustrates. The example starts with the researcher's

description of the situation as she observed it and continues with the discussions in the steering group.

Vignette 6

This afternoon I went to the ward just for a moment and Sofia and Patricia were overwhelmed by work. They told me that they could not put into practice what had been discussed the other day. Sofia explained to me that she could not get on with her work because she was trying to find the doctor who had just left the ward two minutes ago and had forgotten to specify the administration path of one of the drugs prescribed for a patient. While she was phoning the doctor she explained that the idea of delegating things to others was not working well: a) she asked a nursing student to flush the central line of one of the patients and she [the student] did not do it very well; b) she said that one of the nurse auxiliaries brought an inappropriate supper to a diabetic patient.

I am worried about the ratio of nurse/patients because nurses do not seem to cope well. There are days such as today where there are only two nurses, which means a ratio of 1/10. In addition, if we are saying that time should be allocated to research and education and we do not provide nurses with the time for that, we are not helping them. We need to look at that. (FN, 10-March-2000).

[This anecdote gave me some pause for thought. I started to consider whether it was possible for two nurses to co-ordinate and be accountable for all the care of the ward. I brought these concerns to the steering group].

At the steering group the ward manager explained that she did not want to stop ward nurses from taking their due days off during the week, even though this meant that the ward was frequently left with minimum personnel. Staff nurses from the steering group agreed with this. The line manager indicated that in order to decide whether more nurses were needed, a thorough study of the situation should be carried out. (FN, 14-March- 2000).

In an opportunity I had for talking with the chief medical deputy, I told her about my concerns in relation to the staff numbers. She clarified a management principle that they followed: that is, to provide the best possible care with the available resources which means that nurses are not asked to do the impossible, but the best within hospital resources. The content of the discussion threw important light for me on the need to study the work load and to determine clearly the standards required in the hospital and desired by the nurses. There are no studies at the hospital regarding this important area and although research in this field would be desirable and necessary I considered that was outside the scope of the present study (FN, March 2000).

6.3.6. Summary of the process of change

The researcher found conflict between directing the study and at the same time having a facilitator role. In order to assure the validity of the study, a reflexivity process was followed throughout the study. A steering group was created for the implementation of the nursing process. It was composed of one of the three line managers, the ward manager of the study ward, two nurses from the study ward selected by the staff nurses, and the researcher. These nurses were given some facilities and incentives to allow them to participate in the sessions. The attendance of the members was very high. The transmission of information from the steering group to the remainder staff was based mainly on discussions of staff nurses from the steering group with their colleagues. Although this way reinforced a bottom-up approach, it had some deficiencies in terms of ensuring that information was passed on systematically and in full. The researcher maintained a researcher/actor role on the ward. She found her role in the ward difficult and stressful, which confirms the need for the researcher to have support from her mentor or supervisor during the action research and the need to discuss and clarify roles with participants.

6.4. The content and outcomes of change

6.4.1. Evaluating phase 1 findings and establishing general objectives for phase 2

During the two first steering group meetings, the researcher shared the findings from phase 1 with the members. She was faced with the dilemma of how much information to give and in what format to do it. She wanted to deliver the information in an objective way. Therefore, apart from an oral presentation during the first two meetings, she decided to give each member two documents summarising 'Phase 1 study Findings' (5.5) so each could review them and bring their ideas and suggestions to the next meetings. The first document contained information regarding the degree of implementation of the nursing process in the ward (Appendix 16). The second one described the readiness of the Institution for the introduction of the nursing process (5.5.3).

One of the concerns the researcher had was how to anonymise the findings from the interviews and focus group. Given the relatively small size of the Institution it was very easy to know who said or did a particular thing. As it was essential to share information with the steering group, concerns about how the group would manage the information were discussed openly such as, for instance, the need for discretion and honesty in dealing with the exposed data. The members agreed to handle the information sensitively. In addition, the researcher used specific means to protect individuals' confidentiality, such as presenting quotations in the summary without their names.

It was in the first meetings, when members discussed phase 1 findings, that the main objectives for the implementation of the nursing process emerged. In these discussions it was clear that different members held different perspectives about what needed to be done and emphasised different aspects although they were complementary on many occasions. For the staff nurses, their main concern was education about the nursing process as well as clarification of the nurse's role in relation to the work of auxiliaries and doctors. The main emphasis of the ward manager was on more practical aspects in relation to the assessment of patients, identification of problems, identification of objectives and in general the development of appropriate nursing documentation. The line manager stressed enhancing nurses' accountability and responsibility for the care of patient. The researcher highlighted that in order to prepare nurses to use the nursing process, it was necessary to clarify nursing roles in relation to the independent, dependent and interdependent areas of nursing as well as to transmit to nurses the advantages of care that is systematic, individualised and holistic.

In spite of the variety of views and plans, three main areas were agreed finally by the members: the clarification of the nurse's role; the change of nursing documentation to facilitate the nursing process approach in daily practice; and an educational course on the nursing process. In addition to deciding the objectives, the discussions about the findings also helped to validate them. Vignette 7 shows an example of what has been said.

Vignette 7

The nurses in the steering group are telling me that my observation of them during phase 1 influenced them to use the assessment form for patient assessment because before I arrived, the assessment was not carried out like this. They designed an assessment form and used it when I arrived on the ward, during phase 1 of the study (FN, 26-January-2000).

It was also agreed during the first meetings that in order to facilitate the continuity of the process, the researcher should summarise the key ideas discussed and the conclusions reached at the end of each meeting. These conclusions were revisited in the following meetings and in that way a continuous formative evaluation took place during the study (6.3.3).

6.4.2. Objective 1: Clarifying the nurse's role

Clarifying the nurse's role appeared as an issue early in the discussions in the group. With their comments, the members validated what was found through the interviews: that is, that there was not a shared vision at the hospital about the nurse's role (5.5.3.3) (Vignette 8).

Vignette 8

The focus group in phase 1 indicated that nurses sometimes thought they neglected their duties, such as being ready for ward rounds, because they were doing other things like distributing meals. Commenting about it in the steering group, the following discussion was held:

- nurse manager: "I do not agree with that. Why is it not part of the nurse's role to make a bed or distribute breakfast and it is to print an analysis on the ward that the doctor is asking for and can do himself?
- nurse: "...Sometimes you postpone or leave things undone that nobody else can do and you spend the time doing urgent things which maybe others could do."
- nurse manager: I also think that is significant but the example you gave from the focus group is not significant: "The doctor has come for the ward rounds and we were not ready because we were making beds or distributing meals". It is not significant because our doctors come to the wards when it suits them and maybe it is not the best moment for us. I think that we need to change their mentality: if they want us to accompany them they should agree with us whether we are available or not at a particular moment. I do think that it is part of the nursing role to make beds and distribute meals, but of course this does not mean that because it could be done by other people we have to leave out something which can only be done by us. (FN, 1-February-2000).

In relation to the nursing role, areas such as doing what should be done, learning to delegate to others while assuming responsibility, patient-centred care, establishing communication channels with the ward and doctors, were all discussed in the group. Finally, after much discussion in the group it was decided to identify the professional competencies of study ward nurses [15] as a first step to role clarification.

> *" Today we had the steering group meeting. We discussed the different problems each one of the members sees on the ward and what solutions they thought were needed. Finally we decided to work on nursing competencies." (FN; 22-February-2000).*

[15] Professional competencies refers to the scope of the nursing profession (Elías et al, 1999)

Developing study ward nurses' competencies

This was one of the most difficult parts of the implementation. Neither the researcher nor the rest of the steering group had clear lines of action to determine nursing competencies. The work on developing nursing competencies required a time set apart from the weekly meetings but it proved impossible for the group as a whole to find another time. It was proposed by the researcher that she and the ward manager would meet more frequently to work specifically on this area. The rest of the group agreed with this.

The ward manager and the researcher based their work on: i) phase 1 interview data; ii) the discussions and information gathered from staff nurses; iii) documents available in the Hospital; iv); the literature review. Also taken into account were the nursing competencies developed by the School of Nursing of the University, which were well known by all staff nurses at the hospital as they had to use it for evaluation of nursing students in their placements. Thus, the researcher involved the ward manager in the use of databases and searching for literature.

In order to involve all the nurses from the study ward in the development and clarification of nurses' competencies, the researcher left several articles (Esteve, 1999; Elías, Esteve, Esteve, Pagés, Pera, & Peya, 1999) on the notice board of the ward and asked nurses to identify and justify two nursing competencies they thought essential for nursing in the study ward. Five of the eleven nurses collaborated and some examples of competencies identified by them are presented in Vignette 9. Some of these nurses identified their names and others did not.

Vignette 9

- *'To assess patient's health when admitted to the hospital. Set up objectives and plan care';*
- *'Care for the patient which includes: plan the care; implement planned care; evaluate care given';*
- *'To inform and teach the patient who is ready for discharge the means to avoid complications and how to deliver the care ensuring he is taking it in and understanding it correctly' (Olga & Ana);*
- *'To establish effective communication with the patient in order to identify and care for his needs'(Olga & Ana);*
- *'To evaluate continuously the effectiveness of the care plan and whether it is necessary to modify it, delete or add new care' (Olga & Ana);*
- *'The nurse is directly in charge of the care of patient. She collaborates within the multidisciplinary team to improve the wellbeing of the patient, or his recovery or provide the most dignified care in terminal phases'(Sofia).*

(Collected from nurses on 24 February, 2000)

The researcher also held two informal meetings during the nurses' handover to discuss nursing competencies. The main topics brought up by staff nurses were nurses' insecurity about what was expected from them; doctors' different criteria as to how they wanted things to be done; and problems of co-ordination with doctors during ward rounds.

The ward manager and the researcher designed a document which included a description of nursing based on the American Nurses Association's definition that 'Nursing is the diagnosis and treatment of human responses to real or potential health problems' (Nursing: A Social Policy Statement, 1980 cited in Iyer et al, 1997). The elaborated document also contained the vision of nursing as having an interdependent, independent and dependent role (Carpenito, 1989b). During the writing up of the nursing competencies' document, the ward manager and the researcher sought the opinion of some experts in nursing matters within the organisation, specifically the nursing research supervisor of the hospital, and a nurse who was both manager and teacher with expertise in nursing administration. In addition, revisions of the elaborated document took place in the steering group.

> *"Today's steering group meeting has gone very well. We have read the study ward nurses' professional competencies document. Group members contributed with suggestions. You could see they had really worked on it before the meeting" (FN, 3, March, 2000).*

Once the study ward nurses' professional competencies were defined (Appendix 17), the ward manager gave several presentations to the ward staff to explain to them the competencies

elaborated (May, 2000). The researcher was present at these sessions. There was not much discussion on them, which seemed strange given the relevance of this document for their daily work. Nevertheless the ward manager and researcher brought to the sessions certain aspects related to this topic such as delegation of tasks to other professionals; or the difference between independent and interdependent care.

The researcher and ward manager realised that in order to be effective the document had to be more specific, representing everyday nursing activities. However, it was not possible within the study period to develop the competencies to the desired level. There were many other areas during this research phase that needed to be 'tackled' and not enough time to work on all of them. This is in line with the literature that the introduction of the nursing process requires long periods of time (Martín et al, 1997; Serrano et al, 1994; Miller et al, 1987; Specht & Drey, 1987).

Clearing obstacles to the nurse's role

As part of clarifying the nurse's role, the steering group also discussed the identification and clearing of the obstacles that were taking nurses' time away from their responsibilities. Two of these obstacles as observed by the researcher and identified by most of the staff nurses were: i) the lack of a medical timetable for ward-rounds; and ii) the increasing number of referrals made to doctors from other specialities for diagnosis and treatment. The latter factor increased the number of doctors visiting patients as well as the number of diagnostic test procedures. All of this created constant interruptions to nurses' work, given that they had to leave what they were doing to accompany doctors.

The line manager commented in the steering group that one of the priorities of the hospital 's managers was to set up regular meetings between each ward manager and the physician head of the corresponding department to study particular problems in each area and the ways to improve co-ordination. Although it was part of the hospital strategy for the future, it was not yet taking place at the time of the study so the researcher encouraged the ward manager to take the initiative. In spite of the researcher's suggestions these regular meetings were not set up until they were officially initiated in June 2000. The ward manager then brought to the June 2000 meeting the concerns the steering group had discussed related to the lack of co-ordination with doctors for ward rounds and the difficulties encountered with teamwork. As this meeting occurred at the end of phase 2 the effects could not be evaluated within this study.

Co-ordination of work between staff nurses and nursing auxiliaries

Another obstacle found was the lack of co-ordination between the nurses and nursing auxiliaries' work as highlighted in Vignette 10.

Vignette 10

I have observed on different occasions an apparent overlap of tasks between nurses and auxiliaries in matters such as requesting an investigative test or locating doctors. In principle these tasks seem to belong to auxiliaries but sometimes nurses also undertake them as, for instance, when the nurse auxiliary working at the station (as clerk) is not on duty. Nevertheless, nurses also undertake these tasks when auxiliaries are present. This overlap is causing things to be repeated twice or left unfinished. (FN 9 march 2000).

*[*I brought this observation to the steering group and we discussed broader aspects related to the auxiliary role*]*

Staff nurses from the group commented that auxiliaries felt relegated and had an "inferiority complex" because they thought their work was not valued. According to these nurses, auxiliaries were annoyed because the research project did not take them into account. Staff nurses on the steering group believed the nursing auxiliary role should be independent from nurses and that nurses should not be responsible for what auxiliaries did. Nurses wanted therefore to clarify each other's scope for practice. Both the ward manager and line manager clarified that in the study hospital the final responsibility for nursing care lay with the staff nurses and therefore the nursing auxiliaries' responsibilities were delegated. We decided that this concept needed to be clarified for all the staff nurses on the study ward.(FN 14 March 2000).

The ward manager discussed the role of the nursing auxiliary in informal and formal meetings with all the ward nurses. For instance one informal meeting took place one afternoon after the educational session on the nursing process with several staff nurses on the ward. Staff nurses started to complain about the lack of clarity of roles among physicians, nurses and nursing auxiliaries:

> *"I indicated that, for instance, nurses are more directly in charge of areas such as hygiene or nutrition. Pilar immediately answered that these were nursing auxiliaries' competencies and that nurses did not have to interfere as they were not responsible for that. At that precise moment the ward manager arrived and clarified that in the hospital staff nurses are responsible for those areas. I realised that we needed to clarify this further for staff nurses" (FN, 5, May, 2000).*

During the month of May and taking advantage of the sessions for the transmission of the nursing competencies document earlier mentioned, the ward manager clarified for study nurses some aspects of the nursing auxiliary role, especially the fact that theirs is a dependent role.

No joint meetings with staff nurses and nursing auxiliaries were held during the study. If the auxiliaries had been integrated in the study, probably there would have been more opportunities for discussion and clarification of each other's role.

Difficulties in assessing patients

In observing and talking with staff nurses about difficulties in carrying out assessment, it was found that the lack of time and organisational aspects, such as patient admission time and bureaucracy or the organisation of nurses' work, were preventing nurses from assessing patients on occasions (Vignette 11).

Vignette 11

Patients' admissions are usually on Mondays, Wednesdays and Sundays. The time allocated for admissions is from 4 p.m. to 7 p.m. The nursing auxiliary working on the station is in charge of preparing the medical records and checking that all the necessary tests are there so the nurse can be with the patient. The nursing auxiliary timetable covers 5 p.m. to 7 p.m. The problem starts if the patients come to the ward after 7 p.m. because the nurse has to prepare the admission history, the medication for 8 p.m. and the unexpected things that usually happen at the end of a shift, as well as assessing the patient. It is difficult on occasion to find sufficient time to carry out the initial patient assessment and care plan (FN, 24-March-2000).

The problems noted above were discussed in the steering group. The researcher proposed that there should be at least three nurses on shift on the afternoons when admissions were expected, mainly Mondays. The ward manager did not agree with this as she believed that two people were the minimum staff required on the ward on the afternoon shift if nurses were to get the day off they wanted. Nurses agreed with the ward manager and so it was not possible to ensure three nurses per shift during patient admissions.

The role of the ward manager

Finally, the role of the ward manager was undergoing a huge transformation within the organisation towards a more managerial role and a less direct care role. The ward manager

commented on several occasions that she felt overwhelmed with so many responsibilities. Although her role had changed she felt that she was still expected to know everything happening to each patient on the ward. She felt pulled in several directions.

6.4.3. Objective 2: Developing and implementing nursing process documentation

In order to help nurses use the nursing process approach in practice, the steering group decided to introduce nursing documentation in line with the model of nursing of the Institution and the nursing process. As a first step, the researcher proposed elucidating the model of nursing they wanted to have for the ward to the steering group. This model or conceptual framework would give focus and direction to the nursing process. The idea was accepted by the other members of the steering group. Taking into account the Institution's philosophy of nursing, the recent work on professional competencies (6.4.2), and the literature such as Iyer et al (1997), Collière (1993), Carpenito (1989a); Carpenito (1989b), and WHO's (1947) definition of health cited by Kozier et al (1999), the group discussed and described each one of the four phenomena which are considered essential in nursing: person, nursing, health and environment (Marriner & Raile, 1997). The steering group definition of each one of these concepts is shown in Vignette 12.

Vignette 12

Steering group definition of nursing phenomena

- *Person was defined as a bio-psycho-social and spiritual being;*
- *The nurse was defined as a health professional whose competency is to contribute with other professionals to i) health promotion and prevention; and ii) cure of disease. The specific characteristic of this contribution is 'care'. Care is carried out through the assessment, diagnosis and treatment of patients' human responses (bio-psycho-social-spiritual) to real and potential health problems. Care is carried out humanely, scientifically, professionally;*
- *The environment is understood to embrace the person and his/her family, together with social and cultural atmosphere;*
- *Health was defined as the maximum possible state of physical, social, psychological and spiritual wellbeing and not just the absence of disease.*

According to these definitions, the nurse was perceived as a professional, accountable for decision-making, with a focus on patient care and with a holistic view of the person.

The development of a nursing assessment form

To decide on the nursing assessment, it was agreed to build on what the assessment staff nurses had already developed alongside phase 1, modifying it to meet the requirements of the nursing model under development. In deciding the appropriate format for the assessment, different views appeared as highlighted in Vignette 13.

Vignette 13

In today's meeting I suggested to the steering group Gordon's (1996) Functional Health Patterns model as a framework for organising the assessment tool. We discussed the advantages and reasons for using this tool: such as that this framework is based on body systems but with a holistic approach and that it is useful to identify nursing problems and organise the care within a nursing framework. All members of the group decided to adopt it, with the exception of the line manager who was not present at the meeting (FN, 14-March-2000).

The day after, I wrote:

The ward manager has phoned me. She has talked to one of the ward managers of the hospital who told her that this framework is not approved in the hospital. She explained to me that this topic was studied at a work commission held some years ago and it was decided that neither health patterns nor nursing diagnosis will be used in the hospital (FN 15-March-2000).

The line manager was absent during the steering group meetings in which the proposed assessment framework (Gordon 1996) was discussed and therefore the group was not aware of the senior managers' views on it. In addition, there was no official or public document in the Institution indicating that it was not recommended to use Gordon's or others' assessment frameworks. Nevertheless, when discussed at the next meeting, the line manager and ward manager were supporters of senior managers' decision. The two staff nurses did not have any strong position. The researcher, in order to avoid problems and to keep going with the implementation, suggested that the members work out the framework they wanted to have for the assessment by answering the following questions: what do you think should be included in the assessment taking into account

the conceptual model we have developed? and what is the best structure for the tool? The group accepted this alternative and worked on the assessment framework at the following two meetings.

There was agreement in the steering group regarding the areas to be assessed within the physiological domain of the person such as nutrition or elimination. However, the staff nurses did not mention the psychological or spiritual areas which were mentioned by the managers and the researcher alike. Both managers had a background in psychiatric nursing and were very clear on the importance of nurses assessing the psychological aspects of the patient. Regarding the spiritual needs, the line manager and the researcher argued the relevance of assessing patient needs in this area in order to provide holistic care in agreement with institutional principles. Given that the philosophy of the Institution included both a holistic approach and the understanding of the concept of an integrated biological, psychological, and spiritual person, it was decided finally to include the psychological and spiritual areas and evaluate later how nurses were assessing these areas.

There were also different views among steering group members about whether staff should use an open, more reflexive tool or a more detailed and complete one. The ward manager and nurses defended the former on the basis that it had more scope for directing the conversation according to patient needs. The researcher supported a complete tool thinking of newly qualified nurses and as a measure to ensure that all aspects were covered. After examining the pros and cons, it was decided to use an open tool but also to design a detailed one to have on the ward as a reference.

The new assessment form was finished by the beginning of April 2000 (Appendix 18). This new assessment tool had as its theoretical foundation a holistic approach to nursing care and therefore encompassed the bio-psycho-social and spiritual dimensions of the person. In addition, the tool focussed on an understanding of nursing as the professional attention to human responses to health problems. The assessment form contained eleven areas: one for demographic data, another for medical diagnosis and the other nine for patient health patterns such as nutrition or sleeping and rest. This tool was a semi-structured questionnaire with space for nurses' observations and comments. Acknowledging the difficulties for assessing patients admitted in the ward after 7 p.m., the steering group decided to encourage staff nurses to assess these patients the following day in case it was not possible to do so on the same day.

At this point several sessions were held by the researcher with study ward nurses to let them know about the new assessment form and explain how to use it. The principles of flexibility and openness when conducting the patient interview were stressed; as also the importance of the nurses doing it and not leaving it to the students. They were encouraged to evaluate the tool and to report back any difficulties they encountered when using it in a notebook placed on the ward so that the tool could

be improved. It was decided in the steering group to evaluate the first 25 patient assessments using this new form, according to the following criterion: degree of completeness and accuracy of each one of the areas of the tool. Each member of the steering group evaluated 5 assessments and on the 17th of May the steering group members were gathered together to unify and summarise the findings. It was found that the psychological, spiritual and sexual areas were less well assessed than the others and the conclusion was reached in the group that a lack of communication skills and the fear of breaking into more intimate areas were preventing nurses from assessing patients holistically.

After discussing the findings with staff nurses, a practical seminar was organised to help nurses to develop communication skills and to assess psychological and emotional needs of the patient. The session was given by the ward manager of the psychiatric ward. The session was repeated twice to allow all study nurses to attend. The ward manager from the psychiatric ward also allowed nurses from the study ward to join psychiatric nurses when assessing patients. Psychiatric nurses had experience in assessing these areas and in interpersonal communication. These measures proved very useful for the study ward nurses and helped them gain confidence when assessing patients and discover the benefits of the nursing assessment. Positive feedback was obtained from the comments of nurses themselves and through observation as nurses started to carry out patient assessment.

> *"Ana commented to me today that after the practical session on the psychiatric ward she feels more confident to assess the psychological and spiritual dimensions of the patient" (FN, 19, May, 2000).*

The care plan form

By April 2000, the steering group decided to start the design of an appropriate care plan. The two staff nurses from the steering group with some nurses from the study ward took the lead in designing the general layout for the care plan documentation form which would contain the nursing problems, objectives and nursing interventions required by the patient. This determination on the staff nurses' part was positive and in line with the action research approach. The researcher and one of the staff nurses from the group searched the literature in order to find care frameworks to help the design. The final draft of the document was completed by May 2000 and revisions made according to staff commentaries.

The new care plan form (Appendix 19) had space for 7 days, which meant that after that, a new sheet had to be used. It was designed as a two-sided A3 page containing the care derived from nursing problems and the care derived from medical orders. The front side contained three columns

for documenting nursing problems, objectives and interventions respectively, while the back contained a column for medical orders and an area for the diagnostic tests ordered for the patient.

At the same time as developing the care plan form, the steering group considered the need to start developing standardised care plans based on common nursing problems for the main types of orthopaedic surgery found on the ward. In order to foster the development of these care plans, the ward manager decided to direct the research assignments of the nurses doing the orthopaedic speciality towards these standardised care plans. In order to facilitate the introduction of the new care plan form, the researcher suggested that the new care plan form be used only for one patient in each of the three nursing teams initially as a form of a pilot. The researcher helped nurses to use the new care plan by labelling nursing problems with them, discussing objectives and specifying activities. One example is shown in Vignette 14.

Vignette 14

"Yesterday I was on the ward with Sofia, Sonsoles and Lydia discussing the nursing problems labelled by Beatriz for a patient. It was a very interesting discussion. I brought some references and we argued about the convenience of selecting certain nursing problems rather than others in this case. In the afternoon I was with Mercedes and Beatriz modifying and discussing the care plan of the same patient. Beatriz told me that carrying out the assessment is greatly helping her to get to know the patient and his family. It helps her to know the patient's needs better. She told me she does not know how to write all the information she gathered on the assessment form and whether her assessment describes the patient's and family situation sufficiently" (FN, 4, May, 2000).

With old qualified nurses, this exercise of working on nursing problems was more time-consuming than with the newly qualified nurses. Sometimes it was very difficult to work with the nurses as there were constant interruptions by doctors, phone calls, questions, and patients enquiries.

The discussions with the nurses about the identification of nursing problems made the researcher realise the practical difficulties of this part of the nursing process. Nurses had a medical approach to care and were not familiar with making the specific nursing problems of the patient explicit. The benefits and difficulties of using an already developed taxonomy of nursing problems such as the NANDA's were discussed in the steering group, given that this could provide nurses with ideas and orientation of possible nursing problems and how to label them. This taxonomy was taught in the

nursing school and some research had also been conducted in the past in the Institution using this classification of nursing diagnosis (Serrano et al, 1997; Serrano et al, 1994). Although the hospital's managers were not particularly keen on this or others taxonomies, it was finally agreed to use the NANDA taxonomy for this study as a guide to develop our own nursing problems.

The researcher brought some bibliographies to the ward which provided some orientation as to how to label problems, in which situations, and the objectives and type of care required. There were, nevertheless, many complaints among nurses regarding the difficulties of labelling problems, regarding the length of care plans and the need to rewrite the care plan weekly. An example is shown in Vignette 15. All this made the establishment of this part of the nursing process difficult.

Vignette 15

Tuesday morning around 11.30 a.m. I approached Pilar to discuss with her about the care plan of a patient whose care we were planning with the new care plan form. I realised that the sheet was full and that for today's care we had to start a new sheet. She exclaimed: 'Do I need to write all that again [meaning the nursing problems, objectives and interventions]?' I told her maybe not all, but that we should assess whether the objectives had been reached. Also I indicated to her that this exercise would help us to keep learning in this area. She insisted that it was too much to write everything down again. I told her that I could help her to do it.

I was surprised that she did not make any reference to the content of care and that she only paid attention to the time needed to write things again. (FN, 7, June, 2000).

6.4.4. Objective 3: An education programme

The third objective established by the steering group for the implementation of the nursing process was to facilitate both nurses' knowledge and understanding of the nursing process, and to contribute to nurses' development of the practical skills to use it. It was agreed that the researcher would be in charge of organising and delivering a course on the nursing process. Phase 1 findings were essential to develop this programme.

The outline of the course was as follows. The course contained both theoretical and practical sessions. The theoretical sessions provided nurses with an overview of what the nursing process was and the reasons and benefits for using it. In addition each one of the nursing process stages was

described in depth. There were six theoretical sessions planned (Appendix 20). The course delivery for the theoretical sessions was the lecture and group discussion encouraging nurses' participation by asking them questions or using practical examples from their everyday work. A handout containing the theory given in each session and bibliography was given to each nurse at the beginning of the session. In order to encourage nurses' study, practical exercises were included in each session to be answered by each nurse and returned to the researcher. For instance, after the first session, nurses were asked to highlight what areas they felt had been clarified regarding the nursing process and what areas were still problematic. Figure 8 shows a summary of the staff nurses' comments.

Figure 8: Nurses' comments on the nursing process after first session

Aspects better understood

- *Nursing process is the application of individualised care;*
- *Nursing process helps to systematise the process of patient care and enhances the reflective thinking of the nurse;*
- *Importance of doing a complete assessment in order to provide holistic care for the patient;*
- *Enhances the intellectual activity of the nurse (reflexive thinking).*

Aspects still problematic

- *The diagnostic phase of the nursing process;*
- *The terminology of the nursing process;*
- *The need for a framework for assessment.*

(FN March 2000)

There were three practical sessions, all of them directed at developing skills using the nursing process: two of them to gain confidence with nursing assessment and the other one focussed on the entire nursing process. Case-studies were the methodology programmed. A case study for the purpose of this study consisted of the description of a patient situation (scenario) so that the students, in this case staff nurses, had to work out the patient's problems. These practical sessions were given by staff nurses after preparing the case-study with the researcher. Each session lasted approximately 45 minutes.

An appropriate timetable for the theoretical and practical sessions was discussed in the steering group. The ward manager proposed having them on both day and evening shift, instead of gathering all staff nurses together which would involve asking some of them to come to the

sessions out of their shift. The above suggestion was approved by most of the members of the steering group. The sessions were therefore given in the morning and afternoon and also repeated for the nurses on the night shift when they changed to day shift.

While this timetable had some advantages, such as a more individualised approach, it became problematic for the researcher due to the difficulty of having to set times for sessions on a very busy shift, especially in the mornings. This more individualised approach to the education programme had other disadvantages such as the fact that it was more time-consuming for the researcher and nurses had fewer opportunities for discussion amongst themselves.

As a consequence, the programme could not be fully covered within the time allocated for this phase of the study. The sessions regarding planning, implementation and evaluation could not be taught to the depth the researcher would have desired, and neither was the practical training regarding these stages of the nursing process thorough enough. Nevertheless, it should be mentioned that the approach followed allowed the researcher to attend to the nurses' individual learning needs better. It should be noted that in addition to the formal teaching, the researcher took advantage of her fieldwork on the ward during this phase to carry out informal teaching.

By means of the education course, the researcher had also intended the nurses to become familiar with the hospital library and the use of the catalogue. Half of the staff visited the hospital library for the first time and some started to borrow books.

> *"Today Mercedes, Patricia and myself went to the hospital library on Patricia's initiative. They asked the librarian for the library timetables. I showed them where the nursing books and journals were and they looked for the bibliography I had indicated to them during the sessions. I think it has been a good thing to have added the bibliography on the sessions sheets and to have asked them to look for it at the library"(FN, 24, March, 2000).*

> *"When I went to the library today I met Patricia there. She was borrowing a book" (Fn, 11, April, 2000).*

6.4.5. Other outcomes of change

Underpinning the objectives of setting up the steering group was the creation of a group of experts on the ward who could continue the introduction of the nursing process after the researcher's withdrawal from the ward. Some indication of the positive attitude of the members towards the introduction of the nursing process was the eagerness of most of the steering group members to participate in and attend conferences related to the study area. For instance, in March 2000 the ward manager approached the researcher and asked her to collaborate in writing a paper for a

national Hospital Management Conference about the work being undertaken for the implementation of the nursing process and specifically on how nursing competencies had been developed. It was a good opportunity to work with the ward manager and to discuss with her matters related to our roles within the action research. She presented a paper at the conference related to action research and professional development (Appendix 21) and received very positive feedback from the other managers of the hospital.

In May 2000 there was an International Symposium on the Nursing Process and Nursing Diagnosis held at the University of Navarre. The ward manager shared with the steering group her view that to participate at this conference would enhance their preparation in the nursing process. The ward manager managed to obtain grants to cover the cost of the conference partially and all but one of the members of the steering group participated in the Symposium (Appendix 21). The researcher gave a paper related to the study at the Conference.

In general the attitude of the steering group members regarding their preparation and leadership role in the nursing process was very positive. The eagerness of the ward manager influenced the staff nurses positively, as has already been shown throughout the previous sections.

6.4.6. Researcher preparation for withdrawal

At the beginning of June 2000, that is six months from the start of phase 2, the researcher began to prepare herself and the participants for her withdrawal from the study ward. Although more needed to be done in terms of completing the implementation, the process was well in hand. The researcher felt that to stay a few more months would help to consolidate the changes. Nevertheless, after consulting with her supervisor she decided to withdraw in order to keep her commitment to finish her PhD on time.

During the last weeks of phase 2, the researcher discussed with the steering group members their commitment to keep on with the implementation. Although steering group members had the intention and desire to continue with the implementation, the researcher was not totally convinced that it would be possible.

> *"Things need close follow-up and for that nursing managers need to be able to devote time to it. I think that we are not yet devoted to it because we think there are other things which are more important such as: students' teaching*[16]*. But, isn't it more important to invest in nurses' professional preparation and in that way their teaching will be better?"(FN, 22-June-2000).*

[16] The ward managers and staff nurses from the hospital were directly involved in nursing students' teaching.

The researcher was also concerned about the education programme given that she was directing it. She discussed her concerns with the ward manager and encouraged her to continue with the development of nurses' understanding and skills necessary to use the nursing process. For instance, the following FN identifies several areas for continuing education highlighted by the researcher:

> *"I think the focus of continuous education on the ward should be directed to having case-studies on the nursing process; sessions to learn how to assess aspects which present a greater degree of difficulty; and revision of journal articles" (FN, 8, June, 2000).*

Before finishing phase 2 of the study, the researcher had a meeting with the ward manager and line manager. The areas that were needed to work on such as nurses' and doctors' work co-ordination and workload were mentioned. The line manager indicated that those areas had also been established by hospital managers as some of the objectives for study in the following year.

The period of preparation for withdrawal coincided with the summer holidays and this was an added difficulty to this process given that some of the staff nurses were on holiday. On the other hand, during the summer holiday period many projects and studies in the organisation tended to stop.

Although there were still many things that needed to be done regarding the implementation of the nursing process and the consolidation of changes, it was already time for the researcher to start phase 3 of the study. The fact that phase 3 was a formative evaluation was viewed as a positive factor for the researcher. Nevertheless, it was also hard for the researcher to leave the ward as she considered that participants still needed the action researcher.

> *"Participants become motivated if they are involved in the study, if you take them into account, if you listen to them, and you make them to think and reflect and you take into account their suggestions; but for that you need to be there and follow everything closely" (FN, 20, June, 2000).*

It is difficult for the action researcher to know when to withdraw from the setting (Meyer, 1995). In her report Meyer (1995) recognised that she decided to stay on the ward longer than foreseen both because a new charge nurse was appointed to the ward and because meaningful changes related to the action research started to take place just when she was going to withdraw. Nevertheless, although it could be desirable to stay it is not always possible.

6.4.7. Summary

The main features of the change towards the implementation of the nursing process are described next. First the findings from phase 1 were discussed at the steering group and three objectives were decided. Objective one was to clarify the nurse's role. Within this objective, two members of the steering group, with the collaboration of staff nurses from the study ward and expert nurses within the organisation, described the main competencies for nurses working on the orthopaedic ward. Together with developing the competencies, two main obstacles to nurses' work were identified: doctors' lack of a timetable for ward rounds and overlap between the work of the nursing auxiliary and the nurse. Regarding the former obstacle, meetings between the ward manager and chief consultant to improve co-ordination with doctors started to take place coincidentally before the end of phase 2. Although some measures were set up, work still needed to be done in relation to this first obstacle. Regarding the latter obstacle there was a clarification of the role of the nursing auxiliary as having a delegated function.

The second objective was the design and implementation of nursing process documentation. An assessment form was introduced based on the model of nursing elaborated by the steering group. There was much discussion regarding the content and format of the tool and finally the tool was developed and implemented. Problems with implementation such as lack of nurses' communication skills and confidence to explore psychological and spiritual aspects of the person were identified. Measures were introduced to help nurses in these areas. Staff nurse training on interpersonal communication skills was found to be essential. A new care plan form was also developed but its implementation was still on-going at the end of phase 2 of the study.

The third objective consisted of education on the nursing process for study ward nurses in order to improve their knowledge, understanding and skills to use it. Theoretical and practical sessions took place alongside the study. The steering group decided that sessions had to be adapted to nurses' shifts. This slowed down the delivery of the course and it was not possible to cover all the programme as desired; for instance there was not enough time to develop problem-solving skills in nurses although the process was started and, in line with action research, was on-going.

During the course of phase 2 the researcher really engaged in the process of action research with all its frustrations and positive benefits. The researcher experienced the challenges of becoming part of a setting and involving participants in the research, all of which needed time and dedication.

6.5. Evaluation of phase 2 of the study

The evaluation of the process, content and outcomes of the implementation of the nursing process was continuous and based on the feedback given by staff nurses and also members of the steering group on a day-to-day basis. Most of the feedback was gathered in an informal way by the researcher in conversations with staff nurses, steering group members or by observation.

The steering group was a valuable and important element of the implementation of the nursing process, as has been shown throughout this chapter. The meetings provided an opportunity for the nursing managers, staff nurses and the researcher to work together for the improvement of nursing practice in an atmosphere of dialogue and encouragement. The steering group acted as the change agent for the implementation of the nursing process.

Although specific changes took place, such as the introduction of a new assessment form, or the fact that nurses starting to conduct patient assessment, there were other objectives that required more time and research in order to make an impact on practice. Some examples of the latter were the clarification of the nursing role, specific studies of nursing competencies and studies on the workload needed to use the nursing process to meet hospital standards. Phase 2 confirmed the complexity of the process of implementing the nursing process and the need for longer periods of time for implementation.

During the first months of the change process, the general feelings of the staff were of motivation and participation. For instance, the researcher gathered comments like the following ones:

> *"Beatriz has told me today that staff nurses are quite motivated. They are doing the working sheets for the education programme"(FN, 30, March, 2000).*

> *"Today I have been looking at the way Beatriz has filled in the new assessment form after the assessment of a patient and I was delighted. I asked her to give a seminar to the other staff nurses and present it....Beatriz has also told me that people are quite motivated with the assessments, trying to carrying them out and also asking her a lot of questions when they have doubts on specific aspects of the assessment tool" (FN, 7, April, 2000).*

It is true that not all nurses were involved in the project in the same way. It was interesting to see how they became motivated, with their attitude changing from 'looking to see what happens' to getting more involved in the discussion meetings, seminars, development of nursing documentation, and above all in trying to incorporate what they were learning into their practice.

"Yesterday Lydia told me that she has decided to carry out patient assessment always" (FN, 30, March, 2000).

By the end of March 2000 nurses started to comment that they were discovering the need and convenience of using the assessment tool. A month later most nurses were conducting patient assessment on their own initiative.

Nevertheless, by the end of June 2000, while trying to implement the new care plans based on nursing problems of the patient, the researcher's comments were more of frustration.

I [the researcher] need time; staff nurses are continually bombarded by doctors, referrals, diagnostic tests, preparation of treatments. I hardly have time to review the care plans with them. I can see that they have incorporated the assessment but still there is a lot to do with the new care plan form. I feel frustrated because I cannot work with them in an orderly manner. I need almost an individualised plan with each nurse.(FN, 3, June, 2000)

The initiation of the holiday period and therefore the reduction of staff nurses on the ward brought added obstacles to the appropriate consolidation of these last changes. To base nursing care on nursing problems required certain skills in problem-solving, skills that needed more time to become embedded in nurses' practice. In addition, underpinning these changes was the need to shift from nursing with a medical approach to nursing with a patient focus.

Due to time constraints the researcher had to finish phase 2 by the middle of June 2000 as planned, before the nurses' skills in this area, especially problem-solving, were fully developed and the care plan integrated in the nurses' daily work.

6.6. Final summary of phase 2 of the study

In this chapter the main features of the implementation of the nursing process in an orthopaedic/neurological ward of a teaching hospital in Spain using action research were described. The following bullet points present a summary. The first ones summarise aspects related to the role of the action researcher and the way the study was conducted. The others are more related to the content of the change process.

The conduct of phase 2 of the study:

- A steering group composed of nursing managers, staff nurses and the researcher was set up to lead the decision-making process for the implementation of the nursing process. The attendance of the members was high. Staff nurses were selected among the study nurses

following a democratic process. The other members of the group were decided by the researcher with the approval of the study nurses;

- The steering group meetings were held weekly during the six months of phase 2. The attendance was very high other than for the senior manager whose absence, although only few occasions, nevertheless, cost some delays in the process;

- The high attendance rate of staff nurses demonstrated that when facilities to participate and get involved are provided, nurses' response was very good;

- The action researcher found difficulties balancing her facilitator and expert roles within the steering group;

- The transmission of information from the steering group to the study ward was mainly informal and took place through the steering group members, particularly the two staff nurses. Although this practice facilitated a bottom-up approach it proved to be unsystematic at times in order to keep study nurses well informed.

- Initially, the action researcher experienced difficulty and stress in finding her way on the ward. In addition, she also experienced both conflicts between her researcher and her practice role as surgical nurse and unrealistic expectations of her role on the ward.

- The action researcher had to withdraw from the ward although changes were not yet consolidated in order to keep her academic commitment.

Content of the change process:

- The action plan decided by the steering group was the result of the contribution of each one of the members. These actions embraced conceptual and practical changes such as clarification of the nurse's role, changes in nursing documentation, and educational preparation for using the nursing process;

- One of the actions consisted in clarification of the nurse's role. Problems of co-ordination with doctors and nursing auxiliaries were identified as barriers in nurses' work. Some actions were undertaken regarding the mentioned barriers. In addition, the steering group developed a nursing competencies document which was transmitted to study nurses. There was not time during the study to operationalise these competencies to a more workable level;

- Further action carried out was the development and implementation of a nursing process documentation. A holistic nursing assessment form was developed by steering group nurses and introduced on the study ward together with training in interpersonal and communication skills. A care plan form designed to include nursing problems, objectives and interventions, was developed by the steering group members. There were complaints among staff nurses regarding their difficulties in identifying and labelling nursing problems and with regard to the use of the care plan.

- The third action set up for the implementation of the nursing process was an education programme including theoretical and practical sessions directed to enhance nurses' knowledge, attitudes and skills to use the nursing process. In agreement with the steering group the course was adapted to staff nurses' shifts. Although it favoured a more individualised approach it also had the disadvantage that on occasions unexpected things took priority over the classes. Hence, the delivery of the course was slowed down and could not be delivered with the depth desired by the researcher.

6.6.1. Implications for phase 3

As has been indicated above, the researcher had to withdraw from the ward and start phase 3 of the study before all planned changes were consolidated. Again, the transition occurred during the beginning of the holiday period in which more projects usually stop. Even though the action researcher considered that her presence on the ward was still needed this was not possible. The study was part of an academic degree and the researcher had to finish the thesis within a fixed time.

CHAPTER 7: Main Study: Phase 3

7.1. Introduction to evaluation of nursing process implementation

Phase 3 of the study evaluated both the process of change and the degree of implementation of the nursing process following phase 2. It was a formative evaluation as the purpose of this assessment was to inform the implementation of the nursing process in the study ward and in other wards further. The same structure used in phase 1 has been used to present phase 3.

This phase took place during the second part of June and lasted until the end of July 2000 (6 weeks). As indicated in the previous chapter, the researcher had to stop the implementation phase of the study due to time constraints. Both the researcher supervisor and the University of Navarre considered that sufficient data could be collected by July 2000 to complete the PhD although the nursing process was not yet fully implemented.

7.2. Researcher's role and participants' involvement

The role of the researcher in phase 3 was that of `observer as participant' as in phase 1 (see 5.2). The researcher's main purpose was to gather data to evaluate phase 2 changes. The researcher limited her participation to accompanying the nurses in their patient care when undertaking observation as she did in phase 1 (see 5.3.2). As in phase 1, participants were not involved in data collection or data analysis. The staff nurses' involvement consisted of their participation in the focus group and filling in the Brooking ® (2004) ward nurses' self-report questionnaire. In addition, the members of the steering group were interviewed on a one-to-one basis by the researcher.

By the time of phase 3, nurses were used to the presence of the researcher on the ward and therefore, arguably, there was less risk of nurses being influenced by the researcher's presence. As indicated by Mulhall (2003), professionals in their field are too busy to be able to keep up a behaviour which is different from their normal one for a long period.

The greatest difficulty experienced by the researcher was to keep herself at a distance and not to intervene in the setting. Because the process of implementation was on-going, there was the temptation on occasion to keep giving advice or commenting on nursing actions. In spite of this inclination, the researcher kept her `observer as participant role'.

7.3. Data collection process

The same data collection tools utilised in phase 1 were used in phase 3, other than Brooking ® (2004) ward manager self- report questionnaire. Rather than complete this questionnaire, a one-to-one interview was conducted in order to ascertain the ward manager's perception of the change process and the degree of implementation of the nursing process after phase 2. In addition there were also variations in the way some of the tools were used and this is indicated in the appropriate sections.

Figure 9 shows the time dedicated to each of the data collection tools and the order in which they were used. In line with phase 1 (see 5.3) the data collection process of each tool is presented individually.

Figure 9: Sequence of data collection tools used in phase 3

Data Collection	June 2000	July 2000
Brooking ® (2004) ward nurses' self-report questionnaire	→	
Observation using data recording tool	→	→
NDET		→
Semi-structured interviews and focus group	→	→

7.3.1. Self-report questionnaire

All registered nurses who answered the Brooking ® (2004) ward nurses' self-report questionnaire in phase 1, were asked to complete the questionnaire again. All were still working on the study ward and all accepted to participate. The researcher considered that there was no need to re-explain the tool or the procedure so she gave a questionnaire to each one by hand and asked staff to leave it in her pigeonhole on the ward once finished, which was done by all the participants.

For phase 3, the researcher added four questions to Brooking ® (2004) ward nurses' self-report questionnaire in order to gather information regarding nurses' perception of the utility of the study for their work and on their understanding of the nursing process (Figure 10). All the questions were

open-ended except for the first one which contained two parts: one closed-ended and the other open-ended. There was a half page space for each open question.

Figure 10 : Questions added to Brooking ® (2004) ward nurses' self-report questionnaire.

- Do you think this study has been useful? Do you think the study has contributed to your work in any way? Could you specify in what way?
- Have you changed your perceptions or knowledge about the nursing process in any way as a consequence of this study?
- What is your opinion regarding the preparation given on the nursing process during the study?
- Do you think you have been sufficiently involved in the study?

All the nurses returned the questionnaire including the added questions. There were no problems completing it during this phase of the study.

7.3.2. Observation using data recording tool

The tool and data collection process for the observation was similar to that followed in phase 1 (see 5.3.2). Nevertheless, there were several variations. First of all, that observation in phase 3 focused only on the assessment and planning phases (A/P) of the nursing process. The reasons for this decision were firstly the short period for evaluation available, that is six weeks; secondly the recognition by the researcher that phase 2 mainly affected the assessment and planning phases of the nursing process rather than implementation and evaluation.

The second variation was that the data collection period for the observation data took place over five weeks rather than three weeks as in phase 1. The reason for this was that the phase 3 period was much shorter than phase 1 and the researcher had to carry out many different data collection tools in a shorter period, which meant that for some of the tools the data collection was more widespread.

Observation sessions allowed 50% of the staff nurses to be observed for assessment and planning. A different nurse was observed in each observation session. The sessions took place in the afternoon or evening, mainly on Monday and Wednesday because they were the days for patients admissions. The role of the researcher during observation was the same as indicated in phase 1 (see 5.3.2); that is, 'observer as participant'. The researcher was with the nurse under observation while

that nurse carried out patient care. Although on occasions the researcher had to give a hand to the nurse, she always refrained from commenting on patient care or giving her opinion when conducting observation in order to avoid influencing the staff nurse.

7.3.3. Nursing Documentation Evaluation Tool (NDET)

Between June-July 2000, the records of 25 consecutively discharged patients fulfilling the study criteria (see 4.5) were selected. As in phase 1, the nursing records were reviewed by both the researcher and the lecturer from the nursing school who had collaborated in phase 1, using the same criteria (see 5.3.3).

The characteristics of the consecutive patient records were the following: the average patient stay was eight days. Fourteen were orthopaedic patients, six neurology patients, and the remainder (n=5) from other specialities. The age average was 51 (range 13-87; SD:19,2). Thirteen of the sample were women.

7.3.4. Semi-structured interviews

The purpose of the semi-structured interviews in phase 3 was different from the purpose in phase 1. While in phase 1 the objective was to explore the readiness of the Institution and study ward for the introduction of the nursing process, in phase 3 the purpose was to know participants' opinions regarding the process and effectiveness of the intervention. This is the reason why a different sample was used for interviews in phases 1 and 3. This approach was in agreement with a purposive sample selection (4.5) which allows for the appropriate people to be asked to participate. In phase 3 the researcher interviewed the members of the steering group as they were the ones who directly participated as change agents in the implementation of the nursing process, as opposed to the doctors, chief nurse, nurse educator and nursing research supervisor of the hospital who were interviewed in phase 1 in relation to other aspects (4.8.4).

Of the four members of the steering group other than the researcher (6.3.1), three were interviewed: the ward manager, the line manager and one of the staff nurses; the other staff nurse was off sick during the entire evaluation period and therefore could not participate. The researcher conducted the three semi-structured interviews in July on a one-to-one basis. Each interview was conducted at the hospital in a quiet room and lasted approximately 45 minutes. All the participants gave their consent to having the session tape-recorded. Before the beginning of the session one of the participants mentioned that she was uncomfortable at being recorded. After explaining the reasons for doing it and reminding her of the measures taken to protect confidentiality and anonymity, the

participant decided to allow the session to be taped. Although at the beginning she was quite conscious of being recorded, she gradually seemed to forget about it.

7.3.5. Focus group

One focus group was conducted in July. It was already foreseen that attendance at the focus group was going to be limited given that phase 3 coincided with the holiday period and therefore almost half the staff nurses were away. The researcher decided to include the two speciality nurses in the focus group given that they had now spent a year on the ward and had participated in the introduction of the nursing process during the last nine months. After discussing it with the ward manager who also agreed, the researcher contacted these two nurses and explained to them the aim of the focus group and asked them to participate. Both nurses agreed to participate in the focus group. All staff nurses from the study ward were advised by the researcher of the day and hour for the focus group.

Finally, six nurses attended the focus group, four of them were newly qualified. The focus group was conducted in line with the pilot study (see 4.9.3.7) and phase 1 (see 5.3.5). The ward manager was not invited to participate as it was thought that her presence could influence staff nurses' responses. Prior to the beginning of the discussion some food and drink were served to ease the atmosphere and to facilitate people's talking to each other. Similar instructions were given to the participants, who gathered in the same place as in phase 1. Issues of confidentiality were discussed and participants allowed the session to be audio-recorded.

The progress of the focus group was similar to phase 1 (see 5.3.5), that is, the researcher provided the group with an opening question and each time the conversation flagged the researcher introduced another question or sometimes tried to encourage participants to keep giving their opinion by asking if somebody had anything else to say regarding that particular topic. Especially at the beginning of the focus group participants tended to answer questions briefly and therefore it was difficult to create a climate of discussion and exchange of opinion. The discussion was more dynamic in phase 1 than it was in phase 3. The reason was probably because the phase 3 staff nurses had less professional experience and were younger than the phase 1 focus group nurses.

At the end of the focus group the researcher sought content validation by summarising the main points of the discussion for the participants. They all agreed with the researcher's summary. The session lasted approximately one hour.

Summary data collection process

In summary, data collection for phase 3 took place over six weeks, which coincided with the holiday period in Spain. In spite of this difficulty, the data from the different tools were gathered and the process ran smoothly.

7.4. The data analysis process: phase 3

7.4.1. Introduction

Data from phase 3 followed the same analysis procedure as in phase 1 (see 5.4). Data from each tool were analysed individually (7.4) and then findings from the questionnaire were compared to the findings obtained from the observation recording tool, evaluation of nursing records and, when appropriate, focus group and interview data (7.5). It should be noted that for the sake of clarity, tables are presented in the findings section (7.5) only.

In addition, comparisons between data gathered in phase 1 and 3 for each tool were carried out in order to study the changes obtained (7.6). The comparisons were conducted through different procedures depending on the data collection tool and the type of data. For some data, statistical tests were applied to evaluate whether there were significant differences between phase 1 and 3 samples. The level of significance was set at $p=0.05$.

7.4.2. Self-report questionnaires data analysis

Data from Brooking ® (2004) ward nurses' self-report questionnaire were analysed as in phase 1 (See 5.4.2). Data were introduced into SPSS and frequencies calculated. Where appropriate and in line with phase 1 questionnaire findings, the response alternatives for each question were aggregated as shown in Table 7.

In addition, variables were compared between phase 1 and 3 using SPSS. As the two samples were dependent and the variables at ordinal level, the Wilcoxon test was used (Table 5). It should be noted that SPSS calculates the 'p' value of statistical significance for the Wilcoxon test by moving the sample nearer to a normal distribution. When the sample size is < 25, the normal distribution cannot be assumed (Martínez-González, 1997). Therefore, in order to calculate whether a statistically significant difference exists, the 'sum of ranks' as calculated by SPSS should be compared to a pre-determined value. In the case of $n=10$ sample, which is the case of the study, one

of the two sums of rank should be > 47 in order to assure that there is a statistically significant difference. (Martínez-González, 1997, p 182).

The additional questions to the Brooking ® (2004) ward nurses' self-report questionnaire (see Figure 10) were analysed using a content analysis framework (Polit & Hungler, 1995) in order specifically to obtain nurses' views regarding each question asked: that is, utility of the study, changes of perception of the nursing process, preparation on the nursing process, and degree of participation in the study. Staff nurses' answers were categorised and quantified. For the sake of clarity, findings from the added questions are integrated with the findings from the interviews and focus group as they all represent participants' views of the process and outcomes of change (see 7. 5.3).

7.4.3. Observation data analysis

Data gathered through structured observation were analysed as indicated in phase 1 (see 5.4.3). Distribution frequencies or descriptive statistical analysis were carried out depending on the type of variable. In order to evaluate the degree of change, findings obtained in phases 1 and 3 were compared. No statistical tests were used due to the small sample size. This comparison was made by describing the differences between data from phases 1 and 3 for each variable of the tool.

7.4.4. NDET data analysis

Data gathered through the NDET followed the same analysis process as in phase 1 (see 5.4.4). Nominal, ordinal, interval and ratio data were introduced into SPSS. Frequencies, means and standard deviations were calculated according to the type of data. In line with phase 1, when presenting the findings from the NDET, the response alternatives for the ordinal variables (4a, 6f and 6h) were aggregated in the following way: the 'yes' and 'sometimes' response alternatives were aggregated as 'yes'; the 'no' response was kept as 'no'.

Descriptive data obtained through nursing interventions documented for the patient (4c) were analysed using a content analysis as described in 5.4.4. Descriptive data, that is, the list of nursing problems and interventions not documented in care plans but in the progress notes (4f) were quantified to know whether care was planned systematically. Other descriptive data, (items 2a, 2c, 4f, 6b, 6e, 6g, 6f) were used to illustrate the quantitative data when presenting the findings.

Together with the analysis of the 25 patient nursing records evaluated through the NDET, the researcher conducted a descriptive analysis of the assessment, care plan and progress notes forms

used on the ward during phase 3 and compared them to the documentation used in phase 1[17]. This comparison was made in terms of exploring which type of documentation best facilitated the use of the nursing process.

Once data from phase 3 were analysed, they were compared with phase 1 data. Different statistical tests were used according to the type of variable. For nominal variables such as 'the department to which the patient belonged', the Chi-square test were used (see 4.10.3). In several cases – for instance: 'sex' or 'whether the assessment was carried out by the nurse/student' – Fisher's exact test was used given that it is appropriate for testing 2x2 contingency tables or larger tables when the expected frequencies in any of the cells is below five (Martínez-González, 1997). In the case of ordinal variables such as 'use of objective criteria to evaluate care', the non-parametric Mann-Whitney U test was employed. This test was also used with ratio measurement variables with a non-normal distribution (see 4.10.3). For the ratio measurement variables which followed a normal distribution the T-test was used. (see 4.10.3).

7.4.5. Semi-structured interviews and focus group data analysis

Data from the semi-structured interviews and focus group were analysed in line with phase 1 (see 5.4.5). Miles & Huberman's (1994) model was used and descriptive codes were obtained from the data. The purpose of the interviews and focus group in phase 3 was to evaluate from the participants' perspective, the process and outcomes of change, changes of perception on the nursing process, difficulties and positive aspects they endured during its introduction, and suggestions for further interventions. Three broad categories were obtained following the inductive analysis process: i) outcomes of change; ii) difficulties encountered with the implementation of the nursing process; iii) suggestions for further implementations.

Summary of the data analysis process

Data from each tool were analysed independently. The analysis consisted first of a descriptive analysis of both qualitative and quantitative data. Secondly, data from each tool from phase 1 were compared to data from phase 3 in order to evaluate the changes obtained. Statistical tests were applied when appropriate.

[17] As a consequence of the changes in nursing documentation introduced during phase 2 (see 6.4.3), it was expected that nurses would be using a different assessment and care plan sheet from in phase 1.

7.5. The findings from phase 3

7.5.1. Introduction

There were two objectives to phase 3 data collection: i) to measure the degree of implementation of the nursing process on the study ward reached after the implementation phase; and ii) to know the participants' opinions regarding the process and outcomes of the intervention. Findings from phase 3 are therefore presented in this section according to these stated objectives. Regarding the first objective, findings are integrated within a nursing process framework. Pseudonyms are used throughout.

7.5.2. Objective 1

To describe the degree of implementation of the nursing process in the study ward post implementation.

In line with the phase 1 findings' presentation, the style of nursing documentation used on the ward in phase 3 is described next.

7.5.2.1. Existing nursing documentation

The nursing records used on the study ward during phase 3 of the study were the assessment form and the care plan form developed during Phase 2 (see Appendix 18 & 19), the traditional care plan form (Appendix 15), and the progress notes as used in phase 1.

As previously described (6.4.3), the new assessment form had its theoretical base in a holistic approach to nursing care and therefore encompassed the bio-psycho-social and spiritual dimensions of the person. In addition, the tool focussed on an understanding of the nurse as the professional attending to the human responses to health problems. The tool contained both closed and open questions and a free space to write any observation or comments.

The new care plan form had space to document nursing problems, objectives and interventions as noted in 6.4.3. This new form was introduced on the ward at the end of phase 2 and only for the care of one patient in each of the three nursing teams. The traditional care plan form described in phase 1 (see 5.5.2.1) continued to be the most commonly used one during the evaluation phase. The same format for the progress notes was used during phases 1 and 3. This form consisted of a blank sheet on which nurses documented the main features of the patient during each shift.

7.5.2.2. Findings on the degree of implementation of the nursing process after changes

Findings regarding the use of the nursing process on the ward are presented using the same nursing process framework as in phase 1 (see 5.5.2.2). Within each nursing process stage, findings from the self-report questionnaire are presented first, followed by observation and NDET findings. At the end of each nursing process phase there is a table showing a summary of the findings from the different tools used.

Assessment

In relation to new patients admitted to the ward, most nurses[18] (n=8) agreed that an initial patient assessment was usually carried out, and that it was conducted using an assessment form and within the first 24 hours of patient admission (Table 13). From the six patient admissions observed, three were carried out by nursing students and three by RNs. The nurses used the new assessment form (appendix 18) to assess the patients. The written assessments were carried out within 24 hours of admission and took approximately 10 minutes. In all cases the nurses checked the medical history of the patient. Of the 25 nursing records reviewed, 10 contained an assessment form where two were "mostly uncompleted" and eight "mostly completed" and all were carried out by a nurse. All these 10 assessments were carried out using the new assessment form.

Most nurses (n=7) indicated they usually identified and documented the nursing problems of the patient although six noted that the cause of the problem was generally not identified (Table 13). There was no agreement among nurses as to whether problems were arranged by priority: five nurses thought they were not, four believed that they were, while one did not know. From the nurses observed, two identified the nursing problems of the patient. In almost one third of the documents reviewed (n=8), the nursing problems were identified. In all cases where nursing problems were identified, a nursing assessment had been carried out first.

In summary, patient assessment using an assessment form was not yet totally implemented but, when carried out, it was mostly conducted by the RNs. Identification of nursing problems was not common practice yet, although it was found that when staff nurses carried out assessments, nursing problems were usually identified.

[18] When using the term nurses, we refer here only to the registered nurses who completed the self-report questionnaire.

Table 13: Summary table of nurses' use of the nursing assessment after implementation of change

Brooking ® (2004) ward nurses' self-report questionnaire	Usually no	Don't know	Usually yes	Total nº of nurses n=10
• Assessment at admission	2		8	10
• Use of an assessment form			10	10
• Assessment within 24 hours or prior to patient surgery			10	10
• Identification and documentation of nursing problems	3		7	10
• Identification of causes of problems	6	1	3	10
• Problems arranged by priority	5	1	4	10
Observation	**Sessions (n=6)**			
• Who carried out nursing assessment?				
- RN	3			
- Nursing student	3			
• Nº of times assessment form used	3			
• Nº of times nursing problems documented	2			
NDET (Document review)	**Records (n=25)**			
• Degree of completeness of assessment form				
- Complete	2			
- Almost complete	6			
- Mostly incomplete	2			
- No assessment form	15			
	Records with assessment (n=10)			
• Who carried out nursing assessment?				
- RN	10			
- Nursing student	0			
• Nº of assessments where problems documented	8			

Planning

Through the questionnaire, six nurses indicated that care plans usually integrate the nursing problems identified after assessment (Table 14). Only one observed nurse planned the care according to problems identified in the assessment, while in the other cases observed (n=5), care was planned according to other criteria (n=4) or not planned (n=1). Of the nursing records containing assessment sheet (n=10) only one had the care planned according to the problems identified in assessment. Most nurses (n=9) agreed that goals were usually not identified and this was confirmed by observation and the evaluation of nursing records where only one record contained the nursing goals.

All RNs indicated they documented the nursing interventions in the care plan. Through the evaluation of nursing records it was found that nursing problems and interventions were not always documented in the care plan but could be found in the progress notes. There were 114 problems/nursing interventions documented in the care plan with a further 101 problems/nursing interventions documented in the progress notes. As in phase 1, these findings showed that care plans did not represent actual nursing activity. Through the NDET, it was found that there was some improvement in that a few (n=4) nursing problems identified corresponded to the psychological domain of the person. Previously there had been only physical problems identified.

Through questionnaire it was found that half of the RNs agreed that nursing interventions were usually written with enough detail while the other half agreed that they were usually not (Table 14). Seventeen nursing records contained care plans of which nine documented care well or partially well while in eight care was not well documented. All RNs indicated they usually did not have formal care planning discussions; nor did they consult scientific journals or participate in research projects. Observation corroborated staff nurses' views.

In summary care plans were not based on patients' individual problems; neither did they represent actual nursing care. Usually goals were not identified, which meant that nursing care did not have objectives to aim for. There was some improvement towards holistic care as nurses started to identify psychological problems. Still half the nursing care was not yet documented with enough detail and no formal sessions to discuss care plans were held on the ward.

Table 14: Summary table of nurses' use of the nursing planning after implementation of change

Brooking ® (2004) ward nurses' self-report questionnaire	Usually no	Don't know	Usually yes	Total nº of nurses n=10
• Care plans incorporate nursing problems	4		6	10
• Goals are documented	9		1	10
• Goals provide enough detail	9	1		10
• Nursing interventions documented in care plans			10	10
• Nursing interventions written in sufficient detail	5		5	10
• Nursing care planning discussions held on the ward	10			10
• Reading of journals and participation in research projects	8	2		10
Observation			Sessions (n=6)	
• Nº of times care plan based on problems identified			1	
• Nº of times care planned according to other criteria			4	
• Nº of times nursing goals identified			0	
• Nº of times formal care planning sessions organised			0	
NDET (Document review)			Records (n=25)	
• Are care plans based on nursing problems identified?				
- Nº of nursing records where care plans based on problems identified.			1	
- Nº of nursing records where care plans based on nursing or medical protocols.			9	
• Nº of care plans where goals documented			1	
• Are all nursing problems and interventions documented in care plans?				
- Nº of records with nursing problems/interventions not documented in care plan.			22	
-Nº of records with all nursing problems/interventions documented in care plan			3	
• Are nursing interventions described with enough detail?				
- Nº of care plans where nursing interventions written with enough detail			4	
- Nº of care plans where nursing interventions partially written with enough detail.			5	
- Nº of care plans where nursing interventions not written with enough detail			8	

Implementation

Most nurses (n=8) agreed that they usually reassessed a patient's condition each time they carried out a patient intervention and that they informed the patient about the intervention they were about to carry out (Table 15). All nurses indicated that they followed a patient allocation scheme on the ward. Through observation it was confirmed that each nurse was in charge of an average group of 9/10 patients. All nurses but one (n=9) agreed that they usually took part in medical rounds for their patients. Again, all nurses but one (n=9) indicated that care plans were usually the basis for giving care.

Table 15: Summary table of nurses' use of the nursing implementation after implementation of change

Brooking ® (2004) ward nurses' self-report questionnaire	Usually no	Usually yes	Total nº of nurses n=10
• The nurse reassesses patient's condition before intervention	2	8	10
• Patient participation in care is systematised on the ward	10		10
• The nurses use patient allocation or primary nursing		10	10
• The nurses are allocated to the same patients for several days		10	10
• The nurses participate in medical rounds	1	9	10
• The nurses are responsible for planning the care		10	10
• Care plans are the basis for care given	1	9	10
Observation		**Sessions n=6**	
• Nurse/patient ratio		1:9.5	
• Nursing auxiliaries per shift (mean)		1.5	
• Nursing students per shift (mean)		3	

Evaluation

More than half the nurses (n=6) agreed that care was usually not evaluated systematically (Table 16). Examples of care not evaluated on time as showed in Figure 11, were found in 5 records.

Figure 11: Example of care not evaluated on time (data from NDET item 6e)

Patient admitted for orthopaedic surgery

In the assessment form it was indicated that patient suffered from constipation. There were no indications in the care plan or progress notes that nurses were evaluating this problem. The fourth day after surgery the nurse had to take some measures for constipation given that the patient still could not 'move his bowels'.
After surgery, the patient manifested a poor sleeping pattern. There were no signs of measures being taken to give a solution to the problem. (Record 32)

Through the questionnaire, six nurses indicated that objective criteria were not used usually to evaluate patient progress. This was corroborated by the evaluation of patient records as just over a third of the nursing records (n=9) had indicators of the use of objective criteria to evaluate patient care (i.e. objective description of tissue perfusion or the degree of movement reached by the patient). Most nurses (n=9) indicated that care plans were modified as a consequence of evaluation. More than half of the nursing records (n=14) contained care plans modified totally or partially according to evaluation (Table 16).

Most nurses agreed there was no systematic participation of patient and relatives in the nursing process (Table 16). Through observation it was found that none of the six nurses observed asked patient/relative opinions regarding the problems identified or the care planned.

The findings from the questionnaire showed that there was no clarity among nurses about whether there was an obligation to use the nursing process on the ward. Three of them thought that they had to work using this method, three believed that they were not obliged to use it and the remaining four said they did not know. All nurses agreed they had received only some education on the nursing process in the ward during the year of the action research (Table 16).

In summary, nurses did not follow a systematic evaluation of the effectiveness of care given. Objective criteria to evaluate patient progress were only employed in some cases. There was some improvement regarding updating the care plan as a consequence of changes in patient condition. There was no systematic participation of patients and relatives in the nursing process and nurses did not know whether the use of nursing process on the ward was required formally.

Table 16: Summary table of nurses' use of the nursing evaluation after implementation of change

Brooking ® (2004) ward nurses' self-report questionnaire	Usually No	Don't Know	Usually yes	Nº of nurses (n=10)
• The nurse systematically evaluates the effectiveness of care given	6	1	3	10
• The nurse documents evaluation on the care plan or progress notes	4		6	10
• The nurse uses objective criteria to evaluate patient progress	6		4	10
• The nurse modifies care plans according to evaluation	1		9	10
• The nurse systematically takes into account patient/ relative opinion when deciding nursing problems	5	1	4	10
• The nurse systematically takes into account patient/relative opinion when planning care	8		2	10
• The nurse systematically takes into account patient participation in care	9	1		10
• The nurse systematically takes into account patients'/relatives' participation in the evaluation of care	8		2	10

NDET	Records (n=25)
• Nº of nursing records where results are compared to goals	1
• Nº of nursing records where date for evaluation of care set up	0
• Nº of nursing records where patient care not evaluated on time	5
• Nº of nursing records where objective criteria used to evaluate care	9
• Nº where care plans modified according to changes in patient condition	14

7.5.2.3. Summary of findings related to the degree of implementation of the nursing process (Objective 1)

- The nursing process was only partially implemented on the ward;
- When conducted, nursing assessment was usually carried out by RNs using an assessment form;
- The new holistic and nursing-focussed assessment form was used on the ward and substituted the old one;
- When staff nurses carried out the nursing assessment, nursing problems were usually identified;
- Care plans were not based on patients' individual problems;
- Care plans did not represent actual nursing activity;
- There were some indicators of a holistic approach to care as nurses were identifying problems others than physical, such as psychological problems;
- Care was not documented with enough detail;
- Formal sessions to discuss care plans were not held on the ward;
- Nurses used a patient allocation approach to care organisation and the nurse/patient ratio was 1:9.5
- There was no systematic evaluation of care given;
- Objective criteria to evaluate patient progress were not always used;
- Care plans were not always modified according to changes in patient condition;
- There was no systematic participation of patients and relatives in patient care;
- Nurses did not know whether the use of the nursing process on the ward was formally required.

7.5.3. Objective 2

Perceptions of the process and outcomes of change

In order to address objective 2, semi-structured interviews to members of the steering group, a focus group with study ward nurses, and additional questions to the Brooking ® (2004) ward nurses' self-report questionnaire were conducted and analysed as described in sections 7.4.2 and 7.4.5. Categories identified are presented in Figure 12. For the sake of clarity, findings from the added questions were integrated with the findings from the interviews and focus group as they all represented participants' views of the process and outcomes of change.

Figure 12: Categories identified from semi-structured interviews and focus group

CATEGORIES	CONTENT
Outcomes of change • Change of perception of nursing role • Perceived benefits from using the nursing process • Nursing assessment incorporated into nurses' work	Participants' accounts related to their perceptions of the main outcomes of change.
Difficulties encountered with the implementation of the nursing process • Identifying nursing problems and using the new care plan • Managing their time appropriately *Co-ordination with nursing auxiliaries* *Co-ordination with doctors*	Participants' account of their difficulties and obstacles found during the implementation of the nursing process.
Suggestions for further implementation • Preparation in the nursing process • To drive the change from above • To preserve the Institution's ideology • Having a facilitator and guide	Participants' accounts regarding ideas, comments, indications and suggestions for continuing implementation of the nursing process.

7.5.3.1. Outcomes of change as perceived by participants

This category includes the main outcomes of change highlighted by participants.

- *Change of perception of the nursing role*

Only two participants referred explicitly to aspects of nursing which seemed to manifest a change of perception from the traditional way of understanding nursing as dependent on doctors. Although this category contains reports from only two participants, it was considered relevant given the importance of the matter.

One staff nurse indicated:

> *" There has been a change in the way we now work. Before, a patient arrived and you followed the system we have always followed with that type of patient. You did not stop to evaluate other patient aspects apart from those related to the medical diagnosis. Now, you pay more attention to the patient's needs other than the medical ones, that is, than the medical diagnosis" (3, 79-87)*[19]

The same nurse also stressed the holistic approach when caring for the patients.

> *"You know that an orthopaedic patient may develop urinary retention or constipation. You know it because you have been working for many years and you have the experience that these things happen. But there are many other aspects that may happen to the patient and that do not need to be related to the patient's pathology. Simply, the patient has these problems and you have to discover them"* (3, 201-208)

The ward manager also indicated at interview that through the study she thought staff nurses were becoming more aware of their role:

> *"Before, things were done a bit without order. Nurses were able to identify patient's deficits and act accordingly by themselves or looking for the doctor or the appropriate professional... things [referring to assessment, problem identification] were done because you had to do them but without being aware that they were part of the nursing role; that is, it was not assumed as a nursing thing. I think that now it has been assumed and it is carried out better. Also they are recorded" (2, 77-85).*

At the focus group, the same already mentioned staff nurse commented on how the nursing process helped nurses to work with a nursing approach: *"Now, from the assessment, you anticipate the*

[19] The interviewees in phases 1 and 3 were different so the numbers that appear with the quotes correspond to different interviewees in phases 1 and 3 as noted in 7.3.4.

problems more and you do more proper nursing work. I would say that the approach to work has changed and that it could change even more" (4, 27-31).

From the accounts presented above, it can only be indicated that two participants explicitly recognised the independent role of the nurse.

- *Perceived benefits from using the nursing process*

Through the questionnaire, the focus group, and the interviews, participants highlighted positive benefits from the use of the nursing process. For instance, through the questionnaire most nurses highlighted that the nursing process helped them to have a greater bond with, and better knowledge of, the patients and to identify patients problems (Figure 13). However, they also noted some difficulties: i) it was useful but difficult to manage with more than three patients; ii) the complexity of planning the care; iii) and the fact that the nursing process was too theoretical (Figure 13).

Figure 13: Findings from the first added question from Brooking ® (2004) ward nurses' self-report questionnaire

Perceived benefits from the use of the nursing process

- Greater bond and deeper knowledge of the patient (1,3,4,8,9[20]);
- To identify the patient's nursing problems (1,3,4);
- To obtain a more complete and systematic nursing documentation (1,9);
- To deliver individualised and holistic patient care (1,4);
- To establish priorities among the nursing problems according to their degree of importance and not according to when the problems appear (4);
- To think and be more reflexive (5, 4);
- To work in a more systematic way (9,4).

Perceived difficulties in using the nursing process

- It needs a lot of time, not possible with more than 3 patients (4,10);
- The complexity of the care planning phase (2,3);
- Nursing process is too theoretical (2).

Staff nurses at the focus group highlighted again that nursing assessment was helping them to get to know the patient better and also to obtain a good written summary of the state of the patient: *"It helps you to get to know the patient in general (...). That you have a synthesised documentation*

[20] Each number corresponds to a staff nurse.

ready for a person [nurse, doctor] who comes and does not know the patient; just by looking at this page you know the pathology" (4, 142-143; 147-149).

A staff nurse at interview indicated that the nursing process was contributing to continuity of nursing care, getting to know the patient better and to work in a more orderly way: *"What I see the study [implementation of the nursing process] has brought to the ward is a new way of working and getting to know the patient; the working system has changed: to work in a more orderly way; at the same time, to get to know the patient better; and to bring care which has more continuity"(3, 16-21).*

The two managers interviewed considered that nursing process could be a good management tool in order to detect areas for patient care improvement and areas for the nurse's professional development. One commented:

> *" a nursing assessment would be for us a working tool in order to see how nursing work is being carried out. I am not talking about monitoring or auditing. We do not want to audit, but simply, we want to find out where the nurses' educational needs are, where the needs for improvement of patient care are. I believe that assessment could be a management tool for us. We are now looking for management tools" (1, 615-623).*

The line manager also commented that the nursing process was a good way both to think ahead about the patient and to avoid "putting out fire".

As a summary, both nursing managers and most staff nurses recognised the nursing process as a useful tool for nursing practice. Among benefits derived from the nursing process was that participants stated they had better patient knowledge. Within this better knowledge, participants referred to a deeper and more complete knowledge of the patient; a knowledge that allowed them to perceive the patient as an individual. Another benefit mentioned was being able to work in an orderly and systematic way, which seemed to be the result of understanding the patient's problems early on and being able to work ahead on a plan to solve them. Another benefit highlighted was obtaining documentation which was complete, systematic and that allowed for continuity of care. Finally, according to nursing managers, the nursing process could be used as a management tool to identify the staff nurses' needs for improvement on patient care.

- *Nursing assessment incorporated into nurses' work*

All participants agreed that as a consequence of the study, nursing assessment was fully incorporated into the staff's daily work and considered part of the nurse's role.

During the focus groups staff nurses commented that they saw nursing assessment as necessary and with advantages for nursing care.

> *"For me what is really important is the first phase, the assessment. In that way you get a holistic view of the patient. Before, there was not such a view. Before starting to carry out assessments I did not have such a holistic view of the patient. Through it [the assessment] you know all that happens to the patient..."(4, 239-243)*

As a consequence staff nurses were trying to use it: *"I think that at the beginning it was hard to assess the patient, but then later we were more convinced. We are getting there (4, 8-10).* Nevertheless, they also indicated in the focus group that they were not always able to carry out the nursing assessments but *"if you can carry them out, you try to do them" (4, 12).* It seems that although nurses had recognised the importance and need for the nursing assessment, its use was still dependent on external circumstances: *"Now, during the summer you notice more that you can do less assessments. You look at the admission and the assessment is hardly done and during the other part of the year it was easier to have it done"(4, 74-77).*

Both the ward manager and the line manager agreed with staff nurses:

> *"It was very difficult to get the assessment done at the beginning, and now almost always they are getting it done, or if for any reason it is not carried out, they are aware that it is pending, that is, they have the concern that they have not yet done the assessment " (2, 19-24).*

In summary, the outcomes of the study were the following: i) a few participants (n=2) explicitly recognised the independent role of the nurse; ii) all participants perceived benefits from using the nursing process; iii) and nursing assessment was integrated within nurse's role although its use on the ward depended on external factors such as staffing levels.

7.5.3.2. Difficulties encountered with the implementation of the nursing process

This category refers to the difficulties and obstacles found by the participants during the implementation of the nursing process.

- *Identifying nursing problems and using the new care plan*

It was made clear through the interviews, focus group and added questions from Brooking ® (2004) ward nurses' self-report questionnaire, that staff nurses found it difficult to identify nursing problems, to set up objectives and to use the new care plan sheet elaborated in phase 2 (6.4.3).

Two staff nurses highlighted the complexity of the new care plan sheet, and three indicated that to make a ND and to elaborate objectives was difficult and required practice and skills: *"There is a lack of practical skills to use the nursing diagnoses, to label them...there is lack of confidence"* (5, 2, 7[21]). Two other nurses commented that through the study they had improved their writing of nursing diagnoses and objectives but these two nurses had previous knowledge of the nursing process.

During the focus group, staff nurses highlighted some difficulties with the new care plan sheet, particularly that it was too compact, not very practical and difficult to manage. In addition, they mentioned that identifying problems and objectives was difficult:

> *"I think that the difficulty is in making the diagnosis. The interventions have always been identified. What is hard is to identify the nursing diagnosis, the objectives, to label them correctly. That is very hard. It takes a lot of time. Perhaps you label it in an inappropriate way or mixing the medical diagnosis with the nursing diagnosis" (4, 220-226)*

The relevance of the identification and documentation of nursing problems was discreetly questioned during the focus group and also by a nurse at the interview:

> *"To develop the nursing diagnosis and so on, I think that it costs a lot and people do not know how to take that step. They rush directly into care. I think that the biggest difficulty is the intermediate step. In addition, it is the general feeling on the ward. Maybe we should assess if this intermediate step can be jumped or ignored at the first phase and then embraced later on. Maybe it is too difficult to try to implement all at once and it has to be done more slowly for instance..... the intermediate step of diagnosis has never existed. Maybe this is what is making it so hard" (3, 160-169; 187-189)*

It seemed that because this part of the nursing process had never been done before in the ward it needed more time and training. For the ward manger this meant that staff nurses had not yet mastered the skills necessary to identify problems and set up objectives:

> *"They [the nurses], leave it [nursing process documentation] undone because they consider it to be difficult. It is not something that they master; therefore they give priority to other things. I am not saying that these other things do not need to be done...but because the nursing process is more difficult, the most difficult things remain pending" (2, 288-293)*

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[21] When quoting from Brooking® (2004) ward nurses' self-report questionnaire, this will be indicated by the number 5; the following number refers to the question number and the last number to the questionnaire number. (not clear).

As a summary, while nursing assessment was already incorporated into nurses' work it was not yet the same with the identification and documentation of nursing problems and objectives. Nurses were having difficulties with this part of the nursing process. As mentioned by several staff nurses and the ward manager, staff nurses needed more practical skills so as to incorporate these mentioned elements of the nursing process into their work.

- *Managing their time appropriately*

Co-ordination with nursing auxiliaries

At the focus group, staff nurses recognised that on many occasions they spent a lot of their time doing things that they should not be doing and therefore they did not have enough time looking after their patients. Among those things that got nurses away from their patients were bureaucratic tasks such as looking for laboratory test results or medical records, answering the phone, or consulting the computer to look for things for other professionals.

> *"I think that sometimes we waste a lot of time obtaining [from other services] the doctor's reports. There are times when you are the one looking for them; sometimes the nursing auxiliary does it. You do not know clearly who has to do it" (4, 799-804)*

The nurses believed that there was not enough co-ordination with nursing auxiliaries regarding the areas mentioned or activities such as getting the patients out of bed or bringing drugs from the Hospital's pharmacy. Sometimes nurses felt they were asking favours from the nursing auxiliaries.

> *"Maybe a patient is admitted and then the nursing auxiliary who has gathered some date from the patient calls the doctor[22]. After a while you call the doctor again and he says that somebody has already called him. These are things that show a lack of communication or the need to establish things clearly. The diet, sometimes you communicate it[23] and sometimes the nursing auxiliary does it also, so then it has been communicated twice. Then you think that you are asking a favour if you ask for it. And then, sometimes, because you do not want to ask, you do things yourself, otherwise it seems that you are asking a favour". (4, 882-890)*

Staff nurses recognised that to clarify competencies would help them to work more effectively without duplicating tasks or leaving things undone. Nurses' views were that to be more effective and to contribute better to patient care required clarity of roles and tasks first.

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[22] The usual procedure is that when a patient is admitted into the ward, either the staff nurse or the nursing auxiliary calls the doctor to let him know about the admission.

[23] Each type of diet has a code and it has to be communicated to the diet centre at the hospital, which is in charge of preparing all the diets for the patients.

"I think that here we all have to do all we can, to help the others or whatever may be needed, but if each field is defined, if the tasks are defined, I think that it would be much better. There will be more time, the ward will be better organised" (4, 904-908)

Nurses also commented that more nursing auxiliaries were needed on the ward:

[talking about changes that were needed to introduce the nursing process] "Nursing auxiliaries to carry out all the bureaucratic work" "There will have to be a person all the time by the nursing station. We waste a lot of time at the phone and on the computer. As the person who is at the nursing station finishes her shift at 7 p.m. many times all the problems appear at this hour "(4, 700; 702; 298-303)

According to the line manager, sometimes the problem with lack of personnel was due to staff nurses' lack of flexibility and organisation of their work:

"There is a scarcity of workforce... It is true that at specific moments, there could be a shortage of personnel. On the other hand, as a manager I cannot decide to put five more auxiliaries on the ward because at breakfast time or when making the beds there is no way to cope. Maybe what has to be done is to change the framework and think: maybe I do not have to make the beds or bath the patients in one hour, even though it would be desirable that the patient had breakfast already bathed. I think that sometimes people's mentality in relation to organisations has to be more flexible" (1; 403-414)

In order to facilitate this patient-centred approach the line manager shared her view that primary nursing was the way to enhance nurse's accountability for patient care:

"It has helped me to reflect that in order to implement the nursing process, although I realise it is difficult to implement it everywhere, the ideal system to be able to implement it, is by using the primary nursing approach through which a nurse takes the responsibility for a patient" (1, 432-437)

Another factor affecting nurses' time was the decrease in numbers of the workforce during the holiday periods.

In conclusion, one difficulty found by staff nurses in using the nursing process was that of managing their time, as they spent a lot of time in bureaucratic matters, which prevented them from what they considered to be nursing care. They realised that there was not good co-ordination with nursing auxiliaries. They suggested to work on the clarification of tasks with the nursing auxiliaries and also to have nursing auxiliaries on the nurse station all the time. One nursing manager, on the other hand, indicated that sometimes the nurse's problem with the lack of time was also caused by their lack of flexibility and organisation of their work, which had to be more patient-centred.

Co-ordination with doctors

Besides co-ordination with nursing auxiliaries, staff nurses also commented that one of the difficulties in using the nursing process was the lack of co-ordination with doctors:

> *" And also for problems with doctors. You often have to be keeping an eye on their things and because of that you leave your things undone. Of course, this has repercussions on the patient" (4, 293-296)... "Organise doctors' ward rounds a bit if possible. Lately, it is chaos" (4, 456-457)*

According to one manager, it seemed that doctors were more comfortable with nurses being like secretaries or dependent on them:

> *" There are many doctors who do not like nurses to move forward or perceive things of the patient because they think it is not the nurse's role. There are even those [doctors] who do not understand what is independent in nursing. They still do not see nursing as independent. This has been a check on nurses, because they wanted to detect things, to plan things, activities, and in fact they were doing it well, and they have ended up themselves with problems for having done it. And there are certain areas where there is a lot of controversy whether it is nurses, doctors, interdependent, dependent.... Because for the doctors it is very convenient that the nurse's role is that of a messenger, a secretary, for reminding them of things. When the nurse begins to work with the nursing process then I believe she has assumed more her own field, her role. And when they have faced up the doctors making them realise that their role was not to be a secretary, they have had difficulties (2, 521-532; 547-554)*

In addition to the comments regarding co-ordination with doctors, staff nurses also indicated that they were still having problems clarifying each other's role. For instance, when the researcher asked staff nurses about the competencies' framework and whether it helped them to clarify each other's role, one said:

> *" I think in the end it is something that you do whether it is something independent or interdependent; in the end all this is your responsibility. Then you do not stop to think if it is the nurse's role or interdependent or it is...you carry it out anyway.. and you do things which are not nursing" (4, 504-509)*

All this confirms that although some work regarding co-ordination with doctors and clarification of the nurse's role was initiated during phase 2 of the study, much more work was needed in these areas.

Summarising this category, the main difficulties highlighted by the participants regarding the nursing process were: i) to identify nursing problems and set up objectives, probably because their lack of skills and the need for more practice in this area; ii) the bureaucratic matters at the ward level which prevented nurses from fuller dedication to patient care, and that this seemed to be caused by lack of co-ordination with and clarification of roles between, nurses and auxiliaries; iii) the lack of co-ordination with doctors and clarification of the nurse's role that still exists.

7.5.3.3. Suggestions for further implementations

This category includes participants' accounts regarding their ideas, comments, and indications for a further implementation of the nursing process in the ward.

- *Preparation in the nursing process*

All participants considered nurses' theoretical and practical preparation a key aspect in the implementation of the nursing process as commented either directly or indirectly. For instance one nurse manager commented:

> *"It seems very easy to implement but really it is not so easy because there is a need to go deeper into people's preparation [staff nurses] and it takes time" (1, 267-270)*

The findings from Brooking ® (2004) questionnaire indicated that the preparation given during phase 2 was considered appropriate by six of the staff nurses (Figure 14). Another three indicated that it was sufficient and one of them that more preparation was needed. Among the ones who highlighted that the preparation was adequate, two also indicated that more practical, systematic and long-term preparation was necessary.

Figure 14: Findings from the third added question from Brooking ® (2004) ward nurses' self-report questionnaire

Staff nurses' opinions regarding the nursing process preparation given
• Appropriate (1,3,4,5,6,7) • Sufficient (2,8,9); • Need for more preparation (10);

The same emphasis on practical preparation appeared during the focus group: *"It will be necessary to have more practical sessions, with a case-study, an assessment. To use more examples instead of being theoretical" (4, 377-379).* Staff nurses in general indicated that they needed more continuous and systematic preparation. For instance one of the nurses indicated: *"I think that it [preparation] should have more continuity. To set up a period in which this topic will be taught" (FG, 417-419).*

A staff nurse insisted that this education had to be systematic and that it was important to specify dates. In addition she gave some suggestions regarding the content-areas of this preparation:

> *"I would start giving preparation for people [staff nurses] in the different areas [She is talking about the assessment areas]. To explain each one of the areas and what its purpose is. Then, once people know the areas, to study which are the nursing diagnoses most frequently found within each area. And then have case studies to help people to discover the nursing diagnoses; always giving the theoretical base first. Maybe we have gone too quickly, without studying nursing diagnosis first, without informing people about the areas. Maybe we are lacking formation there" (3, 233-242)*

The ward manager also agreed that the theoretical preparation received was adequate and sufficient but that more practical preparation was needed in order to incorporate nursing process totally.

> *"What I can tell you about preparation to use the nursing process is that I think it is very important to be there, near to people, following it up closely and carrying it out, more than giving formal classes and this can help people much more than to say that we are going to give a theoretical class about it, unless there is a general difficulty, and I do not think there have been that many. Each nurse is at a very different level. Therefore you cannot generalise the education on the nursing process, but it is to be near by (the nurses) and keep working on it day after day. Then, precisely this is what this study has been all about, to detect the problem, our problem of lack of preparation and give a solution to that" (2, 129-142)*

According to some of the participants "to go for it" was essential because *"until you see something applied in real world (reality) you do not have a clear idea of how it is" (3, 114-116).*

In summary, adequate preparation on the nursing process was considered as a key element for the implementation of the nursing process. Although the preparation given during the study was appropriate, most participants gave suggestions for a more practical, continuous and systematic preparation on the nursing process.

- *To drive the change from above*

Several participants (i.e. ward manager, line manager and staff nurse from the steering group) suggested that the change process should be more controlled and driven by higher statements within the organisation such as the Nursing Management Board. Staff nurses did not discuss this during the focus group.

The ward manager stressed that the nursing management board should officially ask staff nurses to use the nursing process documentation. According to her, it should be compulsory to use the

nursing process on the ward, and she also highlighted that incentives should be provided to people who used nursing process on the ward effectively:

> *" I think that there has to be clear direction from nursing management if they want nurses from this hospital to work with the nursing process. If they see that the nursing process is good, that it is necessary, that they want to work that way in the hospital, then I think that ...it has to be imposed in the same way as other things that we want for nursing in the hospital, such as respect, education in dealing with patients, or working professionally in other aspects" (2, 576-583)*

A staff nurse indicated that the support from higher statements within the organisation was important in order to offer human resources and give support. She also considered that the role of the ward manager was crucial:

> *"[Regarding the ward manager] I think she is the person that could do more. Of course you also count on the collaboration of the others [staff nurses]. Our ward manager is very open to anything that could be necessary...maybe we also would need help from the Nursing Management Board. Mainly to organise the education programme: people who could offer their help, mainly expert people" (3, 401-404, 409-411)*

The line manager, on the other hand, considered that the most desirable thing would be that the staff initiated changes:

> *" The ideal, what is more desirable, is that people worked professionally to become more professional: that the desire to improve came from them more than from outside as an obligation. I think it is the change that needs to take place: people to be more professional regarding their own development, new goals that they want to achieve" (1, 38-43, 49-50)*

It seems that central to the line manager's philosophy of change was participants' own motivation and initiative. She also indicated that there were occasions in which, because of a lack of motivation, change had to be encouraged from higher statements:

> *"I mean, I do not like the theory of imposing because it goes totally against my way of being, but I am starting to realise from the experience gained, that sometimes you have to impose things a little so people can realise the positive benefits of what has been imposed" (1, 274-278)*

In fact the line manager indicated that there was not enough motivation and initiative among the staff nurses at the hospital: *" Things are very open nowadays so that people can initiate and come up with suggestions. But there are not many. We miss initiatives regarding, for instance, continuing professional education, regarding the desire to do new things" (1, 525-531). "I have found, for instance, that people cannot see that there are different ways of looking at things"(1, 466-468).*

From what has been said, it seems that the line manager and the ward manager followed two different approaches to the management of change. While the line manager considered it more helpful in general to use a bottom-up approach, the ward manager considered a top-down one more helpful to use. While the former approach highlighted staff nurses' motivation and initiative as key aspects for the implementation of the nursing process, the latter emphasised more the idea of providing incentives or rewards for good performance in the nursing process. Nevertheless, the line manager also acknowledged that when initiative or motivation was missing, the process of change had to be enhanced from above, as it was in this study.

- *To preserve the Institution's ideology*

Another aspect that came up in the interviews was the idea that, although each ward should be responsible for implementing the nursing process, the Nursing Management Board should also intervene, providing guidelines so as to preserve the Institution's ideology.

> *" As I am saying to you, the guidelines we would like to have for all the hospital need to be thought about, precisely because of the Institution's ideology, which is a specific one, and I think that there are things that could be refined" (1, 575-577, 580-582)*

Specifically, the line manager commented that the Nursing Management Board would have to provide guidelines in two areas: nursing assessment and nursing problems.

> *" I think that would it be possible to have an assessment sheet in the hospital common to all nursing units containing all aspects that could be common or delicate.... We have to elaborate an assessment sheet common for all wards and see what the needs of people are. How to explore the spiritual dimension, how to explore social aspects and human relationships...how to tackle a critical family situation (1, 577-580; 586-590)*

During the interview the line manager commented that it would be necessary to study whether it was convenient to use a nursing diagnosis classification such as the North American Nursing Diagnoses Association.

> *The adaptation [of NANDA's classification of nursing diagnoses] to this hospital would need to be studied, not just to implement it because it is now the system more systematised, but to wait a little until we can see how to adapt it here" (1, 262-266).*

- *Having a facilitator and guide*

Within the focus group with staff nurses the question of whether nurses preferred to be directed by managers or be self-directed did not come up. They did not question the implementation of the nursing process. What staff nurses did mention was the convenience of having somebody from outside the ward, such as a facilitator or an expert, to help them with the implementation of the nursing process by providing them with the necessary preparation. For instance, when discussing what is necessary to implement the nursing process properly, two nurses said: *"To have somebody specialised in the nursing process to be in charge of directing the others" " To have somebody who pushes it" (4, 680-682).*

One nursing manager and a staff nurse, a member of the steering group, both believed that to have somebody guiding and facilitating the change process was necessary in order to implement the nursing process.

> *"To me what has been really important, vital I would say (and in fact I do not think that it would have been possible without) is that in the implementation phase, you [to the researcher] were been here....I think it is essential to have somebody from outside the unit, whose role is to help the implementation because otherwise it is too difficult. There would have to be a lot of interest from the staff nurses and they would really need to be motivated to carry it out" (2, 563-574)*

Summarising, the suggestions made by the participants regarding the implementation of the nursing process were the following: i) to provide staff nurses with a systematic, continuous and practical preparation on the nursing process; ii) to drive the change process from higher statements within the organisation; iii) to have a facilitator and guide during the change process; and iv) take into account Institution's ideology.

7.5.3.4. Summary of the findings related to participants' evaluation of the process and outcomes of change (Objective 2)

- Two participants, a ward manager and a staff nurse, recognised that the nurse's role cannot be reduced to aspects related only to the patient's medical diagnosis.

- Participants, both managers and staff nurses perceived that the nursing process was a useful tool for nursing practice. Among the benefits highlighted by the participants were the following: i) to get to know the patient better and to recognise him as an individual; ii) to work in an orderly and systematic way; iii) to obtain nursing assessment documentation which is complete, systematic and that facilitates continuity of care.

- All participants agreed that nursing assessment was integrated within the nurse's role although the use of it still depended on external factors such as the staffing levels.

- Staff nurses found difficulties with the identification and documentation of nursing problems as well as with setting up objectives, probably because it had not been done before.

- Most participants believed staff nurses needed more practical skills for nursing problem identification and setting up objectives.

- Staff nurses considered that they spent too much time in bureaucratic matters which took them away from their nursing care.

- A need for a better clarification of the nursing auxiliary role was identified. Staff nurses also considered that there was a need for more nursing auxiliaries in the ward.

- Although some work regarding co-ordination with doctors and clarification of the nurse's role was initiated during phase 2 of the study, much more work was needed in these areas.

- Preparation to use the nursing process was considered a key element for its implementation. Although the preparation given during the study was considered appropriate, participants also recognised that there was a need for more practical, systematic and continuous preparation.

- There were different views regarding the appropriate approach to the management of change between the two nursing managers most involved in the action research. While one defended a top-down approach the other believed the bottom-up approach to be the most correct. Nevertheless, they both coincided that given the lack of staff nurses' initiative and motivation, it was appropriate to drive the implementation of the nursing process from higher statements within the organisation.

- Nursing managers and staff nurses agreed that clearer commitment from nursing managers of the Institution was necessary in order to direct, guide and support the change towards implementation of the nursing process. In addition, it was highlighted by a nurse manager that the nursing process should be implemented taking into account the Institution's ideology.

- The presence of a facilitator and expert in the nursing process was highlighted by the participants as necessary for the implementation of the nursing process.

7.6. Comparison of findings between phase 1 and phase 3

The previous section contains the findings related to phase 3 of the study. This section contains the results from the comparisons between data from phase 1 and data from phase 3 for each one of the tools. This comparison attempted to clarify the differences between both phases and therefore the changes achieved.

7.6.1. Comparison of Brooking ® (2004)ward nurses' self-report questionnaire: pre-post implementation

The Wilcoxon test was used to compare phase 1 and phase 3 Brooking ® (2004) ward nurses' self report questionnaires samples (7.4.2). There were no statistically significant differences pre and post implementation. Nevertheless, the higher scores for assessment, planning and implementation in phase 3 indicate that staff nurses perceived that those phases of the nursing process were more implemented in phase 3 than in phase 1 of the study. The score difference was greater for the assessment phase of the nursing process than for the others which implies that there were greater changes at this level.

Table 17: Comparison of phase 1 versus phase 3 Brooking ® (2004) ward nurses' self-report questionnaire.

Nursing process Phases	Phase 1 Score	Phase 3 Score	Test Wilcoxon (Sum of ranks)
Assessing	228	262	46
Planning	247	263	40.5
Implementation	401	407	20
Evaluation	174	167	24

Level of significance, Wilcoxon sum of ranks > 47

7.6.2. Comparison of observation data: pre-post implementation

RNs from the study ward were observed in phases 1 and 3 in relation to their use of the nursing process (5.3.2 and 7.3.2). Given the small sample size, comparisons pre-post implementation were made by describing the differences between findings from phases 1 and 3 displayed in Table18. The main findings from the comparison were:

- The number of nursing assessments carried out by RNs in phase 3 (n=3) was > the number of assessments carried out by RNs in phase 1 (n=0).

- The number of written assessments observed in phase 3 were < the number observed in phase 1. Nevertheless all written assessments in phase 3 were carried out by the RNs.

- There were neither improvements in the identification of nursing problems nor in the integration of these problems in the care plan.

- The nurse/patient ratio was greater in phase 3 (1:9.5) than in phase 1 (1:6)

Table 18: Comparison of observation findings between phase 1 and phase 3

Observation Variables	Phase 1 N=5	Phase 3 N=6
Who carried out nursing assessment		
RNs	0	3
Nursing student	5	3
Nº times assessment format used	4	3
Nº times nursing problems identified	1	2
Nº times care plans based on problems identified	1	1
Nurse/patient ratio	1:6	1:9,5

7.6.3. Comparison of NDET data: pre-post implementation

The demographic characteristics of the NDET samples for phase 1 and 3 were compared as shown in Table 19. There were no significant differences between samples regarding length of patients' stay, sex, age, and speciality.

Table 19: Comparison of demographic characteristics of patients' records phase 1 and 3

Variable	Phase 1 N=25	Phase 3 N=25	Test
Length of patients' stay	Mean: 7.8 days Range (1-20) SD: 5.1	Mean: 8 days Range (1-41) SD: 9.1	Mann-Whitney U p=0.359
	`Goodness of fit´ tests Kolmogorov-Smirnov p= 0.142 Shapiro-Wilk p=0.172 Normal distribution	`Goodness of fit´ tests Kolmogorov-Smirnov **p=0.004*** ShapiroWilks **p= 0.01*** No normal distribution	
Sex	Male: 9 Female: 16	Male: 12 Female: 13	Fisher's exact test p= 0.567
Age	56 Range (24-87) SD: 18	51 Range (13-87) SD: 19.2	Test Levene p=0.836
	`Goodness of fit´ tests Kolmogorov-Smirnov p= 0.2 Shapiro-Wilk p=0.626 Normal distribution	`Goodness of fit´ tests Kolmogorov-Smirnov p=0.2 ShapiroWilks p= 0.937 Normal distribution	t-test: p=0.383 (equal variances)
Speciality	Orthopaedics: 14 Neurology: 5 Others:6	Orthopaedics: 14 Neurology: 6 Others: 5	χ^2 P= 0.913

Level of significance p=0.05
**significant difference*

Comparison between existing nursing documentation in phase 1 and 3 of the study

There were differences in relation to the documentation used in phases 1 and 3 of the study, as shown in Table 20.

Table 20: Comparison of the nursing process documentation as recorded by NDET between phase 1 versus phase 3

Nursing documentation	Phase 1	Phase 3
Assessment form used and characteristics	• Assessment form (Appendix 14) • Highly structured • Biologically focussed • Organised according to body systems	• Assessment form (Appendix 18) • Semi-structured • Holistic • Organised according to patient's health patterns
Care plan form used and characteristics	• Care plan form (Appendix 15) • With place to document nursing interventions only	• Care plan form (Appendix 19) • Place for documenting nursing problems, goals and interventions • Place for documenting interdependent care • Care plan form[24] (Appendix 15)
Progress notes (the same one was used in both phases)	Blank sheet of paper	Blank sheet of paper

- The nursing assessment form changed from being more structured and physiologically focused to being more flexible and holistic. In phase 3 of the study only the new assessment form was used;

- The new care plan form allowed for all the elements of the nursing process (nursing problems, goals and interventions) to be documented. Nevertheless, the old care plan form was the one mainly used in phase 3.

- The same progress notes form was used on phase 1 and phase 3.

The use of the nursing process

As indicated in Table 21, the following differences regarding the use of the nursing process were found between phases 1 and phase 3:

[24] In phase 3, both the same care plan as in phase 1 and the new developed one (6.4.3) were used on the study ward.

Table 21: Comparison of NDET variables by phase of the study

Variable	Phase 1 N=25	Phase 3 N=25	Test
Nº of assessments carried out by RNs versus students (NDET)	4 by student 5 by RNs	0 by student 10 by RNs	Fisher exact test **p=0.03 ***
Nº of nursing records containing assessment written format (NDET)	18	10	Mann-Whitney U** **p=0.019**
Nº of assessments where nursing problems documented	5	8	Mann-Whitney U** p=0.227
Type of care documented	Physiological domain	Physiological and psychological domain	
• Care plans based on problems identified • Care based on nursing or medical protocols	3 15	1 9	Mann-Whitney U** p=0.723
Nursing problems and intervention: • Documented in care plans • Not documented in care plans	 125 118	 114 101	
Nº of care plans where nursing interventions described: • With enough detail • Partially written with enough detail • Not written with enough detail	 7 11 6	 4 5 8	Mann-Whitney U p=0.254
Nº of records where objective criteria used to evaluate care	8	9	Mann-Whitney U p=0.224
Nº of records where patient care not evaluated on time	11	5	χ^2 p= 0.069
Nº of care plans modified according to changes in patient condition	17	14	Mann-Whitney U p=0.433

**Significant difference p= 0.05*

** Mann-Whitney U two-tailed

- There was a statistically significant increase in number of nurses conducting assessments in phase 3 (p= 0.03; Fisher's exact test);
- The number of nursing records containing as assessment form decreased significantly between phase 1 (n=18) and phase 3 (n=10) (p= 0.02; Mann Whitney U- two tailed);

- The number of nursing assessments where nursing problems were documented in phase 3 was > the number of nursing assessments in phase 1 but this difference did not reach a level of statistical significance (p=0.227; Mann-Whitney U-two tailed);

- In phase 1 the patient's problems and interventions were all related to the physiological dimension of the person whereas in phase 3 there were both physiological and psychological problems identified;

- There was no increase in the number of care plans based on nursing problems identified (p=0.723, Mann-Whitney U-two tailed);

- There were no improvements regarding care plans representing nursing activity. In both phases half the care was not documented in care plans;

- There was a decrease in the number of care plans containing well or partially well documented nursing interventions. Nevertheless, this difference did not reach a level of statistical significance (p=0.254; Mann-Whitney U-two tailed);

- There were no changes in the number of care plans containing objective criteria to evaluate care; this represented a third of the sample (p=0.224; Mann-Whitney U-two tailed);

- There was a decrease in the number of nursing records containing care not evaluated on time. Nevertheless this difference was not statistically significant (p= 0.069; χ^2);

- There were no changes regarding up-dating care plans when necessary. Nevertheless, two thirds of the sample had care plans modified accordingly (p=0.433; Mann-Whitney U);

7.6.5. Comparison between findings from semi-structured interviews and focus group: pre and post implementation

Interviews and a focus group were conducted in phase 1 and 3 with different purposes. In phase 1 the objective was to explore the readiness of the Institution and study ward for the introduction of the nursing process in order to inform phase 2 of the study (5.5.1). In phase 3 the purpose was to know the participants' opinions regarding the process and outcomes of the intervention so as to inform further implementations of the nursing process (7.5.1). The different purposes of each phase explain why, on one hand, different participants were selected and, on the other, the difficulty in

making strict comparisons. In spite of these difficulties, qualitative data were compared and the main findings from the comparison are presented in the following bullet points.

- Phase 1 indicated that the nursing process implied an understanding of nursing as having an area of competence for which nurses are responsible. In phase 3, it was recognised explicitly by a nurse manager and staff nurses that the nurse's role could not be reduced only to aspects related to the patient's medical diagnosis. This view, which seems to reinforce the idea of the nurses' having their own area of competence, was not explicitly manifested by all staff nurses. On the contrary, most of them were still manifesting a lack of clarity of their role.

- There was a change in perception regarding the nursing process. In phase 1 staff nurses perceived the nursing process as a burden for their daily work. In phase 3 staff nurses perceived the nursing process as a useful tool for their practice. Among the benefits of using the nursing process they recognised the following: i) to get to know the patient better and to recognise him as an individual; ii) to work in an orderly and systematic way; iii) and to obtain nursing assessment documentation which is complete, systematic, and that facilitates continuity of care.

- Phase 1 findings manifested that the nursing process was not seen as part of the nurse's role. Phase 3 findings indicated that nursing assessment was incorporated as part of staff nurses' role although their utilisation depended on occasions on the study ward working conditions.

- Phase 1 findings highlighted that nursing education in the past did not favour the development of necessary skills, such as problem-solving skills, to use the nursing process. The findings from phase 3 regarding staff nurses' difficulties in identifying problems and setting up objectives confirmed phase 1. The lack of adequate education on reflective practice as indicated in phase 1 may explain staff nurses' lack of initiative to lead their own professional development and their need to be guided and encouraged by nursing managers.

- Phase 1 findings highlighted how the implementation of the nursing process required conceptual changes. In phase 3 the need for organisational changes also became evident. In this latter phase, staff nurses considered that they spent too much time on bureaucratic matters which took them away from individualised patient care and so they proposed the presence of more nursing auxiliaries on the ward. They also manifested the importance of clarifying nursing auxiliaries' functions adequately.

7.7 Summary

- Nurses' change of perception regarding utility of the nursing process, from considering it as a burden to their work to considering it as a useful tool to individualise the care of the patient, to work in a more systematic way and to obtain a nursing documentation that facilitates continuity of care.

- Nursing assessment was incorporated as part of staff nurses' work although its use seemed to depend on the study ward working conditions, such as nurse/patient ratio.

- A more holistic assessment form was introduced on the ward in accordance with a nursing approach which included a holistic view of the person. As a consequence, nurses started to identify psychological as well as physiological problems of their patients.

- Staff nurses found difficulties with the identification and documentation of nursing problems as well as with setting up objectives. Although there were some improvements in the number of nursing problems identified, they did not reach a level of statistical significance. Care plans were still based on medical diagnosis and not on individual problems identified. The evaluation phase of the nursing process was not implemented.

- There was a recognition among the participants of the need for more practical, continuous and systematic preparation on the nursing process.

- There was still no clarity regarding the nurses' role, although two participants explicitly indicated that nurses have their own approach to patient care different to the medical one.

- Staff nurses recognised the existence of organisational barriers, such as nurses' excessive dedication to bureaucratic matters at ward level or lack of co-ordination with doctors, which were preventing them from individualised care. The importance of further clarifying the role of the nursing auxiliary as well as increasing the number of nursing auxiliaries on the ward were highlighted.

- The importance of nursing managers directing, guiding and supporting the change towards the implementation of the nursing process was recognised by the participants.

- The presence of a facilitator was highlighted as necessary for the implementation of the nursing process.

CHAPTER 8: Discussion

8.1 Introduction

An action research study was carried out to implement nursing process in the Teaching Hospital of the University of Navarra and to develop knowledge regarding the implementation of the nursing process and the factors favouring or making implementation difficult.

The two main research questions which were set up at the commencement of the study (3.4.3) were:

1. Does an action research approach facilitate the implementation of the nursing process?

2. In relation to the factors that the literature acknowledges as influential in the implementation of the nursing process, how do they contribute to implementation of the nursing process in this study?

In order to make sense of the findings, the layout for this chapter was discussed in some depth between the researcher and her research supervisor as the findings were at different levels, and it was deemed important to present them in a user-friendly format. The different possibilities were tried out; for instance Donabedian's (1997) model of structure, process and outcomes was considered. Nevertheless it was rejected finally as it was decided to use the a simpler structure. First a general overview of the study is presented; then the study design is discussed; followed by the discussion of several issues which include: i) the nature of action research, ii) the role of the researcher and iii) the nature of the institution and philosophy of action research. Next, the findings are discussed both at macro and micro level. Finally the study limitations are indicated.

8.2. The study

An ambitious study was designed and carried out in order to implement nursing process and generate knowledge. This led to an innovative but complex research design.

Action research was selected as the study approach as it was recommended in the literature for the implementation of the nursing process. Although other action research studies had been carried out to introduce the nursing process (Boomsma et al, 1997; Sirra, 1987; Farmer, 1986) or introduce other aspects of the nursing process such as new documentation (Moen et al, 1997; Gibbon &

Little, 1995), none had measured objectively the degree of nursing process implementation achieved. The present study was therefore unique in so doing although it meant using multiple tools which added to the study's complexity.

Another innovative aspect of this study was the approach selected regarding the implementation of the nursing process; that is, the study's focus on the factors that facilitated or inhibited this implementation. This study aimed to contribute to knowledge generation relating to the implementation of the nursing process. This was not considered per se in other action research studies although most of them highlighted some factors that helped or hindered the implementation in their studies (Boomsma et al 1997; Moen et al, 1997; Gibbon & Little, 1995; Lauri, 1990; Stevenson 1990; Sirra, 1987; Farmer, 1986). Knowledge development is a contribution of action research together with changes in practice (Waterman et al 2001; Parra, 1995). Nevertheless, as indicated by Waterman et al (2001), knowledge generation has been neglected frequently in action research studies, probably because it was not the main concern for those action researchers (Waterman, et al, 2001).

Another important aspect of this study is that it was innovative in Spain and especially in the Teaching hospital of the University of Navarra as it was the first action research study conducted at that Teaching Hospital. This presented a challenge for the researcher as neither the teaching staff nor the managers were familiar with this type of research.

8.3. Study design

Within this section of the chapter some aspects related to the research design are discussed. Given the importance of action research and the issues related, the researcher deals with this in separate sections (8.4; 8.5; 8.6).

This study was designed as a three-phase action research study (see 4.3). In Phase 1 baseline data were gathered using multiple triangulation to assess the study's ward use of the nursing process and its readiness for change. In phase 2, the design and implementation of the strategy for the introduction of the nursing process took place. Managers and staff nurses were actively involved in this study phase. In phase 3, the outcomes and process of change were evaluated using the multiple triangulation approach used in phase 1.

The use of multiple triangulation was one of the reasons for the complexity of the study in that it required the:

i) development and/or adaptation of several tools;

ii) data collection from different tools;

iii) different types of data analysis;

iv) finally all the findings had to be integrated in a meaningful and manageable way.

This was demanding. In the following paragraphs the researcher comments on the experience of using multiple triangulation. It includes some commentaries of the data collection tools employed.

- Structured observation was used in phases 1 and 3. This was a difficult and time-consuming data collection method. The researcher had never undertaken observation before and therefore she did not foresee in advance the skills and dedication that were needed to use this method well. Given her inexperience and difficulty, it was decided to use a structured approach to observation. In hindsight too many categories were selected for this study, which made the data collection, and data analysis more difficult. The study supports Polit & Hungler's (1995) recommendation that for researchers undertaking observation for the first time, it is better to use a structured approach. In addition, the present study also shows the important of being concise in the number and content of the categories selected. In spite of the difficulties, the study shows that observation was an essential method to validate other study data supporting Turnock & Gibson's (2001) assertion that observation provides first hand experience in relation to current practice.

- Brooking's (1986) questionnaire was adapted and translated to be used in the study setting. The translation and adaptation of this existing tool required time and dedication. Nevertheless, the tool proved to be useful in the new setting. This tool was easy to administer and within the context of an action research it was easy to contact the participants and explain to them about the tool and get them to participate.

- Documentation review: The researcher elaborated her own nursing record evaluation tool to evaluate nursing process documentation. Other existing tools such as Davis et al (1994); Serrano et al (1994) were developed to suit their studies purposes and therefore were not totally appropriate for this study. To develop the tool was time consuming. The tool contained many different types of data and it was an added difficulty for data analysis. The researcher was not initially aware of the implications that a complex research tool could have for data collection and data analysis. Nevertheless, the quality and usefulness of data gathered through this tool makes the use of nursing records as an important resource for evaluating the use of nursing

process. It is advisable, when appropriate, to work towards the adaptation and/or improvement and validation of tools already existing rather than developing new tools.

- Semi-structured interviews were conducted with key people at the study site as recommended by Gilham (2000) and proved to be appropriate. The researcher's previous experience conducting interviews (Zaragoza, 1996) helped considerably in the data collection for this study. The researcher recognises the complexity of qualitative data analysis and the fact that it was cumbersome to manage.

- Two Focus groups, one in phase 1 and another in phase3 were conducted to gather nurses' perspectives on the nursing process. The importance of the moderator's role in the data gathering process was recognised. Validation of data gathered was sought at the end of each focus group. Nevertheless, there were themes that appeared during the data analysis that could have been discussed further with the staff nurses in subsequent focus groups. The focus group proved to be a valuable tool for data gathering regarding nursing practice.

The study findings showed that valuable, validated and complete data were obtained through this combination of methods. This confirms the literature, i.e. that multiple triangulation was a useful approach to examine the reality of the implementation of the nursing process (Israel et al, 1998; Polit & Hungler, 1995; Norman et al, 1992). Nevertheless, this study also shared Meyer's (1993) and Redfern & Norman (1994) experience, that of the laborious and demanding work that the use of multiple triangulation has for the researcher.

It was the first time the researcher used most of the research methods selected for the study, and she was not aware of the implications of using several different tools. In addition, the researcher also wanted to have a picture as complete as possible of the matter of study and therefore a great number of categories were included in those tools. Although it could have been avoided, this was something common in other tools found in the literature as for instance Brooking's (1986) scale (see 3.7.2.1) or Davis et al's (1994) questionnaire (see 2.7.1).

Added complexity of using an action research for the present study was mainly due to:

i) the fact that the tools had to be developed and translated in order to adapt them to the specific situation;

ii) the analysis and management of the large amount of data gathered.

After the study and reflecting on the complexity of it, the researcher considers that the tools developed could have been designed in a simpler way, being more realistic about possibilities and time. The next sections of the chapter deal with issues related to the study research approach, that is, action research.

8.4. The nature of action research

An action research method allowed the researcher to take into account the specific characteristics of the setting as well as involving those in the change, mainly managers, and nurses. In addition, although it was the first time action research had been conducted in that setting, the researcher felt that it was very much in agreement with the Institutional ethos for practice development. Although action research was a useful and convenient research approach, its use was challenging and difficult at times mainly because of the inexperience of the action researcher and the novelty of the study in its context.

There were action research aspects that the researcher found especially challenging. One aspect was to balance adequately action and reflection aspects; that is, to find time for reflection on what was happening in the study site and to move on the changes in practice. The data collection and data analysis were time-consuming. In order to manage the action and research aspects adequately, different skills were needed by the action researcher such as for example, decision-making, or dealing adequately with uncertain situations.

Different ways of managing uncertainty

The accounts from the process of change reflect that the managers and nursing staff on one hand and researcher on the other had different approaches to the process of change (see for instance 6.3.2). Managers and nurses were determined to get things done, while the researcher tried to emphasise the reflective and research component. This fact has been acknowledged and explained by Titchen & Binnie (1994) saying that practitioners and researchers think in different ways when trying to reduce uncertainty. Practitioners are used to responding fluently and vigorously before situations while researchers tend to analyse rigorously a situation, plan carefully and keep to the plan. It seems to be very important for action researchers to be aware of this reality and try to balance both things. One suggested way of doing so is by planning specific steps and being systematic to evaluate and reflect on them (Titchen & Binnie, 1994). In the present study, in following a linear approach of action research (see 3.2.2.), the main evaluation took place at the end of the study. Although specific evaluations took place along-side the implementation phase they were not as systematic and continuous as when using a cyclical approach. Waterman et al

(1995) indicate how the researcher had agreed intervals during the study for reflective and evaluative sessions where she evaluated the accomplishment of the objectives set up and modified them if necessary. It appears that as reported by different authors (i.e. Waterman et al, 2001; Waterman, 1995; Titchen & Binnie, 1994) the cyclical process assures a continuous action, reflection and evaluation along side the study, which seems more appropriate for action research than the lineal one.

Ideal versus reality

The accounts of the implementation of change (chapter 6) showed examples of issues that were uncovered through the action research but which could not be tackled through the study usually due to time constraints. Some examples of these issues were for instance, the need to study the workforce appropriate to carry out the nursing process; the development of standardised care plans to help with planning of care; or the need to operationalise the nursing competencies document. All these are examples of the dichotomy "ideal" versus "reality", that is, between what is advisable and convenient in theory and what is possible in practice. In that sense, action research studies go further than traditional studies because the latter ones end at a theoretical level whereas action research reaches the practical reality; that is, action research studies face up to the difficulties of time, lack of resources, opposition, lack of skills among others which are part of the real world. Because of that, action research studies are in the position to provide useful knowledge regarding the 'reality of changing practice'. For instance, the many implications of implementing the nursing process became clearer through this study. This aspect of action research, that is, its contribution to knowledge generation related to changing practice, has not received due consideration in action research literature and it should be considered as an important contribution for this research approach.

Action research allows for reflection at a different levels

Many interesting insights regarding the study were seen after the evaluation phase and once the researcher considered the findings and the study as a whole. There were theoretical aspects that were clarified once the researcher withdrew from the setting and reflected on the study as a whole. An example of that are the issues regarding the researcher role presented in this section and the following one. What has been said manifests that the action researcher is in a constant process of reflection on the content and process of the study. As indicated by Waterman et al (1995) only by carrying out the action research does the action researcher come to understand how it works. A similar experience was found by the action researcher in this study. As it was the first action research she ever conducted, it was very difficult to know how it really worked. It was only by

doing it, passing through this experience and reflecting on it later, that she learned about the intricacies of the process of how to conduct an action research study.

8.5. The role of the action researcher

The role of the researcher in this study was a difficult and complex one. First of all as action researcher, she had to facilitate change and also to guide and provide advice with the implementation of the nursing process. In addition, she was also a researcher and therefore she was collecting and analysing data. The researcher did not have an static role during the study but it changed from 'observer as participant' to 'participant as observer' according to the needs of each phase of the study. Finally, the action researcher was part of the Institution where she was conducting the study and had a commitment to carry it out. All that contributed to the complexity and difficulty of the role of the researcher which has been already highlighted in the literature (Pontin, 1997; Meyer, 1993). This section deals with some specific challenges for the researcher during the study.

Difficulties balancing expert and facilitator role

There were difficulties during the study, especially during the implementation phase, that is, phase 2, in balancing the action researcher's expert and facilitator role (6.3.2). The action researcher was concerned with keeping the essence of the nursing process while being open to suggestions and decisions from the participants. As indicated in 3.6 the researcher was of the view that decisions should be informed and therefore that her role in the steering group could not simply be that of a facilitator in a neutral way. On the other hand, the researcher was aware of her supervisor's advice of avoiding being in control of the direction of change (6.3.2).

Reflecting on this problem once the evaluation phase finished and during the writing up of the discussion chapter, the researcher reached the conclusion that most of the distress involved in balancing the expert and facilitator role was motivated by the fact that the action researcher was acting according to the principles of the experimental approach and her supervisor according to the principles of the professional type and therefore they were taking different approaches to the situation.

As indicated by Hart & Bond (1995), the role of the action researcher within the experimental approach is that of directing the change according to an already pre-designed intervention. What matters in this type of research is to get the intervention implemented as it was designed. The staff participation is seen in terms of gaining agreement and help. In the professional approach the focus

is on participants' development and on a research-base practice. The problem selected is negotiated between the researcher and the practitioner. In the professional approach the role of the researcher is more of a facilitator.

As each action research approach has a different philosophical foundation (Parra, 1995; Holter & Schwartz-Barcott, 1993) it is advisable that these philosophical bases should be coherent with the researcher's philosophical assumptions as well as with the characteristics of the setting, type of study and so on. It is also advisable for action research studies to make sure that the role of the researcher and other methodological aspects are coherent with the type of action research selected. In addition, if there are several researchers in the study or in the case of a Phd work, it is important to make sure that there is an agreement between all people concerned regarding the type of approach used and its consequences. In that sense the use of a typology such as the one of Hart & Bond (1995) could be very beneficial in the sense of understanding all the implications of a specific action research approach and foreseen possible problems.

Researcher's inexperience conducting action research

Another important aspect regarding the role of the researcher in the present study was her inexperience in conducting this type of research and the fact that it was carried out in a different country from the one in which she was undertaking her PhD. The latter factor had implications for the proximity with her research supervisor, who was in Glasgow, while the researcher was conducting her study in Spain. In the present study, although the researcher and her supervisor kept in touch by e-mail, it became evident through the study the need to have somebody in a more accessible way, knowledgeable in action research, with whom to talk, discuss and clarify ideas in relation to the study. The researcher was the first person in her school to undertake a PhD abroad and therefore it was not possible to find a person at her place who could help with this role.

Therefore, this study gives support to authors such as Pontin (1997), Waterman (1994); Titchen & Binnie, (1993); and Meyer (1993) who also recognised the complexity of the action researcher role and the importance of having somebody who could give support and who could help and stimulate the reflective process. It is especially important when the researcher conducts an action research for the first time.

In this section several issues regarding the role of the action researcher has been discussed. The action researcher was also a member of the Institution were the study took place. In order to discuss the implications that it had for the study, some aspects related to the nature of action research and the characteristics of the institution where it took place are commented first.

8.6. The nature of the institution and the philosophy of action research

An important strength of the study was the facilities and support given by the Institution for undertaking the research. On the contrary to other action research studies such as Meyer's (1993) to gain access and to get the involvement of the participants in the study was quite easy and smooth. There are different aspects regarding the philosophy of the institution that could explain why it was so unique.

As explained at the commencement of the study (Chapter 1) the teaching hospital were the study took place and the school of nursing were the researcher was working are part of the University of Navarra and both share the same guiding principles of the university which are the Christian values of freedom, personal responsibility, pluralism, and the transcendent value of work (University Information Services, 1997).

These principles are imbued on the people working at this organisation an especially on those managing it. Although the institution is hierarchical, the management style is not authoritarian Management is understood as providing guidance, facilitating participation in the decision-making, and encouraging staff professional and personal development. Therefore central to management philosophy is employee personal responsibility and motivation The staff is asked to share on the ethos of the organisation. It is not just the matter of adopting an external appearance but to identify oneself with it. One of the consequences is that staff consider the university or the hospital as their own. In this context it is not surprising that the action research philosophy of participants' development, improvement of their practice by encouraging change, and participation (Hart & Bond, 1995; Holter & Schwartz-Barcott, 1993) were appreciated and welcomed in this Institution.

The fact that the researcher was a lecturer from the school of nursing and had worked in the Teaching Hospital (see Chapter 1) was also a positive factor for the acceptance and participation in the action research. She was known by the chief managers and the nursing managers as well as by most of the staff nurses. Neither was it new in the Hospital to share research projects with nursing lecturers from the school of nursing which shows that there was an already co-operation between the school of nursing and the teaching hospital.

What has been commented until now regarding the Institution, reflects the context in which the research took place which was very appropriate for conducting an action research study. The researcher considered it necessary to discuss these aspects related to the study and the action research in order to place the findings of the study in context.

8.7. Findings

In the previous section the context of the study and issues related to the methodology used, action research, have been discussed. This section deals with the study findings. The findings are discussed from a macro level. Nevertheless the findings from each one of the phases of the study (micro level) are presented in Appendix 22, so that the reader can follow more easily the discussion. This discussion is conducted by answering each research question in sections 8.7.1 and 8.7.2.

8.7.1. Answer to the first research question

Does an action research approach facilitate the implementation of the nursing process?

The present study confirmed that this research approach facilitated the implementation of the nursing process. The reasons are the following:

- The flexible and context-based characteristics of action research helped the study as it allowed for emerging factors related to the implementation of the nursing process to be recognised and measures to be taken. An example that illustrates this point is given in 6.4.3. When developing and implementing the assessment form it was found that nurses lacked confidence to undertake patient's assessment interviews. As a result, measures such as practical seminars to help nurses to develop communication skills and to assess psychological and emotional needs of the patient were set up and this problem could be overcome so nurses started to carry on themselves the nursing assessment of their patients. This finding confirms the advantage of action research for the implementation of the nursing process (Gibbon & Little, 1995; Stevenson, 1990; Lauri, 1982). For instance Gibbon & Little (1995) found in their study that nursing assessment was too vague and that there was no connection between assessment and care plan. As a consequence a more comprehensive assessment was introduced which was proved at the end of their study, to facilitate the continuity between the assessment and care plan.

- Action research provided the setting with a facilitator of the change process and an expert on nursing process. This was considered by the participants as a key factor for the implementation on the nursing process (see 7.5.3.3). This finding confirms the literature as in all studies examined the action researcher had a key role in facilitating the implementation process (Gibbon & Little, 1995; Stevenson, 1990; Sirra, 1987; Farmer, 1986).

- Action research facilitated that managers, staff nurses and a researcher worked regularly during the period of 6 months as a teamwork for the implementation of the nursing process. It undoubtedly accelerated the change process (see 6.4). Same findings were obtained in other studies (Moen et al, 1997; Sirra, 1987; Farmer, 1986). The present study added to the literature that when facilities and incentives are provided for the nurses to participate in, their response is positive. The importance of the line manager in the group became obvious when her absences in the steering group during the last period caused some delays on the process of change. This study confirms Waterman et al's (2001) findings that when key people are unavailable it could reduce effectiveness or delay projects.

- Action research facilitated staff nurses involvement and participation in the process of change and that contributed to the implementation of the nursing process. An example that shows this is provided in 6.4.3. with the development of nursing process documentation. The importance of staff nurses involvement in the study was frequently found in the literature as an important and positive element of action research studies for implementing the nursing process (Moen et al, 1997; Gibbon & Little, 1995; Farmer 1986; Lauri, 1982).

Although the foregoing were positive elements in using action research for the implementation of the nursing process, there were also some less helpful factors which had not been as such identified in the action research literature:

- The action researcher found challenging to provide members of the steering group and staff nurses with the knowledge to allow them to make sound decisions regarding the nursing process so its essence could be preserved (6.3.2). This type of concern was not found in other action research studies on the nursing process. Nevertheless it is not surprising given the absence in most of these studies (Boomsma et al, 1997; Gibbon & Little, 1995; Sirra, 1987) of accounts regarding the participation of the professionals in the study and the role of the researcher.

- Some times the decisions made by the steering group members were not in agreement with the action researcher's opinion regarding change management, nevertheless given the participatory nature of action research the action researcher did not impose her views and followed the decisions agreed although in occasions she thought they were not the right ones. Examples of this are in Vignette 3, within 6.3.3 and Vignette 13, in 6.4.3.

- Finally, another factor which has already been discussed is the complexity of the action researcher role and the many skills that are needed to facilitate the change process, provide

expertise and conduct the research process (see 8.5). Although the complex role of the action researcher has been highlighted in the literature (Meyer, 1993), it seems that not enough emphasis has been given in the literature to the role of the action researcher, his preparation to undertake this type of research, skills that are required and useful advise regarding ways for managing complex situations.

In spite of the highlighted difficulties with the action research, the present study has provided evidence of the usefulness of this type of approach for the implementation of the nursing process. In the next section the findings regarding the factors that influenced the implementation of the nursing process are discussed.

8.7.2. Answer to the second research question

In relation to the factors that the literature acknowledges as influential in the implementation of the nursing process, how do they contribute to the implementation of the nursing process in this study?

Five main factors were identified in the literature review as influencing the implementation of the nursing process :

- Education and training on the nursing process;
- Use of appropriate and meaningful nursing documentation;
- Nurses assuming accountability for an independent role;
- Understanding the culture of the organisation;
- Appropriate ward conditions and nursing work organisation.

How each one of these factors influence the implementation of the nursing process in this study is discussed next. New factors that appeared during the study and that were relevant for the implementation of the nursing process are highlighted.

8.7.2.1. Education and training on the nursing process

The findings from this study confirm that education and training in the nursing process is essential for its adequate implementation (Martin et al, 1997; Serrano et al, 1994; Lauri, 1990; Sirra, 1987; Farmer 1986).

Findings from phase 1 showed that nurses lacked knowledge of the nursing process and they held negative attitudes towards it, as they considered it as a burden on top of their daily work. In order to overcome these findings the steering group carried out an education programme in the nursing process which included theoretical and practical preparation and was directed to enhance knowledge, skills and attitudes towards nursing process in line with the Serrano et al's (1994) education programme.

The delivery of the education programme was adapted to nurses' shifts (see 6.4.4). There were some problems with the delivering of the course as other things on the ward took priority over the course and in occasions the classes were not very systematic. As a consequence the programme could not be delivered to the depth expected by the action researcher.

Nevertheless the evaluation of the study showed that:

- There was a change of perception regarding the nursing process among staff nurses, that is, as a useful tool: i) to deliver an individualise patient care, ii) to work in a more systematic way, iii) to obtain a nursing documentation which is complete, systematic and that facilitates continuity of care (see 7.7)
- Nurses started to carry out nursing assessment themselves which seemed to be a consequence of their change of attitude regarding nursing process (see 7.7)

In addition, phase 3 also found that staff nurses were still having difficulties to identify nursing problems and to set up objectives. Although study nurses received some training during the study, this could be explained by the fact that nurses still needed more time and experience to build up confidence on problem-solving skills (Field, 1987). The time allocated for the course was six months, this time was far shorter than the duration of the courses in other studies. For instance Serrano et al (1994) invested almost a year and a half, giving a total of 36 classes, one each fortnight. Lauri (1990) whose course lasted five months having sessions every two weeks, recognised that nurses only showed moderated improvements in decision-making skills. Therefore this study highlights that longer periods of time, at least of a year, are necessary to cover all aspects related to nursing process and to influence the development of the necessary skills.

Therefore this study has contributed to highlight the following aspects of the educational course:

i) that the education should be long enough, at least a year, to allow nurses to develop the necessary skills;

ii) the delivery of the education should be well assured in advance so the due priority is given and can be delivered in a systematic way;

iii) In addition this study has confirmed that the course should embrace nurses' knowledge, attitudes and skills as indicated by other authors such as Serrano et al (1994).

8.7.2.2. Use of appropriate and meaningful nursing documentation

The findings from this study supports the literature that the introduction and use of nursing process documentation is a necessary factor for the implementation of the nursing process (Hansebo et al, 1999; Boomsma et al, 1997; Martin et al, 1997; Gibbon & Little 1995; Serrano et al, 1994). Nevertheless what this study has highlighted in a specific way is that the nursing process documentation is implemented when nurses are at the same time gaining the skills that allow them to use this documentation in a meaningful way.

In this study, the introduction of the nursing process followed a sequential process as in other studies such as in Sirra's (1987). First a nursing assessment was introduced. As recommended by the literature it was developed by participants (Moen et al, 1997) and using a nursing framework (Boomsma et al, 1997; Martin et al, 1997; Gibbon & Little, 1995; Serrano et al, 1994). In this study, the process of introduction of the nursing assessment was accompanied by the educational course which included the development of communication skills as has been indicated previously. As a consequence nursing assessment was successfully implemented. The care plan form was developed and introduced in a similar way to nursing assessment. Nevertheless, the use of the care plan form was accompanied by staff nurses' complaints regarding the difficulties for labelling nursing problems, the length of the care plans and the problem of having to rewrite a new care plan each week. As indicated previously the education was not long and intense enough to allow nurses to gain the skills and experience necessary to use this approach. Therefore what the present study indicates is the relationship between developing the communication and problem-solving skills and nurses' use of the nursing process documentation.

As a solution for the problems of the time needed to write the care plans and/or rewriting it periodically it was found that in several studies (Martin et al, 1997; Serrano et al, 1997), nurses were identifying the most common nursing problems in their areas of work and standardised the interventions most appropriate for those problems. This seemed to work in those studies. Therefore it could be a factor to take into account for further studies.

8.7.2.3. Nurses' assuming accountability for an independent role

Staff nurses in general had not assumed their independent role at the moment of evaluation. Only two nurses at the end of the study recognised explicitly their independent role. In addition there was still lack of clarity regarding nurse's role among staff nurses. This lack of recognition of their independent role seems to explain why nurses were still following the medical model of care. Similar findings were found in other studies (Björvell et al, 2003; O'Connell, 1998). Björvell et al's (2003) study show how nurses tended to use the medical model in spite of the attempts to implement the nursing process.

There are several authors that argue that to introduce the nursing process requires a change from a nursing dependent on medical indications to an accountable nurse (Riopelle & Teixidor, 2002; Serrano et al, 1994; Miller et al, 1987; DHSS, 1986; Keyzer, 1983) which indicates that nurses in the study were not yet totally prepared to assumed the challenge of the nursing process. In the studies were the nursing process appeared to be better introduced (Serrano et al, 1994; Martin et al, 1997) a nursing model or framework (such as a nursing diagnoses taxonomy) was introduced to help nurses to identify their independent area of practice.

Therefore, the present study recommends for future implementations of the nursing process, to introduce it with a nursing model or framework that help to direct and guide nursing assessment and nursing problems identification.

8.7.2.4. Understanding the culture of the organisation

Phase 1 study showed that the Institution had the appropriate conditions for the implementation of the nursing process as highlighted in the literature, that is managers' positive views of the nursing process; the use of a management style favouring a climate of inquiry and staff development; and the managers' opinion that nursing process implementation should be led by ward managers and staff nurses (Martin et al, 1997; DHSS, 1986; Farmer, 1986; Lauri, 1982).

However, it was found as an outcome of the study that participants preferred the change to be guided, directed and supported from above. This was an interesting finding as initially managers were in favour of given the freedom to direct and carry on the change to ward staff. Nevertheless, it appeared in the study that nurses were not yet prepared to lead the changes themselves (7.5.3.3). This lack of nurses' motivation and readiness could have different explanations such as nurses' past preparation not particularly helpful to enhance nurses skills for leadership and critical thinking (Chapter 1); Also, it seems that as part of a hierarchical organisation, staff nurses were used to the

situation where decisions were taken from higher statements and were therefore less used to make decisions or propose new things. Nevertheless this was not a finding unique to this study as in most studies of the implementation of the nursing process mangers were usually the ones leading the changes (Martin et al, 1997; Serrano et al, 1994; Miller et al, 1987).

Therefore what this study suggests is that nurses do not seem to be mature enough to lead themselves the changes needed to develop themselves professionally. It is something that should be taken into account in nursing education so to provide nurses with the intellectual skills necessary to lead their own development.

8.7.2.5. Appropriate ward conditions and nursing work organisation.

Nurses at the study ward were using an individualised approach to care, that is team nursing as recommended in the literature (Hansebo et al, 1999; Serrano et al, 1994; Brooking, 1986; Keyzer, 1983; Webb, 1981). Nevertheless through the study there were identified several factors that were causing difficulties in nursing dedication to the nursing process. They were: a lack of co-ordination with doctors for ward rounds; lack of co-ordination with nursing auxiliaries and excessive dedication to bureaucratic matters.

With regard to doctors, it became clear through the study that there was not a culture of teamwork between nurses and doctors in relation to ward work organisation and/or patient care (7.5.3.2). This lack of real teamwork should be considered as a difficulty for the implementation of nursing process. The teamwork or co-operation among different professionals implies that the contribution of each discipline is recognised and valued (Riopelle & Teixidor, 2002). This finding has not been explicitly highlighted in other studies on the implementation of the nursing process.

Regarding nursing auxiliaries, there was also a lack of co-ordination with them in relation to bureaucratic matters and basic patient care (7.5.3.2). Nurses recognised that their excessive dedication to bureaucratic matters were preventing them from fuller dedication to patient care Waters & Easton (1999) and O'Connell (1998) also found in their studies the detrimental effect that nurses' constant interruptions within the course of a shift had for nurses individualised care.

Therefore, this study agrees with Waters & Easton (1999) recommendation that team nursing is not enough guarantee to assure that nurses are delivering an individualised care. What is necessary is to recognise the implications that an individualised approach, for which the nursing process is a vehicle (Hall, 1980), has for nurses daily work such as a good knowledge of the patient as the base for a sound clinical decision making, appropriate planning of care and evaluation. Once this

implications are known in terms of nurses' time and type of activities she is mean to carry out, nurses work would be organised more properly and other professionals would know what should they expect from nursing.

Summarising the discussion regarding the second research questions:

- The present study is in keeping with previous literature on the need for education on the nursing process for a successful implementation. This education should embrace not only theoretical aspects but also skills and attitudes. In addition, the study has highlighted the importance of allowing enough time for the education, at least a year, so the professional can gain the experience and skills necessary to use it properly; also, it should be assured that due priority is given to this preparation on the wards;

- The importance of introducing a nursing documentation coherent with the nursing process to facilitate its implementation was confirmed in this study. In addition, the present study has shown that the nursing process documentation is successfully implemented when nurses are at the same time gaining the skills that allow them to use this documentation in a meaningful way. It seems advisable to develop and use standardised care plans based on nursing problems more frequently identified in the setting to make more agile the use of the nursing documentation.

- The study has confirmed the difficulty for implementing the nursing process when nurses are using a medical model of care. This study recommends in tune with the literature to use a nursing model when introducing the nursing process so to guide nurses on the assessment and identification of nursing problems.

- This study has recognised that the culture of the Institution was an appropriate one for conducting change, nevertheless it became also explicit through the study that nurses did not seem to be prepared to lead the change themselves.

- Finally, the lack of co-ordination with doctors and nursing auxiliaries together with the excessive dedication to bureaucratic matters were recognised as negative factors for the implementation of the nursing process. There is a need for clarifying the implications that an individualised approach has for nurse's work organisation in terms of time and type of activities.

Next section of the discussion deals with the limitations of the study.

8.8. Limitations of the study

8.8.1. Introduction

Several limitations of the study are discussed in the following sections. First limitations regarding the research design are commented followed by more specific limitations regarding aspects of the data collection tools development and data collection gathering.

8.8.2. Limitations of the research design

An ambitious and complex research design was set up and carried out for the present study. First of all, a great variety of tools and methods were used. Although her research supervisor tried to persuade her, she thought it was necessary to maintain this design for the following reasons. First, it was advisable for studies evaluating aspects of nursing practice to use different methods because it enhances the validity of the data (Openshaw, 1984). Second, specifically for the evaluation of the implementation of the nursing process the literature reports the use of different tools to verify and complete information as well as to overcome the limitations of using just only one method for data collection (Davis et al, 1994; Serrano et al, 1994; Brooking, 1986; DHSS, 1986, Keyzer, 1983). Thirdly in order to implement the nursing process it was recommended that the institution's readiness for it should be assessed (Keyzer, 1983), therefore it was necessary to gather data related to areas such as culture of the organisation, philosophy of nursing and managers' views.

As already highlighted the time frame for the research was scarce given the complexity of the implementation of the nursing process. This problems was foreseen but given the real possibilities of the researcher who was undertaking the study as part of pursing an academic degree, there was no possibility for elongating the study. To palliate this difficulty, it was decided to focus the research on the barriers and enhancements for is introduction and in that way contributing to improvements for further studies of the implementation. This is why a formative more than a summative evaluation of the degree of implementation was carried out in the present study.

Not evaluation of the effect of the nursing process for quality of care was intended in this research. The reason was that it was necessary to assure the implementation of the nursing process before making inferences of their influence on practice. To evaluate the effectiveness of the nursing process in patient care would be necessary as a second step, but it was not within the frame of this thesis.

A limitation of the present study was the absence of evaluation of the long term change effect of the nursing process. This absence was due in part to the fact that after withdrawal from the ward, the researcher came to Glasgow to continue with the PhD and therefore it was not possible to keep in touch with the research setting to collect more data. Nevertheless through the e-mail the researcher kept in contact with the ward manager who communicated the researcher that nursing assessments were already an established performance in the ward. She also indicated that the project helped to prepare the introduction of computerised nursing records in the ward as part of a Hospital project. This innovation was introduced smoothly and surprisingly quickly in the study ward in comparison to other wards. Nurses were developing standardised care plans based on nursing problems and introducing them into the data bases of the computerised programmes.

Regarding the research design, phase 3 of the study (evaluation) was carried out during a period of holiday in which the workforce was reduced. It clearly influenced the results of the study. It could not been avoided given the time constraints.

Finally, it should be recognised that nursing auxiliaries were not directly involved as participants in the study. Their participation was neither mentioned in other action research studies dealing with the implementation of the nursing process. Nevertheless the present study have highlighted the relevance of the clarification of the role of the nursing auxiliary and therefore their direct participation would have been very appropriate.

8.8.3. Limitations of the tools

Several tools were developed for the present study. A complete study of validity and reliability for each one of the tools was not considered necessary for the following reasons: i) the tools were developed to complete and validate information gathered through the Brooking ® (2004) ward nurses self-report questionnaire; ii) they were constructed according to the specific context of the study; iii) the tools were based on bibliography of the nursing process and on criteria used in other tools already developed (i.e. Davis et al, 1994; Serrano et al, 1994; Brooking's (1986) ward observation scale), assuring in this way the content validity of the tools.

There are nevertheless some concerns with the reliability of the tools. Regarding the Brooking ® (2004) ward nurses' self-report questionnaire, it appeared during data collection in phase 1 (see 5.3.1) that RNs did not understand in the same way several questions of the questionnaire. Even though the initial tool developed by Brooking (1986) had been proved to be reliable, and there were no problems during the pilot study of the Brooking ® (2004) ward nurses' self-report questionnaire, the reliability of the tool should had been tested again after the pilot study.

Regarding the observation recording tool (Appendix 12), the researcher realised that more refinement of some of the categories were needed in order to make the observer's judgements less exposed to the danger of subjectivism in her appreciation of reality. In addition the tool contained too many categories and precisely because other tools were used, this instrument could have been simpler, i.e. regarding the observation of planning which was more useful through the NDET than through the observation.

Observation periods for the assessment and planning part of the observation recording tool were limited to the afternoon of patient's admission. Nevertheless, during the study (phase 2) it was decided that the assessments could be carried out the following day if patient admission took place after 7 pm. This change presented a difficulty for the way the tool was used and therefore it was decided to complete the gathering of data pertinent the following day only in the case that patient was admitted after 7pm. It is therefore recommendable to extend the observational periods for initial assessment of the nursing process to more than the admission's shift.

As was demonstrated through the study, the use of multiple triangulation were necessary in order to validate findings (i.e. findings from self-report questionnaire with findings from NDET) and have a better knowledge and understanding of the situation (i.e. findings from the interviews). Nevertheless, after the study and reflecting on the complexity of it, the researcher considered that the tools could have been elaborated in a simpler way, with less categories, being more realistic about possibilities and time.

8.8.4. Summary of limitations

The main limitations of the study were the following: the time frame for the research was very scarce given the complexity of the implementation of the nursing process, this conditioned the scope of implementation of the nursing process intended through the study; there was not an evaluation of the long term effect of the change on the ward. Regarding the data collection tools: the Brooking ® (2004) ward nurses' self-report questionnaire should have had a study of reliability after the adaptations of the tool; the observation tool needed a greater refinement of the categories and a study of the reliability; in addition, the observational periods for the assessment and planning phases of the nursing process were initially restricted to the admission shift but as the admission could take place within the first 24 hours it should had been considered when planing the observational periods.

Chapter 9: Conclusions of the Study

9.1. Introduction

This chapter of the study presents the conclusions and the recommendations for nursing practice, nursing education and nursing research.

9.2. Conclusions of the study

An innovative, nevertheless complex study was carried out to implement the nursing process. The study was designed as a three phase action research and was conducted in a teaching University Hospital in the north of Spain. The aims of the study were twofold:

- To facilitate the implementation of the nursing process;
- To contribute to knowledge development regarding the factors facilitating or inhibiting this implementation.

The findings from the study showed that the action research was a useful and appropriate methodology for implementing the nursing process. The flexible and context-based nature of this approach allowed for emerging factors influencing the implementation to be recognised and adequately treated. In addition, this research approach provided a facilitator who was also an expert in the nursing process and this proved to be also essential for changes to take place. Finally, action research facilitated the involvement of managers and staff nurses on the implementation which undoubtedly accelerated the implementation of the nursing process. The action research also contributed to knowledge regarding the reality of changing practice. Although the action research proved to be a valuable approach its use was not extent of difficulties. Some recommendations are made for future action research studies.

A greater implementation of the nursing process was achieved, nevertheless given the short time provided for the study, it was not possible to achieve a full implementation. The factors that contributed or made difficult this implementation were:

<u>Facilitator factors:</u>

- Education programme on the nursing process with special attention to increasing knowledge, changing attitudes and developing skills;

- To introduce nursing process documentation facilitating nurses skills such as communication and problem-solving;

Barriers:

- The use of a medical model of care;
- Nurses' lack of preparation to lead the changes themselves;
- Lack of co-ordination with doctors and nursing auxiliaries together with a excessive dedication to bureaucratic matters;

Next sections deal with the recommendations for nursing practice, education and research.

9.3. Recommendations for nursing practice

The recommendations for practice regarding the implementation of the nursing process are the following:

- To assure that there is a nursing philosophy in the institution and that it is compatible with an accountable and independent nursing professional;
- To guarantee that mangers are guiding and supporting the implementation, especially in those places were there is a lack of initiative or motivation among the practitioners;
- To count on a facilitator of change who is an expert in critical thinking and interpersonal skills and who understand nursing process implications;
- The ward organisation should facilitate that an individualised patient care is provided. Nurses main role as recognising and attending patient individual needs should be safe guarded as she is the responsible professional for that role. This role of the nurse has implications on nurses' use of their time on practice. This role should also be known by doctors and other related professionals;
- There should be communication channels established between the different professionals of the health team so the possible problems that appear can be discussed and solved;

- To develop standardised care plans based on the nursing problems more frequently used in the setting.

9.4. Recommendations for nursing education

The following recommendations are made for nursing education:

- Nursing education on the nursing process should start in nursing basic education. The teaching of the nursing process should be accompanied by the recognition of the independent and collaborative aspects of the nursing role. In this context, the teaching of the nursing models and theories could help nurses to clarify their independent role and also to identify nursing problems;

- Nurses preparation to use the nursing process should also include the development of certain skills: nurses should became experts on communication and dialogue, essential skills for establishing a therapeutic relationship with the patient. In addition nurses should also master the critical thinking skills. All those skills should also help nurses to have more initiative and motivation towards their own professional development;

- The education programmes for the introduction of the nursing process should include therefore theory and practice sessions. It is recommended that the training period should last at least a year. During this time it is essential to assure that this programme is delivered and that measures are set up to assure nurses' participation;

- Together with the formal education, informal education on the ward by an expert is also important;

- Nursing continuing education should also enhance the use of the nursing process.

9.5. Recommendations for nursing research

The following recommendations are made for nursing research:

- The cyclical process of reflection, action and evaluation seems more appropriate for action research studies than the linear one and it is recommended to use the former;

- To assure a coherence between the philosophy underpinning the action research approach selected and the way it is conducted;

- Given the complexity of the action research studies it is suggested for inexperienced researchers doing action research to have a mentor to guide them through the reflection process and methodological aspects;

- It is necessary in action research studies for the implementation of the nursing process to include as well as mangers and nurses, doctors and nursing auxiliaries.

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Appendices

Appendix 1: Letter to the hospital Director asking for permission to conduct the study

Dña. Amparo Zaragoza
Escuela Universitaria de Enfermería
Universidad de Navarra

Pamplona, 22 de Junio de 1999

D. Amador Sosa
Director
Clínica Universitaria

Asunto: Solicitar permiso para realizar un estudio de investigación en la Clínica Universitaria.

Estimado Sr. Sosa:

Soy profesora adjunta en la Escuela de Enfermería y actualmente estoy realizando los estudios de Doctorado en Enfermería en la Universidad de Glasgow (Escocia).

El tema de mi investigación es el Proceso de Atención de Enfermería, en concreto, su implementación en el área hospitalaria. He obtenido el permiso de la Universidad de Glasgow para realizar el estudio en Pamplona, ya que en la Escuela se vió conveniente el aplicarlo aquí.

El propósito de esta carta es el siguiente:

1. Informarle acerca del estudio de investigación y sus implicaciones (anexo a)
2. Solicitar permiso para:
   - realizar el estudio en la Clínica (anexo b)
   - acceder a los distintos participantes del estudio y a la unidad de enfermería donde se pretende llevar a cabo la investigación, para solicitar su colaboración (anexo b).

Atentamente le saluda

Amparo Zaragoza

Anexo b

Solicitar permiso para:

1. Realizar el estudio de investigación en la Clínica Universitaria.

2. Acceder a los *participantes del estudio* para explicarles el motivo de la investigación y solicitar su colaboración:

- *Enfermeras y Supervisora de la unidad 5 II*, su participación en la investigación incluiría:
  - contestar al cuestionario: Brooking ® 1999;
  - participar en un foro de discusión;
  - colaborar en los grupos de trabajo para la implementación del P.A.E.;
  - ser entrevistadas por el investigador, de manera formal o informal, para evaluar el proceso de cambio;
  - permitir al investigador observar el trabajo de las enfermeras.
- *Un miembro del equipo de Dirección de la Clínica*: Dra. de la Viesca: para ser entrevistado.
- *Un miembro del equipo de Dirección de Enfermería*: para ser entrevistado y colaborar en el grupo de estudio.
- *Tres médicos residentes del área de ortopedia*: para ser entrevistados.

3. Estudiar los registros de enfermería de 50 pacientes de la "5 II" una vez que han sido dados de alta.

4. Acceder a los participantes para el estudio piloto (serán diferentes a los del estudio principal):

- seis enfermeras de la Clínica de dos unidades diferentes para contestar el cuestionario;
- diez enfermeras de la Clínica para participar en un foro de discusión;
- un miembro de Dirección de Enfermería para ser entrevistado;
- una unidad de enfermería de la clínica para observar el trabajo de las enfermeras,
- cinco registros de enfermería de pacientes de la unidad 5 II que ya han sido dados de alta.

Appendix 2: Permission to conduct the study

Clínica Universitaria
Facultad de Medicina
Universidad de Navarra

Teléfonos:
Central 948 25 54 00
Dirección 948 29 62 96
Fax 948 29 65 00
Avda. Pío XII, 36
31008 PAMPLONA (España)

1 de julio de 1999

Dña. Amparo Zaragoza
Escuela Universitaria de Enfermería
Universidad de Navarra

Querida Amparo:

Hemos recibido tu solicitud para realizar el estudio de investigación "Evaluación formativa de la Implementación del Proceso de Atención de Enfermería en una unidad clínica" y por nuestra parte, no hay ningún inconveniente en que lo desarrolles en la Clínica.

Así mismo, te animamos en esta iniciativa que consideramos podría contribuir positivamente en la formación profesional de todo el personal de enfermería.

Recibe un cordial saludo,

UNIVERSIDAD DE NAVARRA · CLÍNICA UNIVERSITARIA · DIRECCIÓN · FACULTAD DE MEDICINA

Mario de la Viesca

Dra. de la Viesca

Appendix 3: Information about the project given to the study ward to gain access

Staff nurses: gaining access

(Oral session with nurses explaining the research project)

Nature of the research

1. It is hoped that this study will contribute to your professional development by working together on the implementation of a more systematic and scientific approach to nursing care: the nursing process. This is a work methodology based on the identification of patient problems that you, as a nurse, can resolve. As a consequence of the identification of patient problems, an individualised care plan is determined and drawn up for the patient. This plan contains the nursing expectations regarding the solution of identified problems and the appropriate actions for fulfilling those expectations. Finally, the plan is put into practice and evaluated. Because the care has been individualised and the relation between the phases made explicit (problem-solving) it is possible to evaluate the care given and rectify whatever is necessary. To use this approach requires knowledge, problem-solving skills, a certain type of ward organisation and so on. The researcher wants to challenge the myth that the nursing process is difficult to use in practice by trying it out, taking into account the factors which are believed to facilitate it.

2. The study is part of the researcher's Ph.D., but the interest of the researcher in this study does not come only from her need to complete this thesis but also from her commitment to improve nursing practice (she has been working for more than 5 years in the hospital)

3. One important assumption of the researcher is that during the implementation of the nursing process, your views, opinions and perceptions are essential to this study, even to the point of challenging researchers' theories and knowledge of the nursing process and its implementation. Therefore the aim of the research is not to implement the nursing process as indicated in the literature without acknowledging the implications in practice, but to be realistic about practical consequences, difficulties or barriers, and value of its implementation.

Being realistic about the implementation of the nursing process, its implications and requirements in practice encouraged me to use a collaborative approach to the research design called action research. Educators, managers, researchers and ward staff have an important role in deciding the plan for change and for this reason their collaboration in this study is essential.

Aims of the research

1. To contribute to a more scientific approach to nursing care;
2. To clarify nurses' accountability;
3. To help nurses understand the nature of research-based practice and to facilitate it;
4. To see in what ways the researcher can be useful in practice;
5. To create channels of communication between staff, managers, educators and other professionals.

Study design and the implications for staff

This is a 3-phase study to be conducted in one ward of the hospital

a) Phase 1: description of the current practice in relation to: current extent of implementation of the nursing process, nurses' opinions and knowledge about the nursing process; work organisation; documentation, nursing philosophy and role, problem-solving skills. Methods of data collection: questionnaire, observation, documentation, focus groups. Explain focus groups and questionnaire. (Implications for them)

b) Phase 2: intervention for change: Constitution of working groups (explain that in detail) to design and implement changes towards the nursing process. Their participation in that process will depend on the needs identified but will be directed towards in-service education, elaboration of appropriate documentation, development of problem-solving skills, giving opinions and feedback about the changes implemented, and so on.

c) Phase 3: evaluation of the extent of implementation and other changes achieved.

Timetable for the research

1999 **2000**

Junio	Julio	Sept.	Oct.	Nov.	Dice	Ene	Feb.	Mar	Abril	Mayo	Jun.
Estudio Piloto		Fase 1		Fase 2						Fase 3	

Appendix 4: Informed consent letter for staff nurses

Enfermeras 5 II

Hoja de consentimiento para la participación en el estudio de investigación:

Yo, enfermera de la 5 II, testifico que:

He recibido información oral a cerca del estudio arriba enunciado y las implicaciones que este tendrá. Se me ha explicado que esta unidad de enfermería ha sido elegida por el propio investigador y que la realización del estudio depende de mi libre decisión de participar en él.

Me informaron que el estudio se realizará durante los meses de Octubre a Junio. Constará de tres fases. Una primera fase en la que el investigador diagnosticará el grado de utilización actual del PAE en la unidad, para lo cual nos pasará un cuestionario al que deberé responder, se llevará a cabo un foro de discusión en el que participaré, observará el trabajo de enfermería de la unidad y valorará el modo de utilizar los registros de enfermería en la planta.

Se me ha explicado que en la segunda fase del estudio se requerirá una participación activa por parte del personal de la unidad para poner en marcha las decisiones que tomemos conjuntamente para la implantación del PAE. En la tercera fase se consolidarán y evaluarán los cambios obtenidos.

Se me ha informado de que los fines de esta investigación consisten primordialmente en contribuir a la formación y trabajo del personal de enfermería. También conozco que este estudio servirá como tesis doctoral para el investigador.

Se me ha asegurado que en todas las publicaciones y presentación del estudio los nombres de los participantes permanecerán confidenciales.

Tras haber sido informada sobre las características del estudio y de sus implicaciones, doy mi consentimiento para la participación en él.

....

Nombre participante Nombre investigador

Pamplona, ...

(fecha)

Appendix 5: Informed consent letter for the semi-structured interview

Consentimiento informado para participar a través de una entrevista en el estudio que se cita a continuación

Título del estudio: "Evaluación formativa de la puesta en práctica del Proceso de Atención de Enfermería (PAE) en la unidad de ortopedia de la Clínica Universitaria".

Investigador: Amparo Zaragoza. Estudiante de doctorado (Glasgow University)

El propósito de esta investigación es primeramente poner en práctica el PAE teniendo en cuenta los factores que parece que favorecen dicha implantación y posteriormente evaluar como se ha llevado a cabo esta implantación y los resultados de la misma.

Uno de los métodos diseñados en el estudio para la recogida de los datos es la entrevista.

La finalidad de estas entrevistas es la de recoger información sobre la filosofía de enfermería y las competencias de las enfermeras tal y como se percibe desde el punto de vista de directivos, supervisoras y médicos de la Clínica.

Estas entrevistas duraran un máximo de 45 minutos y serán grabadas con la finalidad de facilitar el análisis posterior de las mismas. Estas cintas serán utilizadas únicamente por el investigador y para los fines de la investigación. Los nombres de los participantes permanecerán confidenciales y las cintas serán destruidas tras la finalización del estudio.

Yo declaro lo siguiente:

1. Que doy mi permiso para ser entrevistado con las condiciones arriba mencionadas.

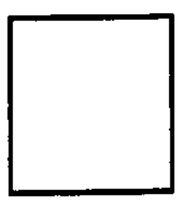
2. Entiendo que puedo negarme a contestar cualquier pregunta e incluso a declinar mi participación en el estudio en cualquier momento.

3. Y que se me ha dado la oportunidad de aclarar todas las dudas .

....

Nombre del participante Nombre investigador

Pamplona,.....
(fecha)

Case Number 

Brooking ® (2004) ward nurses' self-report questionnaire

The nursing process measuring scale. (A modification of Brooking' (1986) scale)

This scale has been designed to measure how much the nursing process is being used and implemented in the ward. This questionnaire is not a test of your knowledge or practice so there are no right or wrong answers.

Your name is not required and your answers will be entirely confidential.
Please answer each question in relation to your own experiences on this ward.
Tick only one box for each question.

The questionnaire begins with general questions about your nursing preparation and your working years. The second part of the questionnaire focuses on the nursing process
Thank you very much in advance for your collaboration.

Amparo Zaragoza

General questions:

a.1) Which clinical area do you work in? (i.e. 6 III, 5 II...)

.....

a.2) Where have you studied? ☐

(1= Escuela Universitaria de Enfermería Universidad de Navarra; 2= Other places)

if other places, please indicate where:.....

a.3) Which year did you obtained your nursing qualification? ☐

a.4) Number of years qualified? ☐

a.5) How many years have you been working within this clinical area?[25] ☐

a.6) Do you have any other further professional qualification? (e.g, speciality, diploma, course, etc.)

Specify:

.....

.....

.....

[25] If you have undertaken the speciality you can count this year as a working year on the ward.

Nursing process

Assessment and Diagnosis

1. Is an assessment made of new patients admitted to the ward prior to the planning and implementation of care?[26] ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

2. Is a written nursing history taken, using a specific form?[27] ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

3. Does the nursing assessment begins within 24 hours of admission or prior to patient surgery? ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

4. Does the assessment of the patient conclude with the identification and documentation of the nursing problems? [28] ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

5. Is an attempt made to find and record the causes of the patients' problems? ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

6. Are problem statements arranged in order of priority? ☐

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[26] Take into account the shade differences between, for instance, always, usually, sometimes,

5= always	when it happens between 90 and 100 % of cases
4= usually	between 50 and 90 % of cases
3= sometimes	between 10 and 50 % of cases
2= I do not know	
1= Never	between 0 and 10 % of cases

[27] i.e. by body systems, or functional health patterns of Marjoric Gordon, etc.

[28] Nursing problems are those health problems of patient that the nurse, given her training, is in a position to diagnose and give a solution to without the need for other professionals

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

7. Are the patients'/relatives' opinions systematically taken into account when deciding on patients' nursing problems? ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

Planning

8. Is a written care plan made before carrying out nursing interventions on the patient? ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

9. Does the nursing care plan incorporate the nursing problems identified? ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

10. Are goals for the resolution of each one of the problems identified and documented in the care plan? ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

11. Do the goals provide enough detail (i.e. time to be accomplished, who will accomplish what and how? ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

12. Are nursing interventions identified and documented in the care plan? ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

13. Are planned nursing interventions written with enough detail? ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

14. Is there any systematisation on the ward to take into account patient/relatives opinions regarding the goals and planned activities? ☐
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

15. Are nursing care planning discussions held on the ward? ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

16. Do you periodically read professional journals or do you take part in research projects in order to update your practice accordingly? ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

Implementation

17. Is the patient's condition reassessed before implementing any planned nursing intervention in order to be sure of its appropriateness? ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

18. Are nursing interventions explained to patients and/or relatives and their opinions taken into account? ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

19. Is the way patient and /relatives should participate in their care systematised? ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

20. Is patient allocation or primary nursing used throughout the ward all times? ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

21. Are nurses allocated to the same patients for several days? ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

22. Do nurses take part in medical rounds for their patients? ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

23. Are nurses in this hospital responsible for the planning of patient care?[29] ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

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[29] that is, the nurse and not the supervisor.

24. To which degree is it compulsory on this ward to work with the nursing process approach? ☐

(5= totally obliged; 4= partially obliged; 3= little obliged; 2= don't know; 1= no obliged)

25. Is nursing documentation kept once the patient has been discharged? ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

26. Are care plans used both day and night as a basis for giving care? ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

Evaluation

27. Is a systematic evaluation made of the effectiveness of care given to solve patient nursing problems?[30] ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

28. Is the evaluation recorded in the care plans or progress notes? ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

29. Are objective measures of patient progress towards the identified goals used on the Ward ?[31] ☐

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

30. Are care plans modified according to the results of evaluation? ☐

(example: to add new ones, stop others,)

(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

31. Is there a systematic way in which patient/relatives participate in the evaluation of care on the ward? ☐

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[30] Systematic evaluation means that it is carried out within a certain order and therefore it is always accomplished when appropriate and not only when there is time left.

[31] Objective measures: i.e.: for instance, we say that the pain has diminished when the patient indicates the pain is below 2 from a scale 1 to 10, he does not show signs of high bit rate or sweatiness and has a relaxed posture. Do you use objective measures on the ward so that you all follow the same criteria when evaluating the patient and deciding whether the problem has been solved or not?

(5= totally; 4= partially; 3= very little; 2= don't know; 1= nothing)

32. Have you attended any course, talk or seminar related to the nursing process recently on the ward or in the Hospital?
(5= always; 4= usually; 3= sometimes; 2= don't know; 1= never)

33. Was the nursing process taught during your studies at the Nursing School?
(5= deeply; 4= superficially; 3=very little; 2= don't know; 1=nothing)

To answer by the researcher

Total

Thanks very much for answering this questionnaire

Appendix 7: Modifications to Brooking (1986) ward nurses self-rating scale

Adaptation of Brooking (1986) questionnaire

The appendix enumerates the different changes that the Brooking (1986) ward nurses' self-reported questionnaire underwent as a consequence of adapting the tool to the present study and the reasons for that.

1. Of 37 items, 17 remained the same:
Brooking (1986)[32]: (1,2, 6, 7, 8, 11, 20, 21, 22, 26, 27, 28, 29, 31, 32, 33, 36)

1. The modifications made were the following:

a) Change of wording in questions to clarify meaning or to adapt initial criteria to this particular study (minor changes)

Brooking (1986)	Brooking ® (2004)	Notes
(3)Does the nursing assessment begin within 24 hours of admission?	Does the nursing assessment begin within 24 hours of admission or prior to patient surgery?	It was necessary to add: "*prior to patient surgery*" given the characteristics of this study-setting: a surgical ward.
(4) are nursing problems identified and written down for all new patients?	Does the assessment of the patient conclude with the identification and documentation of the nursing problems?	Clarify meaning
(13) Are goals incorporated into the care plans?	Are the goals for the resolution of each one of the problems identified and documented in the care plans?	Clarify meaning
(18) Are problem-oriented planned nursing actions	Are nursing interventions identified and documented	Clarify meaning; change: nursing action to nursing

[32] Each number in brackets i.e. (3) corresponds to one of the items used by Brooking (1986) in her questionnaire

included in care plans?	on the care plan?	intervention (more up-to-date)
(24) Are written nursing progress reports based on patients' problems and goals?	Do written nursing progress reports include nursing problems and their evaluation?	The author considered that nursing reports should also include an evaluation of the problems. (i.e. Serrano, 1994)
(25) Are nurses responsible for written and verbal reports on their patients?	Are nurses accountable for the content of nursing documentation?	Clarify question
(30) Are dates for the evaluation of patients' problems included in the care plans?	Is care evaluated with the frequency required by the patient's conditions?	More appropriate for the setting: more flexible
(37) Does the sister/charge nurse involve nurses in decision-making and delegate responsibility?	Are nurses in this hospital responsible for the planning of patient care?	Clarify meaning

b) Simplification of criteria:

Brooking (1986)	Brooking ® (2004)
(14) & (16) & (17): Do the goals include both long and short-term goals? Are goals written in terms of patient outcomes, i.e. changes in the patient? Do goals specify a time element for achievement?	Do the goals provide enough detail (e.g. time to be accomplished, who will attend to what and how...?
(15) & (19) Are goals agreed upon with patients and relatives? Are planned nursing actions agreed upon with patients and/or relatives?	Are the goals and nursing actions agreed upon by patients and relatives?
(34) & (35) Have study days or lectures been held to teach nursing process to permanent ward nurses? Have all permanent ward nurses attended at least one study day or lecture on nursing process?	Have you lately attended any course, talk or seminar related to the nursing process on the ward or the hospital?

c) Specification of some other criteria to increase sensitivity of scale:

Brooking (1986)	Brooking ® (2004)	Notes
(9) Are written care plans produced which incorporate patient's problems and/or needs?	Is a written care plan made before carrying out nursing interventions on the patient? Does the nursing care plan incorporate the nursing problems identified?	Importance of clarifying each one of the aspects.

d) Elimination of certain criteria given the context of the study:

Criteria in Brooking (1986)	Notes
(5) Are potential and/or possible problems identified as well as actual problems?	This differentiation is not within the level of the present study.
(10) Are care plans up-dated daily?	Similar criteria to (33): Are care plans modified according to the results of evaluation?, therefore eliminated.
(12) Do care plans include discharge planning?	Not within the scope of the present study
(23) Are care plans used for the verbal ward handover reports?	In this setting verbal handover is based on a written one, which is already another item.

e) Addition of several items to reflect current practice:

Criteria	Brooking ® 2004	Notes
- Reassessment before implementing any nursing intervention Nursing process is a flexible tool; continuous adaptation of care plan to the patient situation (Yura & Walsh, 1978; Yura & Walsh, 1988;)	[20] Is patient condition reassessed before implementing any planned nursing action?	
Accountability over care plan	[29] Is nursing	

(Miers, 1990; Open University, 1985)	documentation kept with medical records once the patient is discharged? [19] Do you periodically read professional journals or do you take part in research projects in order to up-date your practice accordingly?	
Patient participation in care	[21] Are nursing actions explained to patients and/or relatives and their opinions taken into account? [22] Is the way patient and relatives should participate in their care systematised?	Adapted to the needs of the setting.

Other changes made to the Brooking (1986) questionnaire are the number of response alternatives. The initial questionnaire contained six and the revised has been reduced to five to balance the positive and negative responses. Furthermore, in order to facilitate nurses' selection of response, each response alternative was given a percentage which represents the frequency of occurrence corresponding to each possible answer.

(5) yes, always ☐ (90-100%)
(4) yes, usually ☐ (50-90%)
(3) yes, sometimes ☐ (10-50%)
(2) Don't know ☐
(1) Never ☐ (0-10%)

Finally, the format of the questionnaire has been improved to make it more attractive and user-friendly.

Appendix 8: Brooking® (2004) ward manager self-report questionnaire

Brooking® (2004) ward manager self-report questionnaire

Scale to measure the implementation of nursing process on the ward

Please highlight, for each one of the following items, the value (between 1 and five) that best represents reality.

As a guide you have next a short explanation of what is included in each of the items:

- **Generalities** : relates to nurses' attitudes and interest towards the nursing process and their knowledge about it.
- **Assessment:** includes the carrying out of an assessment and identification of the patient's nursing problems.
- **Planning**: includes the preparation of care plan, establishment of goals, and identification of intervention related to the problems and goals set up.
- **Implementation**: refers to whether nursing care is based on the care planned, that is, whether nursing care is related to nurses' own decisions or mainly related to medical orders.
- **Evaluation:** includes the identification of criteria for evaluation; documentation of the evaluation, and modifications made to the care plan in relation to the results of the evaluation.

Please, choose between "1-5" by ticking off with an "x" the number that most accurately describes the way of working on the ward in relation to the items explained above.

1: Not implemented (0-10% of cases)

2: I do not know

3: Little or poorly implemented (10-50% of cases)

4: Appropriately implemented (50-90%)

5: Totally implemented (90-100%)

	1 No implemented	2 I do not know	3 Poorly implemented	4 Mostly implemented	5 Totally implemented
Generalities					
Assessment					
Planning					
Implementation					
Evaluation					

Nursing Documentation Evaluation Tool (NDET)

This tool will be used to assess the general characteristics of the nursing documentation used on the ward and will evaluate the degree to which this documentation reflects a nursing process approach.

General Characteristics of nursing documentation used on the ward

- Describe the kind of documentation used on the ward

- Some of the following criteria could be taken into account to describe the documentation:

- Presence or otherwise of nursing assessment tool. Description of the tool;
- Kind of care plans used (multidisciplinary, nursing documentation);
- Possibility for the process of care to be reflected in the care plans or somewhere else;
- Possibility for recording the evaluation on the care plans.

Nursing Documentation Evaluation Tool (NDET)

Case number:

Hospital case:

Admission date:

Discharge date:

Total stay on the ward:

Age:

Sex:

Patient medical diagnosis:

Department:

Assessment and Diagnosis

1. Does the patient's documentation contain a nursing assessment form? ☐

(3= yes, complete; 2= yes, mostly complete; 1= yes, mostly incomplete, 0=No[33])

1.a Who carried out the assessment? ☐

(2=nurse; 1=student; 0=no identified)

2. Have the nursing problems of the patient been documented on the assessment sheet or care plan? ☐

(2=yes, 1=some ; 0= No)[34]

2.a Examples of problems not documented:

-

-

-

2.b. Number of nursing problems documented ☐

[33] Complete: practically all the assessment is complete; almost complete: there could be a few blank areas; mostly uncompleted: only a few areas filled in; no assessment form: there is no assessment form done.

[34] 2: The nurse documents all the problems; 1: the nurse documents only some problems; 0: the nurse does not document any problem

2.c Write here the nursing problems identified:

-

-

-

2.d How many of these problems identified are nursing problems?[35]

Planning

3. Are the goals for the resolution of the problems encountered documented in the care plans?
(1=Yes; 0=No)

4. Are all the nursing interventions systematically planned?

4.a Have they been established in accordance with the problems identified[36]?
(2=Yes;1=Some; 0= No)

4.b. Number of nursing interventions identified?

4.c List of nursing interventions documented

-

-

-

-

4.d. Are nursing interventions written with enough detail?
(2=Yes, 1=Sometimes; 0= No)[37]

[35] Nursing problems: those patients' problems that can be diagnosed and solved by the nurse (Gordon, 1996)

[36] If there are no nursing problems identified then we cannot decide whether the activities are in accordance with problems, so we will classify them as having null value.

[37] A nursing intervention is written with enough detail when it contains all the necessary indications for carrying out the activity by any RN.

2: when more than 60% of the activities are written with enough detail; 1: when 20 to 60 % are written with enough detail; 0: when 0 to 20 % are written with enough detail.

4.e Do the nursing progress notes include nursing problems or interventions not specified in the care plans?
(2=yes; 1=Sometimes; 0=no)

4.f Indicate them:

-

-

-

-

Implementation

5. Is the completion of nursing interventions recorded in the care plans?
(2=Yes, 1=Sometimes; 0= No)

Evaluation

6. Does nursing documentation reflect that the care of the patient has been evaluated?

6.a Are there signs in the documentation that a comparison between the results of nursing interventions and the pre-established goals has been made?
(1=yes; 0= No)

6.b Examples:

-

-

-

-

-

6.c Is there a date for evaluation?
(1=yes; 0=No)

6.d Is there any indicator that the patient has not been evaluated on time?
(1=yes; 0=no)

6.e. Examples:

-

-

-

6.f Are there signs that objective measures to evaluate patient progress have been used? ☐

(2=yes; 1=sometimes; 0=no)

6.g. Examples:

-

-

-

-

6.h Does the care plan reflect the evaluation of care as shown by changes in nursing interventions, addition of new ones or deletion of others? ☐

(2=yes, 1=Sometimes; 0= No)

6.f Examples:

-

-

-

-

Appendix 10: Prompt schedule: semi-structured interviews

Phase 1

Interview with the DNS

1. Description of the roles of the Hospital Nursing Management Team
2. Management style with employees
3. Nursing philosophy held in the Hospital.
4. What are the competencies nurses should master in this hospital?
5. How do you evaluate them?
6. Nursing continuum education, what are the objectives of this formation?

Interview with the director of nursing education

1. What is the philosophy of nursing of the school? What is the type of nurse that you want for this school? How is the nursing process viewed in this Institution?
2. When was the nursing process introduced in this school? How has it been integrated into the curriculum (and nursing philosophy of the school)? How is the practical and theoretical preparation of the nursing students in the nursing process?

Interview with the medical depute director of the hospital

1. Ideology of the hospital and its relation to the ideology of the university. How is it transmitted to the employee?
2. Roles of the management of the hospital regarding nursing. Communication channels.
3. Nursing philosophy at the hospital: vision of the nursing role. What is expected from a nurse of this hospital?
4. Possibilities for nursing formation. Trends and priorities of nursing continuum education at the Hospital.

Interview with the doctors

1. What, in your opinion, is the role of the nurse in a hospital?
2. Do you think that nurses in this hospital have autonomy in matters relating to the care they deliver (by autonomy is understood the appropriate preparation of the nurse to deal with the

patient/family without delegating unnecessarily to other professionals: that is, if they assume their own competencies with scientific rigor.

3. What do you think about teamwork with nurses? Is there real co-ordination? What is lacking, if anything? What would you like to improve in this sense?

Interview with the Hospital research supervisor

1. What is the role of the Hospital's research supervisor?
2. What is your opinion about the nursing process?
3. What is the situation of the nursing process in this hospital?
4. What factors do you think are important in order to implement it properly?
5. What is your opinion about the current preparation of nurses for the nursing process?

Interview with the ward manager

1. What is your role as ward manager?
2. What is the nursing philosophy of the unit? What is the nurse's role? What are their competencies? What are the skills needed by nurses for the nursing process?
3. What are the priorities in the continuing education of nurses on this unit?
4. Are there opportunities for nurses' development: sessions, time, library access, journals?

Interview with the line manager

1. What are the role and competencies of the line manager in relation to ward supervision?
2. How do you transmit the philosophy of the hospital to the hospital units?
3. What are the priorities in the continuing education of nurses?
4. What preparation do nurses in the study unit have in relation to the nursing process?

Phase 3

Semi-structured interviews with each one of the members of the steering group:

1. What changes have you perceived in the ward as a consequence of the study? What aspects of nursing practice do you think this study has contributed to?
2. Have your perceptions of the nursing process changed over these months?
3. What difficulties have you perceived in the implementation of the nursing process?

4. After your experience as a member of the Steering Group, what aspects do you think are essential to carrying out the nursing process? How do you think we should follow up implementation?

Appendix 11: Prompt schedule of the Focus Group with staff nurses

Focus group

Phase I

1. Nurses' views of their role and competencies:

   - What do you think is expected from a nurse in this teaching hospital? What is the nursing philosophy of the hospital? Which qualities do you think that should be present in a competent nurse?

2. Knowledge about the nursing process and general opinion about it:

   - What do you know about the nursing process? What do you think about it? Do you think that the nursing process affects the quality of care?

3. Understanding of the principles of the nursing process, including:

   ■ problem-solving approach to care: assessment, planning, implementation and evaluation:

   - Do you think that it is necessary to carry out a nursing assessment of the patient?
   - Which criteria do you follow to determine the nursing care of a patient?
   - Do you experience difficulties when assessing a patient or when identifying nursing problems?

   ■ nurses' accountability:

   - do you feel sufficiently prepared and with the authority to take on the responsibility for patient care?

   ■ systematisation of care: documentation.

4. Nurses' preparation to use the nursing process:

   - do you think you have the preparation to work according to current needs? What are the challenges that worry you most?
   - What areas of the nursing process you think you would like to know better?

Focus group phase 3

1. Nurses' opinions of the process of change:

   - What is your opinion about the introduction of the nursing process in the ward? What do you think of the way it has being carried out? Would you change anything? What measures

would you consider for next year? What would you change from the organisational perspective?

2. Nurses' opinions about the nursing process:

   - Do you think that assessment, identification of nursing problems, goal setting, planning of nursing activities, implementation of the activities and evaluation are necessary steps for the provision of appropriate nursing care? Do you think that there are cases in which this approach is not necessary?

3. Nurses' opinions:

   - Which difficulties have you encountered in assessing patients, identifying problems, elaborating the care plan and evaluating it?

Appendix 12: Observation recording tool

Date: Period of observation:
Number of nurses: Number of nursing auxiliaries Number of nursing students and course:
(in this shift)

ASSESSMENT AND DIAGNOSIS:
Nurse observed: Patient room: Case:
Number of patients this nurse is in charge of:

Time of patient admission:	PATIENT/RELATIVES PARTICIPATION IN CARE	DOCUMENTATION OF ASSESSMENT AND PROBLEMS
Who assessed the patient at admission? The nurse/The student: Year: For how long have she been on the ward?	Does the nurse use open questions during assessment? yes/no Does the nurse allow time for patient answers? yes/no	Is the assessment documented? Yes/no
When did the assessment start? Duration:	Non verbal language: Does nurse show interest/ attention or haste?	Are the nursing problems documented ?yes/no
Assessment content (describe):	Nurse attitude/posture during assessment?	
Does she use any complementary information source to assess patient?	Are patients informed about the assessment findings in order to corroborate them? yes/no	

Date Period of observation:

Number of nurses: Number of nursing auxiliaries Number of nursing students/course:

PLANNING

Nurse: Patient room Case:
Number of patients this nurse is in charge of

WHO carries out the planning?	WHEN is the care plan developed?	CONTENT of the care plan	SESSIONS?	PATIENT/RELATIVE PARTICIPATION
Nurse/nursing student	Indicate: - Immediately after assessment - Within the same shift - In a different shift	Is the planning made according to data from assessment? Yes/No	Are sessions held on the ward to discuss the care planned? Yes/No	Are their comments taken into account when planning care? Yes/No
		Does she plan according to other criteria? • Protocols • Medical orders • Care indicated by other professionals	Is there any consultation of journals or research books ? Yes/No	Does the nurse inform patient/relatives about the content of the nursing documentation? Yes/No
		Are the goals specified in the care plans? Yes/No		

Observations:

Date : Period of observation:

Number of nurses: Number of nursing auxiliaries: Number nursing students/year:

IMPLEMENTATION

Nurse: Patient room Case:
Number of patients this nurse is in charge of:

Describe intervention	Who carries it out? If student, indicate course.	Was this intervention indicated in care plan? Yes/No	Inform patient before carrying it out and assess appropriateness	Participation of patient/family	Is the implementation of the intervention registered?	Has the care plan being modified if necessary ?
1						
2						
3						
4						
5						
6						
7						
8						
9						

Observations:

Date: Period of observation:
Number of nurses: Number of nursing auxiliaries Number of nursing student and course:

EVALUATION

Nurse: Patient room: Case:
Number of patients this nurse is in charge of:

Changes (according to the phase before)	Are objective measures used?	Are changes discussed with patient/relatives?	Handover	Ward rounds	Patient/relatives participation in evaluation
Added 1	1		Is the information given based on the care plan of the patient? Yes/No	Nurse active participation? Yes/No	Are patient/relative opinions taken into? Yes/No
2	2				
3	3				
Deleted: 1	1		Do the data transmitted show that patient has been evaluated? Yes/No	Does she show good knowledge of patient condition? Yes/No	Has the patient/relative been informed of the results of the evaluation? Yes/No
2	2				
3	3				
Modified: 1	1		Does terminology used express patient evaluation? Yes/No	What sort of questions does she ask?	Is there a date for evaluation?
2	2				
3	3				
			Use of objective measures? Yes/No	Answers given to patients and doctors regarding patient conditions ?	When dealing with patient does the nurse shows a precise knowledge of patient situation?

Other observations:

Appendix 13: Assessment form used on the ward before the beginning of the study

ENFERMERA:
DATOS PERSONALES
Nombre: Nº Historia: Caso:
Departamento: Consulta: Fecha Ingreso:
Edad: Profesion:
Familiar responsible:
Hospitalizaciones previas: Intervenciones:
CTES: P: Tra: T.A: Peso: Talla: NºPie:

PROBLEMAS DE SALUD Y SU CONTROL
Motivo de ingreso:
Diagnostico medico
Otros problemas de salud
Medicacion habitual
Medicacion ocasional

Alergias

Habitos Tabaco SI NO Cantidad Alcohol SI NO
Cantidad:

Conocimiento de: Diagnostico: Resultados:
Pruebas a realizar: Posibles complicaciones: Consentimiento: Informacion
Enfermeria

S. CARDIO-VASCULAR
HTA: Edemas: Arritmia: Varices: Dolor Precordia:
Trombosis/Flebitis: Otros:

SISTEMA RESPIRATORIO
Disnea: SI NO Tos: SI NO Espectoracion: SI
NO
Procesos gripales o catarrales previos: SI NO
Otros:
Suplemento O_2

SISTEMA NEURO-MUSCULAR
Presencia de movimientos anormales: SI NO
Caracteristicas:
Dismetria: SI NO
Cojera: SI NO
Dolor Localizacion: SI NO
Deficit Neurovascular:
Fuerza muscular: Debilidad Paralisis:

NIVEL DE CONCIENCIA- SENSIBILIDAD- DOLOR TACTO
Consciente y orientado: SI NO Desorientado SI NO Espacio
Comportamiento: tiempo

Sensorial:	Ojos:	Vista:	Normal:	Deficit	Ayuda:
	Oido:	Audicion:	Normal:	Deficit:	Ayuda:
	Nariz:	Olfato:	Normal:	Deficit:	Ayuda:
	Lengua:	Gusto:	Normal:	Deficit:	Ayuda:
	Piel:	Tacto:	Normal:	Deficit:	Ayuda:
	Dolor:	Localizacion		Irradiacion	
	Metedos de Control:				

MOVIMIENTOS OCULARES
Tipo pupilas: N.R. I.S.

S. LOCOMOTOR

Nivel de Autonomía:

Dependiente:	Parcial	Total
Autónomo:	NO	SI
Equilibrio y marcha	Estable	Inestable

CODIGO DE ACTIVIDAD para valorar la capacidad de autocuidado

0:	Independencia	Alimentación	----------	Movilidad en la cara --
1:	Ayuda con aparatos	Aseo	----------	
	Deambulacion -------			
2:	Ayuda con personas	Vestido	----------	Traslado a silla --
3:	Ayuda con aparatos y personas	Arreglo personal	----------	Traslado a retrete --
4:	Dependencia total	Eliminación	----------	Otras --

PIEL Y MUCOSAS:

Heridas:

Hematomas: Ampollas:

Cicatrices previas: SI NO

Turgencia: Temperatura Color Sensibilidad

Abrasiones: SI NO

Edema SI NO Sondas SI NO Drenajes SI NO

Descripción: Localización:

Otros:

NUTRICION:

Cambio de peso en los últimos meses: SI NO

Dentadura postiza: SI NO

Dieta habitual:

Hábitos a tener en cuenta:

Otros problemas: Nauseas: Vómitos: Dificultad deglutir: Sonda-nasogástrica:

ELIMINACION URINARIA:

Normal: SI NO Características:

Retención: SI NO

Incontinencia: SI NO

Problemas de próstata: SI NO

Otros(pañales, colectores):

ELIMINACION FECAL:

Normal: SI NO Frecuencia:

Estreñimiento: SI NO Diarrea SI NO

Laxantes: SI NO

Otros: Hemorroides Colostomía

SUEÑO Y DESCANSO

Horas de sueño nocturno:

Hábitos y/o medicación:

Tabla en cama: SI NO

Colchón antiescaras: SI NO

PROBLEMAS DETECTADOS

Appendix 14: Assessment form developed by study ward nurses on phase 1

S·II

VALORACION DE ENFERMERIA
5ª PLANTA II fase

HAB:

1. DATOS PREVIOS

Forma de ingreso· Departamento ☐ Urgencias ☐ Traslado ☐

Enfermera que realiza el ingreso_____

Persona responsable durante el ingreso_____

Departamento_____ Consultor_____

Peso _____ **Talla**_____ **Tª**_____ **P** _____ **T/A**_____

2. PERCEPCION-MANTENIMIENTO DE LA SALUD

Diagnóstico médico_____

Motivo de ingreso_____

Otros problemas de salud(diabetes, enfermedades transmisibles...)_____

Alergias medicamentosas si ☐ no ☐ Otras_____

Medicación • Habitual_____

• Ocasional_____

Alcohol si _____ no ☐ Tabaco si_____ no ☐

3. NUTRICIONAL- METABOLICO

Dieta habitual _____ SNG: si ☐ no ☐

Complementos especiales:_____

Alteración de la mucosa oral si ☐ no ☐

Alteración de la deglución si ☐ no ☐

Protesis dentaria si ☐ no ☐

PIEL

Aspecto_____

Alteraciones: úlceras, cicatrices, heridas, prurito..._____

4. ELIMINACIÓN

•URINARIA

Normal si ☐ no ☐

Alteraciones(incontinencia, problemas de próstata, infecciones...)_____

Dispositivos de ayuda: -sonda si ☐ no ☐ tipo y nº_____

-colector si ☐ no ☐ tipo y nº_____

-dodotis si ☐ no ☐ día ☐ noche ☐

-otros si ☐ no ☐

•FECAL

Frecuencia habitual_____

Estreñimiento si ☐ no ☐ Método de control_____

Diarrea si ☐ no ☐

Otros.hemorroides,colostomía..._____

5. ACTIVIDAD-EJERCICIO

OXIGENACIÓN

Alteraciones: tos, expectoración, marcapasos, arritmias..._____

HTA si ☐ Cifras habituales _____ no ☐

Control: dieta _____ Medicación_____

MOVILIDAD Y ACTIVIDAD

CÓDIGO NIVEL DE ACTIVIDAD para valorar la capacida de autocuidado

0 Independencia total	Alimentación_____	Movilidad en cama_____
1 Ayuda con aparatos	Aseo_____	Deambulación_____
2 Ayuda con personas	Vestido_____	Traslado a la silla_____
3 Ayuda con aparatos	Arreglo personal ___	Traslado al baño_____
4 Dependencia total	Eliminación_____	Otros_____

6. SUEÑO-DESCANSO

Horas de sueño_____

Hábitos_____

Medicación_____

Tabla en cama si ☐ no ☐

7. COGNITIVO-PERCEPTIVO

Valoración psicológica: Normal, depresivo, eufórico, agitado, depresivo, delirante, ansioso

Nivel de conciencia: Orientado Tiempo si ☐ no ☐

Espacio si ☐ no ☐

Persona si ☐ no ☐

Lugar si ☐ no ☐

Reflejos pupilares NR ☐ IC ☐

Nivel sensorial: Alteraciones de : -vista/ojos normal ☐ Déficit ☐ Ayuda_____

-audición/oído normal ☐ Déficit ☐ Ayuda_____

-lenguaje _____

Otros: Mareos, hormigueos, falta de sensibilidad..._____

Dolor si ☐ no ☐ Valoración: Características_____

Método de control_____

PROBLEMAS DETECTADOS

_____

_____

_____

_____

_____

Appendix 15: Care plan form used on the ward before the beginning of the study

CLINICA UNIVERSITARIA

FACULTAD DE MEDICINA
DE LA
UNIVERSIDAD DE NAVARRA

CUIDADOS DE ENFERMERIA

Diagnóstico: Esp: Hb: Cam

Alergias:

MOTIVO	CUIDADOS	turno	Día / Hora									
		M										
		T										
		N										
		M										
		T										
		N										
		M										
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		N										
		M										
		T										
		N										

Appendix 16: Phase 1 Findings transmitted to the Steering group.

Contains the information given to the steering group members, that is, a table with the main findings from observation, questionnaires and evaluation of nursing documentation.

Findings Phase 1

	Brooking ® (2004) Questionnaire(n=10 nurses questionnaires)	Ward manager self-report questionnaire (n=1)	Documentation Evaluation Tool (n=25 nursing records)	Structured observation: - for assessment/planning: n=5 - implementation/evaluation n=6
Nursing assessment	Most nurses (n=8) agree that assessment of patient was carried out only sometimes	The ward manager believes assessment is poorly implemented	Most nursing records contained assessment form (n=18) mostly complete in most cases (n=17)	Most patients (n=4) were assessed using the systematic assessment form.
	Half nurses (n=5) believed they always use a specific written assessment, the other half (n=5) believed that only sometimes		Assessments were just as likely to be carried out by nursing students as by staff nurses	The four patients were assessed by the nursing students (final year)
	Half sample (n=5) believed they usually identify and document nursing problems, the other half (n=5) believed they do sometimes		Only a small sample (n=5) had some nursing problems identified.	Patient problems were identified only in one of the cases observed

Nursing planning	More than half (n=6) believe nursing care plans incorporate the nursing problems identified	Ward manager believes that planning phase is poorly implemented	Only in 3 cases had care plans incorporated the nursing problems identified	Only in one case observed care plan had incorporated the problems identified
	Most nurses agreed goals were never described		Not one of the records had identified nursing goals	In no one case observed were goals identified
	Most nurses agree (n=8) they always write nursing activities in the care plans		Only half of the care given to the patients was documented in the care plans	
	More than half nurses (n=6) believe they usually write nursing activities with sufficient detail		59% of nursing interventions documented in the care plans were described with sufficient detail	
	Most nurses agree they almost never had care planning discussions or consultation of bibliography			In all 5 cases but one observed there were no planning sessions, nor any consultation of bibliography
			All the problems and activities documented were related to the physiological domain of the person	

Nursing implementation	Most nurses (n=9) believe care plans are the basis for the care given.	Ward manager believes that implementation phase is poorly implemented		The largest number of activities carried out by nurses were the implementation of medical orders
Nursing evaluation	More than half nurses (n=6) agreed they usually do a systematic evaluation	Ward manager believes that evaluation is not implemented		
	More than half nurses (n=6) agreed that they only sometimes use objective measures to evaluate care		No evidence in nursing records that care was evaluated by comparing results with goals. No evidence in any of the nursing records of pre-established time to evaluate care. More than a third part of the sample (n= 11) showed evidences of care not evaluated on time. More than half of the sample (n=18) reflected the use of objective measures to evaluate around 50% of care.	No pre-established time for evaluation was observed

			These measures were used mainly to evaluate easily quantifiable aspects	The use of objective criteria was rarely observed. Only in two cases observed did nurses use objective measures to evaluate patient care Only half of nurses observed (n=3) modified care plans according to the changes in patient condition
Generalities	Most nurses agree patients were not systematically involved in the different phases of the nursing process.	Ward manager considers that nurses' attitudes, interest and knowledge about nursing process is superficial		There were no signs of patient/relatives systematic participation in care planning
	More than half nurses(n=6) agreed that their knowledge of nursing process was superficial			
	Most nurses (n=9) indicated they had never had preparation for the nursing process on the ward			

Appendix 17:Table summarising Nurses' Competencies Document

Anexo I: Competencias de Enfermería

CUIDADO INTEGRAL DEL PACIENTE	PROMOCIÓN Y DESARROLLO DE LA SALUD	TRABAJO EN EQUIPO CON OTROS PROFESIONALES DE LA SALUD	EJERCICIO DE LA DOCENCIA	INVESTIGACIÓN
*Proporcionar cuidados de óptimo nivel científico: a) Saber el *porqué* de cada actuación profesional b) Aplicar los cuidados *requeridos* a las respuestas humanas *Proporcionar cuidados de óptimo nivel humano: a) Respetar la dignidad de la persona b) Comprender y aceptar su individualidad c) Conocer , respetar y reforzar los valores espirituales del enfermo d) Ayudar a aliviar y dar sentido al sufrimiento *Proporcionar cuidados de óptimo nivel profesional: a) Trabajar con destreza, precisión, seguridad y garantía b) Realizar una práctica reflexiva c) Trabajar con responsable autonomía d) Gestionar los recursos disponibles a favor del cuidado al paciente e) Priorizar adecuadamente las actividades a realizar	*Lograr el máximo nivel de salud en cada paciente *Conocer la repercusión de la enfermedad en la vida del paciente y familia *Integrar actividades de promoción de salud en el plan de cuidados: a) Detectar las necesidades de educación sanitaria del paciente y educarle convenientemente b) Reconocer la aptitud/actitud del paciente/familia para colaborar en su proceso de recuperación c) Implicar al paciente/familia en una participación activa en su autocuidado	*Asumir responsabilidad profesional en áreas independientes *Compartir con otros profesionales la responsabilidad de las áreas interdependientes *Realizar adecuadamente las órdenes derivadas *Hacer del equipo lugar de intercambio de la actividad profesional *Favorecer la continuidad del cuidado *Reconocer las competencias de otros profesionales	*Colaborara con la Escuela Universitaria de Enfermería, para lograr un alto nivel de conocimientos teórico-prácticos de los estudiantes de enfermería a) Compartir con la Escuela la responsabilidad en el aprendizaje de las alumnas b) Contribuir en la formación de las alumnas de especialidad *Favorecer la mejora profesional de todos los miembros del equipo de enfermería a) Preparar y colaborar en seminarios de formación continuada b) comunicar con lealtad sugerencias sobre aspectos profesionales que puedan ayudar a alguna compañera *Mantener una actitud abierta para recibir indicaciones o sugerencias sobre aspectos relacionados con la práctica profesional	*Conocer los recursos bibliográficos del centro *Conseguir una práctica de enfermería basada en principios científicos *Participar en congresos y conferencias de actualización *Promover y participar en proyectos de investigación

o

Appendix 18: Assessment form developed in phase 2

VALORACION DE ENFERMERIA

5ª PLANTA II fase

HAB:

1. DATOS PREVIOS

Fecha de ingreso:

Enfermera que realiza el ingreso_____

Forma de ingreso: Departamento ☐ Urgencias ☐ Traslado ☐

Persona que le acompaña durante el ingreso_____

Departamento_____ Consultor_____

Hospitalizaciones previas:_____

Edad_____ Lugar de procedencia:_____

Peso_____ Talla_____ T/A_____ P_____ Tª_____

2. DIAGNÓSTICO MÉDICO: MOTIVO DEL INGRESO

_____

3. ÁREA PERCEPCION DE LA SALUD

Conocimiento del motivo de ingreso y tto_____

_____

Otros problemas de salud (diabetes, enfermedades transmisibles...)_____

_____

Alergias si ☐ no ☐ Especificar_____

Medicación • Habitual_____

• Ocasional_____

Alcohol si ☐_____ no ☐ Tabaco si ☐_____ no ☐

Aspecto general_____

Observaciones_____

_____

4. ÁREA NUTRICIONAL- METABÓLICA

Dieta habitual _____

Complementos especiales:_____

Apetito_____ Digestión_____

Cambios ocurridos en últimos meses (apetito, peso, digestión ...) _____

Alteraciones (vómitos, deglución, mucosa oral.....)_____

Prótesis dentaria si ☐ no ☐

Estado nutricional_____

•PIEL

Aspecto piel y anejos_____

Alteraciones: úlceras, cicatrices, heridas, prurito, sequedad_____

Observaciones_____

_____

5. ÁREA ELIMINACIÓN

•URINARIA

Alteraciones si ☐ no ☐ Especificar_____

_____

•FECAL

Frecuencia habitual _____ Fecha última deposición _____

Alteraciones si ☐ no ☐ Especificar _____ Método de control _____

Observaciones_____

_____

6. ÁREA ACTIVIDAD-EJERCICIO

Limitación para la movilidad si ☐ no ☐

Especificar_____

Tolerancia a las actividades de la vida diaria_____

Problemas circulatorios_____

Deportes/ejercicio físico que realiza_____

Alteraciones: tos, expectoración, asma, bronquitis... _____

Observaciones_____

_____

7. ÁREA SUEÑO-DESCANSO

Calidad del sueño _____

Hábitos_____

Tabla en cama si ☐ no ☐

Observaciones_____

_____

8. ÁREA COGNITIVA-PERCEPTIVA

Nivel de conciencia (orientación...)_____

Sensibilidad (hormigueos, vértigos, temblor, parestesias....) _____

Alteraciones de procesos de pensamiento y habla (memoria, lenguaje .) _____

Alteraciones de vista, oido_____

Dolor si ☐ no ☐ Características (inicio, localización, método de control)_____

_____

Observaciones_____

_____

9. ÁREA PSICOLOGICA

Preocupaciones del paciente/familia (hospitalización; tto ; consecuencias)_____

_____

Estado de ánimo y nivel de ansiedad_____

Distracciones en tiempo libre_____

Observaciones_____

10. ÁREA SEXUALIDAD

Patrón menstrual_____

Problemas de próstata_____

Observaciones_____

_____

11. ÁREA ESPIRITUAL

Valoración del entorno familiar y social_____

Valores y creencias del enfermo y prioridades en la vida_____

Actitud ante su enfermedad_____

Observaciones_____

_____

PROBLEMAS DETECTADOS

_____

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_____

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_____

_____

CUIDADOS INTERDEPENDIENTES

HAB.:

NUMERO DE HOJA:	TURNO / DIA								
	M T N								
	M T N								
	M T N								
	M T N								
	M T N								
	M T N								
	M T N								
	M T N								
	M T N								
	M T N								
	M T N								
	M T N								
	M T N								

OBSERVACIONES:

PRUEBAS	PETICION	CITACION	REALIZADO	RECIBIDO	PREPARACION
ANALITICA					
INFORMES					

CLINICA UNIVERSITARIA

FACULTAD DE MEDICINA
DE LA
UNIVERSIDAD DE NAVARRA

PLAN DE CUIDADOS DE ENFERMERIA

PROBLEMAS DE ENFERMERIA / CAUSA	OBJETIVOS	CUIDADOS	DIA																				
			M	T	N	M	T	N	M	T	N	M	T	N	M	T	N	M	T	N	M	T	N

Nursing process education programme

I Introduction: The nursing process; what is it? and what is it for?

- Systematic and proactive planning and delivering of nursing care
- A rationale of each one of the phases
- Advantages of using the nursing process
- Requirements for its use.

II. Nursing assessment:

- Definition
- What information should be gathered?
- How to organise information
- Method of collecting information
- Practical aspects of conducting assessment
- Validity of information gathered

III Diagnosis:

- What is a nursing diagnosis?
- How to identify a label nursing diagnosis
- Distinguishing nursing diagnosis and medical problems
- Requirements

IV Planning

- Advantages of planning care: proactive/reactive care
- Content: goals, interventions
- How to formulate nursing goals
- How to identify and formulate nursing interventions appropriately
- Type of care plans

V Implementation

- Patient allocation
- Nurses' qualities when delivering care, such as gentleness, respect

VI Evaluation

- Comparing outcomes with expected goals
- Systematic evaluation

Appendix 21: Communications presented at conferences during the study

XI Jornadas Nacionales de Supervisión de Enfermería.

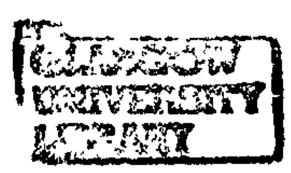
Pamplona 17,18,y 19 de Mayo del año 2000

" Elaboración de las competencias de enfermería en una unidad de hospitalización".

III Simposium Internacional de Diagnósticos de Enfermería

Pamplona 25-26 de mayo del 2000

"Experiencia en la introducción del Proceso de Enfermería en una Unidad de Hospitalización"

Appendix 22: Summary of Findings by Phase of the Study

Phase 1	Phase 2		Phase 3
Assessment of the degree of implementation of nursing process at base-line and conditions for implementation	Implementation of nursing process		Evaluation of the change
'observer as participant'	'participant as observer'		'observer as participant'
• Nursing process poorly implemented; • Nurses' negative attitudes towards the nursing process; • Nurses' lack of knowledge and preparation to use the nursing process; • Nurses' use of the biomedical model of care; • There is not an explicit definition of nursing philosophy at the Institution; • Not clarity of the nurse's role. Different views: as doctor's advocate or as an independent professional. • Managers and doctors positive views regarding the nursing process and its implementation; • Management style favouring bottom-up approach to change.	• A steering group composed of nursing managers, staff nurses and the researcher lead the decision-making process; • Good attendance and participation of members in the group; • Informal transmission of information from steering group to staff nurses; • Difficulty of action researcher managing her facilitator and expert role; difficulties finding and keeping her role on the ward; • Action researcher withdrew from study site before changes consolidated;	• Three main interventions decided by steering group: clarification of the nurse's role; development and implementation of nursing documentation; the delivery of an education programme; • Lack of co-ordination nurses-doctors for ward rounds; • lack of co-ordination with nursing auxiliaries; • Nurses' lack of skills and confidence to identify nursing problems and set up objectives; • Nurses' perception that new care plans are too time consuming; • Elaboration of nursing competencies by steering group. Need to be operationalised to a more workable level; • A holistic nursing assessment approach developed and implemented; • An education programme was delivered directed to enhance nurses knowledge, understanding and skills to use the nursing process.	• Greater implementation of the nursing process on the ward; • Nurses positive attitudes towards the nursing process; • Nursing assessment incorporated in nurses' role. Its use appears to be related to nurse/patient ratio; • Holistic assessment form based on a nursing approach introduced on the ward; • Nurses' found difficulties identifying nursing problems and objectives and finding time for filling in new care plans; • Nurses' recognition of the need for more practical, continuous and systematic preparation to use the nursing process; • Care plans based on the biomedical model; • Nurses' recognition that excessive dedication to bureaucratic matters were preventing them for fuller dedication to patient care; • recognition of importance of managers directing, guiding and supporting the change process. Recognition of the importance of having a action researcher facilitating change and providing expertise; • need to clarify further the role of the nursing auxiliaries; need to increase their number on the ward. • There was not clarity regarding nurse's role although two nurses explicitly indicate nurses' have their own area of competence: