Nurses' attitudes to the nursing process

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NURSES' ATTITUDES TO THE NURSING PROCESS

by

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ABSTRACT

The nursing process was introduced in Australia in the mid 1970s, as a teaching tool, however, with the advent of tertiary based education in the late 1970s, it was used as a problem solving approach to the practice of nursing. Acceptance of the nursing process has required changes in attitudes and practice.

The objectives of the study were firstly, to describe nurses' attitudes to the nursing process, and secondly, to relate these attitudes to education and experience.

The purpose of this study was to describe nurses' attitudes to the nursing process because they are reported to influence the standards of client care. In addition, a better understanding of the problems experienced by nurses could aid in the planning of nursing education curricula and inservice programmes, and expose some impediments to successful clinical and managerial implementation.

A descriptive survey was conducted at a metropolitan teaching hospital of a convenience sample of registered general nurses. Responses to a twenty point questionnaire, developed by Bowman, Thompson & Sutton (1983), were tabulated as percentage
frequencies so that areas of positive and negative attitude could be identified. Demographic data was collected to enable correlation of number of years experience with attitude score, and to ascertain the influence of attitude by basic, inservice and postbasic nursing education in the nursing process by an analysis of variance procedure.

The findings of the study indicated a moderately positive attitude held by the respondents; there was no significant negative correlation between years of experience since basic nurse education and attitude scores; there was a difference in attitude scores of nurses whose basic nurse education had included the nursing process; and inservice and postbasic nursing process education had no significant influence on attitude scores. It was concluded that while nurses had a moderately positive attitude to the nursing process, the absence of an acknowledged link with improved nursing care in a significant number of respondents indicated a knowledge deficit. In addition, too much paperwork and lack of time were cited as major barriers to implementation, and there was an element of resignation to the use of the nursing process.

The implications for the study lie in the educational provisions for nurses to facilitate translation from nursing theory to practice.
DECLARATION

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signature of Candidate: Glenda M. Prideaux
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CHAPTER 1

INTRODUCTION TO THE STUDY

1.1 INTRODUCTION

The nursing process, first introduced in America in the 1960s and later in the United Kingdom and Australia in the 1970s, (de la Cuesta 1983) has formed a framework which has focussed attention on the theory based practice of nursing. Some of the factors influencing its acceptance include a growing dissatisfaction within nursing regarding its status as a profession and the quality of patient care being delivered (Robinson 1990). However, there has been an emerging dichotomy between nursing theory and nursing practice (Durgahee 1990). Absence of an established knowledge base has made acceptance of the nursing process slow, and the transition of nursing theories to sound practice based on researched nursing rationale has been difficult at the clinical level (Lewis,
Beaupre (1988) noted that nurses had a knowledge deficit regarding the nursing process and the profession of nursing in general, and felt that the cause included the rapid expansion of nursing knowledge and accountability. Robinson (1990) cites numerous gains from the use of the nursing process which make for quality, individualized patient care, however, there are few studies to support the existence of desired outcomes. 'Implementation of this theoretical (process) approach depends upon numerous factors of a clinical, educational and management nature if it is to succeed in practice' (Robinson 1990, p.4). While there is a link between the theory of the nursing process and quality patient care, problems associated with the role of nurses as mediators of the nursing process in practice remain unresolved. This study will describe some views of the nursing profession toward the nursing process and relate these attitudes to education and experience.

1.2 BACKGROUND TO AND SIGNIFICANCE OF THE STUDY

The nursing process has been an important influence in the practice of nursing. What do nurses think about
it? Casual conversations with practising clinical nurses indicated a variety of attitudes which seemed to be related to nursing education and experience. Many of the nurses spoken to, whose basic nurse education had not included the nursing process, seemed to have difficulty accepting the terminology of the nursing process, for example, in formulating the nursing diagnosis. They complained of repetitive documentation and associated lack of time in which to document. The very mention of the words 'the nursing process' brought expressions of resistance from some of the more experienced nurses. In contrast, it seemed that nurses whose basic nurse education had been more recent, and had included the nursing process, held more positive attitudes. They seemed at ease with the writing of nursing care plans, and more particularly, in making the nursing diagnosis. This also seemed to apply to those who had experienced recent postbasic or inservice education in the nursing process.

It was from these conflicting views that the questions for this research were formulated.

There have been numerous studies on the attitudes of nurses to specific elements of the nursing process, for example, nursing care plans. However, there is
little published research on the attitudes of nurses to the nursing process as a whole. A study by Bowman, Thompson and Sutton in 1983, in the United Kingdom, indicated that a structured educational program was of benefit in creating a positive attitude to the nursing process. The authors maintained that constant reinforcement of knowledge after the basic education is required if positive attitudes to changes such as the nursing process are to be encouraged. A later study in 1986, by Bowman et al., found that a positive environment was important in changing attitudes of student nurses to the nursing process. Rushton (1988) found 'generally positive attitudes' in a small study of nurses in New Zealand. Thomas (1984), cited in Black (1989, p.92), concluded from a study of the attitudes of registered nurses to nursing care plans, that the length of time in the position and the age of the nurse related inversely to a nurse's positive attitude, whereas higher educational standards and emphasis in the educational program on writing care plans had a direct relationship to the nurse's positive attitude. Many authors have acknowledged the emphasis that the nursing process places on such aspects as individualized patient care and improved standards of care. Hargreaves (1975) noted:

The nursing process is the means of ensuring that the unique function of the nurse, as seen by Henderson,...is carried out in such a manner, as to
meet the unique, and ever changing needs of each individual for nursing care (p.91).

Robinson (1990) discussed the nursing process and its links with quality care. However, there is a growing number of authors who are beginning to ask why the nursing process is meeting resistance at the theory/practice interface (Openshaw, 1984; McHugh, 1986; Masso, 1990; Sutcliffe, 1990).

The nursing process was introduced in Australia in the mid 1970s, as a teaching tool, however, with the advent of tertiary based nurse education in the 1970s, it was taught as a problem solving approach to client care (McMurray, 1989). Acceptance of the nursing process required changes in attitudes and practice. The attitudes held by nurses have implications for clinical, educational and administrative practices, in that behaviour toward the client, colleagues and work situation will be affected by such attitudes.

It was relevant, therefore, to examine attitudes held by nurses towards the nursing process, with reference to whether their basic nurse education contained a component of the nursing process, how long ago it was completed, and whether post basic or in-service education in the nursing process had been completed.
1.3 PRIMARY RESEARCH OBJECTIVE
The primary objective of the study was to describe registered nurses' attitudes to the nursing process.

1.4 SECONDARY RESEARCH OBJECTIVES
The secondary objectives were to discover if these attitudes were influenced by education and experience.

It was hypothesized that:
1. Nurses with a greater number of years experience would have a more negative attitude towards the nursing process than those with less years experience.

2. Nurses whose basic nurse education included the nursing process would have a more positive attitude towards the nursing process than those who had not.

3. Nurses who had completed post basic or inservice education in the nursing process would have a more positive attitude than those who had not.

1.5 THE PURPOSE OF THE STUDY

The purpose of the study was to describe nurses'
attitudes to the nursing process because, it is reported that they influence the standards of client care. Additionally, a better understanding of the problems experienced by nurses could aid in the planning of nursing education curricula and in-service programmes. The study holds implications, for the nurse, in the organization, delivery and evaluation of care; for the nursing unit, in staff allocation and evaluation; for administration, in the securing and distribution of resources, and evaluation of nursing practice; and for the discipline of nursing in the pursuit of professionalism.

This study describes nurses attitudes to the nursing process and examines the influence of education and experience on these attitudes. The relevant literature is discussed in chapter 2, the theoretical framework supporting the study is described in chapter 3, methods and procedures are presented in chapter 4, data analysis and findings in chapter 5 and 6, and conclusions, recommendations and implications of the study are discussed in chapter 7.
CHAPTER 2

REVIEW OF RELEVANT LITERATURE

2.1 INTRODUCTION

This literature review examines the elements comprising the nursing process, the benefits of and factors influencing its implementation, and barriers to its implementation which are perceived as attitudes of nursing staff. The literature has revealed that attitudes of staff to the nursing process are important to the delivery of nursing care. Nichols and Barstow (1980), in a study to describe nurses' opinions of nursing care plans, comment that there was widespread belief that the use of nursing care plans improved the standards of client care. This view is supported by Bowman et al. (1983), de la Cuesta (1983), and Renfroe, O'Sullivan & McGee (1990). Shea (1986) links nursing education and experience to skill in directing client care using the nursing
process and comment on the correlation between attitudes and behaviour. Moss (1988) contends that the attitudes of nurses towards the nursing process are likely to influence the quality of care that clients receive, while Renfroe et al. (1990) acknowledge the relationship between nurses' attitudes and the way they intend to behave concerning documentation. Clearly, the efficacy of the nursing process is strongly related to the attitudes of those using it. The acceptance of the nursing process as a framework for nursing practice has not been universal and there are varying nurse attitudes both for and against its implementation. These will be discussed in the literature review.

2.2 THE NURSING PROCESS

In 1955, Lydia Hall was reportedly the first to state that nursing was a 'process' and Ida Orlando, in 1960 was the first to use the term 'nursing process' (Henderson 1987). Iyer, Taptich and Bernocchi-Losey (1986) view the nursing process as a systematic problem solving approach to nursing practice. McHugh (1987) describes the nursing process as the five step method by which nurses deliver client care. It
consists of five sequential and interrelated stages: assessment, diagnosis, planning, implementation and evaluation.

Iyer et al. (1986) describes the following phases of the nursing process:

The assessment phase involves collecting information, so that needs, problems and concerns that can be alleviated by nursing care are identified. Diagnosis is made through analysis and interpretation of information so that conclusions are drawn. Planning is achieved by setting goals that will enable the identified problems to be resolved or alleviated. Implementation is the carrying out of the nursing care that may resolve or alleviate the identified problems. Evaluation is the examination of the outcome of nursing actions to see whether the nursing care given is effective.

Atkinson and Murray (1990) purport that the nursing process has a philosophical nature with interrelated activities resulting in appropriate, efficient, and competent nursing care. It is dynamic and cyclic in nature and requires repeated review. Additionally, these authors regard the nursing process as a tool that, when used in nursing practice, 'can help ensure
quality patient care' (p.3).
Bryar (1987) maintains that the nursing process has been seen from many perspectives: simply as a tool, (Chiarella, 1983; Hasse, 1983), a model (French, 1980), a concept (Breckman, 1979), and as a philosophy (Castledine, 1981; McMahon, 1985). More recently nurse scholars have shifted the emphasis from an analytical, scientific perspective, seen by some as inflexible, to a more intuitive approach to nursing practice (McHugh, 1986; McMurray, 1989; Rew and Barrow, 1989; Masso, 1990). Gerrity (1987), maintain that care plans are not used because they are limiting and do not represent the intuitive data needed to give effective care to clients.

The next section of the literature review examines the perceived benefits of the nursing process.

2.3 BENEFITS OF IMPLEMENTATION OF THE NURSING PROCESS

Many of the proponents of the nursing process are empiricists and display a reductionist philosophy of the nursing process (Kobert and Folan, 1989), likening the nursing process to the scientific method (McHugh 1987). Iyer et al.(1986) summarizes nursing as both
an art and a science which focussed on health and well being. 'The major purpose of the nursing process is to provide a framework within which the individualized needs of the client, family, and community can be met' (Iyer 1986, p.11).

The major benefits of implementation of the nursing process can be discussed from three perspectives:

Firstly, the client benefits because the use of the nursing process ensures quality care (Griffith & Christensen, 1982) while encouraging client participation. Clients can help formulate their own plan of care under nurse guidance. Atkinson and Murray (1990) allege that when clients are active participants in their own care, they are more likely to be committed to achieving their health goals. Furthermore, there is greater continuity of care. The use of the nursing process results in a thorough assessment of the client at the time of admission. Problems are identified at this time by the nurse who then develops a plan of nursing care with the client. This plan guides other members of the nursing team in providing care for the client. Continuous evaluation and review of the plan assures a level of care that meets changing client needs (Atkinson & Murray, 1990). Ashworth (1980), Castledine (1983) and Wright (1985)
view the nursing process as a way of delivering individualized patient care.

Secondly, the nurse benefits by increased job satisfaction and enhanced professional growth. Cowper-Smith (1978) and Iyer et al. (1986) maintain that a meaningful nurse-client relationship is encouraged, and that solving nursing care problems fosters creativity and innovation. A well prepared nursing care plan can save time and energy because client care is coordinated. Also, an opportunity to share knowledge and experience between staff members is created.

Thirdly, Iyer et al. (1986) suggest that the use of the nursing process has implications for the profession of nursing, because the scope of nursing practice is better defined and standards of nursing care are able to be identified. Standards of practice incorporating the nursing process have been adopted and published in Australia (Royal Australian Nursing Federation, 1985) and America.

The next section of the literature review examines some of the factors which may influence attitudes to the nursing process.
2.4 FACTORS INFLUENCING ATTITUDES TOWARDS THE NURSING PROCESS

Basic nurse education, experience and post basic education have been identified as factors influencing nurses' attitudes to the nursing process (Gray, Murray, Roy & Sawyer, 1977; Thurber, 1988; Whitfield, 1989).

Lewis (1988) suggests there is difficulty in translation of nursing theory into practice, supporting assumptions made by Boylan (1982), Jayram (1984), and Draper (1986). Campbell (1983) comments that the success of the nursing process relied on sensible interpretation and much depended upon guidance given by tutors and trained staff as well as previous experience. Daws (1988) suggests that attitudes towards aspects of the nursing process change over time and that ways of maintaining a positive attitude should be explored. Furthermore, the acceptance of the nursing process requires a more in-depth change than one merely involving nursing practice. An integration of nursing theory with practice is needed. The Bowman et al. (1983) study showed that attitudes are improved through a structured educational program, while Gowers (1981) suggests a significant increase in in-service
education is necessary to 'sell the philosophy and teach the principles of the process' (p.512). This view is supported by Little (1971), Castledine (1982) and Daws (1988). Whitfield (1989) mentions a need for nurses to keep themselves up to date with the nursing process. Bellamy (1971) says that in order for the nursing process to develop, more nurses needed to be educated outside 'the stifling conformity of hospitals' (p.36).

Smith (1991) views the nursing process as a work method and suggests that nurse educators did not foster a link between it and a theoretical base. Shea (1986) proposes that nursing educators have been negligent in helping the nurse to transfer theory to a concise serviceable tool which is used to direct client care. Lewis (1988) displays a wider perspective in saying that there is a gulf between theory and practice, and maintains that the nursing process alone does not provide an adequate framework for nursing practice. In a treatise on the measurement of adequate care, Openshaw (1984) questions whether or not a nursing process approach does result in improved client care, and suggests that the theoretical base of the nursing process has not undergone adequate research testing to allow such an assumption to be made. Robinson (1990) comments
on the rapidity with which the nursing process has been seized upon without adequate regard for basic issues such as educational preparation, the social climate of change, and nurses perceptions of the nursing process.

The next section of the literature review examines attitudes which could be perceived as barriers to implementation of the nursing process.

2.5 BARRIERS TO IMPLEMENTATION OF THE NURSING PROCESS

Many authors cite nurses' attitudes reflecting the practicalities of implementation of the nursing process.

One of the common negative criticisms of the nursing process is the excess of paperwork. The duplicative nature of documentation is being met with hostility by nurses who view the nursing process as adding to the workload (Roper, Logan & Tierney, 1983; Jayram, 1984; Palmer, 1988; Melia, 1990).

Another attitude noted is that there is a lack of time and staff to properly use the nursing process (Ashworth, 1980; Wright, 1985; Johnson, 1989). This is particularly evident if the nurse is still
acquiring documentation skills. Detailed assessment and planning can take a long time to complete and although practice can improve speed and efficiency, most practising nurses agree that completing these stages can be difficult.

Henderson (1987) wrote 'the whole time-consuming nature of the nursing process impose [sic] a guilt on nurses when they are not able to give the time that such records demand' (p.16). Times of increased client dependency levels, staff shortages or increased sickness levels place a strain on existing staff and their ability to practise nursing in the manner advocated by the nursing process.

Carpenito (1989) admits that many nurses have a negative attitude toward the nursing diagnosis and the taxonomy used. Often incorrect problem identification is followed by unrealistic goals and dubious nursing care. To use it effectively, nurses need to have a sound knowledge of recent nursing theory, the ability to combine analytical and intuitive thinking (Draper, 1986) and to be able to put that knowledge down on paper.

Cowper-Smith (1978) identifies attitudes such as adherence to tradition and reluctance to change as
hindering the use of the nursing process. Nursing needs to undergo a change from being a task centred to client centred approach and in doing this, nurses feel the value of their own training and experience threatened. In many instances, it is merely a reluctance to try something new. Resistance to change is intensified by fear of lack of knowledge and the new demands which nurses feel may be made on them.

Other attitudes noted in the literature pertain to the dehumanizing effect of the nursing process (Turner 1987). Draper (1986) suggests that patients are often referred to by their diagnoses, not treated as people, and Walker (1989) argues that there are too many 'processes' in the health care setting each with its own arcane language and documentation.

2.6 CONCLUSION

The literature identifies both positive and negative attitudes to the nursing process. It suggests that these attitudes are inherently linked to the delivery of patient care and that they are influenced, in part, by nursing education and experience. Nurses develop confidence that comes with knowledge and skill through
practice and this in turn, helps shape their attitudes to nursing practice.

The next chapter examines the frame of reference and associated theoretical framework which underlies the study.
CHAPTER 3

FRAME OF REFERENCE

3.1 INTRODUCTION

The development of the research study is influenced by assumptions which are embedded in the philosophical base of the frame of reference, the study design and the interpretation of findings (Munhall 1989). These, together with the personal views held by the researcher, governed the choice of theoretical model used in this study. A frame of reference was developed, within which a unit of analysis was decided upon as being a group. Characteristics of several theoretical models were considered for possible use. An adaptation of the framework used by Shea (1986) was chosen to support the research because it suitably fits the frame of reference developed for the study.
The next section describes the theoretical framework used in the study.

3.2 THEORETICAL FRAMEWORK

The conceptual framework Shea (1986) used to examine the use of nursing care plans was adapted, for the purpose of this study, to focus on the attitudes of nursing staff. These attitudes, influenced by education and experience, affect desired behaviour. The desired behaviour integral to the theoretical framework, is the use of the nursing process to achieve desired outcomes, among them being the provision of quality client care.

Shea's framework was based on a model by Becker and Maiman (1975) which elaborated on the value-expectancy theory put forward by Lewin in 1944. It was proposed that the motivation for behaviour is based on the likelihood that a certain behaviour or action will achieve a valued or desired outcome.

Becker and Maiman (1975) developed a model which took into account the complexity of social and behavioural factors influencing behaviour within the context of
the Lewin proposal. The basic outline of their model, as portrayed in Shea (1986), classified the variables present as: readiness to behave (motivations, values, probability that behaviour will minimize threat), modifying and enabling (demographic, structural, attitudes, interaction, enabling) and compliant behaviour.

Shea modified the Becker and Maiman model whereby motivating and modifying factors were related to nurses compliance in writing and using nursing care plans. In this study, the framework was adapted by substituting nurses' compliance in writing and using nursing care plans with nurses' compliance in using the nursing process (see Figure 1.0). The rationale used is that the motivating and modifying factors and desired outcome are the same in each instance.

The following description of the theoretical framework is derived from Shea (1986) and the literature review.

The framework describes motivating factors such as administration philosophy and personal values. Administration philosophy may influence nurses' attitudes in that their perception of what administration feels important for the provision of
quality care will have either a positive or negative effect on each nurse's value system. The personal values held by nurses ultimately influence standards of care.

These factors are acted upon by modifying factors: Education and experience determine the understanding and ultimately the skill with which a nurse uses the nursing process. These factors influence the nurse's attitude about the individual role in nursing practice and about the nursing process.

The desired behaviour, which is that nurses use the nursing process, results from the action of these modifying factors. The desired behaviour results in desired outcomes which benefit five areas of nursing practice:

Firstly, the client would benefit from the provision of quality care, the guarantee of continuity and consistency of that care, and the monitoring and evaluation of client progress.

Secondly, the outcomes of benefit to the nurse are those central to the use of the nursing care plan; for the communication of information and as a vehicle for the organization and evaluation of delivered client care. Other benefits would be provided indirectly per medium of the remaining areas of nursing practice.
Thirdly, the management of the clinical area would benefit because the acquired information would be useful in the assessment of dependency levels and subsequent allocation of time and resources. Nurse performance appraisal in areas of professional development and promotion could be facilitated by examining nursing care plans which reflect nursing practice.

The outcomes would benefit administration in that a summary would be provided of all the nursing activities carried out and provision made for the appropriate securing and distribution of resources. Also, the nursing process would facilitate the evaluation of nursing practice through quality assurance and the nursing audit.

Finally, the outcomes of benefit to nursing are that the nursing process could be used as a tool for teaching and guiding nursing practice, thus encouraging increased responsibility and accountability. The theoretical knowledge base would be enhanced and nursing parameters better defined resulting in more impetus being given to the professionalism of nursing. Theories, frameworks and conceptual models direct the focus of the nursing process and guide the selection of implementation strategies. Hence, the nursing process could be used to test and develop theory and to facilitate research.
Theoretical framework used to study attitudes to the nursing process

(Adapted from Shea, 1986, P155)

Figure 1.0
3.3 DEFINITIONS OF MAJOR VARIABLES

Nursing process:
'The designated series of actions intended to fulfil the purposes of nursing' (Yura & Walsh 1978, p.130).
This study will regard the nursing process as a problem solving approach to nursing encompassing five phases: assessment, diagnosis, planning, intervention and evaluation.

Attitude:
'One's disposition or outlook...to behave in a predetermined way' (Krebs 1986, p.52).

Registered nurse:
A nurse registered with the Western Australian (W.A.) Nurses Board and licensed to practise general nursing.

Registered midwife:
A registered nurse registered with the W.A. Nurses Board and licensed to practise midwifery.

Student midwife:
A registered nurse who is undertaking a hospital based education programme in midwifery.
Post basic education:
A nursing education programme completed after basic nurse education.

Inservice education:
'Training that is given to employees during the course of employment' (Collins Dictionary 1988).

3.4 ASSUMPTIONS

Assumptions have been identified from the literature and have been made by the researcher:

1. All measurable attitudes influence behaviour (Fishbein and Ajzen, 1975).

2. All attitudes are influenced by such factors as personally held values, beliefs, life experiences, intelligence and personality (Ward, 1985).

3. These factors are inherent in life and unable to be controlled within the scope of this study.

4. Nursing staff are familiar with the term 'the nursing process'.
5. Education may serve to modify or generate attitudes.

6. Participants will respond truthfully and to the best of their ability to the questionnaire.

3.5 CONCLUSION

This theoretical framework is used to support the study because it fits the developed frame of reference. It contains the relevant variables needed to examine the relationship between factors which influence nurses' attitudes to the nursing process and desirable outcomes for the client.

The following chapter describes the study design, setting, type of sampling method, data collection, ethical considerations and the limitations of the study.
CHAPTER 4

METHODS AND PROCEDURES

4.1 STUDY DESIGN

This descriptive survey was conducted at a metropolitan teaching hospital in Western Australia. Sweeney and Olivieri (1981) state that 'descriptive studies usually entail the precise measurement of phenomena as they exist within a single group' (p.111). Leedy (1989) portrays a descriptive survey as a method of research which looks with intense accuracy at the phenomena of the moment and then describes precisely what is seen. Attitudes to the nursing process and the effect of nurse education and experience on these attitudes are described as they existed among registered general nurses at the hospital.
4.2 SETTING AND SAMPLE

A convenience sample of ninety-eight registered nurses, registered midwives and student midwives was surveyed from seven areas of the hospital.

A convenience sample is an example of a type of non probability sampling where the collection of data is done 'as the units arrive on the scene or as they are presented to the researcher by mere happenstance' (Leedy 1989, p.152).

The study was conducted on the premise that the sample, regardless of qualification, consisted of registered general nurses, each with an attitude towards the nursing process.

In order to sample from a population as near to heterogenous as possible, the survey was conducted outside of school holiday time, so that the more experienced nurse, who was more likely to have family commitments, had as equal a chance of selection as others.

4.3 DATA COLLECTION

The questionnaire developed for the study was comprised of two sections (see Appendix A). Section
one contained an instrument developed by Bowman et al. (1983). Permission was granted by the authors to use the instrument (see Appendix B). Responses to twenty statements about the nursing process were to be indicated on a five point Likert scale ranging from strongly agree to strongly disagree.

Of the twenty statements, ten were positive and ten were negative. Each statement was allocated a score from one to five and were randomly distributed. A score of five reflected a very positive attitude and a score of one reflected a very negative attitude to the nursing process (see Appendix C). By totalling the twenty scores for each subject an 'attitude score' out of one hundred was obtained.

The questionnaire had been tested for reliability and a Brown-Spearman split-half reliability coefficient was calculated by Bowman et al. (1983) to be 0.925. This was acknowledged by Bowman et al. as an unusually high value to obtain in practice and suggested that this indicated a strong dichotomy of opinion. That is, either the respondents were strongly for or against the nursing process.

Section two included ten further questions developed by the researcher to ascertain demographic data.
Question one asked if the type of basic nursing education was hospital or tertiary. The literature had indicated that education affected attitudes to the nursing process. Also, the question of comparison of types of basic education was relevant because, the casual conversations with practising nurses indicated a difference in attitude depending on the type of basic nurse education undertaken.

Question two asked the country where basic nurse education was completed. This may have contributed to the interpretation of results relating to the presence of nursing process education in Australia or overseas countries at the time of basic education.

Question three asked the number of years elapsed since the completion of basic nurse education. This was directly correlated to the attitudinal scores.

Question four determined the qualification of the nurse: registered midwife, student midwife or neither. The latter term is used because it is possible to be a registered midwife or student midwife and registered nurse concurrently.

Question five was included in the event that a closer
examination of the attitudes of student midwives relative to the length of time since starting the postbasic course was indicated.

Questions six, seven, eight, nine and ten asked information directly related to the mathematical calculations required of the study.

The questionnaire was pilot tested on five practising registered nurses, not drawn from the population of the study, to determine reliability, face and content validity of the demographic data collected. They were requested not to take part in the planned official survey, but were asked to comment on the layout of the questionnaire, the clarity of the questions and the effectiveness of the instructions. A note was taken of the time required for completion of the questionnaire. There was no evidence of misunderstanding or ambiguity as each nurse answered the questionnaire fully and without problem. The data collected in the pilot study was analyzed and an attitude score out of one hundred was able to be calculated for each nurse. Additionally, the demographic information gathered was shown to be reliable for the purposes of the study.
The staff in each area were informally acquainted with the study and the invitations to participate and questionnaires were provided to enable members of the nursing establishment to respond. Strategies which encouraged completion of the questionnaire included the wording of the invitation, that it was easily understood, and that the respondents knew the length of time needed to complete it. They were made aware of the objectives of the study and that they had access to the results when available. A large envelope was provided in each area for collection of the completed questionnaires by the researcher. A period of one week was allowed for their return.

4.4 ETHICAL CONSIDERATIONS

The protection of the research subjects was a primary concern. The letter of invitation to participate (see Appendix D) which addresses all ethical considerations seen to be significant to the respondents, accompanied the questionnaire and consent was implied by its completion. Significant issues included the right to anonymity, the option of refusal or withdrawal from participation, and the right of the participant to the results. The information obtained from the
questionnaire was treated as confidential and viewed only by the researcher and academic supervisor at Edith Cowan University. The questionnaires were destroyed on completion of the study. Permission to conduct the study was granted from the ethics review committees of the School of Nursing at Edith Cowan University and the hospital concerned.

4.5 LIMITATIONS OF THE STUDY

The sample consisted of registered nurses taken from the target population of all registered nurses in one hospital. Generalization to all registered nurses in the state of Western Australia or elsewhere is not inferred. Validity of the findings may be affected by the length of time the respondents had spent in the hospital and their degree of socialization to the hospital culture. It is acknowledged that nurses' attitudes to the nursing process are influenced by many other factors, and it is not proposed to identify them in this study.
CHAPTER 5

DATA ANALYSIS

5.1 INTRODUCTION

One hundred and four questionnaires were distributed and ninety-eight returned. Of these, one returned questionnaire had demographic data only completed and was discarded. A total of ninety-seven responses remained. These were analyzed by computer using the SAS and MINITAB statistical analysis programs.

The primary research objective was addressed by tabulating frequencies for each question to identify areas of positive and negative attitude. These will be described in section 5.2 of this chapter.
The secondary objectives were addressed by statistical analyses:

Hypothesis 1.
Attitudinal scores were correlated with years of experience. A Pearson's product-moment correlation coefficient was determined (Burns & Grove 1987, p.508). The significance of the correlational coefficient was ascertained (Munro, Visintainer & Page, p.358).

Hypotheses 2. and 3.
Attitudinal scores were tabulated and a two by three analysis of variance was performed to test for differences in attitudes relative to:

- the presence of nursing process education in basic nurse education;
- the absence of nursing process education in basic nurse education;
- the absence of postbasic nursing process education;
- the presence of nursing process education in inservice education;
- the presence of nursing process education in postbasic education.

The data satisfied the requirements of the assumptions involved in the analysis of variance calculation. The level of significance (alpha) was set at 0.05.
5.2 FINDINGS

The primary objective of the study, viz., to describe nurses' attitudes to the nursing process, was addressed by describing areas of positive and negative attitudes in response to part one of the study questionnaire (see Appendix A). Attitude frequencies of the ninety-seven respondents are tabulated (see Appendix E).

![Figure 5.1 Percentage Attitude Responses.](image-url)
Figure 5.1 shows responses from twenty questions designed to ascertain nurses' attitudes to the nursing process indicating the percentage of respondents who agreed, were uncertain or who disagreed with each question. For convenience in Figure 5.1, written presentation of findings and discussion, strongly agree and agree attitude scores are combined, and strongly disagree and disagree attitude scores are combined. Greater specificity is indicated in subsequent graphic presentation of findings. For clarity in the presentation of the findings the twenty questions were grouped according to the areas they addressed. These were identified as:

Area 1. The effect of the use of the nursing process in relation to the client. Questions 1, 4, 9 and 18 pertained to this area.

Area 2. Questions 2, 3 and 8 addressed some of the practical aspects of using the nursing process.

Area 3. Those questions seen as relating to the subjective attitudes of the nursing staff were questions 5, 11, 12, 14, 15, 17, 19 and 20.

Area 4. Questions 6, 7, 10, 13 and 16 were seen as those relating to nursing practice.
Area 1. The effects of the use of the nursing process in relation to the client.

As indicated in Figure 5.2, 42.27% of the respondents agreed that the nursing process improved nursing care. Approximately one third (34.02%) disagreed and 23.74% were uncertain. Nearly two-thirds (60.64%) agreed that identifying priorities of care was made easier by the nursing process, while 62.89% of respondents agreed that the nursing process improved
awareness of client needs. Of the respondents, 14.43% indicated they were unsure of this point. That the client would not like the nursing process was rated positively by 5.26% of respondents while 57.90% indicated that the client would favour it.

Area 2. Practical aspects of using the nursing process.

Figure 5.3 Percentage Responses Relating to the Practical Aspects of the Nursing Process.
Figure 5.3 indicates that the nursing process involves too much paperwork was rated positively by 78.35% of respondents while 16.49% disagreed. Significantly, 32.99% strongly agreed regarding the excessive requirement for paperwork. The lack of enough time to use the nursing process met with positive responses of 68.04% and 58.95% respectively, with significant strongly agree responses in each case.

Area 3. Subjective attitudes of the nursing staff.

Figure 5.4 Percentage Responses Regarding Subjective Attitudes.
How nurses regarded the nursing process personally is indicated by Figure 5.4. Nearly 60% of respondents (59.37%) disagreed that the nursing process is a waste of time with 21.87% being uncertain and 18.75% in agreement. That staff would never accept the nursing process was rated positively in only 7.29% of respondents. Half of the respondents (50.00%) disagreed and 42.71% were uncertain about this statement. Over half of the respondents (52.58%) liked the idea of the nursing process and 72.63% were willing to be involved with it. Nearly half indicated they were ready to use the nursing process (49.47%) although 27.37% felt unsure about this. Over half of the respondents (54.16%) were tired of hearing about the nursing process and 38.14% were uncertain it would work. Of the respondents, 65.98% felt that its introduction would cause problems.

Area 4. Nursing practice.

Figure 5.5 indicates nurses' attitudes to the nursing process in practice. Over two thirds (69.89%) felt the nursing process could be used in any area but opinions were divided on effectiveness in practice. Of the respondents, 14.73% indicated that the nursing process should be used only by qualified nurses. The Kardex system of nursing records was viewed as unsatisfactory.
by 47.31% of respondents with over a quarter (26.88%) unsure of this point. Of the respondents, 54.26% disagreed that the nursing process is an elaborate Kardex system.

Figure 5.5 Percentage Responses to the Nursing Process in Nursing Practice.
The secondary objectives were addressed by statistical analysis of the collected data:

It was hypothesized that firstly, nurses with a greater number of years experience would have a more negative attitude towards the nursing process than those with less years experience.

An attitude score was not able to be calculated for fifteen of the respondents through omission to complete responses. Additionally, two respondents omitted the question relating to number of years experience since basic education.

Figure 5.6 shows the attitude scores, in computer printout form, for the remaining eighty respondents correlated with years of experience elapsed since basic nursing education.

Pearson's product-moment correlation coefficient was determined to be -0.202

This is not significant for $n = 80$

where $n$ = the number of pairs considered.

For significance at $n = 80$ Pearson's product-moment correlation coefficient would need to be greater than or equal to 0.217 or less than -0.217 (Munro and Visintainer 1986, p.358).
Secondly, it was hypothesized that nurses whose basic education included the nursing process would have a more positive attitude towards the nursing process than those who had not.

The third hypothesis stated that nurses who had completed post basic or inservice education in the nursing process would have a more positive attitude that those who had not.
Table 5.1 shows the mean attitude scores of respondents categorized according to the presence of nursing process education.

The mean attitude scores of respondents with nursing process education and no nursing process education in their basic nurse programme were plotted against the presence of nursing process education in basic, inservice and post basic education. This is indicated in Figure 5.7
An analysis of variance procedure was performed (see Appendix F) using data from Figure 5.7 to test hypotheses two and three.

The result of the procedure showed

\[ F(1, 74) = 0.0320, p < 0.05 \]

This indicated a difference in the attitude scores of respondents who had experienced nursing process
education in basic nursing education compared with those who had not.

There was no significant difference in the attitude scores of those respondents who had undertaken postbasic or inservice education in the nursing process compared to those who had not.

That is, \( F(2, 74) = 0.0835, p > 0.05 \)

A review of Figures 5.6 and 5.7 together with the analysis of variance procedure indicated nurses' attitudes relative to education and experience.

Further interpretation and discussion of the findings are given in chapter 6.
6.1 DISCUSSION OF FINDINGS

The objectives set for this study related to nurses' attitudes to the nursing process and the influence of education and experience on these attitudes.

Sutcliffe (1990) comments that most of the literature concerning the nursing process supports the claim of improved quality of care for clients. In the study conducted by Rushton (1988), the majority of nurses agreed that the nursing process had a positive impact on nursing care. The assertion that the nursing process facilitates more systematic assessment of the client's condition, and that care planning is made more relevant when it included participation by the client and family is well documented. The result is more effective delivery of individualized client care.
The findings in this study indicate that there is a moderately positive attitude toward the nursing process as a means of providing quality care. In stating this, however, a lesser, though significant, proportion of respondents acknowledge no link with improved nursing care. Many respondents indicate that the nursing process engenders an awareness and prioritization of client needs, however, this is not associated with the provision of quality care. It could be suggested that a proportion of the respondents lack a developed knowledge of this approach to nursing, and while they linked the ratification by nursing management with the expectation of provision of quality client care, the understanding of the basic tenets of the approach are absent.

Durgahee (1990) comments on the importance of continuing professional education, and notes that much of the theory being taught is unable to be implemented at practical level. The assumption of this study regarding the lack of knowledge about the nursing process may be related to two factors: that the attitudes of these nurses are
dictated by the presence or absence of nursing process education in previous education; or, whatever education had been undertaken in the nursing process, the concepts appear not to have been internalized to allow the transition from theory to practice to occur. This view coincides with the broad problems cited in the literature (Jayram, 1984; Draper, 1986; Lewis, 1988).

The majority of respondents predict an acceptance of the nursing process by the client, however, there is a relatively high uncertainty regarding this point. It could be argued that the acceptance of the nursing process by nursing staff has taken greater precedence in discussion than the acceptance by the client.

In this study, the attitudes seen as barriers to the implementation of the nursing process coincide with the expectations of the study. That is, the excessive requirement for paperwork (Chiarella, 1983; Henderson, 1987; Melia, 1988) and the lack of time to implement the nursing process (Ashworth, 1980; Ives, 1987; Daws, 1988) are perceived as major impediments to the use of the nursing process.

The value of the nursing process to nursing is
acknowledged in this study and its acceptance by nursing staff is the view of the majority. There is a willingness to embrace the concept of the nursing process, although many respondents indicate they are weary of its discussion and want to get on with its use. It could be assumed that the motivation behind this attitude is either that the readiness to use the nursing process is a result of an eagerness to explore new approaches to nursing practice, or it is used by default. There appears to be an element of resignation towards use of the nursing process; that is, the respondents express an awareness of the nursing process, of its function as a framework for nursing practice, and that there is an expectation that they would use it. However, there is uncertainty about its efficacy in practice and the inference is that it would be used by nurses because they have no choice in its implementation.

Some uncertainty is found regarding its success in practice and the majority of respondents predict problems with implementation. These findings coincide with the expectations of the study.

Many respondents regard the nursing process as
applicable in any area with the majority indicating that the nursing process should be used by those other than qualified nurses. The latter comment could be interpreted from the viewpoint that student nurses are able to implement the nursing process as a learning tool.

The majority of respondents agree that the nursing process was more than an elaborate Kardex system, however over a quarter of respondents are unsure of what a Kardex system is. It could be inferred that this reflects a lack of familiarity with that particular method of documentation or the relatively few number of years experience in nursing practice of these respondents.

The influence of experience on the attitudes of nurses in the sample does not meet the expectations of the study. No significant correlation between the number of years experience since basic nurse education and the attitude to the nursing process of the respondents is found. Significantly, six of the fifteen respondents who could not have an attitude score calculated have over twenty years experience since their basic nurse education. The assumption could be made that the failure to complete the questionnaire
reflects a negative attitude in these respondents and, were they included, would contribute to the expectations of the study. However, rigorous research precludes this point and it is concluded that the findings are not consistent with those cited in the literature. McHugh (1987) contends that the long practising nurse has little need of the nursing process as a sequential problem solving method, using instead an intuitive approach. This view is not congruent with the findings in the study.

The study found that the attitudes of nurses with nursing process education in their basic nurse education are more positive than of those without nursing process education. This could be deemed a logical conclusion, and indicates that differences might stem from the type of basic nursing education undertaken. It could be inferred that attitudes are set early in the learning process. Ward (1985) comments that because basic education provides greater security, it would always be perceived by the nurse as the right way of doing things. In this way, strong attitudes are formed in early education which are harder to change with time. The significance of inservice or postbasic education in influencing strong and deeply rooted attitudes, as asserted by Bowman et
al. (1983), may be exaggerated, in that the findings in this study indicate that inservice or postbasic education in the nursing process make no significant difference to nurses' attitudes. This was not an unexpected outcome of the research. Bowman et al. (1983) comment that a structured educational programme encourages positive attitudes to the nursing process, however a less structured approach had the opposite effect. Later research by Bowman et al. in 1986 stresses the importance of teaching and practice in attitude change, however, whether the change would be sustained was a speculation. The findings in this study may reflect the unstructured nature of post basic and inservice nursing education in the nursing process experienced by the respondents. There was no determination of this in the data gathering process. A more developed data collecting tool would have ascertained the type and quality of inservice or postbasic education undertaken by the nursing staff thus making this finding more significant. It is postulated that attendance at inservice or postbasic nurse education seminars does not guarantee learning or attitudinal change. Motivation for attending may be self induced, or employer induced as a requisite for employment.
It is considered that the findings of this study of a convenience sample, while having limited generalizability, are valid. The conceptual framework derived from Shea (1986) supports a relationship between nurses' attitudes to the nursing process and, education and experience. This link is evidenced in the findings. Conclusions and implications can be derived from these findings and are discussed in Chapter 7.
CHAPTER 7

CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS

This study examines the attitudes of nurses to the nursing process and relates these attitudes to experience and education. In the context of limited generalizability arising from convenience sampling and setting, conclusions have been drawn, recommendations for further research have been made and implications for nursing theory and practice have been proposed. These conclusions, recommendations and implications are discussed in the following sections of this chapter.

7.1 CONCLUSIONS

NURSING STAFF HAVE MODERATELY POSITIVE ATTITUDES TO THE NURSING PROCESS

The finding of moderately positive attitudes held by respondents to the nursing process is congruent with
the findings of Rushton (1988). The findings indicated a readiness to put the nursing process to use, although there was frustration at its continued discussion and an acknowledgement that implementation would not be problem free. The major impediments to its use are strongly identified as an excess of paperwork and a lack of time to adequately use it. It is concluded that the moderately positive attitudes held by nurses, impact on the use of the nursing process and ultimately on the standards of nursing care.

EXISTENCE OF A KNOWLEDGE DEFICIT ABOUT THE NURSING PROCESS

It is concluded that the failure to acknowledge improved quality of care as one of the desirable outcomes of the nursing process stems from a lack of knowledge about the theoretical concepts of the nursing process. Poor knowledge and lack of understanding have been acknowledged as problems encountered by nurses (Castledine, 1982). The nurses to whom this applies in the study, may not have experienced nursing process education. For those who have, the inference is that nursing process theorists have tended to leave the translation into practice to
nurse practitioners (Miller, 1985) with a resulting wide range of interpretations.

NURSING STAFF ARE RESIGNED TO THE USE OF THE NURSING PROCESS.
It is concluded that nurses have accepted the nursing process as a framework upon which to base their nursing practice, however there exists an apathy towards its use. It is assumed that the implementation of the nursing process is viewed as a management prerogative which nurses as employees feel bound to obey. Goodall (1988) comments that nurses could be persuaded into using an approach that is approved and encouraged by both managerial and educational staff, none of whom use the nursing process in practical situations.

THERE IS NO RELATIONSHIP BETWEEN THE NUMBER OF YEARS EXPERIENCE SINCE BASIC NURSE EDUCATION AND ATTITUDE TO THE NURSING PROCESS
The conclusion that longer nursing experience does not generate a more negative attitude to the nursing process was not congruent with the findings of previous research (Thomas, 1984 in Black 1989, p.92). The different results may emerge from an alteration of
the sampling frame and the placement of more stringent controls on the study. It may also be that the more experienced nurse makes better use of the intuitive aspects of the nursing process (McMurray, 1989; Rew & Barrow, 1989) using elements of the process to circumvent the need for working through the problem solving stages. These more experienced nurses may not express an aversion to the nursing process because they still use it, albeit, subconsciously.

BASIC NURSE EDUCATION IN THE NURSING PROCESS INFLUENCES ATTITUDES POSITIVELY.

The conclusion that the attitude of nurses who had undertaken education in the nursing process was more positive is one that met the expectations of the study and related directly to the literature (Ward, 1985). It has been suggested that attitude formation relates to prior nursing education (Thurber, 1988). It is concluded that if the nursing process had been taught in the basic nursing programme the attitudes formed at that time would have been well established and nourished in an environment conducive to the maintenance of that attitude.
NURSES' ATTITUDES TO THE NURSING PROCESS ARE NOT POSITIVELY INFLUENCED BY INSERVICE OR POSTBASIC EDUCATION.

The conclusion that inservice or postbasic education had no significant influence on nurses' attitudes to the nursing process was congruent with the assertion by Bowman et al. (1986), that a loosely structured postbasic educational programme did little to improve attitudes whereas a better defined education programme met with greater success.

7.2 RECOMMENDATIONS FOR FURTHER RESEARCH

From the conclusions drawn regarding the description of nurses' attitudes to the nursing process and the influence of experience and education on these attitudes, recommendations for further research are as follows:

* Replication of the study to validate the findings of this study.

* Nurses' knowledge of the nursing process be tested to ascertain the need for structured educational programmes.
* Examination of the attitudes of nurses after the completion of a structured postbasic educational programme in the nursing process to determine the effectiveness the programme.

* The role of intuition in the nursing process be identified.

* Testing of the nursing process as a problem solving framework to validate improved quality of client care as an outcome.

* Examination of attitude of the client towards the nursing process as a receiver of nursing care.

* The extent to which the nursing process is used in hospitals be determined in order to plan postbasic nursing education curricula.

7.3 IMPLICATIONS FOR NURSING PRACTICE

The nursing process has been defined as a framework for nursing practice. There is a belief that it is an ideal approach to the practice of nursing and almost a panacea for nursing's ills. A responsibility has been placed upon it to deliver the desired outcomes which have been so well documented in the literature.

However, this problem solving approach is only as effective as the people using it. The onus lies with
every nurse to develop a sound working knowledge of the nursing process. This applies particularly where this approach has been introduced in practice.

The nursing process has been accepted with rapidity and much of the literature is given to description and response to implementation. There has been little time, in Western Australia, to subject the theoretical framework to testing. Much of the difficulty of translation of theory into practice comes from a misunderstanding of the purpose that a theoretical base gives to practice. Nursing's professional development is still in its infancy. As the number of tertiary educated nurses increases, the utilization of frameworks underpinning practice will become the norm because of attitudinal change over time.

This study seeks to describe nurses' attitudes to the nursing process because it is reported that they influence the organization, delivery and evaluation of care. A better understanding of the problems faced by nursing staff would also aid in the planning of nursing education curricula and inservice programmes.

The findings of this study have indicated that attitudes to the nursing process are moderately
positive however, there is lack of understanding and knowledge of the framework, and an associated degree of apathy. Further research is indicated to define specific deficits in knowledge and to explore ways of increasing the efficacy of the nursing process in practice.
REFERENCES
REFERENCES


Castledine, G. (1982). The progress of 'the process'.
Nursing Mirror, June 22, 19.

Chiarella, M. (1983). Nursing process - tool or rule?
Nursing Times, July 13, 72-3.

Cowper-Smith, F. (1978). What is the point of the process?


Draper, P. (1986). Any use for an American import?
Nursing Times, January 8, 37-9.


Holistic Nursing Practice, 1(3), 7-18.

Nursing process and nursing diagnosis. 
Philadelphia: W.B. Saunders Company.

Nursing Mirror, 159(1), 23.

anyone? Do staff nurses use diagnosis effectively? 
The Journal of Continuing Education in Nursing, 
20(10), 30-35.

nursing. Nursing & Health Care, 11(6), 309-312.


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APPENDIX A

Study Questionnaire
PART 1

How much do you agree or disagree with the following statements about the nursing process? Please circle the appropriate response for each statement.

Strongly agree = SA  Agree = A  Uncertain = U  Disagree = D  Strongly disagree = SD

<table>
<thead>
<tr>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>The nursing process improves nursing care</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>The nursing process involves too much paperwork</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>The nursing process is too time consuming</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>The nursing process improves awareness of patient needs</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>The nursing process is a waste of time</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>The nursing process can be used in any area</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>The nursing process is an elaborate Kardex system</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>There is not enough time to use the nursing process</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>Priorities of care are easy to identify using the nursing process</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>The nursing process works well in practice</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>The staff will never accept the nursing process</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I am willing to be involved with the nursing process</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>The Kardex system of nursing records is unsatisfactory</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I like the idea of the nursing process</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I am now ready for the nursing process</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>The nursing process should be used by qualified nurses only</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I am fed up with hearing about the nursing process</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>Patients will not like the nursing process</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>I am convinced the nursing process will work</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>Its introduction will cause problems</td>
<td>SA</td>
<td>A</td>
<td>U</td>
<td>D</td>
<td>SD</td>
</tr>
</tbody>
</table>
PART 11 Please place a tick ( ) in the appropriate box.

1. Type of basic nurse education
   - Hospital based diploma [ ]
   - Tertiary based diploma [ ]

2. Where was it completed?
   - Australia [ ]
   - Other country [ ] Please specify

3. How many years since you completed your basic nurse education?
   ............years

4. Qualification
   - Registered midwife [ ] Go to Qu6
   - Student midwife [ ] Go to Qu5
   - Neither [ ] Go to Qu6

5. If you are a student midwife, when did you begin the course?
   .........../....... Go to Qu6
   month year

6. Have you studied the nursing process in your basic nurse education?
   [ ] yes [ ] no

7. Have you studied the nursing process in post basic education?
   [ ] yes Go to Qu 8
   [ ] no Go to Qu 9

8. How many years since completing post basic education?
   ............years

9. Have you studied the nursing process in in-service education?
   [ ] yes Go to Qu 10
   [ ] no Omit Qu 10

10. How long ago?
    .........../........
    months years

Thankyou for your co-operation and assistance.
APPENDIX B

Letter of Permission
Dear Glenda,

Many thanks for your letter dated 18th October 1990.

I have no objections to your using the instrument to measure attitudes towards the nursing process as published in 1983. You are quite right about the copyright, we do not believe such action is in the interest of nursing generally. However we do ask that copies of completed work from use of the instrument is sent to use for our own records.

You may be interested to know of another publication from the use of the instrument:

The influence of a positive environment on the attitudes of student nurses towards the nursing process.
Journal of Advanced Nursing:11:583-587

Best wishes with your thesis.

Yours sincerely,

G Bowman
Nurse Manager
APPENDIX C

Scoring Tool
APPENDIX C

PART 1

How much do you agree or disagree with the following statements about the nursing process? Please circle the appropriate response for each statement.

Strongly agree = SA    Agree = A
Uncertain = U    Disagree = D    Strongly disagree = SD

<table>
<thead>
<tr>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>The nursing process improves nursing care process</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>The nursing process involves too much paperwork</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The nursing process is too time consuming</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The nursing process improves awareness of patient needs</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
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APPENDIX D

Letter of Invitation to Participate
APPENDIX D

Dear Colleague

Recent conversation with some of the staff showed diverse opinions about the nursing process and how it is used. I am interested in knowing your attitude to the nursing process and would like to invite your participation by completing the attached questionnaire which will take approximately 10 minutes of your time.

All Registered Midwives, Registered Nurses, and Student Midwives are invited to participate.

Please feel free to disregard any question you may not feel comfortable about answering.

You are requested not to mark your form in any way that may identify you so anonymity is assured.

If you do not wish to participate, it would be appreciated if you would mark your form 'not participating' and place it in the collection envelope provided in your work area.

The information obtained from the questionnaire will be treated as confidential and viewed only by myself and, if necessary when analysing the data, by my academic supervisor at Edith Cowan University.

The Director of Nursing has given permission for the questionnaire to be distributed and a summary of the results will be made available to the Director of Nursing, and to any interested individual or group on request at the completion of the study in May, 1991.

It is hoped that this study will lead to a better understanding of the educational needs of nurses in the work place.

Should there be any queries I can be contacted on ph [redacted].

Your interest and assistance is much appreciated.

Yours sincerely,

............... 

Glenda Prideaux.

This study is part of the requirements for the degree of Bachelor of Health Science (Nursing) Honours.
APPENDIX E

Tabulation of Attitude Frequencies
APPENDIX E

Tabulation of Attitude Frequencies

Where  s/a = strongly agree
        a = agree
        u = uncertain
        d = disagree
        s/d = strongly disagree

cumcnt = cumulative count

cumpct = cumulative percent

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APPENDIX F

Analysis of Variance Procedure
APPENDIX F

SAS

ANALYSIS OF VARIANCE PROCEDURE

Class Level information

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Number of observations in data set = 80

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R-Square C.V. Root MSE ATTITUDE Mean
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Dependent Variable: ATTITUDE

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ALPHA = 0.05

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