RESEARCH ESSAY

By

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Submitted in partial fulfillment of the requirements for the degree

M. Soc. Sc.

in the Faculty of Health Science, School of Nursing,

at the University of the Free State

Bloemfontein

Study leader: Dr I Venter

November 2006

DECLARATION

I certify that the research essay hereby submitted by me for the degree M. Soc. Sc. (nursing) at the University of the Free State is my own independent effort and has not previously been submitted by me for a degree at another university/faculty. I furthermore waive copyright for the thesis in favour of the University of the Free State.

Signature: ____________________________

Heleni Girma Wolde-Giorgis

ACKNOWLEDGEMENTS

First of all, I would like to thank my creator God for giving me the health and energy to go through the difficult times and for helping me achieve my dream.

I am grateful to my study leader, Dr I Venter of the School of Nursing at the University of the Free State, for her continuous guidance and invaluable advice throughout my study period.

I am highly indebted to Dr L Roets, Director of Postgraduate Program in the School of Nursing for her advice and support during my study.

My special thanks also goes to Mrs. PJ Peyper and Mrs. JS Erasmus who have been very helpful to me in many ways and for their warm reception at their office.

I am highly grateful to my husband Yali Edessa and my daughter Liya Yali for their understanding, patience and tolerance while I was busy with my study and sometimes away from home for practical study purposes. Their close presence and support provided me with warmth and comfort and guided my work. The prayer of my daughter at all meal times has been very comforting to me.

Finally, I am highly indebted to my brothers, Hawlte Girma and Zeweter Girma and my sister Afomia Girma who are very far away (in Canada) physically, but always with me in their thought. They have been very supportive financially and morally during the whole period of my study and always.

DEDICATION

I would like to dedicate this work to my mother, Debritu Kebede, who has shouldered all the responsibilities of raising us as a single parent without many resources, but with abundant love. Without her having gone to school, my mother gave me the opportunity to taste the fruit of education and helped me reach a new height.

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1.1 INTRODUCTION

The word quantitative implies some form of measurement and is generally used to describe research studies in which an attempt has been made to measure research data in numerical terms. According to Clifford and Gough (1990:71) quantitative research is defined as a formal, objective, systematic process in which numerical data are used to obtain information about the study subject, through description of variables, examining relationships among variables, and determining cause -and -effect interactions between variables. The researchers argue that currently, the predominantly used method of scientific investigation in nursing is quantitative research. This is mainly because some researchers believe that quantitative research provides a sounder knowledge base to guide nursing practice than qualitative research. Quantitative approaches, including descriptive, correlational, quasi-experimental, and experimental are used to develop nursing knowledge. The advantage of quantitative approach is that it is possible to measure the reactions, thus facilitating comparisons and statistical aggregation of the data. This gives a broad, generalizable set of findings presented succinctly and parsimoniously. By contrast, qualitative methods typically produce a wealth of detailed information about a much smaller number of people and cases. This increases understanding of the cases and situations studied but reduces generalizability (Patton, 1990:14).

Quantitative research is described as the traditional, experimental, or positive approach, and qualitative approach as the interpretative, constructivist, or post-positivist approach. Generally, quantitative research is used to answer questions about relationships among measured variables with the purpose of explaining, predicting, and controlling phenomena, whereas qualitative research is typically used to answer questions on the complex nature of phenomena, often with the purpose of describing and understanding the phenomena from the participants' point of view (Leedy and Ormrod, 2001:101).

According to Yegids and Weinbach (2002:153), qualitative methods are commonly used for better understanding of behaviours or phenomena about which we have only limited understanding. When used for this purpose, a research study can be described as exploratory. Less frequently, qualitative methods are used to describe a behaviour or phenomenon that is already understood somewhat. It is not expected to see qualitative methods used very often in explanatory research, because the conditions for testing hypotheses (for example, representative samples, control of extraneous variables) are not characteristic of qualitative research. In contrast, more quantitative methods are often found in explanatory research studies, and also in descriptive research.

1.2 DEFINITIONS

1.2.1 Qualitative research

Qualitative research is a relatively new approach to research in nursing and thus is not as well understood as quantitative research. Qualitative research is a systematic, subjective approach used to describe life experiences and give them meaning. This type of research is conducted to describe and promote understanding of such human experiences as pain, caring, powerlessness, and comfort. Because human emotions are difficult to quantify (assign a numerical value), qualitative research seems to be a more effective method of investigating these emotional responses than is quantitative research. In addition, qualitative research focuses on understanding the whole, which is consistent with the holistic philosophy of nursing (Burns and Grove, 1995:392).

The term qualitative research encompasses several approaches to research that are, in some respects, quite different from one another. According to Leedy and

Ormrod (2001:147), all qualitative approaches have two things in common: (1) they focus on phenomena that occur in natural settings- that is, in the "real world", and (2) they involve studying those phenomena in all their complexity. This indicates that qualitative researchers rarely try to simplify what they observe. Instead, they recognize that the issue they are studying has many dimensions and layers, and so the need to understand and portray the issue in its multi-faceted form. The authors highlighted that the acceptance by many qualitative researchers that there isn't necessarily a single, ultimate truth to be discovered, but instead, there may be multiple perspectives held by different individuals, with each of these perspectives having equal validity, or truth. As a general rule, qualitative studies do not allow the researcher to identify cause-and-effect relationships to answer questions, such as what caused what or why did such-and-such happen.

According to Leedy and Ormord (2001:148), qualitative research studies typically serve one or more of the following purposes.

- **Description**: They can reveal the nature of certain situations, settings, processes, relationships, systems, or people.
- **Interpretation**: They enable a researcher to: (a) gain insights about the nature of a particular phenomenon, (b) develop new concepts or theoretical perspectives about the phenomenon, and/or (c) discover the problems that exist within the phenomenon.
- **Verifications**: They allow a researcher to test the validity of certain assumptions, claims, theories, or generalizations within real-world context.
- **Evaluations**: They provide a means through which a researcher can judge the effectiveness of particular policies, or innovations.

1.2.2 Quantitative research

Burns and Grove (1997:62) describe quantitative research as the traditional research approach in nursing, where nurses use a broad range of quantitative approaches, including descriptive, correlational, quasi-experimental, and experimental to develop nursing knowledge. Some of the relevant concepts in quantitative research include basic and applied research, rigor and control. They further noted that, basic or pure research is a scientific investigation that involves the pursuit of "knowledge for knowledge's sake" or for pleasure of learning and finding truth, while applied or practical research is a scientific investigation conducted to generate knowledge that will directly influence or improve clinical practice. Conducting quantitative research involves rigor, which requires discipline, adherence to detail, and strict accuracy. A rigorous quantitative researcher constantly strives for more precise measurement tools, representative samples, and tightly controlled study designs.

1.3 QUANTITATIVE RESEARCH METHODS

1.3.1 Descriptive research

Leedy and Ormrod (2001: 191) identify this type of research as one that involves either identifying the characteristics of an observed phenomenon or exploring possible correlations among two or more phenomena. In every case, descriptive research examines a situation as it is, and it does not involve changing or modifying the situation under investigation, nor is it intended to detect cause-and-effect relationship.

Similarly, Burns and Grove (2001: 30) indicated that descriptive studies are a way of (1) discovering new meaning, (2) describing what exists, (3) determining the frequency with which something occurs, and (4) categorizing information. In short, descriptive studies provide an accurate portrayal or account of characteristics of a particular individual, situation, or group, and are usually conducted when little is known about a phenomenon. In descriptive research, investigators often use different methods, such as interviews, unstructured observation, structured observation (observation guided by a checklist), and questionnaires to describe the phenomenon under study, and provide the knowledge base and potential hypotheses to direct the conduct of correlational, quasi-experimental, and experimental studies.

1.3.2 Correlational research

According to Burns and Grove (2001:30), correlational research involves the systematic investigation of relationships between or among two or more variables that have been identified in theories or observed in practice, or both. If the relationships exist, the researcher determines the type (positive or negative) and the degree or strength of the relationships. They noted that the primary intent of correlational studies is to explain the nature of relationships, and not to determine cause and effect. Thus, correlational studies are the means for generating hypotheses that could guide quasi-experimental and experimental studies focusing on examining cause and effect interactions.

Moreover, a correlational study examines the extent to which differences in one characteristic or variable are related to differences in one or more other characteristics or variables (Leedy and Ormord, 2001: 191). In this type of study, researchers gather data (numbers), such as test scores, ratings or frequencies assigned by an expert observer of certain behaviours, for a particular group of people or other appropriate units of study, reflecting specific measurements of the characteristics in question. The researcher, then, examines the existence of correlation between any of the variables studied. For instance, a correlation exists if, when one variable increases, another variable either increases or decreases in a somewhat predictable fashions.

1.3.3 Quasi-experimental research

The main purposes of quasi-experimental research, as described by Cook and Campbell (1979; cited in Burns and Grove, 2001: 30), are as follows: (1) to explain relationships, (2) to clarify why certain events happened, or (3) a combination of these. These are reported to be the basis for testing the effectiveness of nursing interventions that can then be implemented to control the outcomes in nursing practice. However, they argue that quasi-experimental studies are less powerful than experimental studies because they involve a lower level of control in at least one of the three areas, such as (1) manipulation of the treatment variable, (2) manipulation of the setting, and (3) selection of subjects. On the other hand, in studies, such as in clinical areas or in studying human behaviour, where researchers are usually unable to manipulate or control certain variables and study subjects are not randomly selected, use of quasi-experimental studies is a preferred quantitative method (Burns and Grove, 2001: 30).

1.3.4 Experimental research

The experimental method is the last major approach to research that we consider. The basic purpose of experimental research is to examine the possible influence that one factor or condition may have to another factor or condition; in other words, it examines cause-and-effect relationships. It does so, ideally, by controlling all factors except those whose possible effects are the focus of investigation. Leedy and Ormrod (2001:229), describe three main characteristics of experimental studies, namely (1) a controlled manipulation of at least one treatment variable (independent variable), (2) administration of the treatment to some of the subjects in the study (experimental group) and not to others (control group), and (3) random selection of subjects or random assignment of subjects to groups, or both. It is for these reasons that experimental studies usually have very controlled settings in laboratories or research units in clinical agencies.

1.3.5 Advantages and disadvantages of quantitative research

According to Silverman (2000:3), a quantitative research approach has both advantages and disadvantages, depending on the nature of the study under investigation. Some of the features and the advantages of quantitative research methods are summarized in Table 1.1.

Table 1.1: Advantages of quantitative research (from Silverman, 2000:3)

Method	**Features**	**Advantages**
Social survey	Random samples Measures variables	Representative Tests hypotheses
Experiment	Experimental stimulus 'Control group' not exposed to stimulus	Precise measurement
Official statistics	Analysis of previously collected data	Large datasets
'Structured' observation	Observations recorded on pre-determined schedule	Reliability of observations
Content analysis	Pre-determined categories used to count content of mass media products	Reliability of measures

Inspite of the above listed advantages, Silverman (2000:7) highlighted some criticisms regarding the use of quantitative research methods as follows.

- Quantitative research can amount to a 'quick fix', involving little or no contact with people or the 'field'
- Statistical correlations may be based up on 'variables' that, in the context of naturally occurring interaction, are arbitrarily defined
- After-the –fact speculation about the meaning of correlations can involve the very common-sense processes of reasoning that science tries to avoid

- The pursuit of 'measurable' phenomena can mean that unperceived values creep into research by simply taking on board highly problematic and unreliable concepts such as 'delinquency' or 'intelligence'
- While it is important to test hypothesis, a pure statistical logic can make the development of hypothesis a trivial matter and fail to help in generating hypothesis from data

1.4 QUALITATIVE RESEARCH METHODS

The term qualitative research encompasses several approaches to research that are, in some respects, quite different from one another, but commonly used to better understanding behaviours or phenomena about which we have only limited understanding. Some of the different qualitative methods are described in the following sections.

1.4.1 Phenomenological research

Creswell (1998:107) describe the term phenomenology, in its broadest sense, as referring to a person's perception of the meaning of an event, as opposed to the event as it exists external to the person. A phenomenological study is a study that attempts to understand people's perceptions, perspectives, and understandings of a particular situation. In some cases, the researcher has had personal experience related to the phenomenon in question and wants to gain a better understanding of the experiences of others. By looking at multiple perspectives on the same situation, the researcher can then make some generalizations of what something is like from an insider's perspective. The author further noted that phenomenological researchers depend almost exclusively on lengthy interviews (perhaps 1-2 hours in length) with a carefully selected sample of participants. A typical sample size is from 5-25 individuals, all of whom have had direct experience with the phenomenon being studied.

1.4.2 Grounded theory research

One of the best known methods of qualitative research is grounded theory. It relies heavily on skilful interviewing and a specialized form of content analysis. According to Yegidis and Weinbach (2002:141) grounded theory research seeks to learn what meaning people give to certain events in their lives. Like most qualitative research, it seeks to generate hypotheses and attempts to build theory from data (in contrast to quantitative research, which often tests theories using data). Researchers conducting grounded theory research constantly monitor and reshape their developing theories. In grounded theory research, sample selection, data collection, and data analysis occur simultaneously rather than in a pre-established sequence. Grounded theory is based on the premise that the meanings that people give to events in their lives (for example, certain experiences or loses) are very important in understanding their responses and resilience to the events (Yegidis and Weinbach, 2002:141).

1.4.3 Ethnographic research

One type of research that often takes a form similar to unstructured systematic observation is ethnographic research. It is especially well suited to facilitating an understanding of individuals within their context. Yegidis and Weinbach, (2002:135) describe the purpose of ethnographic research as an approach that allows researchers to do more than simply observe behaviours. It endeavours to help them understand beliefs, attitudes, values, roles, social structures, and norms of behaviour in human environments that are different from their own. Ethnographic methods were first developed in the field of anthropology to guide participant observation and qualitative field research of Western investigators studying behaviour in primitive societies. However, ethnographic methods are now also used to understand subgroups within modern dominant cultures (Yegidis and Weinbach, 2002:135).

1.4.4 Historical research

Historical research involves the systematic collection and analysis of a wide array of historical data relevant to a research question and/or hypothesis. It requires reconstructing the past in order to address some current knowledge deficit or to answer some question or questions. Historical research, as a process, requires the development of a research question or hypothesis that can logically be studied by the analysis of historical documents and other sources that may illuminate the past. Sources of data that may be consulted include interviews with key individuals who were present at an earlier time (oral histories), letters, memoirs, public records and documents, news papers, agency memos, and reports. First hand information, such as that given by key individuals or by their official records, is considered a primary data source. Secondary sources are those accounts that have been written by historians or other persons not directly involved in the historical event. Obviously, the source of data used in a historical research study is a major factor in assessing the quality of its findings (Yedigis and Weinbach, 2002:159).

1.4.5 Philosophical inquiry

Philosophical inquiry involves using intellectual analysis. Ellis (1983; cited in Burns and Grove, 2001: 31) identifies the main purposes of philosophical inquiry as follows: (1) clarify meanings, (2) make values manifest, (3) identify ethics, and (4) study the nature of knowledge. Thus, the philosophical researcher considers an idea or issue from all perspectives by extensively exploring the literature, examining conceptual meaning, raising questions, proposing answers, and suggesting the implications of those answers.

1.4.6 Critical social theory

According to Burns and Grove (2001: 58), critical social theory provides the basis for research that focuses on understanding of how people communicate and how they develop symbolic meanings in the society. The author argues that many of the meanings occur in a world where certain facts of the society are taken for granted, rather than being discussed or disputed and where the established political, social, and cultural orders are perceived as closed to change and are not questioned.

Burns and Grove (2001:32) stated the following regarding the use of critical social theory.

> The researcher attempts to uncover the distortions and constraints that impede free, equal, and uncoerced participation in society. Through research, power imbalances are exposed, and people are empowered to make changes. Empowerment involves: (1) recognizing the contradictions in a situation, (2) reflecting on the reality of the situation, (3) moving to a state of action, and (4) making changes in the situation to correct the contradictions or imbalances.

Critical social theory, thus, provides a philosophical basis for multiple research methods to generate knowledge that might promote empowerment and political change. In this situation, critical social scientists might use either quantitative or qualitative researches, or a combination of the two, and triangulation, in order to make the knowledge generated the most persuasive to policymakers and the public. Ford-Gilboe et al. (1995; cited in Burns and Grove, 2001: 32) indicated that critical nursing science provides a framework from which one may examine how social, political, economic, gender, and cultural factors interact to influence health or illness experiences. Moreover, Burns and Grove (2001:32) emphasise on the need for nurses to be aware of constraints and power imbalances in society that affect areas, such as access to care, care of the chronically ill, and pain management of the terminally ill, because the patients' and families' health needs and the health care system developed to meet these needs are continuously influenced by the social system that surrounds them.

1.4.7 Advantage and disadvantage of qualitative research

Qualitative research is a generic term for different investigative methodologies described in the preceding sections. It emphasizes on the importance of looking at variables in the natural setting in which they are found. Some of the advantages and disadvantages of qualitative research are summarized in Table 1.2.

Table 1.2: Advantages and disadvantages of qualitative research (from Key, 1997, accessed online)

Advantages	**Disadvantages**
• Produces more in-depth, comprehensive information. • Uses subjective information and participant observation to describe the context, or natural setting, of the variables under consideration, as well as the interactions of the different variables in the context. It seeks a wide understanding of the entire situation.	• The very subjectivity of the inquiry leads to difficulties in establishing the reliability and validity of the approaches and information. • It is very difficult to prevent or detect researcher induced bias. • Its scope is limited due to the in-depth, comprehensive data gathering approaches required

However, in many quantitatively oriented social methodology textbooks, qualitative research is often treated as a relatively minor methodology. As such, it is suggested that it should only be contemplated at early or 'exploratory' stages of a study. Viewed from this perspective, qualitative research can be used to familiarize oneself with a setting before the serious sampling and counting begins. This view is expressed in the following extract from an early textbook by Selltiz et al. (1964:435) cited by Silverman (2000:9). Note how the authors refer to 'nonquantified data' implying that quantitative are the standard form:

> The inspection of nonquantified data may be particularly helpful if it is done periodically throughout a study rather than postponed to the end of the statistical

analysis. Frequently, a single incident by a perceptive observer contains the clue to an understanding of a phenomenon. If the social scientist becomes aware of this implication at a moment when he can still add to his material or exploit further the data he has already collected, he may considerably enrich the quality of his conclusions.

1.4.8 Criteria for evaluating qualitative research

The criteria for evaluating a qualitative design are a little more vague and probably can best be stated as a group of related questions given below (Tesch, 1990:55).

- Did the data collection methods seem to encourage research participants to discuss their experiences and perceptions honestly and candidly?
- To what degree do the data reflect a diversity of experiences and perceptions?
- Do the data reflect the "richness" that is sought when using qualitative methods?
- Did the design yield data can be evaluated in relation to existing knowledge found in the professional literature?
- Did the research produce credible theories or hypothesis for future research?

1.5 THE COMBINATION OF QUALITATIVE AND QUANTITATIVE APPROACHES (TRIANGULATION)

The term "triangulation" originally coined by Denzin (1978; cited by De Vos, 1998:359), referred mainly to the use of multiple methods of data collection with a view to increase the reliability of observation, and not specifically to the combination of quantitative and qualitative approaches. Some of the guidelines on the practical meaning of triangulation are stated below.

- **Theoretical triangulation:** Involves the use of several frames of reference or perspectives in the analysis of the same set of data.
- **Data triangulation:** Is an attempt to gather observations through the use of a variety of sampling strategies to ensure that a theory is tested in more than one way.
- **Investigator triangulation:** Is the use of multiple observers, coders, interviewers and/ or analysts in a particular study.
- **Methodological triangulation:** Is the use of two or more methods of data collection procedures within a single study, i.e. the original meaning.

1.6 COMPARISON OF QUANTITATIVE AND QUALITATIVE RESEARCH

Quantitative and qualitative research methods generate different kinds of knowledge that are useful in nursing practice, thus, complement each other. According to Burns and Grove (2001:27), the problem area to be studied determines the type of research to conduct, and therefore, the researcher's knowledge of both types of research methods promotes accurate selection of the methodology for the problem identified. In the following sections, a comparison of these two approaches will be highlighted in terms of, researcher-participant relationship, philosophical origin, rigor, focus and validity.

1.6.1 Researcher-participant relationships

One of the important differences between qualitative and quantitative research lies in the relationships between the researcher and the individuals or subjects being studied, i.e. participants. Burns and Grove (1995:398) highlighted the impact of the nature of these researcher-participant relationships on the data collected and its interpretation. For instance, they noted that, in many qualitative studies, the researcher observes social behaviour and may interact socially with the participants, where, to a certain extent, the researcher influences the individuals being studied and, in turn, is influenced by them. Even, the mere presence of the researcher may alter behaviour in the setting. This involvement, considered a source of bias in quantitative research, is considered by qualitative researchers to be a natural and necessary element of the research process (Burns and Grove, 1995:398). They recommend that the researcher must become closely involved in the subject's experience in order to interpret it, as the skills in empathy and intuition are cultivated.

Burns and Grove (1995: 398) suggest that, in qualitative research, it is necessary for the researcher to be open to the perceptions of the participants, rather than to attach his or her own meaning to the experience, because participants often can assist in determining research questions, guiding data collection, and interpreting results. In addition to the role the researcher takes in the relationship, expectations of the study must be carefully considered. The researcher's aims and means need to be consistent with those of the participants. For example, if the researcher's desire is to change the behaviour of the participants, this must also be their desire.

1.6.2 Philosophical origins of quantitative and qualitative research

Quantitative research: This research approach is thought to produce a result that is based on rigor, objectivity, and control. Burns and Grove (2001:27) describe that quantitative approach toward scientific inquiry emerged from a branch of philosophy, called logical positivism, which operates on strict rules of logic, truth, laws, axioms, and predictions. According to their view, quantitative researchers hold the position that 'truth' is absolute and that there is a single reality that one can define by careful measurement. Thus, to find the truth, one must be completely objective, where values, feelings, and personal perceptions cannot enter into the measurement of the reality. Quantitative researchers believe that all human behaviour is objective, purposeful, and measurable, and that the researcher needs only to find or develop the 'right' instrument or tool to measure the behaviour.

Qualitative research: According to Burns and Grove (2001:28), qualitative research is reported to have evolved from the behavioural and social sciences as a method of understanding the unique, dynamic, holistic nature of human beings. They describe the philosophical base of qualitative research as interpretive, humanistic, or naturalistic and is concerned with understanding the meaning of social interactions by those involved. Qualitative researchers, thus, believe that 'truth' is both complex and dynamic and can be found only by studying persons as they interact with and in their socio-historical settings.

1.6.3 Rigor in quantitative and qualitative research

Rigor is the striving for excellence in research and involves discipline, scrupulous adherence to detail, and strict accuracy. A rigorous quantitative researcher constantly strives for more precise measurement methods, representative samples, and tightly controlled designs. Characteristics valued in these researchers include critical examination of reasoning and attention to precision. Logical and deductive reasoning are essential to the development of quantitative research. The research process includes specific steps that are developed with meticulous detail and logically linked together. These steps are critically examined and re-examined for errors and weaknesses in such areas as design, treatment implementation, measurement, sampling, statistical analysis, and generalization. Reducing these errors and weaknesses is essential to ensure that the research findings are an accurate reflection of reality (Burns and Grove, 1997:41).

Another aspect of rigor is precision, which encompasses accuracy, detail, and order. Precision is evident in the concise statement of the research purpose, detailed development of the study design, and the formulation of explicit treatment protocols. But the most explicit use of precision is evident in the measurement or qualification of the study variables. Measurement involves objectively experiencing the real world through the senses: sight, hearing, touch, taste, and smell. The researcher continually searches for new and more precise ways to measure elements and events of the world. Scientific rigor is valued because it is associated with the worth of research outcomes, and studies are critiqued as a means of judging rigor.

Qualitative research methods have been criticised for luck of rigor. However, Burns and Grove (1997:71) argue that these criticisms have occurred because of attempts to judge the rigor of qualitative studies using rules developed to judge quantitative studies. Rigor needs to be defined differently for qualitative research since the desired outcome is different. In qualitative research rigor is reflected in narrowness, conciseness, and objectively and leads to rigor adherence to research designs and precise tactical analysis. Rigor in qualitative research is associated with openness, scrupulous adherence to a philosophical perspective, thoroughness in collecting data, and consideration of all the data in the subjective theory development phase. In order to be rigorous in conducting qualitative research, the researcher must ascend to an open context and be willing to continue to let go of sedimented views (deconstructing). Maintaining openness requires discipline. Lack of rigor in qualitative research is due to problems such as inconsistency in adhering to the philosophy of the approach being used, the failure to "get away from" older ideas, poorly developed methods, inadequate time spent collecting data, poor observations, failure to give careful consideration to all the data obtained, and inadequacy of theoretical development from the data (Burns and Grove, 1997:71).

1.6.4 Validity in quantitative and qualitative research

In quantitative method validity depends on careful instrument construction to be sure that the instrument measures what it is supposed to measure. The instrument must then be administered in an appropriate, standardized manner according to prescribed procedure. The focus is on the measuring instrument, the test items, survey questions or other measurement tools. In qualitative inquiry, however, the researcher is the instrument. Validity in qualitative methods, therefore, hinges to a great extent on the skill, competence, and rigor of the person doing fieldwork (Patton, 1990:14).

1.6.5 Focus of quantitative and qualitative research

Burns and Grove (2001:28) describe the focus or perspective of quantitative research as being concise and reductionistic, which involves breaking the whole into parts so that the parts can be examined. Involvement of researchers in a study is thought to bias or sway the study toward the perceptions and values of the researchers (Burns and Grove, 2001:28), the reason why quantitative researchers remain detached from the study and try not to influence the study with their values (objectivity).

However, according to Burns and Grove (2001: 28), the focus of qualitative research is broad, the intent of which is to give meaning to the whole (holistic) rather than the parts. The qualitative researcher has an active role in the study, and the findings from the study are influenced by the researcher's values and perceptions. Although this research approach is subjective, the proponents of this approach assume that subjectivity is essential for the understanding of human experiences.

The most obvious difference between quantitative research and qualitative research is that quantitative research uses data that are structured in the form of numbers or that can be immediately translated into numbers. If the data cannot be structured in the form of numbers, they are considered qualitative. However, one must note that qualitative data can sometimes be handled in such a way as to produce quantitative data. e.g. the researcher exploring feelings of patients can analyze the responses in clusters that are negative or positive so as to produce a figure/percentage of negative patient and positive patient feelings)

The unique characteristics of these two approaches are described in the following paragraphs.

Purpose: Leedy and Ormrod (2001:102) argue that quantitative researchers contribute to theory by searching for explanations and predictions that will be generalised to other situations and/or people. In contrast, in qualitative research the findings are used to better understand complex situations in order to build theory from the ground up.

Process: Quantitative studies are reported to represent the mainstream approach to research, and therefore, carefully structured guidelines exist for conducting them, where concepts, variables, hypotheses and methods of measurements are defined before the study begins and remain the same throughout (Leedy and Ormord, 2001:102). According to the same authors, quantitative researchers choose methods that allow them to objectively measure the variable(s) of interest by trying to remain detached from the research participants so that they can draw unbiased conclusions. Conversely, the qualitative research process is holistic, where measurement instruments and interpretations developing along the way. In this situation, Leedy and Ormrod (2001: 102) report that researchers enter the setting with open minds, prepared to immerse themselves in the complexity of the situation and interact with their participants, with variables emerging from the data, leading to context-bound information, patterns, and/or theories that help to explain the phenomenon under study.

Data collection: Quantitative researchers identify one or a few variables that they intend to study and then collect data specifically related to those variables. Specific methods of measuring each variable are identified and developed with utmost attention to the validity and reliability of the measurement instruments. Data are collected from a population, in a form that is easily converted to numerical indices. On the other hand, qualitative researchers operate under the assumption that reality is not easily divided into discrete, measurable variables. Qualitative researchers are often described as being the research instrument because the bulk of their data collection is dependent on their personal involvement (interviews, observations) in the setting. Rather than sampling a large number of people with the intent of making generalizations, qualitative researchers tend to select a few participants who can best shed light on the phenomenon under investigation, collecting both verbal data and nonverbal data (Leedy and Ormrod, 2001:102).

Data analysis: All research requires logical reasoning, with quantitative researchers tending to rely more heavily on deductive reasoning, beginning with certain premises (e.g., hypotheses) and then drawing logical conclusions from them. In contrast, qualitative researchers make considerable use of inductive reasoning, making many specific observations and then drawing inferences about larger and more general phenomena, as described in Figure 1 (Leedy and Ormord, 2001: 102).

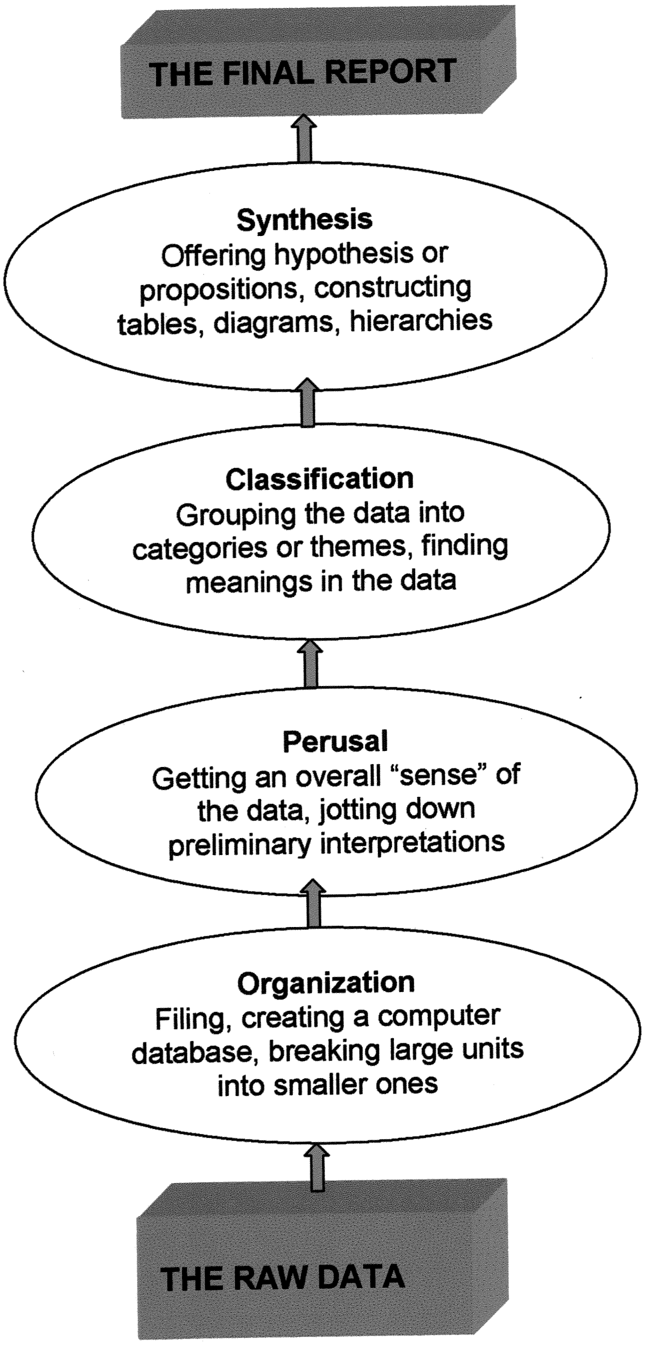

Figure 1.1. A diagram showing the organization and analysis of qualitative data (from Leedy and Ormrod, 2001: 161).

Reporting findings: Quantitative researchers usually reduce their data to numbers, which they present in the form of statistical tests. In this case, the power of interpretation rests in the large number of scores that depict the norm, or average, of the group's performance. The results are usually presented in a report that employs a formal, scientific style using passive voice and impersonal language (Leedy and Ormrod, 2001: 103). Conversely, qualitative researchers construct interpretive narratives from their data and try to capture the complexity of the phenomenon under study, using a more personal, literary style, and including the participants' own language and perspectives. Although all researchers must be able to write clearly, Leedy and Ormrod (2001:103) suggest that to be an effective qualitative researcher one must be specifically skilled in this area.

Some of the unique characteristics of these two approaches in terms purpose, process, data collection, analysis, and reporting findings are summarized in the Table 1.3.

Table 1.3: Characteristics of quantitative and qualitative research (from Burns and Grove, 2001: 27)

Characteristic	**Quantitative research**	**Qualitative research**
Philosophical origin	Logical positivism	Naturalistic, interpretive, humanistic
Focus	Concise, objective, and reductionistic	Broad, subjective, holistic
Reasoning	Logistic, deductive	Dialectic, inductive
Basic of knowledge	Cause-and-effect relationship	Meaning, discovery, understanding
Theoretical focus	Tests theory	Develops theory
Researcher involvement	Control	Shared interpretation
Methods of measurement	Structured interviews, questionnaires, observations, scales, or physiological instruments	Unstructured interviews and observations
Data	Numbers	Words
Analysis	Statistical analysis	Individual interpretation
Findings	Generalization, accept or reject theoretical propositions	Uniqueness, dynamic, understanding of phenomena, and new theory

In order to further highlight the uniqueness of these two research methods in terms purpose, process, data collection, analysis, and reporting findings, few case studies from some countries are presented in the following paragraphs.

Examples of quantitative studies

Forster, McLachlan, Lumley, Beanland, Waldenstrom and Amir, (2004:176) conducted a study aimed at determining the influence of mid-pregnancy breastfeeding education on the proportions of women breastfeeding at hospital discharge and on the duration of breastfeeding in Australia using a quantitative method. In their study, they used a randomized controlled trial to compare two strategies for increasing the initiation and duration of breastfeeding. The study was conducted on 981 primiparas who attended a public, tertiary women's hospital in Melboourne, Australia, and were randomized to one of two interventions or standard care. Based on the statistical analyses, their result showed that, neither of the interventions increased breastfeeding initiation or duration compared with standard care.

Veigh (2005: 21) also conducted a survey in Australia using a quantitative method with the objective of identifying the most common peri-menopausal symptoms experienced by a group of Australian women and to explore the extent to which those symptoms were distressing. The author collected data using self-administered questionnaires from a non reproductive self-selecting convenience sample of 200 women aged 45 to 55 years, who were assumed to be peri-menopausal, and drawn from a state wide population of women residing in New South Wales, Australia. The analyses for this study were performed using SPSS (statistical Package for the Social Sciences) software, using frequency distributions and descriptive statistics to provide information about the sample, symptom frequency; and level of symptom distress. Their result showed that most frequently occurring peri-menopausal symptoms included forgetfulness, lack of energy, irritability, and weight gain. The most distressing peri-menopausal symptoms included weight gain, heavy bleeding, poor concentration and leaking of urine.

Another example of a quantitative study, conducted in Hong Kong, had an objective of determining how patterns of breastfeeding, maternal demographics, and maternal employment affect continuation of breastfeeding in primiparous women in Hong Kong (Dodgson, Tarrant, Fong, Peng and Hui, 2003:195). This research was conducted as part of a larger longitudinal infant feeding study examining the relationship between motivational and situational variables and primiparous' infant feeding behaviours. Self-report surveys were collected from participants while they were in the hospital, and then by telephone follow-up at certain monthly intervals postpartum or until they had discontinued breastfeeding. Data analysis was done using descriptive statistics, the Kruskal-Wallis test, and hazard ratio (HR). Their results revealed that factors such as maternal age, attendance at a prenatal breastfeeding class, intended weeks of breastfeeding, breastfeeding score in hospital, and length of exclusive breastfeeding were significantly associated with continuation of breastfeeding.

Examples of qualitative studies

As described in the preceding sections, qualitative researchers use unstructured observation and interview methods to gather data. The data include the shared interpretations of the researcher and the subjects, and no attempts are made to control the interaction.

For instance, a study conducted in the UK by Graffy and Taylor (2005:179) using a qualitative method, with the objective of examining women's perspectives on the information, advice, and support they receive with breastfeeding, analysed qualitatively women's responses to open questions about their experiences of breastfeeding support. Participants were recruited as part of randomized controlled trial of additional support from volunteer breastfeeding counsellors, and they completed questionnaires when their babies were 6 weeks old. Their result showed that thematic analysis of women's responses to open questions identified five components of the support that women wanted: information about breastfeeding and what to expect, practical help with positioning the baby to breastfeed, effective advice and suggestions, acknowledgment of mothers' experiences and feelings, and reassurance and encouragement.

Another study conducted in the USA by Tabi (2002:275) had the purpose of validating community members' perspectives on teen pregnancy prevention with elements of an educational-career youth developmental model (ECYDM) to reduce teenage pregnancy among African American teens. The specific aims of this study were: (a) to gain understanding of the factors contributing to teenage pregnancy; and (b) to identify pregnancy prevention programme relevant to the needs of African American youth. They employed a qualitative research methodology (explanatory and descriptive) to validate elements in ECYDM with the perspective of community members on teen pregnancy prevention for minority youth in urban communities. Data were collected from a convenience purposive sample of 43 teens and adults in two urban public high schools in two communities in a major mid-western city. Data analysis included transcribing audiotapes from focus group and individual interviews.

The application of this qualitative methodology and its findings has implications for programme design, research, and nursing education. In this particular research problem (i.e. teenage pregnancy) the findings suggest that a piecemeal approach to reducing teenage pregnancy in inner city urban communities will be ineffective and that to achieve desired outcomes, programme interventions must be designed from a holistic perspective to address identified high-risk behaviours in the community that affect youths' growth and development.

Here in South Africa, a qualitative study was done by Uys (2000:79) in Kwazulu-Natal with the aim of describing the perceptions of student nurses on the past, present, and future of the discipline, and identifying common themes and predictions about the future. The researcher used a qualitative explorative survey, in which in-depth interviews were used to gather information from the sample respondents, drawn from three nursing schools. Interviews were taped and then transcribed. Coding was done using five main categories, namely nursing today, changes in the recent past, the future of nursing, the image of nursing and the individual student. This methodology allowed the researchers to assess the responses that reflect an idealistic view of nursing tempered by a realistic knowledge of the difficulties encountered in the practical situation.

In nursing practice, as with many other similar studies, quantitative and qualitative research methods generate different kinds of information that are useful and complement each other. The problem area to be studied determines the type of research method to be employed and therefore, the researcher's knowledge of both types of research methods promotes accurate selection of the methodology for the problem identified.

1.7 SIMILARITIES AND COMPLEMENTARIES BETWEEN QUALITATIVE AND QUANTITATIVE RESEARCH

According to Burns and Grove (2001: 27), the similarities between these two approaches are that both approaches require researcher expertise, involve rigor in implementation, and result in the generation of scientific knowledge for nursing practice. Moreover, both involve similar processes, such as formation of one or more hypotheses, review of the related literature, collection and analysis of data. On the other hand, quantitative research and qualitative research complement each other because they generate different kinds of knowledge that are useful in nursing practice. Some researchers advocate combining qualitative and quantitative research, called triangulation, in order to ensure that the most comprehensive approach is taken to solve a research problem (Burns and Grove, 2001: 34). Some of the general similarities and complementarities of these two approaches are given in Table 1.4.

Table 1.4: Predispositions of quantitative and qualitative modes of inquiry (from Glesne & Peshkin, 1992: accessed online)

Quantitative Mode	Qualitative Mode
Approach • Begins with hypotheses and theories • Manipulation and control • Uses formal instruments • Experimentation • Deductive • Component analysis • Seeks consensus, the norm • Reduces data to numerical indices • Abstract language in write-up	**Approach** • Ends with hypotheses and grounded theory • Emergence and portrayal • Researcher as instrument • Naturalistic • Inductive • Searches for patterns • Seeks pluralism, complexity • Makes minor use of numerical indices • Descriptive write-up
Purpose • Generalizability • Prediction • Causal explanations	**Purpose** • Contextualization • Interpretation • Understanding actors' perspectives
Researcher role • Detachment and impartiality • Objective portrayal	**Researcher role** • Personal involvement and partiality • Empathic understanding
Assumptions • Social facts have an objective reality • Primacy of method • Variables can be identified and relationships measured • Etic (outside's point of view)	**Assumptions** • Reality is socially constructed • Primacy of subject matter • Variables are complex, interwoven, and difficult to measure • Emic (insider's point of view)

1.8 RELATIVE STRENGTH AND WEAKNESSES OF THE TWO APPROACHES

According to Leedy and Ormrod (2001:103), a common weakness of quantitative research is that it is sometimes conducted in a laboratory and therefore somewhat artificial setting. Although contrived circumstances can give the researcher considerable control over the events that occur, the result obtained may, in some cases, not be generalized to more naturalistic settings. In contrast, qualitative research occurs within natural context and so, in this respect, it is more "true to life". Yet the findings of qualitative studies may be so specific to a particular context that they do not apply other contexts.

1.9 ETHICAL ISSUES IN QUALITATIVE AND QUANTITATIVE RESEARCH

Ethics is a set of moral principles which is suggested by an individual or group, is subsequently widely accepted, and which offers rules and behavioural expectations about the most correct conduct towards experimental subjects and respondents, employers, sponsors, other researchers, assistants and students. Some of ethical issues are discussed below (De Vos, 1998:24).

1.9.1 Harm to experimental subjects and/or respondents

Dane (1990:44; cited by De Vos, 1998:24) claims that an ethical obligation rests with the researcher to protect subjects against any form of physical discomfort which may emerge, within reasonable limits, from the research project. Emotional harm to subjects is often more difficult to predict and to determine than physical discomfort, but often has more far-reaching consequences for respondents. The responsibility to protect respondents against harm reaches farther than mere efforts to repair, or attempt to minimise, such harm afterwards. Respondents should be thoroughly informed beforehand about the potential impact of the investigation.

1.9.2 Informed consent

Obtaining informed consent implies that all possible or adequate information on the goal of the investigation, the possible advantages, disadvantages and dangers to which respondents may be exposed, and the credibility of the researcher be rendered to potential subjects or their legal representatives. Emphasis must be placed on accurate and complete information so that subjects will fully comprehend the investigation and consequently be able to make a voluntary, thoroughly reasoned decision about their possible participation.

1.9.3 Deception of subjects and /or respondents

Deception of subjects and/or respondents is deliberately misrepresenting facts in order to make another person believe what is not true, violating the respect to which every person is entitled. It is also withholding information, or offering incorrect information, in order to ensure participation of subjects when they would otherwise possibly have refused it.

1.9.4 Violation of privacy

Privacy implies the element of personal privacy, while confidentiality indicates the handling of information in a confidential manner. Confidentiality is also a continuation of privacy which refers to agreements between persons that limit others' access to private information. The privacy of subjects can also be ensured when proper, scientific sampling is used. It ensures that no subject is involved in the investigation merely because the researcher knows, or does not know the person, or because it is merely convenient for the researcher to involve certain persons, or to exclude them.

1.10 SUMMARY

Nursing research incorporates both quantitative and qualitative research. Quantitative research is an objective, systematic process of using numerical data to obtain information about the world. This research method is used to describe, examine relationships, and determine cause-and-effect interactions. Quantitative research method is classified into four types namely, descriptive, correlational, quasi-experimental, and experimental research. Some of the terms relevant to quantitative research include basic and applied research, rigor and control. Basic, or pure research is a scientific investigation that involves the pursuit of knowledge for knowledge's sake or for the pleasure of learning and finding truth. Applied or practical research is a scientific investigation conducted to generate knowledge that will directly influence or improve clinical practice.

Qualitative research is a systematic, subjective approach used to describe life experience and give them meaning. Knowledge generated from qualitative research provides meaning and understanding of (1) the specific, not the general, (2) values, and (3) life experiences. Qualitative research is classified into six types namely, phenomenological, grounded theory, ethnographic, historical, philosophical inquiry, and critical social theory. Qualitative research and quantitative research complement each other, because they generate different kinds of knowledge that are useful in nursing practice. A comparison of qualitative and quantitative research methods is presented to clarify the similarities and differences of these two methods. Some researchers advocate combining qualitative and quantitative research, called triangulation, in studying certain nursing problems and to ensure that the most comprehensive approach is taken to solve a research problem.

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ESSAY 2: BREASTFEEDING BENEFITS AND ASSOCIATED FACTORS — A LITERATURE REVIEW

2.1 INTRODUCTION

Breast milk is the natural and optimal food for infants. In addition to meeting nutritional needs a report by Pronczuk, Akre, Moy and Vallenas (2002: 349) indicated that breast milk provides numerous immunologic, developmental, psychological, economic, and practical advantages. Breastfeeding has been recognized worldwide as being beneficial for both mother and child. The successful breastfeeding situation offers mother and child ample experience of wellbeing and belonging together which serves to promote the mother-child relationship (Tarkka, Paunonen and Laippala, 1999:114). The World Health Organization urged all member states to support exclusive breastfeeding for six months as a global public health recommendation taking into account the optimal duration of exclusive breastfeeding and to provide safe and appropriate complementary foods with continued breastfeeding for up to two years and beyond (WHO, 2001: online). However, there are many factors associated with breastfeeding practices that may affect the degree of its success, such as attitude of the father of the child to breastfeeding, appreciation of feeding practice in the society, and support and guidance from health care professionals both before and after the birth of the child. In this regard, the World Health Organization (WHO, 1998:5) recommends what they call "The Ten Steps" to be followed for successful breastfeeding by every facility providing maternity services and care for newborn infants.

Malnutrition among infants and young children, which remains one of the most severe global public health problems, is among the main reason that the World Health Organization (WHO, 2001, online) so strongly supports breast-feeding. According to the WHO (WHO: 2001, online), Malnutrition is responsible, directly or indirectly, for 60% of the 10.9 million deaths annually among children under 5 years of age.

To protect breast-feeding from commercial influences the WHO adopted the International Code of Marketing of breast milk Substitutes, which is now being implemented worldwide. Together with the United Nations Children's Fund (UNICEF), the WHO launched in 1991 the baby-friendly hospital initiative so that maternity services can effectively protect, promote and support breastfeeding (Pronczuk, Akre, Moy and Vallenas, 2002: 349).

In this literature review an attempt was made to explore the benefit of breastfeeding for the child and the mother, factors affecting the duration and initiation of breastfeeding and those associated with successful breastfeeding. Finally a brief summary is presented based on currently available information on breastfeeding practices.

2.2 COMPOSITION OF BREAST MILK

Human milk, the best food for babies, contains the right amount of nutrients, in the right proportions, for the growing baby. Due to its excellent composition, it protects the infants against infections and allergies and these are discussed below (Fraser & Cooper 2003: 735).

2.2.1 Nutritional factors

Fats and fatty acids: For the human infant, with his unique and rapidly growing brain, it is the fat and not the protein in human milk that has particular significance. Ninety-eight percent of the lipid in human milk is in the form of tryglycerides: three fatty acids linked to a single molecule of glycerol. Over 100 fatty acids have so far been identified, about 46% being saturated fat and 54% unsaturated fat.

Archadonic acid (AA) and docosahexanoic acid (DHA) appear to play in important role in the development of the retina and visual cortex of the newborn.

Carbohydrates: The carbohydrate component of human milk is provided chiefly by lactose, which provides the baby with about 40% of his caloric requirements. Lactose is converted into galactose and glucose by the action of the enzyme lactase and these sugars provide energy to the rapidly growing brain. Lactose enhances the absorption of calcium and also promotes the growth of lactobacilli, which increase intestinal activity thus reducing the growth of pathogenic organisms.

Protein: Allergic problems occur less frequently in breastfed babies. This may be because the infant's intestinal mucosa is permeable to proteins before the age of 6-9 months and proteins in cow's milk can act as allergens.

Vitamins: All the vitamins required for good nutrition and health are supplied in breastmilk, and although the actual amounts vary from mother to mother, none of the normal variations pose any risk to the infant.

Fat-soluble vitamins: *Vitamin A* is present in human milk as retinol, retinyl esters and beta carotene. Colostrum contains twice the amount present in mature human milk. *Vitamin D* plays important role in the metabolism of calcium and phosphorus in the body and prevent rickets in children. *Vitamin E* Although present in human milk, its role is uncertain. *Vitamin K* is essential for the synthesis of blood clotting factors because it is fat soluble, it is present in greater concentration in colostrums and in the high fat hindmilk.

Minerals and trace elements: Iron and zinc a deficiency of these essential trace minerals may result in failure in thrive and typical skin lesions. Calcium, is more efficiently absorbed from human milk than from breastmilk substitutes.

2.2.2 Anti-infective factors

Leucocytes: Macrophages and neutrophils are amongst the most common leukocytes in human milk and they surround and destroy harmful bacteria by their phagocytic activity.

Immunoglobulin: Five types of immunoglobulin have been identified in human milk: IgA, IgG, Igm and IgD. This affords protection against Escherichia coli, salmonellae, shigellae, streptococci, staphylococci, pneumococci, poliovirus and rotaviruses.

Hormones and growth factors: Epidermal growth factors and insulin-like growth factor are among the most fully studied of the growth factors and regulatory peptides found in breastmilk. They stimulate the baby's digestive tract to mature more quickly and strengthen the barrier properties of the gastrointestinal epithelium.

Lactoferrin: This binds to enteric iron, thus preventing potentially pathogenic E. coli from obtaining the iron they need for survival. It also has antiviral activity (against HIV, CMV and HSV), by interfering with virus absorption or penetration, or both.

Bifidus factor: The bifidus factor in human milk promotes the growth of Gram positive bacilli in the gut flora, particularly Lactobacillus bifidus, which discourages the multiplication of pathogens. (Babies who are fed on cow's-milk-based formula have more potentially pathogenic bacilli in their gut flora)

2.3 BENEFITS OF BREASTFEEDING FOR THE CHILD

Human milk, the best food for babies, contains the right amount of nutrients, in the right proportions, for the growing baby. A living, biological fluid, it contains many unique components and has advantages with respect to infants' general health, especially reduced infectious diseases and chronic digestive diseases (Fisher, Birch, Smiciklas-Wright and Picciano, 2000: 641). Although breast milk is not a panacea, it has been called a "broad spectrum medicine" (Zembo, 2002:58). These and other health benefits of breastfeeding are discussed in the following sections.

2.3.1 Anti-infective effects of breastfeeding on protecting the infants from infections and childhood diseases

One of the benefits of human milk is that it stimulates immune system development. Breastfed children are reported to produce immune cells sooner than do formula-fed children and respond better to immunizations. During the first ten days there are more white cells per milliliter in breast milk than there are in blood. Macrophages and neutrohpils are amongst the most common leukocytes in human milk and they surround and destroy harmful bacteria by their phagocytic activity. A study by Crenshaw (2005:42) found that the thymus glands of exclusive breastfed infants were twice as large as those of formula-fed infants. T-lymphocytes, which recognize and destroy antigens like bacteria, viruses and malignant cells, mature in the thymus.

Several studies have shown that breastfeeding protects against infections and allergies, especially in infancy and the newborn period. There is ample evidence for increased health benefits with extended breastfeeding. Reports suggest that prolonged protection against specific infections occurs with prolonged breastfeeding and that infection with *Haemophilius influenzae* type B is more likely in bottle-fed infants with consistent evidence of protection of young children from chronic otitis media with prolonged breastfeeding (Piovanetti, 2001: 203). Additional evidence of continued protective effects is that the concentrations of immunologic factors in human milk are relatively stable during the second year of breastfeeding.

Furthermore, Zembo (2002: 55) reported that lack of breastfeeding or limited breastfeeding in infancy has been associated with later development of ulcerative colitis, crohn's and celiac disease, malignant lymphomas, childhood leukemia, and multiple sclerosis. The manner in which breast milk provides this protection has not been clearly elucidated in each instance. Zembo (2002: 55) notes the following on human milk:

> *Human milk contains over 200 components, many of which act directly to destroy or inactivate pathogens or indirectly to prevent entry, transport, and proliferation of 20 or more viruses and bacteria harmful to the infant. The secretary immunoglobulins and migratory lymphocytes in breast milk likely play a role in mucosal immunity.*

A study by Ivarsson, Hernell, Stenlund and Persson (2002: 919) also showed that breastfeeding is associated with a reduced risk of celiac disease, which is an immunologic disease strictly dependent on exposure to wheat gluten or related protein in rye and barely. They also reported that breastfeeding reduces the risk of celiac disease in early childhood and probably also during the subsequent childhood period. However, it should be noted that the dietary pattern of infants may interact with an individuals' genetics, resulting in an immunologic process that may or may not result in the small-intestinal celiac lesion.

Breastfeeding may provide long-term cardiovascular benefits: total serum cholesterol and low-density lipoprotein levels are lower in adults who were breastfed as children. According to Crenshaw (2005: 42) breastfeeding has also been associated with lower rates of many illnesses, including the following:

- Asthma and other allergic diseases

- Multiple scelerosis and rheumatoid arthritis
- Type 1 and 2 diabetes mellitus
- Leukemia, Hodkin's disease, and nonhematologic childhood cancers
- Ulcerative colitis, inflammatory bowel disease, and celiac disease
- Sudden infant death syndrome (SIDS)

2.3.2 Effects of breastfeeding on infant brain development

Some authors argue the possibility that genetic and socio-environmental factors have a major role (Piovanetti, 2001: 203), but in a meta- analysis by Anderson et al (1999; cited in Piovanetti, 2001: 203), higher levels of cognitive achievement were observed at all ages, with a clear correlation observed in major benefits with breastfeeding. Although children who are breastfed have better neuro-developmental outcomes, whether this is a biological or nutritional effect, an environmental effect, a genetic effect, or some combination of these factors is unclear (Reynolds, 2001: 159).

According to Reynolds (2001:160), the most rapid accretion of DHA and arachidonic acid in the human brain occurs during the last trimester of pregnancy when these long-chain polyunsaturated fatty acids are provided by the placenta. He further reported that rapid accretion of DHA during the last 3 months of gestation would make premature infants vulnerable to a deficiency of DHA. In a study of infants who died of sudden infant death syndrome, DHA concentrations in the cortex were initially similar in newborns whether they received human milk or infant formula (7%). However, during the first 48 weeks of life, DHA concentrations in the cortex increased in infants who were breastfed to 10%, whereas concentrations in formula-fed infants remained the same. In another study of term infants who died of SIDS (Farfuharson et al., 1992; cited in Reynolds, 2001:160), a postmortem examination found greater parietal cortex DHA in breastfed infants (9.7%) than in formula-fed infants (7.6%) at 9 weeks of age.

Heird (2001: 175) reported that the presence of long chain polyunsaturated fatty acids (LC-PUFAs) in human milk coupled with the higher scores of breastfed on standardized tests of neurodevelopment compared to formula-fed infants shows the importance of these fatty acids (FAs) for optimal development of the visual and central nervous systems. Moreover, a study by Crenhaw (2005: 42) on the differences in cognitive development between breast milk-fed and formula fed babies has shown that those fed breast milk have enhanced cognitive development; among preterm babies the improvement was even more marked. The study also indicated that preterm babies fed breast milk require less medication and have shorter hospital stays than do those fed formula, and they have lower rates of necrotizing enterocolitis, retinopathy of prematurity, and sepsis

Studies have shown that breastfed children perform better on tests of intellectual development than do formula-fed children and the benefits may extend into adulthood. Although more research is needed, the study by Crenshaw (2005: 42) shows that the link between breastfeeding and cognitive development may be related to the long-chain fatty acids found in breast milk, which promote nervous system growth, brain development and visual acuity.

2.3.3 Effects of breastfeeding on visual function of infant

Researchers speculate that dietary availability of DHA should correlate with visual function (Reynolds, 2001: 160). For instance, Neuringer et al (1986; cited in Reynolds, 2001: 160) found functional visual deficits in rhesus monkeys that were deficient in DHA. Photoreceptor membranes, which undergo rapid maturation in the last trimester of pregnancy and the first 4 to 6 months postpartum in the retina, have the highest concentration of DHA (docosahexaenoic acid) in the body. Many studies have also been done in human infants to determine the effects of human milk or dietary fatty acids on visual function, the result of which have been inconsistent. Reynolds, (2001: 161) reported that a positive effect of dietary DHA on visual outcome is more likely to occur in premature infants than in term infants.

2.3.4 The effect of breastfeeding on infant growth

New growth charts from the World Health Organization confirm that breastfed infants grow differently from formula fed babies. Breastfed infants grow faster initially, then slow down as they approach their first birthday. (This can sometimes be interpreted as "dropping off the growth curve," but really represents normal growth.) People artificially fed as infants go on to have a higher risk of obesity as adults (http://medicalreporter.health.org/tmr0297/breastfeed0297.html).

2.3.5 Effects of breastfeeding on infant obesity

Despite the high prevalence of obesity among children in developed countries, the causes of obesity are poorly understood. Investigators have hypothesized that breastfeeding may be protective against obesity. The potential role and plausible biological mechanisms of breastfeeding in the development of obesity must be considered in conjunction with genetic and environmental determinants of obesity. Plausible biological mechanisms underlying the protective role of breastfeeding against obesity are based on the unique composition of human milk, suckling experience, and metabolic and physiologic responses to human milk (.and this is primarily because the nutrient composition of human milk that is qualitatively and quantitatively different from infant formula). Besides its unique nutrient composition, human milk contains bioactive substances that may influence adipocyte differentiation and proliferation (Butte, 2001:190).

Further evidence shows that breastfeeding is associated with long term benefits for the infant, such as a reduced risk of developing overweight and obesity during childhood. After the early cessation of breastfeeding an infant is usually fed infant formula. Because formula-fed infants are often introduced to complimentary foods earlier than are their breastfed counterparts, these infants are exposed to a different feeding pattern than are infants who continued to breastfeed (Baker, Michaelsen, Rassmusen and Sorensen, 2004: 1579).

2.3.6 Effects of breastfeeding in special circumstances

Breastfeeding has other special benefits for premature infants. Premature breast milk contains different amounts of some nutrients than term breast milk, more suited to the needs of premature babies and has been shown to reduce the risk of sepsis in these babies. Because of the reduction in infections and the shorter time to full feeding, breastfed premature infants can usually leave the NICU sooner. For some babies, breastfeeding is a life-and-death matter. Breast milk provides protection against many of the prematurity–specific conditions that very low-birth-weight (VLBW; less than 1500g), infants who prone to develop internal feeding intolerance, nosocomial infection and necrotizing enterocolitis occur less frequently and with less severity in premature infants who receive breast milk compared with cohorts of formula-fed infants. Basic research in this area (Meier, Engstrom, Mingolelli, Miracle and Kiesling, 2004: 164) suggests that this protection is provided through the combination of nutritional, enzymatic, anti-infective, and anti-inflammatory properties in breast milk of women who deliver prematurely.

2.4 PHYSICAL HEALTH AND OTHER BENEFITS OF BREASTFEEDING FOR THE MOTHERS

Breastfeeding not only benefits the infants but also the mothers in different ways. First of all, it almost goes without saying, but what's good for babies is good for mothers. In other words, healthier babies are less stressful to care for, and the decreased medical costs are a boon to the family. Some of the physical benefits of breastfeeding for the mother such as reduced rates of breast cancer, ovarian cancer, and other benefits such as time and cost saving are described below (Montgomery, 1997: online).

2.4.1 Physical health benefits

Breastfeeding lowers the risk of breast and ovarian cancers, and possibly the risk of hip fractures and osteoporosis after menopause and delays the return of normal ovulation and menstrual cycles. Breastfeeding can also help a mother to bond with her baby. Physical contact is important to newborns and can help them feel more secure, warm and comforted.

2.4.1.1 Breast cancer

Among both pre-menopausal and post-menopausal women, it was reported that risk of breast cancer decrease with increasing duration of lifetime lactation experience, although the effect was consistently stronger for pre-menopausal women. Compared with parous women who never breast fed, women who had breastfed for 25 months or more had a lower relative risk. It was also reported that breast cancer among parous pre-menopausal women could be reduced by 11% if women breastfed for 4 to 12 months and if all women with children lactated for 24 months or longer, the incidence might be reduced by nearly 25%. Women who were breastfed as infants, even if only for a short time, showed an approximate 25% lower risk of developing pre-menopausal or post-menopausal breast cancer, compared to women who were bottle-fed as an infant (Ahrendsen, 2005: online).

2.4.1.2 Uterine ovarian and endometrial cancer

A protective effect against uterine cancer was found for women who breastfeed. Reports suggest that breastfeeding should be added to the list of factors that decrease ovulatory age and thereby decrease the risk of ovarian cancer. Lactation provides a hypoestrogenic effect with less stimulation of the endometrial lining that may offer a protective effect from endometrial cancer (Ahrendsen, 2005: online).

2.4.1.3 *Decreased osteoporosis*

For some time, there was concern about calcium loss during lactation and potential for osteoporosis. In fact, some literature actually lists breastfeeding as a risk factor for osteoporosis. Current medical literature demonstrates that not only is the loss in bone density during breastfeeding temporary, reverting to normal after weaning, but that bones may actually be stronger after prolonged breastfeeding. Far from a risk factor for osteoporosis, breastfeeding may actually protect against it (Ahrendsen, 2005: online).

2.4.1.4 *Fertility delayance*

Continued exclusive nursing (i.e., breastfeeding without added bottles of formula or solids) tends to delay the return of ovulation and menstruation. In fact, the lactational amenorrhea method (LAM) is a well-studied method of child spacing which is 99% effective in preventing pregnancy in the first six months as long as exclusive nursing is practiced. In addition to the child spacing advantage, the delayed menses also decrease the mother's iron losses. Moreover, there are many direct health benefits to breastfeeding mothers that immediately after birth, repeated bursts of oxytocin released in response to the baby's sucking cause contraction of the uterus. This protects mothers from postpartum hemorrhage (bottle-feeding mothers get oxytocin intravenously immediately after birth, but for the next 24-48 hours during which risk of hemorrhage is highest, they're on their own (Ahrendsen, 2005: online).

2.4.1.5 *Promotion of postpartum weight loss*

A well-documented benefit of breastfeeding is more rapid and sustained weight loss. Kramer (1993:429) reported that milk production uses up to 200-500 calories a day. To burn off an equivalent number of calories, a bottle-feeding mother would need to swim 30 laps or ride a bicycle for over an hour. Mothers who have had gestational diabetes benefit particularly from the efficient use of calories during breastfeeding, since a return to optimal weight may prevent subsequent development of diabetes. Mothers who breastfed exclusively or partially had significantly larger reductions in hip circumference and were less above their pre-pregnancy weights at one month postpartum than mothers who fed formula exclusively (Kramer, 1993:429).

2.4.1.6 Emotional health

Much has been said about the way that breastfeeding facilitates an emotional bonding while at the same time it is clear that bottle-feeding mothers also usually establish deep emotional bonds with their babies. This issue is difficult to study scientifically, but there is evidence of hormonal effects of breastfeeding which may predispose a mother to closer bonding with her infant. The automatic skin-to-skin contact and closeness afforded by breastfeeding could result in improved bonding. An interesting sideline from a study in a developing country found that when breastfeeding rates were increased among mothers with a significant abandonment rate, fewer of these mothers abandoned their babies. Other studies have suggested that there may be a lower rate of child abuse in breastfeeding families considered to be at risk. At one month postpartum, women who breastfed their infants had scores indicating less anxiety and more mutuality than the women bottle feeding their infants (Ahrendsen, accessed online: 10/04/2006).

2.4.2 Economical benefits

Cost savings are appreciated in fewer medical bills and less time out of work caring for an ill child in addition to avoiding the cost of infant formula. For instance it has been estimated that medical costs to treat lower respiratory illness, gastrointestinal infection, and otitis media occurring in formula-fed infants was higher than in breast-fed infants (Zembo, 2002: 58). The time saved for mother is immense also.

A breastfeeding mother can feed her baby even during stressful times such as when normal supplies of food and water are not available (Zembo, 2002: 58).

In conclusion, breastfeeding is good for mothers, It is a joyful, relaxing experience and women who practices breastfeeding are benefited and less likely be susceptible to the above mentioned health problems than non breastfeeding mothers.

2.5 FACTORS CONTRIBUTING TO SUCCESSFUL BREASTFEEDING

Establishing successful breastfeeding especially in first-time mothers requires the professional guidance and support of the maternity staff and paying attention to the person closest to the mother such as spouse and relatives (Tarkka, Paunonen, Laippala, 1998: 175-181).

2.5.1 The role of health care professionals in the infant feeding decision

Information and support from health care professionals are of paramount importance for successful breastfeeding, especially for first time mothers. Mothers need support and advice from health care professionals both during pregnancy and immediately after the birth of the child and also on returning home. The activities of the public health nurse should include preparing the mother for breastfeeding, discussing its importance for both mother and child, giving information during pregnancy, support and encouragement (Tarkka, Paunonen, Laippala, 1999:116).

Obstetricians are in a unique and pivotal position to inform expectant families of the profound health benefits of breastfeeding and to link patients to resources for appropriate prenatal breastfeeding education. Izatt (1997; cited in Zembo, 2002: 53) found that only 23% of women giving birth at a Massachusetts community hospital received any breastfeeding counseling from their obstetrician. Although many women make the decision whether or not to breastfeed before pregnancy, those given information and encouragement about breastfeeding by their obstetric care providers are more likely to plan and initiate breastfeeding and to breastfeed exclusively when compared with women who receive no prenatal breastfeeding advice. Howard et al. (2000; cited in Zembo, 2002: 53) found that women who received literature produced by formula manufacturers from obstetric office staff during prenatal care were significantly more likely to stop breastfeeding in the first 2 weeks post-delivery when compared with study counterparts who received literature of similar content but without formula advertisements (Zembo, 2002: 53).

The new mother's most frequent concerns are getting the infant latched-on comfortably and knowing that he/she is getting enough milk. The early postpartum practices of putting the infant to the breast within an hour of delivery (or as soon as medically feasible) followed by frequent feeds (8-12 per 24 hours), free of arbitrary time limits, have been associated with improved maternal and infant outcomes. Physicians, including obstetricians, have traditionally received little or no clinical training in lactation management and often delegate bedside teaching to nurses who also may have limited evidence-based breastfeeding knowledge. Obstetricians who attend continuing medical education in lactation, deliver the vigorous newborn to the mother's arms, and refer breastfeeding problems to a certified lactation consultant promote breastfeeding success (Digirolamo, Grummer-Strawn and Fein, 2003: 94).

Although the care of breastfeeding mothers and their children is typically the responsibility of maternal-child nurses, it's one that nurses in other settings may also encounter. The World Health Organization (WHO) encourages clinicians to protect, promote, and support breastfeeding. For example, nurses should help women separated from their infants to maintain lactation. Also, they should be informed about the use of medications in breastfeeding women, recommended weaning (switching permanently from breast milk to other foods) only when appropriate and other options when it is not (Crenshaw, 2005: 41).

The "Ten Steps for Successful Breastfeeding," recommended by UNICEF and the WHO for all facilities providing maternity services and newborn care are as follows (Zembo, 2002: 60):

1. Have a written breastfeeding policy that is routinely communicated to all health care staff.
2. Train all health care staff in skills necessary to implement this policy.
3. Inform all pregnant women about the benefits and management of breastfeeding.
4. Help mothers initiate breastfeeding within a half-hour of birth.
5. Show mothers how to breastfeed, and how to maintain lactation even if they should be separated from their infants.
6. Give newborn infants no food or drink other than breast milk, unless *medically* indicated.
7. Practice rooming-in: allow mothers and infants to remain together 24 hours a day.
8. Encourage breastfeeding on demand.
9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic

2.5.2 Information, advice, and support women want with breastfeeding

Graffy and Taylor (2005: 179) identified five components of the support that women wanted through thematic analysis of women's responses to open questions. These were: information about breastfeeding and what to expect, practical help with positioning the baby to breastfeed, effective advice and suggestions, acknowledgement of mothers' experiences and feelings, and reassurance and encouragement. The report also underlines the fact that maternity services should address the components identified in the findings of the study as good breastfeeding support. Moreover, the researchers recommend guidance and information for family members and that training for those involved in peer or professional initiatives should take into account women's views on what support they want, together with when and how they want it provided.

According to a study by Graffy & Taylor (2005: 185), women want changes in the way breastfeeding support is delivered, such as more realism and specific information to prepare them antenatally, more help with positioning in the first few days, approaches that work if they have difficulties, and reassurance for some unusual difficulties in breastfeeding. Women also want to be listened to and encouraged without feeling pressurized. These expressed feelings and desire by women regarding breastfeeding represents a challenge and an opportunity to all those involved in supporting breastfeeding mothers to review their own practice and approach.

2.5.3 Breastfeeding support from partners and grandmothers

Support from the mother's network of relatives, friends, and professional caregivers during childbirth is likely to be important for breastfeeding success. A report by Ekstrom, Widstrom and Nissen (2003: 268) indicates that support to breastfeeding mothers can be provided in many ways, such as by lay people and health professionals. According to the same study, support from the baby's father through active participation in the breastfeeding decision, together with a positive attitude and knowledge about breastfeeding benefits have been shown to enhance breastfeeding.

Furthermore, the study by Ekstrom et al. (2003: 268) also revealed that women who continue to breastfeed when their babies are nine months of age have a better relationship and express greater satisfaction about the emotional support from their husband and their own mothers than those who wean earlier. There is a general understanding that the better support the mother receives from members of her own network, the better is her ability to cope with breastfeeding. Ekstrom et al.

(2003: 268) further reported that although associations between social support given by professional care givers and duration of breastfeeding have been established, the association is not always positive. This could be attributed to the fact that if health professionals lack knowledge or have negative attitudes toward breastfeeding, they cannot provide good support.

An important finding in the study conducted by Ekstrom et al. (2003: 268) was the positive impact of overall breastfeeding support on duration of breastfeeding in both primiparas and multiparas. Women's experience of support from their partners is well known to be important for breastfeeding. Their study showed that duration of breastfeeding was correlated with time spent together with the partner after delivery in primiparas, which may reflect the couple's closeness and confidence in their relationship. Another benefit is the fact that childbirth provides a unique opportunity for the mother, and also for the father, to establish bonds with the baby. Thus even if the relationship between partners is not close, the time spent together during the birth may enhance the bonding process in the new family.

Being together after child birth is likely to be important also for primiparas. Ekstrom et al. (2003: 265) have reported that both primiparas and multiparas whose partners stayed for a longer time in the maternity unit after childbirth felt more confident when the babies were 6 to 12 months old. It was also important for multiparas to know about their own breastfeeding history as babies. It was previously shown that mothers with a longer breastfeeding period were also more satisfied with their relationship with their own mother and the emotional support they received from her. Ekstrom et al. (2003: 265) noted in their study that some women who did not know about their own breastfeeding history may reflect that mother and daughter had a more distant relationship than those who discussed breastfeeding.

The result of the study by Ekstrom et al. (2003: 265) suggests that a helpful strategy to optimize support for mothers with respect to breastfeeding outcome is for health professionals to discuss the grandmother's perception of breastfeeding with each mother. It is important for prenatal caregivers to provide an environment that enables the family to stay together after delivery. A helpful support strategy for health professionals might be to mobilize grandmothers with positive breastfeeding perception to provide support for their daughters' breastfeeding

Although moral support from the partner may be important, the study by Chatman, Salihu, Roofe, Wheatle, Henry & Jolly (2004:270) tends to suggest that the financial contribution of the male partner is as important, at least in a developing setting. In those situations where the male partner is the main source of income for the family, it is to be expected that the mother will have ample time to spend with the child, a relationship that will favor exclusive and longer breastfeeding duration. Chatman et al. (2004:270) further noted that mothers are less likely to be affected by the anxiety of getting back to work as soon as possible so as to maintain the family, which could have a physiological effect, as low level of anxiety promotes the milk ejection reflex and maintain regular milk flow from the breast.

2.6 INITIATION AND DURATION OF BREASTFEEDING

Initiation of breastfeeding shortly (within half-an hour) after delivery may enhance breastfeeding's protective effect against diarrhea because of the protective properties of human colostrum contained in early breast milk. The duration and extent of breastfeeding (exclusive versus supplemented) can have significant health ramifications for the mother and the infant. A dose-response relationship exists between breastfeeding and several of its well-documented health benefits (Zembo, 2002: 55). A report by Zembo (2002: 55) have indicated that infants breastfed for 12 months experience half as much diarrheal illness, 19% fewer episodes of otitis media, and 80% fewer prolonged bouts of otitis media than their formula-fed counterparts.

In a recent recommendation, WHO urged its member starts to strengthen activities "to protect, promote and support exclusive breastfeeding for 6 months as a global public health recommendation, and to provide safe and appropriate complementary foods, with continued breastfeeding for up to 2 years of age or beyond" (Pronczuk, Akre, Moy and Vallenas, 2002:349).

There is currently an active debate about the recommended age of introduction of complementary foods to breastfed infants. The World Health Organization stipulates an age interval of 4 – 6 months (WHO, 1995; cited in Dewey, Cohen, Brown and Rivera, 2001: 262). Longer duration of exclusive breastfeeding is associated with better motor development and increasing benefit with total duration of breastfeeding has been shown (Thorsdottri, Gunnarsdottir, Kvaran and Gretarson, 2005:426).

The World Health Assembly (WHA) 2001 suggested that the recommendations for exclusive breastfeeding should be increased from 4 to 6 months. Although results on comparison of the motor development scores between children exclusively breastfed for 6 months to those exclusively breastfed for a shorter period is not available, indications are that there is a long-term benefit of longer duration of exclusive breastfeeding with regard to motor development (Thorsdottri, Gunnarsdottir, Kvaran and Gretarson, 2005:430).

Even though breastfeeding has many advantages for both child and mother, there are many factors associated with breastfeeding practices that may affect the degree of initiation and duration. These are given in the following sections.

2.6.1 Type of delivery and exclusive formula feeding

Zembo (2002: 60) reported that vaginal delivery with prolonged second stage, unplanned cesarean delivery, breastfeeding later than 72 hours postpartum, including exclusive formula feeding before lactation onset, contribute to the delayance of lactation. Milk production begins regardless of the mother's infant feeding choice or the infant's early suckling patterns. However, continued frequent and effective milk removal is essential for establishing and maintaining an adequate milk supply. According to the author, offering the breastfed neonate an artificial nipple before breastfeeding is well established may impair the infant's ability to suckle effectively and the maternal milk supply.

2.6.2 Overweight and obesity

Rates of overweight and obesity are increasing globally among women of reproductive age. This trend is of concern because maternal fatness before pregnancy negatively affects the health of the mother and their infants. According to Baker, Michaelsen, Rassmusen and Sorensen (2004:1579), maternal fatness (>120% of ideal body weight) is associated with a delayed time to conception, an increased risk of developing gestational diabetics, having a cesarean delivery, having a stiilbirth, delivering a macrosomic infant (birth weight >4000g), and impaired lactational performance. Women who are overweight or obese before pregnancy are less likely to initiate breastfeeding and they discontinue breastfeeding earlier than do normal-weight women (Baker et al., 2004:1579).

A recent study indicated that pre-pregnant obese women are at risk of having children with diminished intellectual ability at the age they start school (Neggers et al, 2003; cited in Thorsdottir et al., 2005: 427). The prevalence of over weight and obesity is increasing around the world, which might eventually result in a decreased frequency of breastfeeding. The negative impact of obesity on psychosocial functioning is also considerable and disturbances are connected with poor mental health and low socioeconomic status (Thorsdottir et al., 2005: 427). Therefore, more knowledge is needed about the relationship between mothers' current BMI and children's developmental status at the beginning of school start.

2.6.3 Postnatal depression

Maternal postnatal depression has been estimated to affect at least 13% of women (Henderson, Evans, Straton, Priest, and Hagan, 2003: 175), and it can have considerable consequences for both mother and infant. Henderson et al. (2003: 175) reported that adverse effects on infant and child development include the increased risk of difficult infant behavior and childhood emotional disturbances, and effects on cognitive development. Since new mothers with depression may have more difficulties and dissatisfaction with breastfeeding, reduced breastfeeding duration is also a potential outcome. Many other factors associated with increased risk of early cessation of breastfeeding have been identified, including low maternal socioeconomic status, less education, young age, smoking and employment (Henderson et al., 2003: 175).

According to Henderson et al. (2003: 180), the impact of maternal depression on the relationship between the mother and infant may also influence breastfeeding success. Maternal-infant interaction is frequently affected adversely by depression. In addition, the perception experienced by many depressed mothers of difficult infant behavior may have a negative influence on the breastfeeding experience (Henderson et al., 2003:180). The study by Henderson et al. (2003: 180) showed that mother's depression has a significant impact on breastfeeding duration. Thus, infants of mothers with depression are less likely to receive the health and nutritional advantages of prolonged breastfeeding. This outcome may hold special significance for those infants, who are at risk of emotional disturbances and cognitive and developmental delay because of their mother's depression. The findings by Henderson et al. (2003: 180) suggest that assistance with breastfeeding should become an integral part of the management of postnatal depression and that early intervention and promotion of breastfeeding have the potential for significant impact on this vulnerable group of women and infants.

2.6.4 Short hospital stay

According to a report by Heck, Schoendorf, Chavez and Braveman (2003: 153), women who had a short hospital stay remained slightly more likely to have stopped or discontinued breastfeeding than those who stayed longer. Early prolonged separation from the newborn and discharge from hospital before 72 hours after the birth were significant predictors of early breastfeeding cessation. However, the reason for this risk of breastfeeding cessation and discontinuing among the women with a short length of stay are unclear. In some cases, women with a short stay may have had inadequate time in the hospital to receive assistance in learning breastfeeding techniques. Another reason for the association between length of stay and breastfeeding might be that women who leave the hospital early have responsibilities at home that interfere with their ability to breastfeed (Heck et al., 2003: 153). On the other hand, women delivered by cesarean section may benefit from longer inpatient stay to establish exclusive breastfeeding (Patel, Liebling and Muraphy, 2003:259).

2.6.5 Social factors

Social factors, including maternal age, education, and socioeconomic status, continued to show significant associations with breastfeeding duration. Factors occurring post discharge that also had a significant effect on overall breastfeeding duration included maternal smoking, early return to paid employment, and having an ill infant who was admitted to hospital before 6 months (Henderson, Evan, Straton, Preist and Hagan, 2003: 178).

2.7 CONTRAINDICATIONS TO BREASTFEEDING

There are few instances when breastfeeding is absolutely contraindicated. For instance, a report by Zembo (2002: 59) shows that women diagnosed with breast cancer are advised not to breastfeed and should wean immediately if diagnosed while lactating. The untreated breast usually is fully functional, whereas the breast treated with radiation usually has diminished or no milk production. The risk-benefit analysis for post-breast cancer lactation must be made on a case-by-case basis, and there are no epidemiologic data on long term survival and post mastectomy lactation. Other maternal contraindications to breastfeeding include active untreated tuberculosis, active untreated drug or alcohol abuse, human T-cell leukemia virus type1, and acquired immunodeficiency syndrome (AIDS) (Zembo 2002: 59).

The WHO has prepared guidance on breastfeeding and hepatitis B, tuberculosis, and HIV transmissions, which are among the main global infectious diseases threats to human health (Pronczuk, Akre, Moy and Vallenas, 2002: 349). The guidance recommends that in all cases of maternal tuberculosis, mothers should be treated with an appropriate therapy such as the standard short-course regime with isoniazide, refampicin, pyrazinamide, and ethambutol (which are safe during pregnancy and breastfeeding) and that infants should not be separated from their mothers, and breastfeeding should be encouraged.

2.8 RECOMMENDATION

The growing body of scientific evidence suggests that breastfeeding provides immediate and long-lasting health advantages for the mother and her infant. Health services have an important role in helping mothers to establish and maintain breastfeeding and maternity services should apply the policy of ten steps recommended by WHO, to achieve successful breastfeeding. Full implementation of the ten steps to successful breastfeeding leading to baby-friendly designation is an effective strategy to increase breastfeeding initiation rates.

One of the greatest barriers to breastfeeding is misinformation; mothers may not fully comprehend the nutritional needs of their infants, or may question their ability to maintain an adequate milk supply to keep the infant healthy. Providing breastfeeding information as part of prenatal care programs can educate mothers about the advantages of breastfeeding. The health care system should also develop an effective strategy to promote and increase breastfeeding initiation through adequate staff training and guidelines about breastfeeding, providing appropriate and routine information to pregnant women during their visit through leaflets, video show, etc.

The midwife's role during the first few feeds is twofold. First, she must ensure that the baby is adequately fed at the breast. Secondly, she must help the mother to develop the necessary skills so that she is able to feed her baby by herself. Newly delivered women need particular encouragement and reassurance (emotional support), they need to be taught the fundamentals of good attachment so that feeding is pain free (practical support) and they need to receive factual information about breastfeeding (informational support).

2.9 SUMMARY

Breast milk is the natural and optimal food for infants. In addition to meeting nutritional needs, breast milk provides numerous immunologic, developmental, psychologic, economic, and practical advantages. It is postulated that breastfeeding may also be related to the prevention of some adult health problems, such as diabetes and coronary heart disease. Malnutrition among infants and young children, which remains one of the most severe global public health problems, is among the main reasons that the World Health Organization (WHO) so strongly supports breastfeeding.

There are many benefits to breastfeeding the baby. Human breast milk contains all the nutrients babies need each day, plus many substances that help keep them healthy and promote optimal growth and development. Breast milk not only contains all the nutrients the baby needs, in an easily digested form, but it also contains antibodies to protect babies from all kinds of infection.

Breastfeeding has also long-term physical and psychological benefits for women. The incidence of breast cancer is lower among women who breastfeed and the risk decreases by 4% for every 12 months of breastfeeding in a woman's lifetime (Crenhsaw, 2005: 42). Breastfeeding is a moderately effective, low-cost way to delay the return of fertility following birth. According to some research reports, among sexually active, amenorrheic women who breastfed exclusively or were rarely offered supplements, fewer than 2% became pregnant during the first six months after giving birth and that lactational amenorrhea, which lasts for an average of six to eight months, may offer new mothers protection from anemia related to menstruation (WHO, 1998: 23). However, there are many factors associated with breastfeeding practices that may affect the degree of its success, such as attitude of the father of the child to breastfeeding, appreciation of feeding practice in the society, and support and guidance from health care professionals both before and after the birth of the child.

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ESSAY 3: SAMPLING IN QUANTITATIVE RESEARCH

3.1 INTRODUCTION

Sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population. It can also be described as a finite part of a statistical population whose properties are studied to gain information about the whole. When dealing with people, it can be defined as a set of respondents (people) selected from a larger population for the purpose of a survey (http://www.socialresearchmethods.net/tutorial/Mugo/tutorial.htm).

Sampling methods are classified as either probability or non-probability. Probability methods include random sampling, systematic sampling, and stratified sampling. In non-probability sampling, members are selected from the population in some nonrandom manner. These include convenience sampling, judgment sampling, quota sampling, and snowball sampling (De Vos, 1998:191).

There are two main research methods namely quantitative and qualitative. However, this chapter emphasizes on quantitative method, which incorporates the statistical *(how many?)* element, designed to quantify the extent to which a target group are aware of, think this, believe that or are inclined to behave in a certain way. Random sampling in quantitative research is derived from statistical probability theory. Its premise is that a random and statistically representative sample permits confident generalization from a sample to a larger population. For reliable conclusions to be drawn from the research, samples for quantitative research must be representative of the target group. Qualitative research does not attempt to generalize; it aims to gain in-depth understanding about the issues under investigation. By contrast, purposeful sampling is the dominant strategy in qualitative research. Purposeful sampling seeks information-rich cases which can be studied in depth and to illuminate the question under study (Patton, 1990:169-

183). In this chapter an attempt was made to explore the purpose of sampling, different methods of sampling, the comparisons between probability and non-probability sampling methods, and the advantages and disadvantages of different sampling approaches. Finally, a brief summary is presented.

3.2 DEFINITION

Oxford Advanced Learner's Dictionary defines sample as:

> "a number of people or things taken from the larger group and used in tests to provide information about the group".

However, in research, according to Seaberg (1988:240; cited by De Vos, 1998:191), sample is defined as:

> "a small portion of a total set of objects, events or persons which together comprise the subject of our study".

Burns & Grove (1995:51) describe sample as:

> "a subset of the population that is selected for a particular study, and the members of a sample are the subjects. A sample is the element of the population considered for actual inclusion in the study, or it can be viewed as a subset of measurements drawn from a population in which we are interested".

Although the definitions given above differ slightly the main aspects remain the same.

Sampling is also the process of selecting units (e.g., people, organizations) from a population of interest so that by studying the sample we may fairly generalize our results back to the population from which they were chosen (http://www.socialresearchmethods.net/kb/sampling.htm).

3.3 THE KEY CONCEPTS OF SAMPLING THEORY

Sampling theory was developed to determine mathematically the most effective way of acquiring a sample that would accurately reflect the population under study. The assumptions of sampling theory have been adopted by researchers and incorporated within the research process (Burns & Grove, 2001: 365). The key concepts of sampling theory are (1) elements and populations, (2), sampling criteria, (3) representativeness, (4) sampling errors, (5) randomization, (6) sampling frames, and (7) sampling plans (Burns & Grove, 2001: 365).

3.3.1 Elements and populations

According to Burns and Grove (1997:293) an element can be a person (referred to also as subject), event, behavior, or any single unit of the study. Before gathering the sample, it's important to find out as much as possible about the population. It is important at least to know some of the overall demographics of the population, such as age, sex, class, etc. Population refers to the larger group from which the sample is taken which is sometimes referred to as the target population. It is the ensemble of all the elements (individuals, objects or substances) that meet the sampling criteria for inclusion in a given study. There are different ways of defining a population. For instance, a population can include all patients being seen for the first time in a single clinic, or in all clinics in a specific network in one city, or in all clinics in that network nationwide. However, Burns and Grove (1997:293) stated that not all populations are accessible to the researcher for various reasons. The sample is then obtained from this accessible population, and the results generalized first to the accessible population and then, more cautiously, to the target population.

3.3.2 Sampling criteria

Sampling criteria is a list of characteristics that is essential for membership in the target population. It is developed based on the research problem, the purpose, the conceptual and operational definitions of the study variables, and the design. For a given study, the sample is selected from the population that meets the sampling criteria. When the study is completed, the findings are generalized to this population. The sampling criteria may be designed to make the population as homogeneous as possible or to control for extraneous factors. Burns & Grove (1997:294) indicate that in studies, such as descriptive or correlational, the sampling criteria may be used to ensure heterogeneous population with a broad range of values for the variables being studied, while in studies, such as quasi-experimental or experimental studies, the primary purpose of sampling criteria is to limit the effect of extraneous variables on the particular interactions between the dependent and independent variables. For instance, sampling criteria may include characteristics such as age, the ability to read and to write responses on the data collection instruments or forms, and to comprehend and communicate using a given language.

In nursing studies, persons who are able to participate fully in the procedure for obtaining informed consent are often selected as subjects. In a situation where potential subjects have diminished autonomy or are unable to give informed consent, such as those who are legally or mentally incompetent, terminally ill, or confined to an institution, it will be more difficult to access those subjects for a study. So, in some cases, sampling criteria may become so restrictive that an adequate number of subjects may not be found, creating a reduced sample size.

To develop the desired sample, inclusion criteria and exclusion criteria may be used. Inclusion criteria are characteristics that must be present for the element to be included in the sample. For example, for subjects to be included in the study, they must have been diagnosed with stage II breast cancer within the previous 3 months. Exclusion criteria are exceptions to the inclusion criteria. In the above example with the inclusion criterion, subjects who meet that criterion might be excluded if they had a previous diagnosis of breast cancer (Burns & Grove 2001:367).

3.3.3 Representativeness

Representativeness means that the sample should have approximately the characteristics of the population relevant to the research in question. If gender and socio-economic classes are variables (characteristics) relevant to the research, a representative sample will have approximately the same proportions of men and women and middle-class and working-class individuals as the population. The question then arises: how can we ensure that a sample is as representative as possible? The answer offered by all methodologists is that random sampling is the only technique available that will ensure an optimal chance of drawing a sample that is representative of the population from which it was drawn (De Vos, 1998:193).

Representativeness is an important aspect of sampling and requires close attention. In the first place, we note that representativeness is always important when we want to generalize from the sample to the larger population, i.e. when we study a sample in order to draw conclusions about the population from which the sample came (De Vos 1998: 193).

The sample, if it's a good one, must be representative of the whole. In order to achieve this, the sample should conform to the following points (http://web.utk.edu/~wrobinso/540_lec_sample.html):

- The sample should represent both the population and its important parts.
- The sample should be drawn by a probability or random process.
- The sample should be as small as possible in order to save time and effort.

- The sample should meet statistical tests for generalization.

3.3.4 Sampling error

The difference between a sample statistic and a population parameter is called the sampling error. A large sampling error means that the sample is not representative and that it is not providing a precise picture of the population. Sampling error is usually larger with small samples, and decreases as the sample size increases. Burns and Grove (1997:296) state that sampling error reduces the ability of the statistical analysis used to detect differences between groups and to accurately describe the relationships between or among variables, which occur due to random variation and systemic variation.

According to the authors, random variation is the expected difference in values that occur when one examines different subjects from the same sample. The values of individuals of that sample will not all be exactly the same as the sample mean. The difference is referred to as random because the value of each subject is likely to vary in a different direction, with some values higher and others lower than the sample mean, giving randomly scattered values of the individuals around the mean. As the sample size becomes larger, overall variation in sample values decreases, with more values being close to the sample mean and also with more likely similar to that of the population mean.

Systemic variation, or systemic bias, is a consequence of selecting subjects whose measurement values are different, or vary, from the population. Because the subjects have something in common, their values tend to be similar to those of others in the sample but different in some way from those of the population as a whole, and do not vary randomly around the population mean. Most of the variation from the mean is in the same direction, tending to be higher or lower than the population mean, i.e. systematic. For example, Burns & Grove (1997:296) describe that if all the subjects in a study examining some type of knowledge have an intelligence quotient (IQ) higher than 120, all their scores will likely be higher than the mean of a population that includes individuals with a wide variation in IQ. In this case the IQ of the subjects has introduced a systematic bias.

Exclusion criteria, which are described as restrictive sampling criteria in most clinical trails, tend to increase the systematic bias in the sample and thus, result in a large sampling error and greatly diminished representativeness. An extreme example of this problem is the highly used clinical trials, which result in a large sampling error and greatly diminished representativeness (Burns & Grove, 2001:369). If the method of selecting subjects produces a sample with a systemic bias, increasing the sample size will not decrease the sampling error. A systemic bias in an experimental study can lead the researcher to believe that the observed difference is due to treatment when, in reality, the values would be different even without the treatment.

3.3.5 Random sampling

Kerlinger (1986:110; cited by De Vos 1998:193) succinctly states that random sampling is the method of drawing a portion-or sample-of a population so that each member of the population has an equal chance of being selected. He points out, however, that this definition, although it is easily understood, is limited. A better definition for random sampling is that it is the method of drawing a sample of a population so that all possible samples of fixed size have the same probability of being selected.

De Vos (1998: 194) suggests the following steps in drawing random samples.

1. *Identify and list the research population.* This can be a list drawn from a voters' list, a telephone directory, the files of a welfare organization, all the children in a children's home or school, or from any source whatsoever.

2. *Assign a number to every person or item in the population.* The researcher now has the tedious task of assigning numbers to all the members of the research population. The researcher can start anywhere in the list, but will assign 01 to the first person or item, 02 to the second, 03 and so on, up to 99.
3. *Decide about the size of the sample*, i.e. what percentage of the population we want to study. As was mentioned above, some methodologists suggest that drawing a 10% sample of a known population has become a convention which serves as a handy rule of thumb.
4. *Note that the size of the population determines the number of digits* that will be used from the random table. If the population from which the sample is going to be drawn is, say, 50, 70 or 80, there are only two digits and therefore only two digits from a random table will be used to draw the sample. If the population is 100, 300 or 500, then there are three digits in the population size, and therefore three digits from the random table will be used.
5. *Select any column from any list of random numbers*, but stick to the selected column. The researcher is now ready to start drawing the sample. Any list of random numbers is taken as the one to be used, but one must then stick to the selected column, and not jump around to any other column.
6. *Go strictly down the column and mark every number* as large as or smaller than the population until the desired size of the sample has been reached. The principle is to mark every number as large as or smaller than the population.

These steps, if followed carefully, will ensure that each sample has equal chance of being included in the study sample as randomly as possible.

3.3.6 Sampling frames

One of the essential steps in the sampling process is identification of each person in the target or accessible population in order to have an opportunity to be selected for the sample. This can be accomplished by acquiring a list of every member of the population and defining the membership through the use of the sampling criteria. This listing is referred to as sampling frame, from which the researcher then selects subjects using a sampling plan (Burns & Grove, 2001:369).

3.3.7 Sampling plans

A sampling plan, which describes the strategies that will be used to obtain a sample for a study, is developed to enhance representativeness of the sample, to reduce systematic bias, and to decrease the sampling error. Different sampling methods such as probability (random) sampling or non-probability (nonrandom) sampling methods may be used in the sampling plan. The sampling plan provides detail about the use of a sampling method in a specific study and must be described in detail for purposes of critique, replication, and future meta-analyses (Burns & Grove, 1997:297).

3.4 PURPOSE OF A SAMPLE

The major reason for sampling is feasibility. Often it is impossible to identify all members of a population of interest, e.g. drug abusers, parents of preschool-age children, or child abusers. Even if it were theoretically possible to identify, contact and study the entire relevant population, time and cost considerations would often make this a prohibitive undertaking. The use of samples may therefore result, as was mentioned above, in more accurate information than might have been obtained if one had studied the entire population. This is so because, with a sample, time, money and effort can be concentrated to produce better quality research with better instruments, more in-depth information and better trained interviewers or observers. In addition, the observation or study of a phenomenon in its entirety would be tedious and time-consuming and would produce a massive amount of data, which by implication would be difficult to process, analyze and interpret (De Vos, 1998: 191). The author also stated that it is important to note that sometimes the nature of the practice or research problem in which we are interested does not permit access to the entire set of entities that comprise the population. It may be that the population itself is too large to study, or there may not have sufficient time or resources to do the job. In that case it may be able to study only a portion of the population or a sample.

In addition, sampling is used to draw conclusions about populations from samples. We must use inferential statistics which enable us to determine a population's characteristics by directly observing only a portion (or sample) of the population. We obtain a sample rather than a complete enumeration (a census) of the population for many reasons. Obviously, it is cheaper to observe a part rather than the whole, but we should prepare ourselves to cope with the dangers of using samples (http://www.socialresearchmethods.net/tutorial/Mugo/tutorial.htm).

3.5 PROCEDURE OF SELECTING A SAMPLE

The sampling procedure depends on the purpose of the sampling and a careful consideration of the parameters of the population. Leedy & Ormrod (2001: 211) described sampling as being similar to seeing the world in miniature by looking through the wrong end of the telescope. This is precisely what the sampling procedure, chosen for any particular project, should seek to achieve. The sample should be so carefully chosen that, through it, the researcher is able to see all the characteristics of the total population in the same relationship that they would be seen were the researcher to inspect the total population. However, unless the sampling procedure is carefully planned, the conclusions that the researcher draws from the data are likely to be distorted or biased.

The first step in sampling procedure is to clearly define the target population. As there are no strict rules to follow, the researcher must rely on logic and judgment. One further consideration needs to be made when finalizing the definition of target population, and that is to make sure the population will be accessible and get ready to select a sample and to collect the data (Brink & Wood, 1994:129).

3.6 SAMPLE SIZE

Large samples maximize the possibility that the means, percentages and other statistics are true estimates of the population. They give the effects of randomness a chance to work. The chance of error goes down in direct proportion to the increased size of the sample. However, practical considerations are important too, for example, how many people are available from the resources (Brink, & Wood, 1994: 139).

The basic rule is, the larger the sample, the better. But such a generalized rule is not too helpful to a researcher who has a practical decision to make about a specific research situation.

3.6.1 Factors affecting sample size and sampling

Sampling and sample size are affected by several factors. Clifford & Gough (1990:44) outlines some of the factors that are given below.

- **Methodology selected**: depending on the type of methodology selected, sample size could also vary.
- **Degree of accuracy:** the accuracy required and how much error can be tolerated in the study.
- **Extent of variation:** the extent to which there is a variation in the population with regard to key characteristics of the study.
- **Likely response rate:** which itself will depend on sampling method selected
- **Time and money available:** these are important resources that determine sampling size.
- **Organizational factors**: This may militate against the study of a given population; for example, a study may have been conceived which incorporates distribution of questionnaires to third-year student nurses in general hospital

wards on a given day. It is quite feasible that the researcher's plan and the organization's plan do not coincide for, on the chosen day, all third-year student nurses in that hospital are unavailable. Obviously, careful sampling could help to avoid this situation happening but the example highlights the potential for changes within organizations to have an impact on a proposed study.

- **Geographical factors**: this may also play a part in determining suitable samples. The nurse who decides to investigate 'the public image of nurse' may obtain totally different responses from a selection of people going in and out of hospital waiting areas to a random sample of people shopping in the main street on a Saturday afternoon. The implications are that this has introduced bias into the study. Awareness of the potential problem of introducing bias into the study is important. For example, if a nurse is undertaking a study of patients' reactions to their hospital experience she may find that a group of patients in hospital may give a different response to a group of people who have been discharged from hospital and had time to ponder on their experience. Both views must be considered in studies of this nature, as obviously location and potential vulnerability can make a difference to the way in which patients may respond (Clifford, & Gough, 1990:44).

3.6.2 Guidelines for selecting a sample size

Selecting a sample from a given target population requires a certain guidelines and procedures. Gay (1996: 125) suggests the following guideline for selecting a sample size.

- For small populations (N <100), there is little point in sampling. Survey the entire population.
- If the population size is around 500, 50% of the population should be sampled.
- If the population size is around 1,500, 20% should be sampled
- Beyond a certain point (at approximately N=5,000), the population size is almost irrelevant, and a sample size of 400 will be adequate.

Generally, the larger the population, the smaller the percentage but not the smaller number as one needs to get a representative sample. To some extent, the size of an adequate sample depends on how homogeneous or heterogeneous the population is, or how alike or different its members are with respect to the characteristics of research interest. If the population is markedly heterogeneous, a larger sample will be necessary than if the population is more homogeneous. Important, too, is the degree of precision with which the researcher wishes to draw conclusions or make prediction about the population under study (Gay, 1996: 125).

3.7 SAMPLING BIAS

Sampling bias is the intentional or unintentional systematic distortion of a sample. It is caused by such factors as the methods used to select a sample or when and where a sample was collected. A biased sample contains overrepresentation of some types of cases and under representation of others (relative to the population from which it was drawn). Biased samples can seriously limit the usefulness of the data collection by the researcher. If a sample does not represent its population, nearly anything we find out about cases in the sample will be of limited value. We may know a great deal about a particular (biased) group of cases, but it may be unable to generalize this knowledge to the population from which the sample was drawn. Thus, the external validity of findings generated by a study of a badly biased sample or of one containing too much sampling error is low (Yegidis & Weinbach, 2002:184).

3.8 ADVANTAGES AND DISADVANTAGES OF SAMPLING

As discussed in the preceding section, sampling is done for the simple reason that it would be impractical to do research on all target population, especially if the latter is too large. Thus, sampling has many advantages, some of which are mentioned below (http://www.cems.uwe.ac.uk/~pwhite/SURVEY1/node37.html).

- **Reduced cost:** the economic advantage of using a sample in research is that obviously, taking a sample requires fewer resources than a census. Moreover, rarely does a circumstance require a census of the population, and even more rarely does one justify the expense.
- **Greater speed:** the data can be collected and summarized more quickly. Sampling is vital if information is urgently needed. A sample may provide you with needed information quickly.
- **Greater scope**: in certain types of inquiry, highly trained personnel or specialized equipment, limited in availability must be used to obtain the data. A complete census is impracticable; thus choice is sampling or nothing. Thus surveys which rely on sampling have more scope and flexibility regarding the types of information that can be obtained. On the other hand if accurate information is wanted for many subdivisions of the population, the size of the sample needed to do the job is sometimes so large that complete enumeration offers the best solution.
- **Greater Accuracy**: because personnel of higher quality can be employed and given intense training and because more careful supervision of the field work and processing of results becomes flexible when the volume of work is reduced, a sample may actually produce more accurate results than the kind of complete enumeration that can be taken.

In spite of the above listed advantages, sampling has, however, some disadvantages. A sample is expected to mirror the population from which it comes. However, there is no guarantee that any sample will be precisely representative of the population from which it comes. Chance may dictate that a disproportionate number of typical observations will be made like in the case of testing fuses, where the sample of fuses may consist of more or less faulty fuses than the real population proportion of faulty cases. In practice, it is rarely known when a sample is unrepresentative and should be discarded.

3.9 THE DIFFERENT METHODS OF SAMPLING

3.9.1 Probability (random) sampling methods

A probability sampling method is any method of sampling that utilizes some form of random selection. As discussed in the preceding sections, the term probability sample refers to the fact that every member (element) of the population has a probability higher than zero of being selected for the sample. In order to have a random selection method, one must set up some process or procedure that assures that the different units in the population have equal probabilities of being chosen. There have been various forms of random selection, such as picking a name out of a hat, or choosing the short straw. These days, however, we tend to use computers as the mechanism for generating random numbers as the basis for random selection (Trochim, 2000: online; Tryfos, 1996: 41).

Probability sampling methods have been developed to ensure some degree of precision in estimation of the population parameters, and reduce sampling error. Inferential statistical analyses are based on the assumption that the sample from which data were derived has been obtained randomly. Thus, probability samples are more likely to be representative of the population than non-probability samples. All the subsets of the population, which may differ from one another but contribute to the parameters of the population, have a chance to be represented in the sample (Burns & Grove, 2001:370).

The distinguishing characteristic of probability sampling that sets it apart from non-probability sampling is that the researcher can specify in advance that each segment of the population will be represented in the sample. Generally, the components of the sample are chosen from the larger population by a process known as random selection, where each member of the population has an equal chance of being selected. When such a random sample is selected, the researcher can assume that the characteristics of the sample approximate the characteristics of the total population. According to Leedy and Ormrod (2001:211), a sample is no more representative of the total population than the degree to which it has been randomly selected. In order to achieve an acceptable representativeness, several methods of random selection can be employed.

The following four sampling designs have been developed to achieve probability sampling, namely simple random sampling, stratified random sampling, cluster sampling, and systemic sampling.

3.9.2 Simple random sampling

The basic probability sampling design is the simple random sample, which gives every element in the population an equal chance of being selected. It is the least sophisticated of all sampling design where the researcher first draws up a numbered list of the population, followed by referring to a table of random members. The selection begins at some arbitrary point on the page, moving up or down the column of random numbers one by one, and counting off enough to complete the sample size. Now we look for numbers from the population list that corresponds to the random numbers, and they become the sample (Brink & Wood, 1994: 132).

3.9.3 Stratified random sampling

Stratified random sampling is the commonly used probability method that is superior to random sampling, because it reduces sampling error. A stratum is a subset of the population that shares at least one common characteristic. The researcher first identifies the relevant stratums and their actual representation in the population. Random sampling is then used to select a sufficient number of subjects from each stratum to be reasonably confident that the stratum represents the population (StatPac Inc., 2006: online).

There are several major reasons why one might prefer stratified sampling over simple random sampling. First, it assures that the researcher will be able to represent not only the overall population, but also key subgroups of the population, especially small minority groups. Second, stratified random sampling will generally have more statistical precision than simple random sampling. This will only be true if the strata or groups are homogeneous. If they are, we expect that the variability within-group is lower than the variability for the population as a whole (Trochim, 2000: online).

3.9.4 Proportional stratified sampling

In the simple stratified random sampling design, all the strata of the population are essentially equal in size. But now we come to a different situation whereby a researcher chooses his/her sample in accordance with the proportions of each group in the target population. Leedy and Ormrod (2001:216) explain this using an example of a community that has 1,000 Jewish people, 2,000 Catholics, and 3,000 Protestants, where the editor of a newspaper wants to obtain certain information and opinions from the readers. In this situation, the editor will choose his sample in accordance with the proportions of each religious group, i.e. for every Jewish person, there should be two Catholics and three Protestants. In this situation, the people are not obviously segregated into the different strata. So the first task of the researcher is to identify the members of each stratum and then select a random sample from each one of them.

3.9.5 Cluster sampling

According to Burns and Grove (2001:372), cluster sampling is used in two situations: (1) when a simple random sample would be prohibitive in terms of travel time and cost, (2) in cases in which the individual elements making up the population are not known, thus preventing the development of a sampling frame.

For instance, if there is no list of all the open-heart surgery patients in South Africa, it is often possible to obtain lists of institution or organizations with which the elements of interest are associated.

Sometimes the population of interest is spread out over a large area. It may not be feasible to make up a list of every person living within the area and, from the list, a sample for study through normal randomization procedures. In such cases we might obtain a map of the area showing political boundaries or other subdivisions. We can then subdivide an expansive area into smaller units. For example, a city can be subdivided into precincts, clusters of city blocks, or school boundary areas. In cluster sampling, it is important that the clusters be as similar to one another as possible, with each cluster containing an equally heterogeneous mix of individuals. A subset of the identified clusters is randomly selected. The sample then consists of the people within each of the chosen cluster (Leedy & Ormrod, 2001:216).

3.9.6 Systemic sampling

Systemic sampling can be conducted when an ordered list of all members of the population is available. The process involves selecting every "k^{th}" individual on the list, using a starting point selected randomly. If the initial starting point is not random, the sample is not a probability sample. To use this design, the researcher must know the number of elements in the population and the size of the sample desired. The population size is divided by the desired sample size, giving k, the size of the gap between elements selected from the list. For example, if the population size (N) is 1200 and the desired sample size is (n) 50, then k = 24 (i.e. 1200 ÷ 50). Every 24th person on the list would be included in the sample (Burns & Grove, 2001:377).

However, Burns and Grove (2001:373) argue that this procedure does not truly give each element an opportunity to be included in the sample, indicating that it provides a random but not equal chance for inclusion. So, care must be taken in determining that the original list has not been set up with any ordering that could be meaningful in relation to the study, which might introduce systemic bias. In addition to this risk, computation of the sampling error with the use of this design is often difficult. This sampling process is, therefore, based on the assumption that the order of the list is random in relation to the variables being studied.

3.9.7 Random assignment

Burns and Grove (1995:238) define random assignment as a procedure used to assign subjects to treatment or control groups randomly. It can either be a probability or a non-probability sampling technique. If the original group is selected randomly prior to random assignment, it is considered as a probability sample. Otherwise, the result is a non-probability sample. Burns and Grove (1995:238) noted that random assignment without random selection lacks the strength of full randomization. For instance, in selecting an accessible population, if the sample, from which the random assignment to groups is made, is biased, the groups will also be biased. However, random assignment used without random sampling decreases the risk of bias in the selection groups.

3.9.8 Multi-stage sampling

The four methods covered in the preceding sections, such as simple, stratified, systematic and cluster sampling, are the simplest random sampling strategies. However, in most applied social research, considerably more complex sampling methods than these simple variations are used. The most important principle here is that one can combine the simple methods described earlier in a variety of useful ways that help us address the sampling needs in the most efficient and effective manner possible. When these sampling methods are combined, it is called multi-stage sampling (Trochim, 2000: online).

3.9.9 Panel samples

A panel sample means that a fixed panel of persons is selected from the population of persons involved in a particular issue. This panel has to be, naturally, proportionately representative of the relevant population. If a certain group of chain stores, for example, wants to compose a panel from their clients to test a certain product, this method of sampling can be used. If, for example, 80% of the clients of the product are ladies, four ladies for each gentleman should be included in the panel (De Vos, 1998:198).

3.10 NON-PROBABILITY (NONRANDOM) SAMPLING METHODS

According to Leedy and Ormrod (2001:218), non-probability sampling methods are divided into two broad types: accidental or purposive. Most sampling methods are purposive in nature because we usually approach the sampling problem with a specific plan in mind. The most important distinctions among these types of sampling methods are the ones between the different types of purposive sampling approaches. In probability sampling, the researcher has no way of forecasting or guaranteeing that each element of the population will be represented in the sample. Furthermore, some members of the population have little or no chance of being sampled. There are several types of non-probability sampling designs, with each addressing different research needs. The four non-probability sampling designs described here are convenience sampling, quota sampling, purposive sampling, and network sampling.

3.10.1 Convenience (accidental) sampling

Convenience sample (sometimes called an “available” sample) is a non-probability sample that happens to be available at the time of the data collection. For instance, to obtain a convenience sample of patients, you could simply plan to include those patients who happened to come into the clinic on data-collection day, or choose the first 50 people who came into the emergency room on a particular Saturday night. There is no way of estimating the potential bias in this kind of sample, but it is possible to plan for objectivity, so that subjects are not deliberately selected by the researcher. Many samples in nursing studies are convenience samples because of the availability of patient groups through treatment centers. You will probably not know in advance who will come in for treatment, and you may have to wait for a sufficient number of new patients to arrive before the sample selection is complete. For instance, if the target population is defined as new diabetics being treated for the first time in an outpatient clinic, it may take a considerable time for a sufficient number of new diabetic patients to present themselves for diagnosis and treatment at the outpatient department (Brink & Wood, 1994: 136).

Convenience sampling may be appropriate for some less demanding research problems, because not all research data need to be collected through careful, thoughtful sampling procedure. Convenience sampling is used in exploratory research where the researcher is interested in getting an inexpensive approximation of the truth. As the name implies, the sample is selected because they are convenient. This non-probability method is often used during preliminary research efforts to get a gross estimate of the results, without incurring the cost or time required to select a random sample (Trochim, 2000: online). But without such safeguards, the conclusions drawn from the research may not be trustworthy (Leedy & Ormrod, 2001:218).

3.10.2 Quota sampling

Quota sampling is a variation of convenience sampling. It selects respondents in the same proportions that they are found in the general population, but not in a random fashion. Let us consider a population in which the number of African Americans equals the number of European Americans. Quota sampling would choose, say, 20 African Americans and 20 European Americans, but without any attempt to select these individuals randomly from the overall population (Leedy & Ormrod, 2001:219).

According to Trochim (2000: online), there are two types of quota sampling, namely proportional and non proportional. In proportional quota sampling the researcher represents the major characteristics of the population by sampling a proportional amount of each until he/she gets the required number (percentage) of sample. The problem here is that one has to decide the specific characteristics on which the quota should be based, such as gender, age, education, race, religion, etc.

Non-proportional quota sampling is a bit less restrictive. In this method, the researcher specifies the minimum number of sample units he/she wants in each category. Here, the researcher is not concerned with having numbers that match the proportions in the population. Instead, he/she simply wants to have enough to be able to talk about even small groups in the population. This method is the non-probabilistic analogue of stratified random sampling in that it is typically used to assure that smaller groups are adequately represented in your sample.

3.10.3 Purposive sampling

Purposive sampling is sometimes referred to as judgmental sampling. Purposive sampling involves the conscious selection by the researcher of certain subjects or elements to include typical subjects or typical situations. For instance, good care and poor care or poor patients and bad patients might be used. This approach is often used in qualitative studies. Using insights gained from initial data collection, the qualitative researcher may decide to seek subjects with particular characteristics to increase theoretical understanding of some facet of the phenomenon being studied. For example, the researcher might find, through subject interview that the views of few subjects differed strikingly from the views of the group. The researcher might intentionally seek interviews with the individuals whose views differed. However, this strategy has been criticized because of the fact that there is no way of evaluating the precision of the researcher's judgment (Burns & Grove, 2001:376).

3.10.4 Heterogeneity sampling

Trochim (2000: online) described heterogeneity sampling as a method that is used when the researcher wants to include all opinions or views, and is not concerned about representing these views proportionately. Another term for this method is sampling for diversity. Trochim (2000: online) suggested that in many brainstorming or nominal group processes, some form of heterogeneity should be used for sampling in order to get a broad spectrum of ideas. Clearly, in order to get all of the ideas, and especially the "outlier" or unusual ones, the researcher has to include a broad and diverse range of participants.

3.10.5 Network sampling

Network sampling strategy, also referred to as snowball sampling, is used for locating samples that are difficult or impossible to obtain in other ways. Network sampling takes advantage of social networks. In this method, the subjects are asked for their assistance in getting in touch with others who have similar characteristics. Burns and Grove (2001:376) indicated that this strategy is particularly useful for finding subjects in socially devalued populations, such as alcoholics, prostitutes, child abusers, sex offenders, drug addicts, and criminals. Other groups, such as widows, grieving siblings, and those successful at lifestyle changes, can be located with this strategy. Obviously, biases are built into the sampling process, because the subjects are not independent of one another.

3.10.6 Expert sampling

Expert sampling involves the assembling of a sample of persons with known or demonstrable experience and expertise in some area. According to Trochim (2000: online) there are two reasons for doing expert sampling: (1) it would be the best way to elicit the views of persons who have specific expertise, which is considered essentially just a specific sub-case of purposive sampling, (2) the other reason for using expert sampling is to provide evidence for the validity of another sampling approach chosen. The other approach is to convene an expert panel consisting of persons with acknowledged experience and insight into that field or topic and ask them to examine the modal definitions and comment on their appropriateness and validity (Trochim, 2000: online).

3.10.7 Dimensional samples

Dimensional sampling is viewed by (De Vos, 1998: 199) as a multidimensional form of quota sampling. The idea is to specify all variables in the population which are of interest to the investigation, and then see to it that each dimension is represented by at least one case. The method entails that only a few cases are studied in depth. The problem encountered in many investigations, such as when certain variables may be left out, is largely caught up by this method.

3.10.8 Target sampling

This is mainly a strategy to obtain systematic information when random sampling is impossible and when accidental sampling cannot be strictly implemented in consequence of the hidden nature of the problem. Watters and Biernacki (1989:420; cited by De Vos, 1998 :199) define a target sample as a "purposeful, systematic method by which controlled lists of specified populations within geographical districts are developed and detailed plans are designed to recruit adequate number of cases within each of the targets". In this case the researcher must first compile a list of names by means of careful questioning in the community until he/she has a sufficient number of respondents to commence his investigations. Great effort is put into an attempt to involve a sufficient number of respondents by carefully explaining the purpose and value of the study to them. In target sampling the emphasis is on investigation of hidden problems in hidden populations. Observation, interviews with informants and studying policy records are ways in which the desired number of respondents can be determined.

3.11 COMPARISON BETWEEN PROBABILITY AND NON-PROBABILITY SAMPLING

According to Brink and Wood (1994:138) the comparisons of the two approaches are summarized in Table 3.1.

Table 3.1: Comparison between probability and non-probability sampling

Probability sampling	**Non-probability sampling**
– Assumptions: a complete listing of all members of the target population is available.	– No list of all members of the target population is available, or availability is expected to be sequential.
– Researcher knows the probability of each subject being in the sample.	– There is no way to estimate that all members of the population have some chance of being in the sample.
Systematic sampling with random start	**Non-probability systematic sampling**
– Obtain listing of the population. – Begin sampling with a random start. – Select every nth subject from the list until – Predetermined number has been reached.	– No list of population. – Begin with first available subject. – Select every nth subject until enough subjects have been obtained.
Simple random sampling	**Convenience sampling**
– A specified percentage or number from the	– A minimum number of subjects (or time

population is determined in advance. – All members of the population are assigned a number (such as a social security number). – From a table of random numbers, select from the population until sample size is reached. – Each member of the population has an equal chance of being selected.	frame) is determined in advance. – Every person who meets the criteria is asked to participate. – Researcher goes to setting and selects sample from persons meeting the sample criteria. – The actual population is unknown; other terms for convenience sample are available sample, accidental sample, deliberate sample, chance sample.
Stratified random sample	**Quota sampling**
– Divide population into strata based on the sample criteria. – Draw a predetermined number from each group, using simple random sampling technique.	– Make up a list of the criteria needed to divide the sample into groups (such as age, sex, education). – Decide on the number from each group you want in the sample, then go to the setting and select a convenience sample until you have filled your quota in each group.
Cluster (multistage) sampling	**Network sampling**
– List the relevant geographic locations of the populations (state, countries, and cities). – Draw a simple random sample from that list until your predetermined number is reached. – List sample obtained according to the next relevant criterion (such as schools, health care facilities).	– Locate an individual or group meeting the sample criteria who agrees to be in the study (or a person known by persons who meet the sample criteria). – Obtain from the first and each subsequent member of the sample the names of (or a method of contacting) other individuals meeting the sample criteria.

– Draw a simple random sample from the new list until the predetermined number is reached. – Repeat the above until all relevant criteria have been exhausted. At the last stage, list all members of the population and draw a simple random sample to the predetermined number.	– Continue the above until the predetermined number has been reached or until all contacts are exhausted.

3.12 SUMMARY

A sample is a subset of the population that is selected for a particular study, and the members of a sample are the subjects. Sampling defines the process for selecting a group of people, events, behaviors, or other elements with which to conduct a study. A variety of probability and non-probability sampling methods is used in nursing studies. In probability sampling every member of the population has a probability greater than zero of being selected for the sample. With non-probability sampling, not every member of the population has an opportunity for selection in the sample.

Sampling methods are classified as either probability or non-probability. In probability samples, each member of the population has a known non-zero probability of being selected. Probability methods include random sampling, systematic sampling, and stratified sampling. In non-probability sampling, members are selected from the population in some non-random manner. These include convenience sampling, judgment sampling, quota sampling, and network sampling. The advantage of probability sampling is that sampling error can be calculated. Sampling error is the degree to which a sample might differ from the population. When inferring to the population, results are reported plus or minus the sampling error. In non-probability sampling, the degree to which the sample differs from the population remains unknown.

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ESSAY 4: IDENTIFICATION AND FORMULATION OF RESEARCH PROBLEMS

4.1 INTRODUCTION

Research originates from a need that arises. A clear distinction between the problem and the purpose should be made. The problem is the aspect the researcher worries about, thinks about, and wants to find a solution for. The purpose is to solve the problem, i.e. find answers to the question(s). If there is no clear problem formulation, the purpose and methods are meaningless. At the beginning of a research study there is a need to clarify the area of study and make a clear statement of what is seen as a research problem. A research problem is an area of concern in which there is a gap in the knowledge base needed, for instance, for nursing practice. Research is conducted to generate essential knowledge to address the practical concern, with the ultimate goal of providing evidence or research based solution (Clifford & Gough, 1990:36).

A research problem can be identified by asking questions such as: What is wrong or what is of concern in this situation? What is known or not known about this situation? What information is needed to improve this situation? Will a particular intervention work in a clinical situation? Who is best to implement the intervention? Would another intervention be more effective? What changes need to be made to improve this intervention? Through questioning and a review of the literature, a research problem emerges that includes a specific area of concern and the knowledge gap that surrounds this concern. The knowledge gap, or what is not known about this clinical problem, determines the complexity and number of studies needed to generate essential knowledge for nursing practice (Martin, 1994 and Wright, 1999; cited by Burns & Grove, 2001: 85).

The major sources for nursing research problems include nursing practice, researcher and peer interventions, literature review, theory and research priorities. Using deductive reasoning, a research problem is generated from a research topic or a broad problem area of personal interest that is relevant to nursing. The statement of the problem must first be expressed with the utmost precision; it should then be divided into more manageable sub problems. There are many problem situations that may give rise to research.

In research, the research problem is the full exposition of idea that the researcher wants to study. The problem statement or the problem definition is a logical progression of ideas and arguments about the research idea. The problem introduces a topic, explains its importance, condenses facts and theories about the topic, and then in a final, decisive section justifies conclusively the choice of topic. The full problem answers all of the possible who, what, where, and why questions that anyone not involved in a specific project would ever dream of asking (Brink & Wood, 1994: 24) The ultimate goal of a problem statement is to transform a generalized problem into a targeted, well-defined problem—one that can be resolved through focused research and careful decision-making. Writing a problem statement can help the researcher to clearly identify the purpose of the project to be proposed. The objective of this chapter is to discuss some of the principles and guidelines in the identification and formulation of a research problem and to evaluate problems statements of selected case studies.

4.2 DEFINITION

According to Leedy and Ormrod (2001:49), the heart of every research project is the problem. It is paramount to the success of the research effort. Often, the problem statement will also serve as the basis for the introductory section of the final proposal, directing the reader's attention quickly to the issues that the proposed project will address and providing the reader with a concise statement of the proposed project itself. It is developed from the research question and is the final and complete synthesis of everything the researcher has thought, read, argued over, and written.

4.3 THE IMPORTANCE OF RESEARCH PROBLEM

The importance of the research problem should receive considerable and persuasive attention. It must be noted, however, that importance is inevitably subjective and will vary from person to person and agency to agency. The researcher should clearly indicate why the problem is an important one by answering questions such as the following (Robinson, 2006):

- Is the problem of current interest (is it topical)?
- Is the problem likely to continue into the future?
- Will more information about the problem have practical application?
- Will more information about the problem have theoretical importance?
- How large is the population affected by the problem?
- How important, influential, or popular is this population?
- Would this study substantially revise or extend existing knowledge?
- Would this study create or improve an instrument of some utility?
- Would research findings lead to some useful change in best practice?
- Is there evidence or authoritative opinion from others to support the need for this research?

The problem statement should persuasively indicate that major variables can be measured in some meaningful way.

4.4 CLARIFYING AND REFINING A RESEARCH PROBLEM

Fantasy and creativity are part of formulating a research problem. So, the researcher needs to imagine the difficulties likely to occur with each study, but should avoid being too critical of potential research problems at this stage. Some of the questions in the critical thinking of research problems are: Which studies seems the most workable? Which one appeal intuitively? Which problem is the most significant to nursing? Which study is of personal interest? Which problem has the greatest potential to provide a foundation for further research in the field (Campbell et al., 1982; Kahn, 1994; Wright, 1999; cited by Burns & Grove, 2001:95). The problems investigated need to have professional significance and potential or actual significance for society. A research problem is significant when it has the potential to generate or refine knowledge or influence nursing practice, or both (Wright, 1999; cited in Burns & Grove, 2001:95). A survey of nurse researchers conducted by Moody and colleagues (1989; cited in Burns & Grove, 2001:95) identified the following criteria for significant research problems: (1) focused on real-world concerns (57%), (2) methodological sound (57%), (3) knowledge building (51%), (4) theory building (40%), and (5) focused on current or timely concerns (31%). This shows that the problems that are considered significant vary with time and the needs of society (Burns & Grove, 2001:95).

4.5 ELEMENTS OF A RESEARCH PROBLEM

Brink and Wood (1994: 47) suggest that it is best to know the elements of the problem and how it is developed as a separate and distinct section of the research plan, such as review of the literature, the rationale for developing the question, the theoretical or conceptual framework.

Each element, for its fullest development, requires a lot of thinking, recognizing of ideas, and a logical progression of concepts and facts that leads the reader to the statement of purpose. Although research problems can be written in a variety of ways, the same basic elements are present in all problems. The problem is the frame of reference for the entire research project, the rational for choice of literature, the point of view on the subject all of which are substantiated by facts, theories, and arguments gleaned from the reading (Brink & Wood, 1994: 47).

4.6 RESEARCHABLE AND NON-RESEARCHABLE PROBLEMS

Leedy (1993:53) warns that, at the outset, it is extremely important that the prospective researcher distinguishes between two basic types of problems: personal problems and researchable problems. When some students think of problems, Leedy writes, they lump together all of the perplexities with which they are faced and fail to distinguish between their essential characteristics. Thus problems may be very real, but not necessarily researchable. Researchable problems have to fit the requirements of the scientific method. Basically this means that research is inseparable from the thinking, the enquiring, the insight- in short, the "cerebration" of the individual engaged in it. Research requires an enquiring mind which seeks fact and, after finding it, synthesizes the significance of such fact into an accurate and logical conclusion. In order to come to some understanding of what a researchable problem is, Leedy (1993:53-54) identifies the following kinds of problems which are not researchable.

- Where there is no mental struggle on the part of the researcher to force the facts to reveal their meaning, there is no research. When a machine, a statistical formula or a computer can arrange and rearrange the data, and present them in neatly categorized or statistically analyzed forms of a terminal product, the process is not research.
- Generally "yes/no" questions are not research. They are indications that the real researchable problem lies much deeper than does the question being asked. "Are shelters beneficial to street children?" is no problem for research because it does not go deep enough. It misses the central issue. The researchable issue is not whether shelters are beneficial to street children, but wherein the benefit of shelters lies, i.e. what should be the approach or philosophy with regard to shelters if they are to be of real benefit to street children?
- Likewise, "comparison" problems are not research. For example, comparison of referrals to children's homes with referrals into foster care is not a research,

rather a social work. All one has to do to "solve" this problem is to make two lists of figures. There need be no interpretation of data at all. To turn this problem into a researchable one, it could be reformulated as follows: "The purpose of this research is to *analyze* the *reasons* for commitments to children's homes, in comparison with the reason for commitments into foster care." The italicized words show that the purpose is to get from mere comparison to a basic enquiry. The one is a mere quantitative comparison of the number of commitments to children's homes with the number of commitments into foster care, versus a qualitative identification of the reasons for commitment to children's homes, as contrasted with the reasons for commitment into foster care.

To sum up, for a problem to be researchable it must demand an interpretation of the data leading to a discovery of fact. And that "discovery of fact" must go beyond a mere statistical statement of comparative status or relationship. Interpretation of the data is an explanation of the actual meaning of the data that have been gathered, arranged, and processed, whether statistically or by any other means. De Vos (1998:53) states that the critical and inevitable question which every researcher must ultimately answer is: What is the meaning of all these facts?

4.7 DIVIDING THE RESEARCH PROBLEM INTO SUBPROBLEMS

The subparts of the main problem are called subproblems and are related to the main problem identified and flow from the main problem and make up the main problem. It is also the means to reach the set goal in a manageable way and contribute to solving the problem. Most research problems are too large or too complex to be solved without subdividing them. The strategy, therefore, is to divide and conquer. Almost every problem can be broken down into smaller units. From a research point standpoint, these units are easier to address and resolve. For example, the main problem: How do I get from town A to town B? Subproblems:

What is the most direct route? How far do I travel on the highway? Which exit should I take to leave the highway? What seems like a single question can be divided into at least three smaller questions that must be addressed before the principal question can be resolved. By closely inspecting the principal problem, the researcher often uncovers important subproblems. By addressing each of the subproblems, the researcher can more easily address the main problem (Leedy & Ormrod, 2001:56).

4.8 CHARACTERISTICS OF SUBPROBLEMS

Some researchers may not be familiar with the nature and purpose of subproblems (Leedy & Ormrod, 2001:58). Each subproblem should be a completely researchable unit: A subproblem should constitute a logical subarea of the larger research undertaking. Each subproblem might be researched as a separate subproject within the larger research goal. The solutions to subproblems, taken together, combine to resolve the main problem. It is essential that each subproblem be stated clearly and succinctly. Often, a subproblem is stated in the form of a question. A question tends to focus the researcher's attention more directly on the research target of the subproblem than does a declarative statement. After all, an interrogative attitude is what marks a true researcher.

Each subproblem must be clearly tied to the interpretation of the data: At some point in the statement of the subproblem as within the main problem the fact that data will be interpreted must be clearly evident. This fact may be expressed as a part of each subproblem statement, or it may occupy an entirely separate subproblem. The subproblems must add up to the problem. After stating the subproblems, one must much check them against the statement of the main problem to see that (a) nothing in excess of the coverage of the main problem is included and that (b) all significant areas of the main problem are covered by the subproblem. However, subproblems should be small in number. If the main problem is carefully stated and properly limited to a feasible researchable effort, the researcher will find that it usually contains two to six subproblems.

4.9 FEASIBILITY OF THE RESEARCH PROBLEM

The statement of the problem involves the demarcation and formulation of the problem, i.e. the *who, what, where, when*, and *why*. A checklist for testing the feasibility of the research problem is given below. It involves checking these criteria (Gerber, 2006: online) against the problem statement, purpose and expected outcome of the proposed research.

Table 4.1: A checklist for testing of the feasibility of a research problem (from Gerber 2006: online)

	Criteria	**Comment**	
		Yes	**No**
1	Is the problem of current interest? Will the research results have social, educational or scientific value?		
2	Will it be possible to apply the results in practice?		
3	Does the research contribute to the science of education?		
4	Will the research opt for new problems and lead to further research?		
5	Is the research problem important? Will you be proud of the result?		
6	Is there enough scope left within the area of research (field of research)?		
7	Can you find an answer to the problem through research? Will you be able to handle the research problem?		
8	Will it be practically possible to undertake the research?		
9	Will it be possible for another researcher to repeat the research?		
10	Is the research free of any ethical problems and limitations?		
11	Will it have any value?		
12	Do you have the necessary knowledge and skills to do the research? Are you qualified to undertake the research?		
13	Is the problem important to you and are you motivated to undertake the research?		
14	Is the research viable in your situation? Do you have enough time and energy to complete the project?		
15	Do you have the necessary funds for the research?		
16	Will you be able to complete the project within the time available?		
17	Do you have access to the administrative, statistic and computer facilities the research necessitates?		

4.10 THE RESEARCH QUESTION AND PROBLEM STATEMENT

The problem statement should close with a research question. Typically, the research question contains two variables, a measurable relationship and some indication of population. The purpose of the literature search that follows is to answer the research question. If the literature cannot answer the question, the research is needed to do so. An example question might be: "What is the relationship between the grade point average of university students and their use of the library"? The information needed is (1) grade point average and (2) some measure of library use. The title and the problem statement question are often nearly identical. For example, in the example above, the title of this research project would be something like this: "Library Use by University of Students and Their Grade Point average" (Robinson, 2006).

4.11 CRITERIA FOR A GOOD PROBLEM STATEMENT

As the research problem and purpose increase in clarity and conciseness, the researcher has greater direction in determining the feasibility of a study. However, the nature and type of the research problem to be investigated depends on several factors, such as duration of the anticipated study, availability of resources (money, facility and equipment), the researcher's expertise, and the availability and accessibility of target population or study samples. Similarly cooperation of others and ethical considerations are also necessary (Flemming, 1999 and Rogers, 1987; cited by Burns & Grove, 1997:106).

4.11.1 Duration of the Study

Conducting research usually takes more time than is anticipated, which makes it difficult for any researcher to estimate the time needed for the completion of a given study. In estimating the duration of a study, the researcher examines the purpose of the study, i.e. the more complex the purpose, the greater the time required. However, the purpose of a study depends on the research problem. Thus, there is a need to take into account the time factor when formulating a problem statement. An approximation of the time needed for any given research problem can be determined by assessing the following factors: (1) type and number of population or sample needed, (2) number and complexity of the variables to be studied, (3) methods for measuring the variables (are instruments available to measure the variables or must they be developed?), (4) methods for collecting data, and (5) the data analysis process. The researcher must approximate the time needed to complete each step of the research process (Burns & Grove, 2001:98) and whether the stated problem can be addressed or researched within the given timeframe and whether the study is feasible as a whole.

Most researchers propose a designated period or set a specific deadline for the completion of their research project, depending on the extent of the research problem. The researcher needs to determine whether the identified problem can be researched and the purpose accomplished by the designated deadline. If not, the research problem could be narrowed down or the deadline extended. Researchers are often cautious about extending deadlines because a project could continue for many years as time is as important as money, and the cost of a study can be greatly affected by the time required to conduct it (Burns & Grove, 2001: 98).

4.11.2 Resource Availability

The problem selected for a given research is influenced by the amount of resources available to the researcher. Potential sources for funding should be considered at the time the problem and purpose of research are identified. In estimating the cost of a research project, the following questions need to be considered (Burns & Grove, 2001:98): What will the review of the literature cost? Will the study subjects have to be paid for their participation in the study? Will any supplies be needed? What will be the transportation costs for conducting the study? Etc.

Moreover, researchers need to determine whether the problem in their studies will require special facilities to implement. If the study is conducted at a hospital, clinic, or school of nursing, will the agency provide the facilities that are needed? Setting up a highly specialized laboratory for the conduct of a study would be expensive and probably require external funding. Most nursing studies, however, are done in natural settings like a hospital room or unit, a clinic, or a patient's home. Generally, depending on the type of problem to be investigated, nursing studies require a limited amount of equipment, such as a tape recorder or video recorder for interviews or a physiological instrument such as a scale or thermometer. If specialized facilities or equipment are required for a study, the researcher needs to be aware of the options available before actively pursuing the study (Burns & Grove, 2001:99).

4.11.3 Researcher Expertise

A research problem must be selected based on the ability of the investigator and need to be within the expertise of the researchers. Initially, one might work with another researcher (mentor) to learn the process and then investigate a familiar problem that fits one's knowledge base or experience. Selecting a difficult, complex problem can only frustrate and confuse the novice researcher. However, all researchers need to identify problems and purposes that are challenging and collaborate with other researchers as necessary to build their research background (Burns & Grove, 2001:98).

4.11.4 Target Population and Study Samples

In selecting a research problem, one must first identify the target population and consider the type and number of study subjects needed for the study. Finding a sufficient sample might be difficult if the research problem involves investigating a unique or rare population, such as quadriplegic individuals who live alone. The more specific the population, the more difficult it is to find. With limited available resources, the researcher might want to investigate subjects who are accessible and do not require payment for participation. Even if a researcher identifies a population with a large number of potential subjects, those individuals may be unwilling to participate in the study because of the specific research problem selected for study, such as research problems related to alcohol and drug use. Thus, researchers need to be prepared to pursue the attainment of subjects at whatever depth is necessary, because having a representative sample of reasonable size is critical to the generation of quality research findings (Burns & Grove, 2001:99) and to effectively addressing the identified research problem.

4.11.5 Cooperation of Others

A given research problem may appear feasible but, without the cooperation of others, it may not. Some studies deal with problems that are conducted in laboratory settings and require the minimal cooperation of others. However, most nursing studies involve problems related to human subjects and are conducted in hospitals, clinics, schools, offices, or homes. Having the cooperation of people in the research setting, the subjects, and the assistants involved in data collection is essential. Thus, in order to obtain the cooperation of people with a study, the research problem should be significant to them and that they must be personally interested in the study (Burns & Grove, 2001:99).

4.11.6 Ethical Considerations

The problem selected for investigation must be ethical, which means that the subjects' rights and the rights of others in the setting are protected. If the problem appears to infringe on the rights of the subjects, it should be reexamined and may have to be revised or abandoned. There are usually some risks in every study, but the value of knowledge generated should outweigh the risks (De Vos, 1998:24).

Informed consent requires the researcher to disclose specific information to each prospective subject. The following information is identified as essential for informed consent in research (Burns & Grove, 1995:378).

- ***Introduction of research activities:*** The initial information presented to prospective subjects clearly indicates that a study is to be conducted and that the individual is being asked to participate as a subject.
- ***Statement of the research purpose:*** The researcher states the immediate purpose of the research and any long-range goals related to the study.
- ***Selection of research subjects:*** The researcher explains to prospective subjects why they were selected as possible subjects.
- ***Explanations of procedures:*** Prospective subjects receive a complete description of the procedures to be followed and identification of any procedures which are experimental in the study.
- ***Description of risks and discomforts:*** Prospective subjects are informed of any "reasonably foreseeable risks or discomforts" (physical, emotional, social, and or economical) that might result from the study.
- ***Description of benefits:*** The investigator describes any benefits to the subject or to others which may reasonably be expected from the research, including any financial advantages or other rewards for participating in the study.
- ***Disclosure of alternatives:*** The investigator discloses the appropriate, alternative procedures or courses of treatment, if any, that might be advantageous to the subject.
- ***Assurance of anonymity and confidentiality:*** Prospective subjects need to know the extent to which their responses and records will be kept confidential. Subjects are promised that their identity will remain anonymous in reports and publications of the study.

- ***Offer to answer questions:*** The researcher offers to answer any questions the prospective subjects may have.
- ***Non-coercive disclaimer:*** Subjects are asked to sign a non-coercive disclaimer, which is, a statement that participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which the subject is otherwise entitled.
- ***Option to withdraw:*** Subjects are informed that they may discontinue participation (withdraw from the study) at any time without penalty or loss of benefits.
- ***Consent to incomplete disclosure:*** In some studies, subjects are not completely informed of the study purpose because that knowledge would alter the subjects' actions. However, prospective subjects must be told when certain information is being withheld deliberately.

4.12 Summary

Research problem is the heart of every research project. The success of any research project depends on how the research problem is identified and formulated. The importance of the research problem should receive considerable and persuasive attention. The importance of a research problem can be determined by several factors, such as whether the problem is of current interest, whether it has practical application, whether it will contribute to science and the existing knowledge, etc. The identification and formulation of a research problem requires critical thinking from the researcher by asking questions, such as: Which studies seems the most workable? Which one appeal intuitively? Which problem is the most significant? Which study is of personal interest? Which problem has the greatest potential to provide a foundation for further research in the field? Generally, formulation of a research problem requires critical thinking, recognizing ideas and a logical progression of concepts and facts that leads to the statement of purpose (Brink & Wood, 1994: 47).

However, Leedy (1993:53) warns that it is extremely important to distinguish between two basic types of problems: personal problems and researchable problems. Thus, problems may be very real, but not necessarily researchable. Researchable problems have to fit with the requirements of the scientific method, i.e. research requires an enquiring mind which seeks fact and, after finding it, synthesizes the significance of such fact into an accurate and logical conclusion. To sum up, for a problem to be researchable it must demand an interpretation of the data leading to a discovery of fact.

As the research problem and purpose increase in clarity and conciseness, the researcher has greater direction in determining the feasibility of a study. However, the nature and type of the research problem to be investigated depends on several factors (Flemming, 1999 and Rogers, 1987; cited by Burns & Grove, 1997:106), such as duration of the anticipated study. An approximation of the time needed for any given research problem can be determined by assessing the following factors: (1) type and number of population or sample needed, (2) number and complexity of the variables to be studied, (3) methods for measuring the variables (are instruments available to measure the variables or must they be developed?), (4) methods for collecting data, and (5) the data analysis process.

The problem selected for a given research is also influenced by the amount of resources available to the researcher, such as money, facility and equipment as well as the researcher's expertise. A research problem must be selected based on the ability of the investigator and need to be within the expertise of the researchers. In selecting a research problem, one must first identify the target population and consider the type and number of study subjects needed for the study and their cooperation. A given research problem may appear feasible but, without the cooperation of others, it may not. In most nursing studies having the cooperation of people in the research setting, the subjects, and the assistants involved in data collection is essential. Moreover, the problem selected for investigation must be ethical, which means that the subjects' rights and the rights of others in the setting are protected. Informed consent requires the researcher to disclose specific information to each prospective subject.

Based on the information discussed in the preceding sections five problem statements have been evaluated and presented in the following section.

4.13 EVALUATION OF PROBLEM STATEMENTS

The main task in this chapter was evaluation of five problem statements using the criteria described in the preceding sections. First, summary of the problem statements from five articles are presented briefly and this is followed by evaluation and/or comments on the problem statements. Finally, a summary of some key criteria for the evaluation of the research problems of each of these articles is presented in Table 2.

Example 1: An extract of the problem statement taken from Article No.1 (copy of part of the article is given in Appendix 1.1)

"In South Africa AIDS is currently not a notifiable disease and due to voluntary reporting the number of people living with AIDS may be seriously underestimated. Studies have indicated that more than a million South African will dies of AIDS related disease annually by 2008".

"In view of the above it is understandable that voluntary AIDS caregivers often fear becoming infected with the HIV. Stigmatization, prejudice and discrimination surrounding the HIV and its life threatening effects may compromise their ability to provide quality care. Voluntary caregivers currently come to the attention of psychiatric health care nurses because of their need of supportive counseling. An extensive literature study conducted by the researcher showed that no studies

concerning voluntary AIDS caregivers' perception of support rendered to them by hospice managers were found".

"The researcher realized the need of exploring voluntary AIDS caregivers' perception of support rendered by hospice managers and to identify the support needed. A lack of support will have a detrimental effect on the quality of care they are able to provide".

As described in the above problem statement, voluntary HIV/AIDS care givers seem to be concerned of the possibility of infection by the HIV and that "*voluntary caregivers currently come to the attention of psychiatric health care nurses because of their need of supportive counseling*". Thus, the researcher proposes to investigate the caregivers' perception of support rendered to them by hospice managers and to identify the support needed.

According to the criteria discussed in the preceding sections, the identified problem is a valid researchable problem which tries to generate information for the understanding of the perceptions of HIV/AIDS caregivers through interpretation of data. An indication of the target population is also given by the researcher as caregiver in hospices. Regarding the research problem, the researcher emphasizes on the need for support by the caregivers. However, the researcher proposes investigation of caregivers' perception of support as the main purpose of the research. This indicates that the research problem does not seem to match with the main purpose of the research. The term perception seems to suggest that there is a perceived difference in the understanding of support by the caregivers. Here, there are two key points that need to be mentioned: (1) the care givers are engaged in this activity voluntarily, (2) the care givers are aware of the possibility of infection by HIV. Alternative research questions could then be: if the caregivers are aware of the infection possibility, then what are the drivers (motives) that keep them doing their voluntary job (is it family ties, religious reason, cultural, tradition, etc)? What types of support services are needed by these caregivers and from whom?

Example 2: An extract of the problem statement taken from Article No.2 (copy of part of the article is given in Appendix 1.2)

"Having a mentally retarded child can pose many difficulties for the mother of the child. This phenomenon brings strain and frustration to the mothers in their homes. The researcher has learned from experience by working with communities as a community nurse that many of these mothers completely lose their social life, they cannot work to earn money and some are left by their husbands and male partners, because the child is mentally retarded."

"The rejection from their partners often leads to emotional distress and social isolation. Several studies undertaken to determine the impact of caring for mentally retarded children by families have reiterated the fact that this is the greatest challenge facing families. Others have found that having a mentally retarded child is an emotional issue and one which can cause acute upset and anxiety for parents, even several years after they discovered that the child is retarded. Similar study has not been done in a township in Namibia."

"The researcher therefore realized the need to explore the experience of mothers who care for mentally retarded children in the township and to discover the inherent stressors involved and the way these mothers cope with these problems."

The above problem statement focuses on the exploration of the experience of mothers who care for mentally retarded children. The problem statement highlights the experience of mothers with mentally disabled children, such as strain and frustration. Thus, it is a valid researchable problem with potential information on the stress involved and the way mothers in these circumstances cope with this kind of problems. It also shows clearly what the expected outcome of the research is and its contribution to the understanding of the problem faced by mothers with mentally disabled children and their coping strategy. The target population for the study is also specified as townships in Namibia and potential subjects indicated as mothers with mentally retarded children. However, it doesn't indicate on the potential availability of subjects for the study, apparently due to no prior study in the area. Thus, it appears that it is based on the results of studies from similar areas in Southern Africa.

<u>Example 3:</u> An extract of the problem statement taken from Article No.3 (copy of part of the article is given in Appendix 1.3)

"The findings of a study done in Lesotho on factors leading to high attrition among registered nurses in the Ministry of Health and Social Welfare revealed that the dissatisfaction with the appraisal system used for nurses has contributed to nurses leaving the civil service."

"Many of the annual performance appraisals were vague and relied on the nurse's relationship with the manager, or on the mood or writing ability of the manager. Furthermore, it was found that the appraisal tools used to measure nurses' performance are in most cases not specific to the nurses' positions; do not match their job descriptions; are mostly subjective; and do not benefit either the appraiser or the appraisee. The same appraisal tools are used for all categories of employees and do not address the nurses' specific duties. Apparently the tools address the character, personality, capacity and knowledge of each employee, but do not assess the basic or advanced nursing skills. The extent to which these tools are appropriate as a sole appraisal system seems very limited and questionable."

"However, performance appraisal plays an essential role in organizations, because it addresses the question of what an employee is able to do. Therefore, to make the best choices for organizational improvement and to be fair to individual

employees, decision makers need accurate information about levels of performance."

"The researcher considers performance appraisal as an important issue within the framework of the health care provided by nurses in Lesotho and will examine the expectations of registered nurses employed at the Lesotho Planned Parenthood Association and Christian Health Association of Lesotho."

The problem statement mentioned above emphasizes the challenge of using generalized performance appraisal methods for all employees across the board, without taking into account the specificity of working condition of nurses in the health services in Lesotho. It also highlights its impact on the organizational improvement of such practices. Thus, the researcher proposes to examine the expectation of nurses in terms of performance appraisal. The researcher specifies a focused target population for the study problem, i.e. nurses in two health organizations in Lesotho, which makes it a feasible study in terms of timeframe and resource requirement. The stated research problem lends itself for the generation of information and interpretation of data which might result in new ideas relating to the improvement of the performance appraisal of nurses in those specific target organizations and other similar organizations.

Example 4: An extract of the problem statement taken from Article No.4 (copy of part of the article is given in Appendix 1.4)

"Nursing is a human care between nurse and patient tailored to meet the individual's (namely the patient's) needs. Both nurse and patients are human beings and as such live according to their own cultural beliefs, practices and values. Several studies have indicated that nurse must know and fulfill the patient and family's needs and understand their perceptions and behavior."

"The health care system in the Republic of South Africa is based on the western health care model. The western health care model focuses mainly on the physical aspect of health and uses scientific methods to obtain health data. Thus the cultural orientation and cultural beliefs that underlie the patients' health behavior are not taken into account as they cannot always be scientifically explained. The unique cultural orientation to health and health care does not always fit in with scientific objectivity."

"Changes are also taking place in the Republic of South Africa affecting the health care system in such a way that nurses from western and traditional African backgrounds find themselves integrated in the health care setting. According to a study, these changes make the cultural background or orientation of both nurses and patients extremely important. For the nurse to fulfill all the health needs of a patient of a different culture it is of utmost importance to understand and be sensitive to the cultural orientation of the patients – both the similarities and differences."

"In the light of the above, it is very important for nurses to know the community they serve. Therefore, in order to render holistic nursing care to all patients, whether of the same of different culture, it is necessary for the nursing curriculum to emphasize cultural congruent nursing care in nursing education."

"Pregnancy, childbirth and child-rearing are family and community events and as such the pregnant woman cannot be separated from her people. The western health care model as practiced in midwifery tends to exclude family or other support networks except the husband, during the ante-, intra- and postnatal periods. The families, both the nuclear and extended family, are seldom involved in nursing care planning and intervention. The pregnant woman's support network includes nuclear family, extended family, friends and community members such as traditional birth attendants. When this support network is severed, professional

midwives do not render holistic and cultural congruent nursing care to the traditional pregnant woman and her family."

"The nursing process is the only instrument available to the midwife to fulfill all the health needs of the pregnant woman including her cultural health needs. Not only must the physical and emotional health needs of the pregnant woman be determined, but also her cultural health beliefs and practices must be ascertained to predict and understand the patients' response to pregnancy, birth and child-bearing. However, most nurses/midwives tend to focus on biomedical needs of patients and therefore render only care that can be scientifically explained. Most nurses tend to assume that all patients have a western cultural world-view despite the patient's ethnocentricity. The same problem is experienced in health care institutions of Bloemfontein and the surroundings by some inhabitants. Hence it is important and necessary to research "Are nurses knowledgeable of cultural congruent nursing care and do they apply these principles in midwifery care they render to mothers and their babies"

The above problem statement highlights the lack of cultural orientation to health and health care that does not always fit in with scientific objectivity and the need for investigation on the knowledge of congruent nursing care and its application in midwifery care. The nature of the problem has been dealt with in an in-depth review of literature. The significance of the problem to the target population has been clearly highlighted, with a potential positive impact on obtaining cooperation of study participants. The target population and the study subjects are specified as all nurses working in maternity units of two public hospitals in Bloemfontein, indicating a more focused study and effective data collection and interpretation of data on the research problem. The potential outcome of this research is its contribution to the improvement of health care systems through incorporation and understanding of traditional and cultural orientation to health care approach.

Example 5: An extract of the problem statement taken from Article No.5 (copy of part of the article is given in Appendix 1.5)

"Patients who suffer from schizophrenia require a long-term management approach including both medical and social treatment. Strong support from the family and the community and the relationship between caregivers and the community are priorities to enhance compliance by removing the stigma attached to mental illness."

"Reasons for missed appointments, which is a world-wide problem, are not clearly defined in previous studies because of poor community involvement. If a strong relationship between the community and health care services could be maintained and services made available and accessible at all times, mental illness, like all other physical illness will be acceptable, and missed appointments will be reduced.
"In South Africa, a study conducted in the Free State Province has shown that missed clinic appointments among mentally ill patients is an ongoing problem. According to the literature, missed appointments have consequences for the patient, family, health services and the community. The patient who misses clinic appointments may relapse and never regain his pre-relapse level of functioning. Dependency and financial burden on the family is also significant. An increasing patient load at the clinics causes stress on nurses which may result in burnout. The risk of violence, assaults, rape or other unacceptable behaviors may occur in the community due to mental disorders resulting from non-compliance."

"Therefore, it is important to identify the possible reasons for missed clinic appointments among patients who suffer from schizophrenia in Botshabelo and to suggest nursing guidelines to enhance clinic attendance."

The problem statement given above highlights the challenge that most communities, families and nurses are facing in terms of addressing the issue of mental illness patients. The researcher proposes to investigate into the reasons for missed appointments by mentally ill patients in order to help to minimize the consequence of non-compliance. The target population is indicated as all people living in Botshabello suffering from mental illness and their immediate family members with non-probability sampling as a method of sampling approach. Here, the question of getting full cooperation of the study subjects might be an issue, as the study is focusing on mentally ill patients. While it is relatively easy to explain the significance of the research problem to the family members and obtain their consent, it may prove difficult to obtain the cooperation of the mentally ill patients for the study. Moreover, the nature of information provided by such patients may be difficult to corroborate. Thus, this research problem is a very sensitive one that requires a qualified expertise in the generation and interpretation of the research data.

Based on the analysis of the information presented in the preceding sections, the following checklist has been drawn up for the evaluation of problems statements. The problem statements of the five selected articles have been evaluated according the compiled checklist and the result presented in Table 4.2. It should be noted that some of the criteria were not applicable for this particular evaluation, but are equally relevant when the researcher identifies and formulates a research problem, and therefore needs to answer those questions in order to assess the significance of his/her research problem.

Table 4.2: A checklist compiled for evaluation of the research problems from case studies

	Comment									
Checklist	**Article 1**		**Article 2**		**Article 3**		**Article 4**		**Article 5**	
	Yes	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
Is the research problem of current interest?	√		√			√	√			√
Does the purpose of study match the research problem?		√	√		√		√		√	
Is the method of research appropriate for the research problem?	√		√		√		√		√	
Will the research results have social, educational or scientific value?		√	√			√	√			√
Will it have practical application?	√		√		√		√			√
Does the research contribute to science and existing knowledge?		√	√			√	√			√
Will the research lead to new problems and further research?		√	√			√	√			√
Will it be possible for another researcher to repeat the research?	√		√		√		√		√	
Can you find an answer to the problem through research?	√		√		√		√			√
Will it be practically possible to undertake the research?	√		√		√		√			√

Is the research free of any ethical problems and limitations?	√		√		√		√		√	
Do you have the necessary knowledge and skills to do the research?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Is the problem important to you and are you motivated to undertake the research?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Will you be proud of the result?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Is the research viable in your situation?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Do you have enough time and resource to complete the project?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Do you have access to facilities (administrative, statistic and computer) the research necessitates?	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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SUMMARY

In virtually every subject area, our knowledge is incomplete and problems are waiting to be solved. We can address the knowledge gap and those unresolved problems by asking relevant questions and seeking answers through systematic research. However, research is of a little or no value unless it is communicated properly. This communication is usually in the form of a research report. Such a report must be logical and scientific. It is a skill that needs to be measured by all researchers. Research essays are a valuable method of developing this valid skill.

In this essay, four themes have been covered, namely qualitative and quantitative research, a literature review on breastfeeding benefits and associated factors, sampling in quantitative research, and identification and formulation of research problems. Each of these themes is briefly summarized in the following paragraphs.

Qualitative and quantitative research: Quantitative research is an objective, systematic process of using numerical data to obtain information about the world. This research method is used to describe, examine relationships, and determine cause-and-effect interactions. Quantitative research method is classified into four types namely, descriptive, correlational, quasi-experimental, and experimental research. On the other hand, qualitative research is a systematic, subjective approach used to describe life experience and give them meaning. Knowledge generated from qualitative research provides meaning and understanding of the specific values and life experiences.

***Breastfeeding benefits and associated factors – A literature review*:** Breast milk is the natural and optimal food for infants. In addition to meeting nutritional needs, breast milk provides numerous immunologic, developmental, psychologic, economic, and practical advantages. It is postulated that breastfeeding must also be related to the prevention of some adult health problems, such as diabetes and coronary heart disease. Malnutrition among infants and young children, which

remains one of the most severe global public health problems, is among the main reasons that the World Health Organization (WHO) so strongly supports breastfeeding. Human breast milk contains all the nutrients babies need each day, plus many substances that help keep them healthy and promote optimal growth and development. It also contains antibodies to protect babies from all kinds of infection. However, there are many factors associated with breastfeeding practices that may affect the degree of its success, such as attitude of the father of the child to breastfeeding, appreciation of feeding practice in the society, and support and guidance from health care professionals both before and after the birth of the child.

Sampling in quantitative research: A sample is a subset of the population that is selected for a particular study, and the members of a sample are the subjects. Sampling defines the process for selecting a group of people, events, behaviors, or other elements with which to conduct a study. A variety of sampling methods is used in nursing studies, such as probability or non-probability. In probability samples, each member of the population has a known non-zero probability of being selected. The advantage of probability sampling is that sampling error, the degree to which a sample might differ from the population, can be calculated. In non-probability sampling, the degree to which the sample differs from the population remains unknown.

Identification and formulation of research problems: Research problem is the heart of every research project. The success of any research project depends on how the research problem is identified and formulated. The importance of the research problem can be determined by several factors, such as whether it is of current interest, whether it has practical application, whether it will contribute to science and the existing knowledge. The identification and formulation of a research problem requires critical thinking from the researcher. As the research problem and purpose increase in clarity and conciseness, the researcher has greater direction in determining the feasibility of a study.

OPSOMMING

In feitlik elke vakgebied is ons kennis onvolledig en is daar probleme wat wag om opgelos te word. Ons kan die kennisgaping en daardie onopgeloste probleme aanspreek deur relevante vrae te stel en antwoorde deur middel van sistematiese navorsing te soek. Navorsing is egter van min of geen waarde nie tensy dit behoorlik oorgedra word. Hierdie kommunikasie is gewoonlik in die vorm van 'n navorsingsverslag. So 'n verslag moet logies en wetenskaplik wees. Dit is 'n vaardigheid wat deur alle navorsers gemeet moet word. Navorsingsessays is 'n waardevolle metode om hierdie geldige vaardigheid te ontwikkel.

In hierdie essay word vier temas gedek, naamlik kwalitatiewe en kwantitatiewe navorsing, 'n literatuuroorsig oor die voordele van borsvoeding en aanverwante faktore, monstering in kwalitatiewe navorsing en die identifisering en formulering van navorsingsprobleme. Elk van hierdie temas word in die volgende paragrawe kortliks opgesom.

Kwalitatiewe en kwantitatiewe navorsing: Kwantitatiewe navorsing is 'n objektiewe, stelselmatige proses waarvolgens numeriese data gebruik word om inligting omtrent die wêreld in te win. Hierdie navorsingsmetode word gebruik om te beskryf, verhoudings te ondersoek, en om oorsaak-en-gevolg interaksies te bepaal. Die kwantitatiewe navorsingsmetode word in vier tipes geklassifiseer, naamlik beskrywende, vergelykende, kwasi-eksperimentele en eksperimentele navorsing. Kwalitatiewe navorsing, daarenteen, is 'n sistematiese, subjektiewe benadering wat gebruik word om lewenservarings te beskryf en betekenis daaraan te gee. Kennis wat uit kwalitatiewe navorsing voortspruit gee betekenis en begrip aan spesifieke waardes en lewenservarings.

Die voordele van borsvoeding en verwante faktore – 'n Literatuuroorsig. Borsmelk is die natuurlike en optimale voedsel vir babas. Benewens die voedingsbehoeftes waaraan dit voldoen, het borsmelk baie immunologiese, ontwikkelings-, psigologiese, ekonomiese en praktiese voordele. Daar word gepostuleer dat borsvoeding ook 'n rol moet speel in die voorkoming van sommige gesondheidsprobleme soos diabetes en koronêre hartvatsiektes by volwassenes. Wanvoeding onder babas en jong kinders, wat steeds een van die ergste globale openbare gesondheidsprobleme is, is een van die hoof redes waarom die Wêreld Gesondsheidsorganisasie (WGO) so 'n sterk voor-stander van borsvoeding is. Menslike borsmelk bevat al die voedingstowwe wat babas daagliks benodig, plus baie stowwe wat help om hulle gesond te hou en wat optimale groei en ontwikkeling bevorder. Dit bevat ook teenliggaampies om babas teen allerhande infeksies te beskerm. Daar is egter baie faktore wat met borsvoedingspraktyke verband hou wat die graad van sukses daarvan kan beïnvloed, soos die houding van die vader van die kind ten opsigte van borsvoeding, waardering van voedingspraktyke in die ge-meenskap en die ondersteuning en leiding van gesondheidsorgpraktisyns voor en na die geboorte van die kind.

Steekproefneming by kwantitatiewe navorsing: 'n steekproef is 'n onderdeel van die populasie wat vir 'n besondere studie gekies is en die lede van 'n steekproef is die proefpersone. Steekproefneming definieer die proses vir die seleksie van 'n groep mense, geleenthede, gedrag of ander elemente waarmee 'n studie uitgevoer gaan word. 'n Verskeidenheid metodes van steekproefneming word in verpleegkundige studies gebruik, soos waarskynlikheid en nie-waarskynlikheid. By waarskynlikheidsteekproewe het elke lid van die populasie 'n bekende nie-zero waarskynlikheid om geselekteer te word. Die voordeel van waarskynlikheidsteekproewe is dat die steekproeffout, die graad waartoe 'n steekproef van die populasie mag verskil, bereken kan word. By nie-waarskynlikheidsteekproefneming bly die graad waartoe die steekproef van die populasie verskil, onbekend.

Identifikasie en formulering van navorsingsprobleme: Die navorsings-probleem is die kern van elke navorsingsprojek. Die sukses van enige navorsingsprojek is afhanklik van hoe die navorsingsprobleem geïdentifiseer en geformuleer is. Die belang van die navorsingsprobleem kan deur verskeie faktore bepaal word, soos of dit van huidige belang is, of dit 'n praktiese toe-passing het, of dit tot die wetenskap en bestaande kennis sal bydra. Die identifisering en formulering van 'n navorsingsprobleem benodig kritiese denke deur die navorser. Namate die navorsingsprobleem en doel in duidelikheid en bondigheid toeneem, kry die navorser meer rigting om die uit-voerbaarheid van die studie te bepaal.

APPENDIX 1: COPIES OF ARTICLES USED IN THE EVALUATION OF PROBLEM STATEMENTS

Appendix 1.1 Copy of article No.1 used in the evaluation of problem statements.

CHAPTER 1

THE PERCEPTIONS OF VOLUNTARY AIDS CAREGIVERS CONCERNING HOSPICE MANAGERS' PROVISION OF SUPPORT

1.1 INTRODUCTION

Voluntary caregivers may experience physical health problems, depression, disruption of interpersonal relationships, social and work life, as well as financial strain associated with care giving. They may feel reluctant to talk about the problems they are facing and fear being judged an inadequate caretaker (Flaskerud, Carter & Lee, 2001:121). It is suggested that if support is not provided they may also suffer from burnout syndrome often characterised by a depressive mood, anger, anxiety and insomnia.

1.1.1 Problem statement

In South Africa AIDS[1] is currently not a notifiable disease and due to voluntary reporting, the number of people living with AIDS may be seriously underestimated (Joint United Nations Programme on HIV/AIDS (UNAIDS), 1998:12; World Health Organization (WHO), 1998:6-63). However, UNAIDS (1998:12) indicated that in 1998 approximately 165,000 people in South Africa were living with AIDS and that 120,000 deaths occurred due to this life-threatening condition. Their projections

[1] AIDS: Acquired Immuno-Deficiency Syndrome

2 HIV: Human Immune Virus

also indicate that by 2000 a quarter of a million South Africans will die of AIDS annually, and that this figure will rise to more than a million by 2008. Furthermore, they stated that the average life expectancy is expected to fall from approximately 60 years to 40 years between 1998 and 2008.

In view of the above it is understandable that voluntary AIDS caregivers often fear becoming infected with the Human Immune Virus (HIV). Stigmatisation, prejudice and discrimination surrounding HIV and its life-threatening effects may compromise their ability to provide quality care (Gubb, 1998:7; Carter, 1999:8).

Voluntary AIDS caregivers frequently come to the attention of psychiatric health care nurses because of their need of supportive counselling, psycho- and pharmacotherapy for the distress they experience (Given & Given, 1998:20; Turner and Catania, 1997:26). They may experience severe stress in caring for people with AIDS; have difficulty in handling patients' demands and their inability to restore AIDS patients to health; and experience feelings of ineffectiveness of "not being a good giver" (Kelly & Lawrence, 1989:149). As a result of caring for patients with a stigmatising illness, voluntary AIDS caregivers may feel stigmatised by other hospital staff. Because of that they tend to suffer from depressive mood, insomnia and anxiety. Some voluntary caregivers of people with AIDS reported spending every waking hour in care giving (Kelly & Lawrence, 1989:150; Nash, 1989:33).

In order to investigate the issue regarding support rendered to voluntary AIDS caregivers the researcher carried out an extensive literature search.

No studies concerning voluntary AIDS caregivers' perception of support rendered to them by hospice managers were found.

Research conducted cover issues such as: The knowledge and practices of primary caregivers regarding home-based care of HIV/AIDS children in Blantyre (McIneryney, 2001:83-91); Active client participation: An examination of self-empowerment in HIV/AIDS case management with women (Flynn & McKeever, 2000:59-69); The experience of HIV reactive patients in rural Malawi (Sliep, Poggenpoel and Gmeiner, 2000); Quality of life among persons with AIDS in a hospice setting: A qualitative study (Amos-EA, 2000:134); Stress and relevant responses of AIDS family caregivers in a medical center in Taiwan: An exploratory descriptive study (Su-YL & Chen-YY, 1998:43-53); Poor women living with AIDS: self identified needs (Bunting, Bevier & Baker, 1999-2000:4) and distressing emotions in female caregivers of people with AIDS, age-related dementias and advanced-stage cancers (Flaskerud, Carter & Lee, (2000:121-130). Home-based care needs of AIDS patients in Lesotho (Motaung, 2001).

The researcher realized the need of exploring voluntary AIDS caregivers ' perception of support rendered by hospice managers and to identify the support needed. A lack of support will have a detrimental effect on the quality of care they are able to provide.

1.2 PURPOSE OF THE STUDY

The purpose of the study was to explore and to describe the perceptions of voluntary AIDS caregivers concerning hospice managers' provision of support. Based on the findings of the study, recommendations on how support should be provided were made.

1.3 CLARIFICATION OF CONCEPTS

1.3.1 AIDS

AIDS stands for Acquired Immune Deficiency Syndrome, a viral infection caused by the RNA retrovirus known as immuno-deficiency virus. It is a condition characterized by multifaceted symptoms as a result of the individual's failing immune system due to HIV invasion. The individual suffers from diverse life-threatening cancers and opportunistic infections such as herpes zoster skin rashes, recurrent herpes simplex infection and karposi-sarcoma to mention but a few (Davis, Scheider, Rapholo & Everatt, 1998: 14).

1.3.2 Caregiver

According to Gubb (1998:7) an informal caregiver is any person who has undergone training for caring for a sick person.

In this study a caregiver refers to a voluntary worker at a hospice who cares for people with AIDS.

1.3.3 Hospice

The contemporary meaning of hospice refers to “a way of caring for people nearing the end of their journey through life, faced with dying and in need of refuge” (Vines and Hartzell, 1981:3; Stanhope & Lancaster, 1988:821).

The researcher defines a hospice as a co-ordinating, non-governmental organisation for home based care for people with AIDS and a step-down facility in the community.

The study was conducted at hospices in the Free State, South Africa.

1.3.4 Hospice managers

Hospice managers are persons who control a hospice (Mellish, 1995; 158).

1.3.5 Perception

Perception is a mental process by which data intellectual, sensory and emotional are organized meaningfully (Harber, Hoskins, Leach & Sidelean, 1987:1020).

1.3.6 Reflecting

Reflecting is the communication technique that conveys expressed thoughts and related feelings. The purpose of using reflection is to acknowledge to the *voluntary AIDS caregiver* that a message has been understood (*cf* Uys & Middleton, 1997:192).

1.3.7 Support

Support is to give strength, help or encouragement through physical, social, psychosocial, vocational and educational means (Gubb, 1998:6). The researcher would also like to add spiritual support to the definition. *In this study support rendered to voluntary AIDS caregivers by hospice managers was investigated.*

1.3.8 Volunteer

A volunteer according to Williams (2001:1) is someone whom willingly and without receiving payment performs a specific task for a non-profit organization such as a hospice.

1.4 RESEARCH DESIGN

The researcher used a qualitative method with a descriptive, exploratory and contextual design since the purpose of the study was to describe the perceptions of voluntary AIDS caregivers concerning hospice managers' provision of support.

1.4.1 Qualitative research

Qualitative research is an inquiry process of understanding based on methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex holistic picture, analyses words, reports, and detailed views of informants, and conducts the study in a natural setting (Creswell, 1998:15). According to Mason (1997:4) qualitative research aims to produce understanding on the basis of rich contextual and detailed data. It is intrigued with the complexity of social interaction as expressed in daily life and in the phenomenological approach (Marshall & Rossman, 1999:2).

1.4.1.1 Phenomenological approach

In this study, the researcher sought to explore new insights into the perceptions of support by caregivers of people with AIDS and made use of the phenomenological approach to qualitative research, which are both a philosophy and a research method.

To obtain useful information the researcher utilized communication techniques that aided in the listening process, such as paraphrasing, clarifying and perceiving, to promote free communication by the participants. Due to the fact that no studies have been done in this regard an exploratory, descriptive and contextual approach were followed.

1.4.2 Explorative approach

Exploratory research was the first stage in the sequence of this study. The exploratory approach rarely yields definitive answers. It addresses the "what" question and everything about the topic that is potentially important (Neuman, 1997:19). This approach leads to the exploration of a relatively unknown field to enable the researcher to gain new insight into domain the phenomenon (Uys & Basson, 1985:38).

1.4.3 Descriptive design

In a descriptive design the search is for accurate information about the frequency with which phenomena occur. In order to obtain interactive processes of interest, the focus should be on attitudes, opinions, needs or facts (Brink, 1996:109).

Information obtained during the focus groups on the issue of support required is carefully analysed, categorized and described.

1.4.4 Contextual approach

A contextual approach refers to the research conducted in the participants' natural setting (Creswell, 1998:140). The study was carried using voluntary AIDS caregivers who are rendering care to AIDS patients in a disadvantaged socio-economic community. The geographic area from which participants were selected was part of the Free State, South Africa. The researcher considered this target group as applicable to the research purpose.

The participants' workplaces were not used to conduct the focus groups. However, feedback was recorded as if it occurred in a natural setting.

1.5 RESEARCH TECHNIQUE

The researcher relied mainly on focus group interviews to obtain the information needed to support the purpose of the study.

1.5.1 Focus groups and the focus group interview

Neuman (1997:253) defines a focus group as a special kind of interview situation that is largely non-quantitative, yet Polit et al., (2001:256). Brink (1996:159) suggested that in a focus group about 5 to 15 participants opinions and experiences are solicited simultaneously.

A nurse educator competent in both qualitative research and focus group interviews facilitated the discussions. All focus group interviews were recorded. The researcher acted as an observer and documented the placement of participants, interaction between them and non-verbal behaviour.

According to Maynard-Tucker (2000:399) the focus group facilitator must have extensive experience in interviewing and communication techniques.

To obtain the necessary data the facilitator was guided by the research questions.

1.5.2 Research question

The research question is a concise, interrogative statement developed to direct studies that are focused on description of events and the examination of relationships during interactive processes (Burns & Grove, 1997:793). It is necessary to phrase a research question in a manner that will provide flexibility and freedom to explore a phenomenon in depth.

The following questions were asked in order to facilitate the discussions regarding the support rendered to voluntary AIDS caregivers.

- *"How do you experience the support provided by hospices managers in your caring for AIDS patients?"*
- *"Hoe ervaar u die ondersteuning wat deur hospies bestuurders verskaf word in u versorging van AIDS pasiënte?"*
- *"What suggestions do you have regarding support that should be provided?"*
- *"Watter voorstelle het u met betrekking tot die ondersteuning wat verleen moet word?"*

Communication techniques such as clarifying, checking by paraphrasing and reflecting, and probing were used to obtain information (Strauss & Corbin, 1998:41). The researcher made sure that she has understood what the participants (*cf* Uys & Middleton, 1997:193) stated.

1.6 UNIT OF ANALYSIS

Sampling is a process of systematically selecting cases for a research project (Neuman, 1997:205). In qualitative research the sampling method does not rely on the number of the participants but primarily on the quality of information obtained from the sample. Purposive or non-judgmental sampling is an acceptable kind of sampling. It selects cases with a specific purpose in mind (Neuman, 1995:206).

However, a limitation of qualitative research is that data cannot be generalized. This research method, however, enhances reliability.

1.6.1 Units

The population included seventy-two (72) voluntary AIDS caregivers at two hospices in the Free State. A purposive sample of thirty-two (32) voluntary caregivers of AIDS patients' delivering a service at the hospices was obtained by using the duty register as a sampling frame with the permission of the organization's manager. The following inclusion criteria were considered in the selection process:

1.6.2 Inclusion criteria

According to Burns and Grove (1997:295) inclusion criteria are characteristics that must be present for the element to be included in the sample. For a participant to be included in the study he/she had to be a voluntary AIDS caregiver; caring for people with AIDS; between the ages of 20 and 60 years.

Inclusion of the age group 20-60 years was based on the ages of caregivers working in the specific hospices in the Free State; willing to participate and sign the written consent form (audiotaping of interview included) and able to communicate in English, Afrikaans or SeSotho. English and Afrikaans are the official languages in the Free State Province.

1.6.2.1 Allocation to focus groups

At least four groups were formed and the selection process was repeated until saturation of data was obtained. Arrangements were made with the participants. Participants who withdrew from the research were replaced by following the inclusion criteria.

1.7 PILOT STUDY

A pilot study is a small-scale study conducted before the main study on a limited number of subjects from the population but not the same ones intended for the eventual project (Brink, 1996:174).

The pilot study was conducted at one of the hospices in the Free State, with the purpose of testing the research question. Only three (3) voluntary AIDS caregivers of patients with AIDS providing a service at the hospice were included. The facilitator selected to conduct the interviews also performed the pilot interviews. The three caregivers did not form part of the final investigation.

1.8 DATA COLLECTION

According to Brink (1996:148) data collection denotes the gathering of information needed to address a research problem. Data collection is also referred to as a systematic process that entails reacting, interacting, reflecting, attaching meaning and recording data (Burns & Grove, 1997:529).

The researcher collected data regarding the two research questions during two focus group interviews consisting of ten (10) participants each. The focus group interviews took place on two consecutive days in the pre-arranged venue.

Different strategies used to ensure that no data was lost. Each focus group interview was audiotaped. Field notes, observational, theoretical, methodological and personal notes formed part of the process of data gathering. Communication techniques, for example, clarifying, checking by paraphrasing were also used to obtain information.

1.8.1 Entry to the setting

In this study entry to the hospice setting and psychiatric complex was through overt practice, which required the managers' permission. This helped to establish rapport and a relationship of trust between the researcher and participants.

1.8.1 Saturation principle

This means that the focus group interviews were conducted until "data became saturated" or until themes seemed to repeat themselves (Lincoln & Guba, 1985:201). Two focus groups were scheduled in order to obtain the necessary data. However, more sessions would be scheduled if saturation of data were not obtained.

1.9 TRUSTWORTHINESS

Trustworthiness is the term used by Lincolin and Guba (1985:290) to refer to believability of the researcher's findings. The researcher maintained a record of interview development, so as to be able to begin an "audit trial" of work, which contributed to the trustworthiness of the research outcome.

The researcher made use of four aspects of trustworthiness as referred to by Lincolin and Guba (1985:290) namely:

1.9.1 Truth-value

The truth-value of the study was ensured by making use of "member checks" whereby the researcher asked participants whether the interviewer accurately described their perception (Maykut & Morehouse, 1994: 147).

1.9.2 Applicability

Applicability means the relevance to which the findings of the study can be reflected to the participants. Applicability ensures trustworthiness, because its value is reflected in the participants' capacity to recognize the perception described in the study, its theoretical significance, its applicability to caring for people with AIDS and its influence on future research activities (Burns & Grove, 1997: 668).

1.9.3 Consistency

Consistency is another way of ensuring trustworthiness. Verifying or crosschecking observations with other participants will achieve external consistency. This will make the credibility of participants and their statements part of trustworthiness (Neuman, 1995:368).

1.9.4 Neutrality

Neutrality is the fourth aspect of ensuring trustworthiness, whereby the researcher directly observes and interacts with participants in a natural setting to get inside their perception. In this case the researcher did not see participants as a neutral medium through which social forces operate; instead she held that the participants defined the perception of support through their interaction (*cf*Neuman, 1997: 346).

As part of a socially created setting, a researcher's presence in the natural setting cannot be merely neutral data gathering. It should ensure the trustworthiness of the findings.

1.10 ETHICAL ISSUES

Ethical considerations require diligence, honesty and integrity. Informed consent, protecting participant's anonymity as well as specific situations must be available (Marshall & Rossman, 1999:90).

The researcher cannot demand access to people, situations or data for the research purpose but should obtain permission. These are necessarily linked to ethical issues (Punch, 2000:59). Ethical considerations were taken care of by way of:

1.10.1 Informed consent

The participants should have full information about the research project, including of why and how they have been chosen to participate. Participants were fully informed about what was expected of them (Brink, 1996:210).

1.10.2 Consent by participants

The researcher ensured that participation was voluntary by requiring written consent (Silverman, 2001:271). Participants were informed that if they wished to withdraw they would be allowed to do so even prior to the completion of the study.

1.10.3 Confidentiality and anonymity

Confidentiality means that although some information may be linked to participants the researcher will not at any stage of the research disclose it to the public (Neuman, 1995:452). The researcher destroyed the audiotapes after transcribing the data.

Anonymity means that the participants remain anonymous or nameless; therefore the researcher did not disclose participants' identity after information was gathered. Pseudonyms were be used to protect the anonymity of participants. Some participants may not have wanted to have their names used (Brink, 1995:205).

1.10.4 Permission to conduct the study

The researcher sought approval from the Ethics Committee of the Faculty of Health Sciences, University of the Free State, to execute the study. Permission to undertake the study was also obtained from the Free State Hospices.

1.10.5 Acknowledgement of participants

Participants received acknowledgement of the importance of their work and support if the research upset them in their care giving of people with AIDS.

1.11 DATA ANALYSIS

Strauss and Corbin [1997] in Marshall and Rossman, 1999:151) define qualitative data analysis as a search for a general statement about the relationships among the categories of data.

It builds grounded theory, yet Schatzman and Strauss, [1973] in Marshall and Rossman, (1999:150) provided classic suggestions on observational and theoretical notes. Field researches notes are outlined in Polit and Hungler, (1999:369) and were utilized by the researcher. These included observational, theoretical, methodological and personal notes.

1.11.1 The process of data analysis

The researcher made use of a procedure advocated by Tesch, [1990] in Creswell, 1998:140) for data analysis. The researcher, for example, transcribed each focus group interview very carefully; read the transcripts carefully in order to get a sense of the whole; selected the most interesting interview documents read through them and tried to find underlying meaning from the information.

The process followed by the researcher was the initial guide for categories and potential coding schemes. Computer programs available such as N VIVO provided ways of manipulating or drawing contrasts and comparisons among the codes by grouping similar issues to reduce topics. The researcher attached the final code to each category.

1.11.2 Coding of data

The researcher assigned codes to the qualitative text field notes, audiotapes and transcripts. Coding data allowed the researcher to attach codes to lines, sentences paragraphs or blocks of text. This was achieved by engaging a professional researcher who is actively involved in qualitative methodology. Both researcher and co-coder analysed the data independently using laid down guidelines.

1.11.3 Member checks

Lincolin and Guba, [1985] in Maykut and Morehouse, 1994:147) use this term to refer to the process of asking research participants to tell the researcher whether she has accurately described and stated their perception.

1.12 VALUE OF THE STUDY

The value of this study lies in the fact that the outcome will assist with recommendations of how support should be provided by hospice managers to support the health and well being of voluntary AIDS caregivers and maybe enable them to provide effective care.

1.13 CONCLUSION

Voluntary AIDS caregivers experience distressing emotions that may affect their mental and physical health. A study focused on the support they receive and the support they require was carried out by means of a qualitative research method.

1.14 OVERVIEW OF THE REST OF THE STUDY

Basic requirements to conduct a qualitative study and to enhance data collection were considered and discussed in chapter 1. This chapter contained only an outline of the research methodology. An in-depth discussion of the research process follows in chapter 2. Chapter 3 will contain the data analysis and description of the findings and in Chapter 4 conclusions, recommendations and limitations of the study will be included.

Appendix 1.2 Copy of article No.2 used in the evaluation of problem statements.

CHAPTER 1

1.1 INTRODUCTION

Namibia, like all other countries developed or developing, has the apparent problem of mental retardation in children.

In a study conducted by Sartorius and Graham (1984:208) of eight developing countries in Asia, South America and West Africa to investigate child mental health, it was found that 13% to 18% of children presenting at health care services in rural areas suffered from one or other form of mental disorder, often in combination with physical disorders. Their investigation further revealed that in urban slum areas the incidence was even higher, between 25% and 30%.

The impact especially on the mother of caring for a mentally retarded child is apparent. Baumann (1998:375) observed that when a mother has to care for a mentally retarded child, she suffers great levels of stress; she may experience loss of earnings from having to give up work to care for the child.

The impact of caring for a mentally retarded child on the mother is still unknown in Namibia. The Ministry of Health and Social Services has established a mental health programme under the Directorate of Primary Health Care. The Ministry repetition has established a mental health programme under the Directorate of Primary Health in 1995. This programme undertook a national needs assessment survey of major mental health problems like Schizophrenia, Major Depressive Disorder and Bipolar Disorders but mental retardation among children was not included.

Although the Windhoek State Hospital has always had a psychiatric unit, this served only the adult population of mentally ill patients. Mentally retarded children who present with behaviour problems are seen occasionally but as out-patients. The interventions afforded to this group are mainly curative, neuroleptic treatment is given to stabilize the child and send him/her home to be cared for by the family.

There is however, envisaged much work in mental health care within the primary health care approach in Namibia. Vranckx (1996:2) says the focus in future will cogently not only be on major psychiatric disorders but also on emotional collegians which place an adaptive strain on individuals, thus leading to maladaptive behaviour. Caring for a mentally retarded child at home may be a strain on the mother. There is an apparent lack of knowledge about the experiences of mothers who care for mentally retarded children in Namibia and especially in the townships.

Early in 2000 an organization named "Children with Handicaps in Namibia" (CHAIN) opened a day care centre in the township to assist children from Katutura and Khomasdal.

Taimi Nangombe, the head of the centre told a newspaper reporter that the group of 46 children now accommodated at the centre for day care, were but a small number of the many in the township whose mothers are demanding institutional care rather than day care because of the inherent burdens in caring for them at home (Metro 2000, May 23:1-2).

1.1.1 Problem statement

Having a mentally retarded child can pose many difficulties for the mother of the child. This phenomenon brings strain and frustration to the mothers in their homes. The researcher has learned from experience working in the Katutura Community as a Community Psychiatric Nurse and has observed that many of these mothers completely lose their social life, they cannot work to earn money and some are left by their husbands and male partners, because the child is mentally retarded.

The rejection from their partners often leads to emotional distress and social isolation. Several studies undertaken to determine the impact of caring for mentally retarded children by families have reiterated the fact that this is the greatest challenge facing families. In the study by Katwishi (1998:1) in Zambia, she also observed that it was a great challenge to families most of whom "... live in the pockets of poverty ...."

Lea (1989:256) studied the impact of raising a handicapped child in the family. He identified emotional phases which families exhibit in response to the child's handicap and also studied factors that may influence the family's reaction to the mentally retarded child.

Other studies found that having a mentally retarded child is an emotional issue and one which can cause acute upset and anxiety for parents, even several years after they discovered that the child is retarded (Leadbetter & Leadbetter, 1993:117; Lacey & Ouvry, 1998:168).

Studies done in South Africa by Davids (1992) among coloured families with profoundly retarded children and by Maluleke (1995) among black families in Katlehong revealed that caring for these children at home greatly alters family functioning. The impact is not only on the mother but also the father and siblings (De Vos, Strydom, Fouché, Poggenpoel & Shurink, 1998:60).

However, Lacey and Ouvry (1998:168) also found that the stress may be increased by the failure of service providers to give sufficient support to meet the needs of the care givers in caring for the mentally retarded children. Sartorius and Graham (1984:211) advise that more research be conducted in areas of mental health assessment of children, and the epidemiology of severe retardation especially in developing countries. They also recommended that the coping strategies of families be studied, especially the strategies used by mothers with the "outer reality" of having a mentally retarded child, and the "inner reality" of feeling the loss of a desired, normal child.

In most cases the mother is left alone to raise the child. The presence of a mentally retarded child "... negatively affects marital integration" (Lea, 1998:256), some women are chased away by their husbands or in law families because of having brought forth a mentally retarded child (Katwiski, 1998:6). Van Staden and Gerhard (1994:40) also noted that "... stress surrounding the birth of a baby with a disability is prognostic of later family disorder and breakdown."

Katwishi's (1998:1) study was done in the rural areas of Zambia, Sartorius and Graham (1984:209) studied both urban and rural areas in Asia, South America and West Africa, Van Staden and Gerhardt (1994:40) studied white families in Pretoria, South Africa who had disabled children, but a similar study had never been done in a township in Namibia.

The researcher therefore realized the need to explore the experiences of mothers who care for mentally retarded children in the township. She hoped to discover the inherent stressors involved and the way these mothers cope with these problems.

1.2 PURPOSE OF THE STUDY

The purpose of this study was to explore the experiences of mothers who care for mentally retarded children in the Katutura township in Windhoek. From the outcome of the study a set of guidelines will be developed for supporting this population of mothers and their mentally retarded children. This will assist the Mental Health Programme of the Ministry of Health and Social Services regarding services planned for this population.

1.3 CLARIFICATION OF CONCEPTS

1.3.1 Experiences

The Oxford Dictionary's meaning of experience is personal observation or knowledge. For the purpose of this study experience will mean the mothers feelings, needs and expectations regarding her task of caring for her mentally retarded child.

1.3.2 Mental handicap and mental retardation

Literature uses the two terms interchangeably. Mental handicap is described by Baumann (1998:373) as a cognitive impairment resulting in intellectual disability which affects the child's ability to fulfil social roles.

However, in this study the term mental retardation will be used.

1.3.3 Mental retardation

According to the World Health Organization (WHO) this term means, the loss of psychological, anatomical or physiological function or structure causing impairment (Baumann, 1998:373).

The American Association of Mental Deficiency (AAMD) and the American Psychology Association's Diagnostic and Statistical Manual of Mental Disorders (DSM IV, 1994) define mental retardation as a significant subaverage general intellectual functioning resulting in impairments in adaptive behaviour and this manifests before the age of 18 years (Kaplan, Sadock & Grebb, 1994:1025).

In this study mentally retarded children will mean those children between the ages of 6 years and 18 years who function subnormally intellectually and who have impairments in adaptive behaviour. These are children who are significantly slow in their developmental milestones and who cannot cope with self care, schooling and daily living skills, in comparison to others of their own age. The choice of this age group is motivated by the fact that some forms of mental retardation can be identified at, or shortly after birth e.g. Micro-Cephalic and Down's Syndrome, but some are only detected at school going age . The children will have been diagnosed at a health care centre or at school (Leadbetter & Leadbetter, 1993:117).

1.3.4 Mothers of mentally retarded children

These are mothers who do not go out to work leaving their children with caregivers. In this study this concept will mean those biological mothers who live and care for their mentally retarded children in the township. Facts about the diagnosis of the children are substantiated under inclusion criteria for the sample (6.1).

1.3.5 Township

This is a word unique to South Africa which describes a black residential area. Namibia having been a territory of South Africa before 1990, thus adopted this term to refer to black residential areas. Townships in this study will thus mean a predominantly black residential area. People in the townships are usually of low socio-economic status, who live either in old municipality four-roomed brick houses or in informal settlements (squatter-camps).

1.3.6 Primary health care

The definition of Primary Health Care according to the World Health Organization (1988:2) is care that is essentially based on a practical, scientifically sound and socially acceptable methods and technology which is accessible to individuals and families in the community, in which full participation of the community is ensured, and at a cost that the community and country can afford to maintain at every step of their development towards self-reliance and self-determination.

Primary health care forms the first level of contact between the community or family and the health care delivery system. This definition is based on the Alma Ata declaration of 1978.

1.4 RESEARCH DESIGN

The researcher will use a qualitative, descriptive, explorative and contextual research design, since the purpose of the study is to explore and describe the experiences of caring for a mentally retarded child as lived by their mothers in the township in Windhoek. The researcher will use the phenomenological approach of qualitative research design.

1.4.1 Qualitative research

Qualitative research is a way to gain insights through discovering meanings, by understanding the whole or gestalt. By understanding the whole we are able to explore the depth, richness and complexity of the phenomenon under study (Burns & Grove, 1997:67).

It is an investigative process whereby the researcher makes sense of a social phenomenon by contrasting, comparing, replicating, cataloguing and classifying the object of study (Miles & Huberman, 1984 in Creswell, 1994:145). Qualitative research is concerned mainly with meaning - how people make sense of their lives, experiences and structures of their world Creswell (1994:145).

In this research the researcher seeks to gain new insights into the experiences of mothers of mentally retarded children who care for these children in the township.

The researcher will specifically make use of the phenomenological approach to qualitative research, which is both a philosophy and research method.

The phenomenological method as a philosophy is based on the works of philosophers like Husserl, Kiekegaard, Heidegger, Marcel, Satre and Merlean-Ponty (Burns & Grove, 1997:71; Creswell, 1994:12).

In this method experiences are examined by means of allowing the respondents to "tell their stories" (Poggenpoel & Myburgh, 1998:8) and "lived experiences" are captured (Burns & Grove, 1997:71).

The researcher will utilize communication skills like paraphrasing, probing, reflection of feelings, clarifying to enable free communication by the respondents.

1.4.2 Explorative approach

This approach enables the expressions of lived experiences as seen and understood by the participants.

This approach leads to insight and understanding rather than the collection of accurate and replicable data, thus it involves the use of in-depth interviews (Mouton & Marais, 1990:43). In-depth interview involves a researcher - respondent interaction on the phenomenon under study, whereby the researcher develops a relationship of mutual trust with the respondent. The interviewer reveals empathy and is not prejudiced, she makes use of communicating techniques like probing, reflecting and paraphrasing.

The interviewer uses direct and open-ended questions which are not leading to motivate the respondent to participate.

In-depth interview thus explains the extent to which the researcher has succeeded in exposing or assessing the true feelings and attitudes of the respondents (Uys & Basson, 1985:58).

The explorative approach will thus be used to facilitate expressions of lived experiences of the participants to "... increase the knowledge of the field of study" (Burns & Grove, 1997:302; Cormack, 1997:183). The researcher will explore these mothers' experiences in caring for mentally retarded children in the township in order to discover what is there, the meanings attached to these discoveries and how these can be organised.

1.4.3 Descriptive design

Descriptive design are utilized by the investigator in order to discover new facts about a situation, people or events in order to make accurate statements about the phenomenon. This is achieved through the systematic collection of information about the phenomenon of interest, and it forms an essential phase in the development of nursing knowledge (Cormack, 1997:179).

The researcher will thus use the descriptive design to gather accurate data regarding the experiences of mothers who care for their mentally retarded children in the township through systematic data collection, and the description and analysis of this data.

1.4.4 Contextual approach

The contextual approach involves research conducted in the respondents' natural setting. The researcher will physically go to the respondents' homes to conduct interviews, make observations and record behaviour in its natural setting (Creswell, 1994:145).

Lincoln and Guba (1985:189) also advise that inquiry carried out in a "natural setting" takes meaning as much from its context as it does from itself.

This study will be contextual as it will be conducted in the unique natural environment of each respondent, at their homes in the township.

1.5 RESEARCH TECHNIQUES

1.5.1 Phenomenological interviews

The researcher will conduct phenomenological interviews with each respondent and make use of communication and interpersonal skills in order to avoid losing important information (Kvale, 1996:81). Phenomenological interviews seek to capture how the respondents think, feel, and behave in their naturalistic environments (Polit & Hunger, 1987:145).

These interviews will focus on the lived experience of each specific respondent, and one central question will be posed, namely: "How do you experience caring for your mentally retarded child at home?"

The researcher will cultivate their good will by getting to them through the various "gatekeepers" (Wilson, 1989:424), like the person in charge at CHAIN and becoming a supporter of the organization by taking up membership. This will be explained in detail on Chapter 2.

The researcher will gain insight by allowing the respondents the freedom to say what they know or give their opinion on the subject. This will be achieved through prolonged and extensive engagement.

1.5.2 Research question

"How do you experience caring for your mentally retarded child at home?" (Hoe beleef u die versorging van u verstandelik gestremde kind by die huis?"). The interviewer will create a context where the respondents can speak freely and openly by utilising communication techniques such as validating, paraphrasing, reflecting feelings, probing and minimal verbal as well non-verbal responses (Uys, 1994:147-151). The researcher will ensure that the respondents are relaxed by first introducing herself, explaining the purpose of her visit and that of the study. She will also encourage them to ask if they have any questions about the purpose of this study.

The researcher will assume a helping attitude like being empathic, congruent and accepting as elucidated by Carl Rogers (1960) in his person-centred therapy (Uys, 1994:139). By assuming such a helping attitude the researcher will gain the trust of the respondents and this will ensure free communication.

1.5.2.1 Empathy

The ability to put oneself in the other person's shoes in order to understand her experience. When the researcher puts herself in the respondent's shoes cooperation will improve and this will enhance the quality of data (Wilson, 1989:424).

1.5.2.2 Congruence and acceptance

The researcher will demonstrate congruence and acceptance by showing "genuine appreciative interest in the respondents" (Wilson, 1989:424), and the respondents will feel accepted by the researcher thus communication will be free.

1.5.2.3 Validating

By validating, the researcher tries to make sure with the respondent that she understands the latter clearly e.g. "Let me just make sure, you're saying ..."

This can be done also by paraphrasing the respondent's basic message.

1.5.2.4 Reflecting

The researcher will listen actively to verbal and nonverbal messages of the respondents and convey the feelings that are not explicitly stated back to them. This will also help to validate data.

1.5.2.5 Probing

The researcher will create an empathic atmosphere so as to allow free disclosure by the respondent, however, she may also need to prompt the respondents to tell more.

1.5.2.6 Minimal verbal and non-verbal responses

This is a good way to "bracket" (Burns & Grove, 1997:567), the researcher's preconceived ideas about the phenomenon under study. Thus the researcher will keep in check all her ideas, feelings or prejudices and listen to what the respondents are saying in order to have more insight.

1.6 ANALYSIS UNIT

Population is the target group that meet sample criteria for inclusion in a research study. Sample is a subset of the population that is selected for a study (Burns & Grove, 1993:779). In qualitative research the sampling method does not rely on the number of respondents but primarily on the quality of information obtained from the sample (Sandelowski, 1995:180).

Respondents in this study will be included by way of "purposive" or "judgmental" sampling, a non-probability sampling method which involves a conscious selection of certain respondents for the study (Creswell, 1994:15; Burns & Grove, 1997:306).

A list of names with addresses and telephone numbers of mothers of mentally retarded children who meet the inclusion criteria will be obtained from the records of the Ministry of Health and Social Services and from the records of the voluntary organization - CHAIN.

Interviews will be conducted until "data becomes saturated" (Poggenpoel & Myburgh, 1998:9), when themes seem to repeat themselves and "informational redundancy" (Lincoln & Guba, 1985:201), is reached.

1.6.1 Inclusion criteria for the sample

Inclusion criteria are determined by certain characteristics identified by the researcher that must be present for the respondent to be included in the study (Burns & Grove, 1997:295):

- Mothers who care for their mentally retarded children at home in the township
- The mentally retarded children must be within the age range six years to 18 years, because some forms of mental retardation can only be detected at school going age (Leadbetter & Leadbetter, 1993:117)
- The mentally retarded children must not be at a day care centre
- The respondents (mothers) must be able to communicate in either Afrikaans or English

The choice of the two languages is based on the fact that the researcher is proficient in them and that in Namibia there are about eleven indigenous languages spoken, however, the most used language to communicate by people of different ethnic backgrounds is Afrikaans. The researcher lived and worked in Windhoek for 22 years and has observed that even children learn their home languages (indigenous) simultaneously with Afrikaans. Most toddlers are Afrikaans language proficient by the time they go to preschool.

English is the official language and thus most literate people speak English. Sandlowski (1995:180) says that in qualitative research, events and experience and not people per se, are the object of purposeful sampling.

In this study the researcher deliberately excluded the levels or degrees of mental retardation of the children because in Namibia there is no state funded facility for IQ testing of suspected mentally retarded children. Parents who are able to afford the fees take their children to private clinical psychologists for testing.

1.7 PILOT STUDY

A pilot study is a small scale version or trial run in preparation for a major study, it uses a small sample of the population, but not the same as the one who will eventually be part of the sample group (Polit & Hungler, 1987:534; Uys & Basson, 1985:95).

The researcher will make use of two participants who will not be included in the main study. The purpose of the pilot study will be to acquaint the researcher with the research question, the respondents and the analysis of data, and to test the research question prior to the main study (Uys & Basson, 1985:95). It is essential as the researcher is a learner.

1.8 DATA COLLECTION

Data collection is the precise, systematic gathering of information which entails perceiving, reacting, interacting, reflecting, attaching meaning and recording data (Burns & Grove, 1997:529).

The researcher will make use of the research question (phenomenological) referred to under 1.5.2 and will make use of communication skills like probing, paraphrasing etc. to enable the respondents to talk freely about their experiences.

1.8.1 Methods of data collection

1.8.1.1 Entry to the setting

Creswell (1994:148) and Wilson (1989:422; 424) advise that, to gain access to research sites, one should seek the approval of "gatekeepers". The researcher will gain entry through the person in charge at CHAIN and also through the Social Workers at the state hospitals. The researcher will take up CHAIN membership as they have an open membership system for parents of mentally retarded children, for volunteering professionals and for sympathizers.

As a member, the researcher will attend meetings of the group, observe and talk to people about her intended research study. In this way rapport and trust will be built so that subjects will willingly serve as respondents (Wilson, 1989:422). A list of potential respondents will be obtained from CHAIN and from the Social Workers with addresses and telephone numbers. The researcher will then phone potential respondents who have telephones and visit those who do not have them at their homes to explain the intended study and criteria for selection then obtain permission to participate individually.

1.9 TRUSTWORTHINESS

Trustworthiness according to Lincoln and Guba (1985:290) is the ability of a study to persuade the researcher and the audience that the findings of his or her research are worth paying attention to and worth taking account of.

The researcher will use the Lincoln and Guba (1985) model of trustworthiness which makes use of four aspects viz:

(a) Truth value
(b) Applicability
(c) Consistency and
(d) Neutrality

(a) Truth value

Truth value asks whether the researcher has established confidence in the truth of the findings for the respondents and the context in which the study was undertaken (Lincoln & Guba, 1985:290). The researcher will attain this aspect by engaging in prolonged field work and keeping field notes, and this will ensure credibility.

To enhance the truth value of this study the researcher will use the technique of "intuiting" (Burns & Grove, 1997:542), in which she focuses all her awareness and energy on the narrated experiences of these mothers thus gaining more insight.

The researcher will further ensure the truth-value of the study by employing "member check" (Lincoln & Guba, 1985:236), whereby a provisional report of the research is given to one or two respondents in order to obtain confirmation that the report has "... captured the data as constructed by the informants." Thus establishing the credibility of the study.

(b) Applicability

This refers to the degree to which the findings of the study can be applied to other contexts and settings or other groups, it is the ability to generalize the findings to larger populations (Krefting, 1991:214).

However qualitative studies cannot be generalized because they are conducted in naturalistic settings and the situation is unique in each instance.

Lincoln and Guba (1985:297) refer to "transferability" of qualitative studies as the criterion for assessing applicability.

In future the researcher may conduct the same study in another setting to address the aspect of applicability.

(c) Consistency

This is another criterion for trustworthiness. It means the extent to which repeated administration of a measure will yield the same data (Krefting, 1991:216). However, qualitative research emphasizes the uniqueness of humans and thus it does not seek identical repetition of information but it seeks variation in experience. The researcher will meet this criterion by conducting interviews with various respondents until data saturation is reached or data redundance is attained.

(d) Neutrality

Neutrality is the freedom from bias in the research process and results (Krefting, 1991:216). This is attained through objectivity by keeping a distance between researcher and respondent.

However, in qualitative research, the worth of the study is enhanced when the distance is decreased.

The researcher will ensure neutrality by employing techniques like "bracketing" (Burns & Grove, 1997:567) which means excluding previous knowledge about the phenomenon under study and only concentrating on the information coming from the respondents.

Bracketing will help the researcher to avoid misinterpreting the experiences as narrated by the respondents. The researcher will remain open during both data collection and analysis regarding the experiences of mothers who care for mentally retarded children.

1.10 ETHICAL ISSUES

To conduct research requires expertise and diligence but also honesty and integrity are important (Burns & Grove, 1993:89). These authors also recognise that conducting research ethically must start with identifying the study topic and continue through the publication of the study.

Ethical considerations will be taken care of by way of:

1.10.1 Competence of the researcher

The researcher has had formal preparation in research methodology. The study will be conducted under the supervision of a professional researcher and a co-coder will be engaged for independent review of the data collected and its analysis. The researcher is an experienced psychiatric nurse with knowledge and training in interviewing skills and thus will be competent in conducting the interviews.

1.10.2 Consent by participants

Written consent to participate will be obtained from informed participants. And participation will be voluntary.

Participants will be informed also that they may withdraw from the study at any stage if they so wish.

1.10.3 Confidentiality and anonymity

Confidentiality and anonymity will be maintained by avoiding labeling data notes and audio-tapes with the names of participants; a form of code will be utilized to obscure identity.

Data will be kept safe from access by unauthorized individuals.

1.10.4 Permission to conduct study

Permission to conduct the study will be obtained from the Ethics Committee of the Faculty of Health Sciences of the University of Orange Free State.

Permission to undertake the study in Namibia will be obtained from the Research Committee of the Ministry of Health and Social Services.

1.10.5 Referral of participants for emotional support

Wilson (1989:420) says field research always pries into the lives of informants, usually with little personal gain for them. These studies are explorative and thus involve probing into feelings and intimate information is revealed, and this may disturb some individuals emotionally. Should this occur in this study, the researcher will refer these participants for professional attention, i.e. to a psychiatrist, clinical psychologist, social worker or psychiatric nurse as the need arises and the researcher will not be involved in the therapy.

1.11 DATA ANALYSIS

Data analysis is a method to reduce, organize and give meaning to data gathered or constructions that have emerged and these are reconstructed into meaningful wholes (Burns & Grove, 1997:53; Lincoln & Guba, 1985:333).

However, in qualitative research data analysis proceeds simultaneously with data collection, data interpretation and narrative reporting (Creswell, 1994:155).

The researcher will use audiotape recordings in collecting data with permission from each participant and these tape recordings will be transcribed soon after data collection. The researcher will be attentive to non-verbal cues and be observant, thus will take field notes to enable her to remember these observations and more importantly, to be able to retrieve and analyse them (Wilson, 1989:434).

The Schatzman and Strauss (1982) format and approach for collecting field notes as outlined in Wilson (1989:434-345) will be used by the researcher. This format has three types of field notes, viz:

(i) Observational notes

These are descriptions of events experienced through watching and listening. They contain the who, what, where and how of a situation and require little interpretation.

(ii) Theoretical notes

These are purposeful attempts to derive meaning from the observational notes. Here the researcher interpretes, infers and hypothizes to build an analytical scheme.

(iii) Methodological notes

These are instructions to oneself, critiques to one's tactics, and reminders about methodological approaches that might be fruitful.

(iv) Personal notes

This type of notes is described by Wilson (1989:435) and is not part of the Schatzman and Strauss (1982) list. These notes are about the researcher's own reactions and reflections and experiences. This is the ability of the researcher to be introspective.

1.11.1 The process of data analysis

The researcher will make use of the steps in data analysis provided by Tesch (1990 in Creswell, 1994:155).

These involve:

(i) The researcher will start by reading all the transcripts carefully in order to get a sense of the whole.

(ii) Pick one most interesting interview document, read through it and try to find underlying meaning from the information.

(iii) After having read through all the interview documents, the researcher will make a list of topics. Similar topics will be clustered together, topics that are contrary to the emerging themes will also be listed.

(iv) Researcher will assign codes to the topics and reduce the topics by grouping them.

(v) The researcher will find describing words for these topics and will select interesting and unusual quotes from the respondents' interviews to describe these themes.

(vi) Attach final codes to each category of data after reading and re-reading.

(vii) Assemble the data material belonging to each category in one place and start on the preliminary analysis.

The process of sorting information will be done with file folders.

1.11.2 Engaging of co-coder

The researcher will engage a co-coder, who is a professional researcher and actively involved in qualitative methodology.

All transcripts will be sent to the co-coder for analysis together with a protocol with guidelines for data analysis. The researcher and the co-coder will analyse the data independently, thereafter they will come together and discuss the categories of data and themes identified and the two will reach consensus.

1.11.3 "Member-Checks"

The researcher, after analysing the data, making categories of themes, interpretations and conclusions will go back to the field to two respondents from whom the data were originally collected in order to establish truth value of the research (Lincoln & Guba, 1985:290, 314). From these "member-checks" the researcher can make amendments to her report as need arises.

1.12 VALUE OF STUDY

This study will be conducted just at the time when the mental health care programme in Namibia has been established to implement services based on the Primary Health Care approach.

- This study will help elucidate possible needs of mothers who care for mentally retarded children in the township of Katutura.

- The study will lay a base for future studies that will chart the course of appropriate mental health care interventions.

- The study will help increase knowledge about the experiences of mothers who care for mentally retarded children in the township. And the study can be transferred to other areas of Namibia to study this phenomenon.

- The study will be published in a scientific journal through the nursing school of the University of Orange Free State.

Through this study assistance can be established for mothers of mentally retarded children by means of support groups or other means.

1.13 CONCLUSION

In this chapter, the introduction and problem statement were discussed. In the next chapter, the research methodology will be discussed fully.

Appendix 1.3 Copy of article No.3 used in the evaluation of problem statements.

CHAPTER ONE

PROBLEM STATEMENT, PURPOSE, RESEARCH DESIGN AND TECHNIQUE

1.1 INTRODUCTION

Lesotho is a landlocked, mountainous (59%), country surrounded by the Republic of South Africa. Its altitude ranges between 1300 and 3500 metres above sea level. Lesotho is divided into ten administrative districts, with Maseru as the capital. The country has a population of 2.2 million with an annual growth rate of 2% (Population data sheet, 2004).

There are eighteen Health Service Areas in Lesotho. Ten of these areas are government owned, with mental health and leprosy institutions in addition; eight areas are served by a Non-Governmental Organisation called the Christian Health Association of Lesotho (CHAL). Three of the services provided by CHAL are located in the lowlands and five in the mountains. This NGO employs a number of registered nurses (Ministry of Health, Government of Lesotho, 2003:61).

Another NGO worth mentioning is the Lesotho Planned Parenthood Association (LPPA), which was established to cater for the sexual and reproductive health needs of women, men and the youth of Lesotho. This organisation has its headquarters in Maseru with three branches across the country (central, southern and northern). Each branch has three clinics. The LPPA also employs registered nurses (LPPA Strategic Plan, 1999-2003:17).

The rest of the NGOs in Lesotho employ only a few registered nurses, and their health centres are difficult to reach, for example, the Lesotho Red Cross.

All health care institutions in Lesotho make use of a performance appraisal system in order to enhance quality care (LPPA Personnel management policy, 2003; Rametse, 1995).

Performance appraisal is the process of identifying, observing, measuring, and developing human performance in organisations (Cardy and Dobins, 1994:21). It is further described as an effective means for increasing an employee's job performance (Hetzell, 1995:128; Gillies, 1997:215). The task to keep employees focused on the vision and mission, and to make the organisational expectations clear to employees, is usually that of the health care manager (Springer, Payne, & Petermann, 1998:38).

When done objectively, performance appraisal enables employees to know who they are and what they can be, since it deals with their competence and effectiveness. It brings with it the interdependence of roles to both the appraiser and the appraisee, and provides an opportunity to affirm what is needed from one another to do the job more effectively. A well-designed and carefully implemented appraisal system benefits all stakeholders, namely, the appraisee, the appraiser, and the organisation (Huber, 2000:329).

Appraisal tools firmly grounded in desired behaviours are usually used to ensure effective performance improvement (Springer, Payne, & Petermann, 1998:38).

In order to find out what the status of performance appraisal in Lesotho is, the researcher used several sources to obtain information for example, registered nurses in different organizations, government hospitals and private companies. In the Ministry of public service only one study done by Thabane (1975) was identified. The study established the feasibility of implementing performance management in the Civil Service of Lesotho. The research done by Mpooa (2004), investigated an academic staff performance appraisal system for higher education in Lesotho.

Based on the information provided, observations of appraisal procedures in the clinical environment and clinical experience, the researcher came to the conclusion that: "NGOs, like the government institutions in Lesotho, are experiencing problems with performance appraisal".

This view is supported by a study done on the perceptions of nurses in the civil service towards performance appraisal. The findings in this study indicated that registered nurses are not satisfied with the performance appraisal system because it does not address their specific nursing duties; they also do not get positive feedback from their appraisers that could motivate or improve their performance (Fobo, Khoali and Molapo, 1996:86 unpublished).

1.1.1 Problem Statement

The findings of a study done in Lesotho on factors leading to high attrition among registered nurses in the Ministry of Health and Social Welfare (MOHSW) revealed that the dissatisfaction with the appraisal system used for nurses has contributed to nurses leaving the civil service (Seipobi & Chabane, 1993:56 unpublished).

The above-mentioned dissatisfaction with the existing appraisal system is not unique. The Joint Commission on Accreditation of Health Care Organisations (JCAHCO) recognised that a subjective appraisal process, based on evaluating global traits, such as quality and quantity of work, was not acceptable. Many of the annual performance appraisals were vague and relied on the nurse's relationship with the manager, or on the mood or writing ability of the manager (Springer et al., 1998:39; Meretoja & Leino-Kilpi, 2001:346).

Furthermore, it was found that the appraisal tools used to measure nurses' performances are in most cases not specific to the nurses' positions; do not match their job descriptions; are mostly subjective; and do not benefit either the appraiser or the appraisee (Springer et al., 1998:38).

Non-Governmental Organisations that include the LPPA and CHAL in Lesotho are not exceptions in this regard. Appraisal tools that are the same for all categories of employees and that do not address nurses' specific duties are used. Apparently, the tools address the character, personality, capacity and knowledge of each employee, but do not assess basic or advanced nursing skills. The extent to which these tools are appropriate as a sole appraisal system for nurses, seems very limited and questionable.

Unfortunately, performance appraisal cannot be ignored. It plays an essential role in organisations, because it addresses the question of what an employee is able to do. It also affects decisions that managers make about the selection, placement, rewards, recognition, promotion and professional opportunities of employees (Tomey, 2000:355; Bradley & Burnes-Bolton, 2001:71).

Therefore, to make the best choices for organisational improvement and to be fair to individual employees, decision-makers need accurate information about levels of performance.

The researcher considers performance appraisal as an important issue within the framework of the health care provided by nurses in Lesotho and will examine the experiences and expectations of registered nurses employed at the LPPA and CHAL regarding performance appraisal.

1.2 PURPOSE OF THE STUDY

The purpose of the study will be to explore and describe the experiences and expectations of registered nurses in Lesotho with regard to performance appraisal.

From the outcome of the study, recommendations will be made regarding performance appraisal.

1.3 CLARIFICATION OF CONCEPTS

1.3.1 Appraisee

Sullivan & Decker (1992:361) describe an appraisee as a person whose performance is evaluated.

In this study an appraisee is a registered nurse in Lesotho whose performance has been appraised at least once and within the past year.

1.3.2 Appraiser

An appraiser has been described by Sullivan & Decker (1992:361) as a superior nurse who estimates the value or quality of a subordinate's performance.

In this study an appraiser is the nursing supervisor in Lesotho who estimates or evaluates the quality of a nurse's performance.

1.3.3 Christian Health Association of Lesotho

This is a voluntary association of Christian churches providing not-for-profit health care services to Basotho (Ministry of Health, GOL, 2003:61).

In this study CHAL means an association that provides not-for-profit health care services through its health service areas and employs registered nurses who undergo performance appraisal at least once a year.

1.3.4 Expectations

The state or condition of expecting or mentally looking for something; the mental attitude of one who expects; the action of waiting; the action or state of waiting for or awaiting something (The Oxford English Dictionary: 1989:557).

In this study expectation refers to the state or condition of expecting something to be done to improve performance appraisal. Expectations of participants will be obtained through focus group interviews.

1.3.5 Experience

The knowledge resulting from actual observation or from what one has undergone (The Oxford English Dictionary: 1989:563).

In this study experiences refer to how the participants felt about performance appraisal. The experiences of participants will be obtained through focus group interviews.

1.3.6 Joint Commission on Accreditation of Health Organisations

This is a commission that is concerned with the quality of nursing care in organisations. It establishes and publishes the standards of nursing care (Huber, 2000:327).

1.3.7 Lesotho

The kingdom of Lesotho is a small country situated in the southern region of Africa. It is completely surrounded by the Republic of South Africa and is often referred to as the Kingdom in the Sky, because of its high altitude, which exceeds 1 500 metres above sea level (Lesotho Tourist Board, 2000:4).

1.3.8 Lesotho Planned Parenthood Association

This is a voluntary, non-profit and non-governmental organisation with national grass-roots support. It is an International Planned Parenthood Federation (IPPF) affiliate, non-discriminatory, apolitical and a pioneer family planning organisation in Lesotho (LPPA Strategic Plan, 1999-2003:23).

In this study the LPPA means an NGO that provides sexual and reproductive health services in Lesotho and employs registered nurses who undergo performance appraisal at least once a year.

1.3.9 Ministry Of Health and Social Welfare

The Ministry of Health and Social Welfare is a ministry in the Government of Lesotho (GOL) whose aim is to provide a comprehensive, coordinated and integrated health system embracing curative, preventive and rehabilitative services in conjunction with various NGOs, donors and private agencies (MOH, GOL, 2003:40).

In this study the Ministry of Health and Social Welfare means a Lesotho government ministry in which the study of the factors leading to the high attrition of registered nurses was conducted.

1.3.10 Performance Appraisal

Tyson and York (1997:129) describe performance appraisal as a systematic process whereby an employee's strengths and developmental needs can be evaluated, and where various methods can be used to enhance the employee's productivity.

1.3.11 Registered Nurse

Lesotho Government Gazette No. 49 (1998:2) refers to a registered nurse as a person who has completed a programme of basic nursing education and training, has qualified, and is in Lesotho to practise nursing.

In this study a registered nurse is a qualified general nurse who is employed by either the LPPA or CHAL and is licensed to practise.

1.4 RESEARCH DESIGN

A research design is the structural framework of a study that guides the researcher in the planning of the study (Uys & Basson, 2000:38).

A qualitative, descriptive, exploratory and contextual research design will be used by the researcher, since the purpose of the study will be to explore and describe the experiences and expectations of registered nurses in Lesotho with regard to performance appraisal.

The researcher will use the phenomenological approach indicated for qualitative research (Burns & Grove, 2001:61-65).

1.4.1 Qualitative Research

Qualitative research is a way of gaining insights through discovering meanings, by understanding the whole or gestalt. By understanding the whole we are able to explore the depth, richness and complexity of the phenomena under study. It is concerned mainly with meaning - how people make sense of their lives, experiences and the structures of their world (Creswell, 1994:145; Burns & Grove, 2001:61; Shank, 2002: 5).

The researcher seeks to gain new insights into the experiences and expectations of registered nurses in the LPPA & CHAL with regard to the appraisal of their performance.

1.4.2 Descriptive Design

The researcher selected the descriptive design to collect accurate information regarding the experiences and expectations of registered nurses with regard to performance appraisal in the LPPA and CHAL. This will be done through a process of systematic data collection, and the description and analysis of these data.

1.4.3 Explorative Approach

This approach is aimed at exploring the dimensions of the phenomenon, the manner in which it is manifested and other factors to which it is related. It leads to insight and understanding and therefore involves the use of focus group discussions.

According to Ulin, Robinson, Tolly, and McNeill (2002:93) focus group interviews involve the interaction of a researcher with participants to share their thoughts and experiences with one another in a group. Being in a group enables participants to express their views clearly, in a way that is different from when a one-to-one interview is held.

The researcher will explore the experiences and expectations of registered nurses in Lesotho with regard to performance appraisal in order to discover the meanings attached to their experiences, and the findings will be organised and used to increase knowledge of the field of study.

1.4.4 Contextual Approach

The contextual approach involves research conducted in the participants' natural setting (Cresswell, 1994:145).

The researcher will use focus group interviews that will be composed of registered nurses working in both the LPPA and CHAL in Lesotho. Registered nurses are mostly considered part of the middle socio-economic class. The researcher will physically go to the participants' work places. Therefore, the focus group interviews will be conducted in both urban and rural areas i.e. LPPA clinics and CHAL hospitals, where participants will be relaxed and more able to voice their concerns freely in order to enhance better understanding.

1.5 RESEARCH TECHNIQUES

1.5.1 Phenomenology

Phenomenology involves describing people's experiences with regard to a certain phenomenon, their interpretation of those experiences and the meanings they attach to the experiences. It is both a philosophy and a method (Brink, 2001:19).

The researcher will ask the participants to describe performance appraisal as they experience it (Burns & Grove, 2001:65). She will also observe the participants during group interaction and then describe those observations.

1.5.2 Focus Group Interviews

The focus group interview involves the interaction with groups of about 5-8 people whose opinions and experiences are requested simultaneously (Brink, 2001:159; Ulin et al., 2002:98).

An experienced facilitator, namely a registered nurse, who is also a research officer with extensive skills in interviewing, will guide the discussions. The researcher will observe, take field notes, transcribe and note non-verbal messages that have a bearing on the discussion. There will also be an assistant who will monitor the tape recorder while recording as much of the discussion as possible.

1.5.3 Research Question

A research question is a concise, interrogative statement. In qualitative research a research question leads a researcher in the direction of gaining a deeper understanding of the phenomenon under study (Brink, 2001:90; Shank, 2002:99).

The focus of the discussion will be on the experiences of registered nurses in the LPPA and CHAL with regard to performance appraisal.

The following research questions will be asked:

1. Tell me about your experiences regarding performance appraisal in your organisation.

2. Tell me about your expectations regarding performance appraisal.

In the environment of performance appraisal investigation of the expectations of participants is expected to provide the researcher with more insight.

The facilitator will show interest, curiosity, empathy and encouragement during the discussions. She will also be flexible, creative and able to tailor questions and comments to the unique responses of each person.

1.6 ANALYSIS UNIT

Population refers to the entire group of persons who meet the criteria that the researcher is interested in studying. A sample consists of elements from a defined population. A sample size in qualitative research may refer to a number of persons, but also to the number of interviews and observations conducted (Brink, 2001:132; Sandelowski, 1995:180).

The LPPA has a total number of fourteen (14) registered nurses in the nine clinics. CHAL has about one-hundred-and-fifty (150) registered nurses in the eight HSAs. The LPPA uses the same tool for all clinics, and CHAL does the same for its hospitals and clinics.

The researcher will start with at least one focus group of five to eight people in each area, and will then select more groups until saturation is reached.

Participants in this study will be included by way of a purposive sampling method in which the sample elements are especially knowledgeable about the phenomenon to be studied (Brink, 2001:141).

The researcher will seek assistance from the nurse managers (matrons) who are not directly involved with the performance appraisal of the participant-to-be, to identify registered nurses who meet the selection criteria for participation in the study.

The focus group's interviews will be carried out until data become saturated, and when data seem to repeat themselves and informational saturation is reached.

1.6.1 Inclusion Criteria for the Sample

Inclusion criteria denote characteristics that must be possessed by the element to be included in the sample (Polit & Hungler, 1999:192; Burns & Grove, 2001:367). The inclusion criteria for this study will be registered nurses who meet the inclusion criteria; for example, those who have been appraised at least once and within the past year, and those who will be available at the time of data collection.

1.7 PILOT STUDY

A pilot study is a smaller scale study using a small sample of the population, conducted to refine the methodology, especially the research question. It is developed similarly to the proposed study using similar participants, the same setting and the same data and analysis techniques (Burns & Grove, 2001:29; Uys & Basson, 2000:103).

In order to familiarise herself with, and to test the research questions, the researcher will conduct one focus group interview that will be recorded and transcribed exactly as it will be in the study. Participants in the focus group will not be included in the main study.

The pilot study will also enable the researcher to assess informed consent materials, and whether participants understand research questions, data collection and analysis techniques.

1.8 DATA COLLECTION

Data collection involves the precise and systematic gathering of information relevant to the research purpose and questions. Data may be collected on participants by observing, questioning and recording (Burns & Grove, 2001:460).

The research questions will be used to guide the discussion. Communication and interpersonal skills will also be engaged to enable participants to feel free to express themselves.

1.8.1 The Process of Data Collection

1.8.1.1 Entry to the Setting

Access to research sites should be through "gatekeepers" and "key informants" (Wilson, 1989:422; Ulin et al., 2002:76). To gain entry to the setting, the researcher will therefore submit letters requesting permission to conduct the study to the Chief Executive of the LPPA and the Executive Secretary of CHAL. The researcher will also request the management of each NGO to allow her participation in the staff meetings where she will introduce herself and request the registered nurses' participation in the study.

1.9 MEASURES TO ENSURE TRUSTWORTHINESS

Lincoln and Guba (1985:280) refer to trustworthiness as the ability of a study to persuade the researcher and the audience that the findings of his or her research are worth paying attention to and worth taking account of.

The researcher will therefore use the Lincoln and Guba (1985:290) model of trustworthiness, which makes use of the following aspects:

- Truth value,
- Applicability,
- Consistency, and
- Neutrality.

1.10 ETHICAL ISSUES

Burns and Grove (2001:191) state that the conduct of nursing research requires not only expertise and diligence, but also honesty and integrity. It is further said that conducting research ethically starts with the identification of the study topic and continues through to the publication of the study. The researcher will pay attention to issues such as informed consent, confidentiality and permission to conduct the study.

1.11 DATA ANALYSIS

Data analysis is a process of organising collected data in such a way that they become meaningful and answer the research questions (Polit & Hungler, 1999:431; Marshall & Rossman, 1995:431).

1.11.1 The Process of Data Analysis

The researcher will follow a sequence of interrelated steps in data analysis as indicated by Ulin et al., (2001:143-195) namely, reading, noting quality, identifying patterns, coding, and data reduction.

1.11.2 Engaging of Co-coder

The facilitator who is knowledgeable and experienced in supervising qualitative research will also be engaged as a co-coder.

1.11.3 "Member-checks"

The researcher, after analysing the data, will go back to the field to members of one focus group from which the data were originally collected to establish the truth-value of the research. Then the researcher will be able to make adjustments in the report as necessary (Brink, 2001:124).

1.12 VALUE OF STUDY

This study will be valuable to the nursing department of both the LPPA and CHAL because the findings will promote the understanding of experiences and expectations regarding performance appraisal.

The results will be published in a scientific journal through the School of Nursing, University of the Free State.

1.13 CONCLUSION

This chapter focused on the introduction and the problem statement. The research methodology will be discussed in the next chapter.

Appendix 1.4 Copy of article No.4 used in the evaluation of problem statements.

CHAPTER ONE

INTRODUCTION AND PROBLEM FORMULATION

1.1 INTRODUCTION

South Africa is a multicultural society composed of Asian, Coloured, Black and White groups of people. Each population group has its own culture which influences its way of living, behaviour and health practices. Although every group has its own cultural orientation, every person in the cultural group is a unique human being and therefore must receive human health care. As such, humanness in health care is health care (as nursing care) which is comprehensive in as much as it meets all the needs of a person, including his or her socio-cultural needs. Thus, to meet all these needs it is necessary to use a holistic nursing care model. Holistic nursing is comprehensive as it always takes the cultural orientation of the person into consideration and as such fulfills all the health needs (including his or her cultural health needs) of an individual. Leininger (1990:54) states that the use of a model which does not reflect holistic or comprehensive care creates a serious problem because, if the cultural orientation of the patient is not taken into consideration, the values, beliefs, practices and ways of functioning that guide the behaviour of the patient are negated and thus he or she is dehumanized.

1.2 PROBLEM STATEMENT

Nursing is human care between nurse and patient tailored to meet the individual's (namely the patient's) needs. Both nurse and patient are human beings and as such the cultural practices that were not performed during the intra natal care of mother and baby in the hospital.

The health care system in the Republic of South Africa is based on the western health care model. The western health care model focuses mainly on the physical aspect of health and uses scientific methods to obtain health data (Spector, 1991:44). Because the health care model is grounded in the scientific method, scientifically objective data are mostly taken into account. Thus the cultural orientation and cultural beliefs that underlie the patients' health behaviour are not taken into account as they cannot always be scientifically explained. Therefore, according to Tshotsho (1993:28) the western health care model may be inappropriate for people from traditional African cultures because they have their own unique cultural way of viewing health and health care. As Shisana and Versfeld (1993:7) state "... *people from one area may not share similar beliefs and customs*." This unique cultural orientation to health and health care does not always fit in with scientific objectivity.

Changes are also taking place in the Republic of South Africa affecting the health care system in such a way that nurses from western and traditional African backgrounds find themselves integrated in the health care setting. Both black and white nurses now nurse patients from different cultures in the same hospitals or clinics. According to Tshotsho (1992:46) these changes make the cultural background or orientation of both nurses and patients extremely important. Because of the differences between western and traditional African culture, it is sometimes difficult to understand both the patient's and the nurse's behaviour. And for the nurse to fulfil all the health needs of a patient of a different culture it is of utmost importance to understand and be sensitive to the cultural orientation of the patients - both the similarities and differences.

In the light of the above, it is very important for nurses to know the community they serve. Therefore, in order to render holistic nursing care to all patients, whether of live according to their own cultural beliefs, practices and values. Because their cultural background/orientation or world-view cannot be separated from them, both patient and nurse bring their own world-view/cultural background to the nursing situation.

"Nursing care is an interpersonal process between the person expressing need for help and the helping person" (Chao, 1992:182). Nursing as an interpersonal process is, according to Hall and Dornan (1988:936), the art of caring and it includes warmth, respect, patience, kindness, sincerity, willingness to listen and the use of interpersonal skills. According to Sharts-Hopko (1995:343) for caring (whether nursing or health care) to be effective it must be offered in such a way that it actually brings the recipient comfort. For nurses to be sure that they are caring for their patients, they need to involve the patients, be available for them, see patients as resourceful persons (especially when dealing with cultural issues) and inform patients by giving clarification of biomedical and technical issues with which the patients are not conversant. Papo (1996:10) states that only the patients themselves can give the necessary information about their cultural orientation, their cultural health needs and their caring expectations. Therefore nurses cannot presume what their patients' cultural world-views are and cannot plan nursing care based on these assumptions. Greeneich, Long and Miller (1992:43) reported that patients mentioned abruptness, disrespectful behaviour and behaviours which elicited shame, guilt and/or emotional or physical pain related to cultural beliefs and practices of the patient, because nurses either negated or made fun of their cultural beliefs and needs. Herbst (1990:23) explains this phenomenon when stating that in the African situation, nurses (both black and white) tend to assume that all patients, despite their ethnocentricism, have a western cultural view.

Chao (1992:182) states further that if nursing care is offered in such a way that it satisfies the person who is giving it (namely the nurse) and not the person who is receiving it (namely the patient) it is not human care that has been given to the patient by a health care practitioner. According to Lupuwana (1991:8) nurses must know and fulfil the patient and family's cultural needs and understand their perceptions and behaviour. Nolte (1986:27) indicates that this is also true in the midwifery situation. Although midwifery is a special nursing care situation, it is still and will always be an interpersonally relationship between the nurse and the pregnant woman and her family. As such Nolte (1986:26) states that the midwife's main role is that of adviser and supporter of the pregnant woman and her family. As adviser and supporter of the pregnant woman and her family, the midwife must educate and prepare the pregnant woman to cope with pregnancy, confinement and child-bearing within the borders of her cultural orientation to life. Thus, to render holistic maternity care, the midwife must understand the patient's cultural orientation when educating and preparing the pregnant woman and her family for labour and child-bearing. Penny Simkin (1989) underwrites this statement when stating that there is a special need to explain unfamiliar concepts relating to pregnancy, childbirth events and medical care according to the cultural view of the patient, because the medical care to be rendered can be confusing as it does not always accommodate the cultural practices and beliefs of the pregnant woman and her family.

To the above, Martinez (1993:88) reported that pregnant women had complained that midwives gave neither individualized nor culturally orientated medical and nursing education, were unable to speak the patient's preferred language, did not make use of an interpreter and used written materials to communicate with illiterate pregnant women. This writer also reported that nurses tend not to use the traditional birth attendant as an interpreter to enhance specific cultural practices during pregnancy, childbirth and child-rearing. Therefore cultural congruent nursing care was negated because nurses tend to minimize differences and maximize generalities in patients.

"*All nursing care must be based on respect for the beliefs, attitudes and cultural lifestyles of patients*" (Callister, 1995:176). Thus it is of utmost importance to nurse all patients in a way that is acceptable to them and not only to the nurse. Cultural congruent nursing care is crucial in maternity nursing because maternity patients and their families need support to help them cope with many life events which are culturally determined, such as pregnancy, childbirth and child-rearing. The midwife must therefore honour the patient's cultural practices and beliefs if she wants to render holistic nursing care.

Brindley (1983:46) explains that traditional African health practices regarding pregnancy and birth appear to reflect a mixture of physical and spiritual activities. Dietary restrictions during pregnancy and positions for the delivery are practised to strengthen the well-being of both mother and child. The burial of the placenta and other birth products is adhered to, to avoid sorcery and appease the spirits which control and guide birth. According to Lupuwana (1991:14) the wearing of ankle, wrist, neck and abdomen bands by both mother and child as well as the cleansing of the baby according to cultural practices help to prevent harmful spirits from entering the baby's body.

Chalmers (1988:14) claims that traditional health practices are not followed in western health care institutions because professional health care is based on high technology medicine which emphasises antenatal care for the mother only, (excluding the support network system). Delivery conducted in the supine position with the aid of standard medical interventions (not the normal squatting position as practiced in African cultures) and the postpartum care of mother and infant does not include cultural practices (the burial of the placenta and membranes and the cleansing of the baby are usually not permitted). The delivery of the baby is conducted only by doctors or midwives and members of the support network are not allowed to support the mother during the delivery. Therefore, when a delivery takes place in a western health care institution most black families are concerned for the well-being of both mother and baby as all future illnesses of the baby will be linked to the absence of the same or a different culture, it is necessary for the nursing curriculum to emphasize cultural congruent nursing care in nursing education. Zeelie (1996:7) states that nursing education must be based on a curriculum which reflects the context within which the nurse has to function. Burk, Wieser and Keegan (1995:39) underline this approach by stating that a holistic model is the only perspective that enhances the nurse-patient relationship. This approach requires that three distinct cultures must be considered, namely the culture of the patient, the culture of the nurse and the culture of the health care system. Integration of the three cultures must be accomplished to fulfil the patient's needs that include her socio-cultural needs.

Regarding the nursing curriculum, Tshotsho (1992:47), wrote that the nursing education curriculum is based on the western health care model. The traditional African cultural orientation is seldom taught because the assumption is made that all patients have a western cultural orientation. Nyasulu (1994:35) states that nurses who were trained according to the western health care model cling to their educational philosophies which emphasise biomedical and physical needs with the result that the patient's socio-cultural needs are not fulfilled because nurses were never taught how to fulfill them. Chalanda (1995:19) states further that nurses in contact with patients from different cultures encounter many problems, such as language barriers. Because of these barriers and because of their nursing education, nurses tend to negate the patient's cultural orientation and render only western scientifically-based nursing care.

Pregnancy, childbirth and child-rearing are family and community events and as such the pregnant woman cannot be separated from her people. The western health care model as practised in midwifery tends to exclude family or other support networks except the husband, during the ante-, intra- and postnatal periods. According to Callister (1995:176) it is important to have inputs from both the pregnant woman and her family when assessing her health care needs and formulating a plan of care. But as Mokoena (1991:31) explains, nurses fail to understand this point as they emphasize only individual patient care. The family, both the nuclear and the extended family, are seldom involved in nursing care planning and intervention. The midwife thus acts as the only supporter of the patient. Bryanton, Fraser-Davey and Sullivan (1994:638) on the other hand emphasize that nurses must strengthen family support during pregnancy, birth and child-rearing as life events. As the midwife is only one of many supporters of the pregnant woman and her family, the choice of whom she wants as a supporter lies with the pregnant woman and her family.

The pregnant woman's support network, according to Burk et al. (1995:44), can be the nuclear family and/or the extended family which may at times include friends, neighbours and community members such as the traditional birth attendants. According to White (1992:21) the support network of the traditional African pregnant woman and her family includes traditional birth attendant as they are part of the cultural and social life of the women they serve. The traditional birth attendants can help professional midwives to provide cultural congruent nursing care. But, as previously stated, the western health care model excludes traditional birth attendants as multidisciplinary team members and as an integrated aspect of the support network of the pregnant woman and her family. Therefore the support network system of the pregnant woman is severed. When this is done, professional midwives do not render holistic and cultural congruent nursing care to the traditional pregnant woman and her family.

The nursing process is the only instrument available to the midwife to fulfill all the health needs of the pregnant woman including her cultural health needs. According to Leininger (1988:152), Jambunathan (1995:343) and Weber (1996:68) the assessment phase of the nursing process is the most crucial aspect of cultural congruent nursing care. Not only must the physical and emotional health needs of the pregnant woman be determined, but also her cultural health beliefs and practices must be ascertained to predict and understand the patient's response to pregnancy, birth and child-bearing. The following health beliefs and practices **MUST** therefore be included in the cultural assessment: traditional taboos, herbal medicines, how the pregnant woman wants to deal with labour pains, positions during labour, care of the placenta, care of the newborn and the mother after the birth of the baby until they are discharged from the health care institution. According to Callister (1995:176) individualised counselling in a variety of settings should be provided to assist pregnant women in analysing their personal needs and goals for child-bearing and to provide education regarding options. But according to De Villiers (1996:4) a problem still exists in that the nursing process, although it has the potential to fulfill all the health needs of the patient including her socio-cultural needs, is still not used properly and nursing care plans focus only on the biomedical needs and care of the patient.

Another factor that does not enhance cultural sensitive nursing care is health care policies. Most health care policies and facilities were drawn up or designed before 1994, before political changes changed the philosophy underlying the health care system in the Republic of South Africa. Fourie (1994:31) states that many hospitals are not designed to accommodate cultural health practices. Health care policies do not include the traditional birth attendant or *sangoma* as members of the multidisciplinary team. Therefore according to Rosenbaum (1995:189) traditional African patients tend first to use their own traditional health care system before coming to the western health care system. As the policies, daily routines and procedures in the western health care system are based on the western health care model and western time perspective, little time is included for fulfilling the cultural health beliefs of the traditional African patient. This situation makes traditional, African patients, according to Tshotsho (1993:28), to feel that they are not accepted in the western health care system. Therefore they go back to the traditional African health care system that caters for their cultural health beliefs, traditions and practices, even if they do need specialised health care which can only be rendered by modern western health care facilities. In summary, the research problem underlying this study is:

- The inhabitants of the South Africa have different cultural health needs based on their cultural orientations which are embedded in their beliefs, expectations and practices according to which they live.

- The health care system as well as the nursing care system in South Africa are based on the western health care model which is founded on the scientific method that excludes data and practices that cannot be scientifically explained. Health care, including nursing care, tends to negate the socio-cultural health care practices of the traditional African patient because some socio-cultural health care practices and beliefs cannot be scientifically explained.

- Nursing care is an interpersonal process between the patient and the nurse. As such the nurse must render holistic nursing care (that is, care that fulfils the socio-cultural health needs as well as the biomedical needs of a person) to all inhabitants of the Republic of South Africa taking into consideration their cultural orientations. However, nurses tend to focus mainly on the biomedical needs of patients and therefore render only care that can be scientifically explained. Most nurses also tend to assume that all patients have a western cultural world-view despite the patient's ethnocentricity. The same problem is experienced in health care institutions of Bloemfontein and surroundings by some inhabitants. This is also observed by the researcher in these institutions. The problem was confirmed by some nurses/midwives who had an informal conversation with the researcher stressing that the more disadvantaged patients are traditional African patients. Hence it is important and necessary to research "Are nurses knowledgeable of cultural congruent nursing care and do they apply these principles in midwifery care they render to mothers and their babies."

1.3 PURPOSE AND OBJECTIVES OF THE STUDY

Based on the problems above, the purpose of the study is: "to ascertain whether nurses working in maternity units of public hospitals are knowledgeable with regard to patients orientations and whether these orientations are culturally congruently accommodated in the nursing care plan as stipulated in health care policies" and

Based on the purpose, the objectives of the study are:

- To ascertain whether nurses are knowledgeable regarding traditional African cultural practices in midwifery.
- To ascertain whether nurses fulfill these cultural needs when giving nursing or midwifery care and how traditional African pregnant and lactating women experience the midwifery care they received in health care institutions.
- To ascertain how nurses experience phenomena of giving cultural congruent nursing.
- To ascertain whether cultural congruent nursing or midwifery care is accommodated in the nursing care plan and as stipulated in health care policies.

1.4. METHODOLOGY

A descriptive study, according to Burns and Grove (1993:766), must be used when information about real life situations is to be obtained. Therefore a non-experimental research of a descriptive and exploratory nature is to be used. The non-experimental (qualitative) research design is used because nurses and patients (the pregnant woman and her family) experience cultural congruent nursing care differently. Because the phenomenon to be researched is unique and new, the study is of a descriptive and exploratory nature (Mouton & Marais, 1989:45). Thus the nurses' knowledge about their patients' orientations and how this information is incorporated in the nursing care the patients receive will be obtained.

The survey method was used as research methodology because it is congruent to the descriptive and exploratory nature of the study. The following research techniques will be used and are appropriate to the survey method:

- a questionnaire will be completed by nurses to ascertain whether they are knowledgeable of cultural congruent nursing care;
- a structured interview will be conducted with pregnant and lactating women in hospital regarding their experiences of cultural congruent nursing care; and
- auditing of the appropriate policies and nursing care documents in the hospital and wards will be done to ascertain whether cultural congruent nursing care is endorsed and whether cultural congruent nursing care are recorded in the nursing care records.

All nurses working in the maternity units of the two public hospitals in Bloemfontein are included in the study. The public hosptials are the academic specialised hospital and a regional hospital for the Free State province. The population of patients will include all pregnant and lactating women hospitalised for 2-3 days and longer during the period of the study. The reason therefore is: these patients will be able to share the experiences of the care they received while in the hospital.

Only the appropriate documents (hospital and ward policies and the nursing documents of the patients included in the study) will be audited. All data will be analysed on a nominal level as no connection will be drawn between different data.

1.5 ETHICAL ASPECTS

The following ethical considerations will be taken in account:

- Approval for the study will be obtained from the Ethical Committee of the Faculty of Health Sciences of the University of the Orange Free State because patients will be included in the study.
- Permission will be obtained from the management of the institutions concerned for carrying out the study in their institutions.
- The respondents will be informed about the study and only those who give informed consent will be included.

1.6 CLARIFICATION OF CONCEPTS

- **Midwife**

Nolte (1992:40) defines a midwife as a nurse who is registered and/or legally licensed to practice maternity nursing. In this study a midwife refers to any person who is registered as a midwife by the South African Nursing Council.

- **Patient**

The South African Nursing Council, Regulation No. 254 of 1987 defines a patient as a person, sick or well, who needs help to supplement his specific ability to accept optimal responsibility for his own health in the various health services and treatment areas and in all age groups. This study underwrites the declaration of the South African Nursing Council but the word "patient" will mostly refer to pregnant and lactating women till otherwise stated.

- **Culture/Cultural Orientation**

Poggenpoel (1993:39) defines culture as a specific world-view in which a person's cultural life is rooted. In this study cultural orientation is the ideas, beliefs, expectations and behaviour that stem from the cultural background of patients according to which they live. Culture and cultural orientation will be used as synonyms unless otherwise indicated.

- **Nursing care/maternity care**

Chao (1992:183) defines nursing care as an interpersonal process between a person expressing a need for help and the helping persons. It is human care which is tailored to meet an individual's needs. As this study concentrates on the nursing care given during pregnancy, birth and (mother and child) care, nursing care refers to the care given by nurses in the antenatal, intranatal and postnatal units where the mother and the newborn baby are cared for till they are discharged. Maternity care and nursing care will be used as synonyms.

- **Antenatal nursing care**: refers to the care given to a pregnant woman from the time she falls pregnant till the onset of labour, regardless of who renders the care.

- **Intranatal nursing care**: refers to the care given to the woman in labour from the onset of labour till the expulsion of the afterbirth products.

- **Postnatal nursing care**: refers to care of the mother and the newborn baby from the time the afterbirth products have been expelled till they are discharged.

- **Cultural congruent nursing care**

According to Rajan (1995:451) multicultural nursing care or cultural congruent nursing care means "to provide human care to people in a way that is meaningful, congruent and respectful of cultural values and lifestyles." It aims at assisting, supporting, facilitating and enabling individuals to maintain or regain their wellbeing. In this study cultural congruent nursing care means care that respects the patient's beliefs, behaviour, cultural lifestyle and includes the nursing care rendered to fulfill all the health needs of the patient.

1.7 OUTLINE OF STUDY

The outline of the study is as follows:

- Chapter One consists of the introduction and problem formulation.
- Chapter Two reviews the literature of the cultural health needs and practices during pregnancy, childbirth and postnatal care of different cultural groups.
- Chapter Three outlines the methodology used.

- Chapter Four reports the research findings.
- Chapter Five constitutes discussion of data obtained, conclusions reached and the recommendations made.
- Chapter Six consists of the conclusion of the study.

1.8 SUMMARY

In this chapter it became evident that nurses care for patients from different cultural backgrounds. The problems underlying cultural congruent nursing care were explored and the reasons why nurses must render holistic nursing care were explained. In the following chapter the cultural orientations of the different cultural groups in the Republic of South Africa of which the nurse must be knowledgeable, will be discussed.

Appendix 1.5 Copy of article No.5 used in the evaluation of problem statements.

CHAPTER 1

Statement of the problem

1.1 INTRODUCTION

Patients who suffer from schizophrenia require a long-term management approach including both medical and social treatment. Symptomatic and preventive drug treatment and the role of psychosocial intervention reduce relapse [Hawthorne & Burns, 1994:15].

Strong support from the family and the community and the relationship between caregivers and the community are priorities to enhance compliance by removing the stigma attached to mental illness [Hawthorne & Burns, 1994:16].

In most cases the patients can be successfully managed at home if they attend the clinic regularly for evaluation and treatment. Even though some symptoms may take weeks to respond, relapse is greatly reduced [Hawthorne & Burns, 1994:18].

Reasons for missed appointments, which is a world-wide problem, are not clearly defined in previous studies because of poor community involvement. If a strong relationship between the community and health care services could be maintained and services made available and accessible at all times, mental illness, like all other physical illnesses will be acceptable, and missed appointments will be reduced [Mdluli & Msomi, 1989:17].

Missed appointments, for whatever reason, are always a cause for concern because of their consequences to the patient, family, community and the health services. The economy of the country is affected by increasing demands for funds for additional resources such as manpower, facilities, transport, medication and other necessities to meet the needs of relapsed patients who are readmitted [Mdluli & Msomi, 1989:18].

Berk [1993:48] states that the relapse rate for patients suffering from schizophrenia who do not keep clinic appointments may be as high as 50% at six months and 65% to 80% at 12 months if follow up measures are not taken. Regular patient's assessment and treatment intake is important to prevent the relapse.

1.2 PROBLEM STATEMENT

According to the internal policy of Botshabelo Primary Health Care Services [Circular No. 12 of 1990], the statistics for psychiatric patients at the clinics are compiled monthly to ensure clinic compliance. Patients who miss appointments, are visited at home one month after a missed appointment. The purpose is to encourage attendance and to prevent relapse. Letters are left for people who are not at home.

During the compilation of monthly statistics for all psychiatric patients who were seen at the clinic for the first time between January and March 1995, it was noted that those who are suffering from schizophrenia comprised the majority and missed clinic appointments were high among them. According to the statistics, the total number of all psychiatric patients who were seen for the first time at five selected clinics were 50 and those suffering from schizophrenia were 34. Further analysis of the statistics to detect missed clinic appointments for the 12 months period between January 1995 and January 1996, showed high rate of non-compliance among patients who are suffering from schizophrenia. Five patients missed clinic apointment once in 12 months period while 27 missed two or more clinic appointments. Only two patients showed compliance. Statistics to illustrate the situation are presented in Table 1.1 [see p.3].

TABLE 1.1: The statistics for January 1995 to January 1996

DIAGNOSIS	*First visit*				*Missed appointments*					*Total*	*Compliances or attendances*	*Releapsed and admission*
	January	*February*	*March*	*Total*	*x1*	*x2*	*x3*	*x4*	*x5+*			
Schizophrenia	13	7	14	34	5	2	8	5	12	32	2	4
Depression	2	3	2	7	-	4	1	-	2	7	-	-
Epileptic psychosis	-	-	2	2	1	-	-	-	-	1	1	-
Reactive psychosis	-	1	-	1	-	-	-	-	1	1	-	-
Other psychosis	-	4	-	4	-	1	-	-	3	4	-	-
Dementia	-	1	1	2	-	-	1	1	-	2	-	-
TOTAL	15	16	19	50	6	7	10	6	18	47	3	4

1.2.1 Missed clinic appointments as a world-wide problem

Missed clinic appointments as a world-wide problem has been reported by the Department of Health and Human Sciences of the United State of America. The statistics reveal that 30% to 55% of patients suffering from schizophrenia do not keep their clinic appointments. In order to encourage them, they should be reminded telephonically or by letter. These measures are expensive and time-consuming. Patients are routinely given appointment cards [Harmon & Tratnack, 1992:15].

According to Nicholas [1994:276] the hospitalization of 10% of schizophrenic patients may be due to missed clinic appointments and inadequate intake of medication. In some countries the large discrepancy between the number of attendances booked and the number of patients who actually arrived was a major problem. The Nuffield Survey revealed that in Britain the number of booked patients was 33% and 16% did not attend the clinics. In Los Angeles 20% of patients missed appointments while in Montreal the figure was 32% to 62%.

1.2.2 Missed appointments in South Africa

A research study conducted by the Department of Community Health of the Witwatersrand University in the Free State in 1994, revealed that missed clinic appointments among mentally ill patients is an ongoing problem [Freeman, Lee & Vivian, 1994:122].

1.2.3 The consequences of missed clinic appointments

According to the literature, missed appointments have consequences for the patient, family, health services and the community.

1.2.3.1 The patient

- The patient who misses clinic appointments may relapse and never regain his pre-relapse level of functioning. If the patient is admitted to hospital a sense of helplessness may result. Hospitalization generally represents a painful experience in an environment that may itself be highly stressful, away from family members who are well able to continue caring if they are given adequate support (Hawthorne & Burns, 1994:18).

- It is common for the relapsed patient to become depressed with suicidal risks.

- Some patients may suffer severe social consequences of another period of illness (Weiden & Havens, 1995:289).

- Mental deterioration may result in paranoia, demoralization, aggression and violence. The patient may be dangerous to himself and other people and this results in rejection (Weiden & Havens, 1995:289).

- The patient may experience a deficit in information processing, differentiating relevant and irrelevant stimuli and abstraction (Stuart & Sundeen, 1995:497).

- Socially, the patient may experience deficits in assertiveness, carrying on a conversation and understanding interpersonal messages (Stuart & Sundeen, 1995:498).

1.2.3.2 The family

- Dependency and financial burden on the family. A member of the family might have to stop working to care for the patient.

- Fears and anxiety due to the patient's behaviour. Some family members have to leave the house due to assault by the patient. [This has been experienced by the researcher in her practice.]

- Family disorganisation, such as separation between husband and wife, or divorce. [This is commonly seen in psychiatric nursing practice.]

1.2.3.3 Professional nurse

An increasing patient load at the clinics causes stress on nurses which may result in burnout. Absenteeism, repeated sick leave and poor work performance which results in poor patient care may take place [own experience].

1.2.3.4 Health services and facilities

- The running costs of health services increase affecting the economy of the country [Berk, 1993:48].

- Overcrowding. Facilities may be overcrowded and the nursing personnel experience pressure of work due to the increased number of relapsed patients [Berk, 1993:48].

- Extra medication will be required resulting in a financial burden on the government [Berk, 1993:48].

- Additional vehicles for home visits and nurses with drivers' licences, will be required. This is a problem because not all nurses have drivers licences [personal experience].

- Extra nurses will need to be employed to meet the needs of patients [Berk, 1993:48].

1.2.3.5 The community

The risk of violence, assaults, rape or other unacceptable behaviours may occur in the community due to mental disorders resulting from non-compliance [Nicholas, 1994:276].

1.2.4 Possible reasons for missed appointments

1.2.4.1 Characteristics of schizophrenia

The effect of the illness on the patient leads to inability to keep clinic appointments.

- Ambivalence. According to the literature, patients with schizophrenia experience ambivalent feelings which result in difficulty to make decisions. Positive and negative feelings about the illness cause confusion and reluctance to seek or accept help [Stuart & Sundeen, 1995:504].

- Hallucinations, delusions and inappropriate affect which are the primary symptoms of patients suffering from schizophrenia, cloud the patients' consciousness and they become disorientated to self, time and environment. Hallucinations such as hearing voices telling them not to go to the clinic or paranoid delusions of nurses wanting to kill them by means of injection or tablets are the common perceptions which contribute to missed clinic appointments (Stuart & Sundeen, 1995:505).

- Social breakdown syndrome. Schizophrenic patients in long-term psychiatric treatment may experience progressive deterioration of social and interpersonal skills which causes them to become asocial, prefering to be alone and avoiding contact with other people. This also contributes to missed appointments (Stuart & Sundeen, 1995:505).

1.2.4.2 The patient

- Financial problems, for instance, not having money for public transport or medication.

- Physical illness which makes it difficult to go to the clinic.

- No improvement on medication, or refusal of medication due to fear of extrapyramidal symptoms such as a subtle akathexia.

- Forgetfulness.

- The patient may be feeling well and does not see any reason to go to the clinic (Caton, 1984:77; Freeman *et al.*, 1994:122).

- Refusal of treatment because patients who suffer from schizophrenia are unable to comprehend instructions or co-operate. This has been identified as a major source of discontinuity (Stuart & Sundeen, 1995:191).

1.2.4.3 Cultural influence

Mdluli and Msomi (1989:15) in their studies reported that cultural background is one of the contributory factors among black patients for missed appointments. Some patients visit the traditional healer or sangoma during the course of treatment and stop clinic visits. Historically, mental illness is related to witchcraft or ancestors in the black culture. Mentally ill persons are taken to the sangoma for the Twassa (traditional ceremony) treatment. This is supported by Gaborone (1990:11)

1.2.4.4 The family

- Lack of support due to ignorance. The patient's family may have no understanding of mental illness.

- Due to the cultural stigma the family do not accept the patient's illness as it degrades their dignity.

- Rejection or a poor relationship due to the patient's psychotic behaviour.

- Financial burden brought about by the patient when the breadwinner is compelled to give up his/her work to look after the patient (Mdluli & Msomi, 1989:15; Freeman *et al.*, 1994:125; Gaborone (1990:4).

1.2.4.5 Health services or clinic

- Long hours of waiting for evaluation and treatment.

- Long wait for an appointment. People want immediate relief and if they cannot see a doctor for weeks they search around for someone else (Caton, 1984:75).

- The clinic is not accessible. The patients travel a long distance and use transport. Money may be a problem.

- Negative attitude displayed by personnel. In most cases the manner in which patients are treated by caregivers at the clinics is not acceptable because of their negative attitudes, or because they label patients as mental cases. This behaviour contributes to missed clinic appointments [Caton, 1984:76].

1.2.4.6 The treatment

- Long-term medication and frequent assessment. The patient who has been on medication for a long time with little improvement may stop attending the clinic.

- Side-effects of medication such as stiffness of the body, tremors, salivation and other symptoms may cause fear contributing to missed clinic appointments [Nicholas, 1994:277].

1.2.4.7 The community and employer

The stigma attached to mental illness by the community and some employers contributes to the reluctance of patients to visit the clinic [own experience in psychiatric nursing practice].

1.3 CONCEPTUAL MODEL

The factors that influence the patient's ability to comply with clinic appointments and the consequences of missed clinic appointments are outlined in the conceptual model.

The conceptual model, which is based on the principles of systems theory, has been used to explain the possible reasons for missed clinic appointments among patients suffering from schizophrenia. According to this model the patient, as part of a system, is influenced by the environmental factors and the illness itself to stop visiting the clinic for treatment. Missed clinic appointments cause a break or cut between the patient and the clinic due to subsystems which play a negative role within a system.

The patient, as a central part of the system (being one of the subsystems), is surrounded by the environment consisting of subsystems. A positive and effective functioning of subsystems, including the patient as part of the system, results in acceptable functioning of the whole system, i.e. compliance with treatment and nursing activities.

A negative functioning of subsystems due to any disturbances within the system affect the normal functioning of the whole system and result in non-compliance or missed clinic appointments.

According to the conceptual model as a systems approach, each subsystem plays an important role in maintaining the normal functioning of the system. The following subsystems are involved in motivating patients to attend clinic or they contribute to missed clinic appointments are:

- Nature of the illness.
- Patient.
- Family.
- Community.
- Culture.
- Health services (clinic).

The influence of each of the above-mentioned factors will be explained in Chapter 2 (Fawcett, 1989:100).

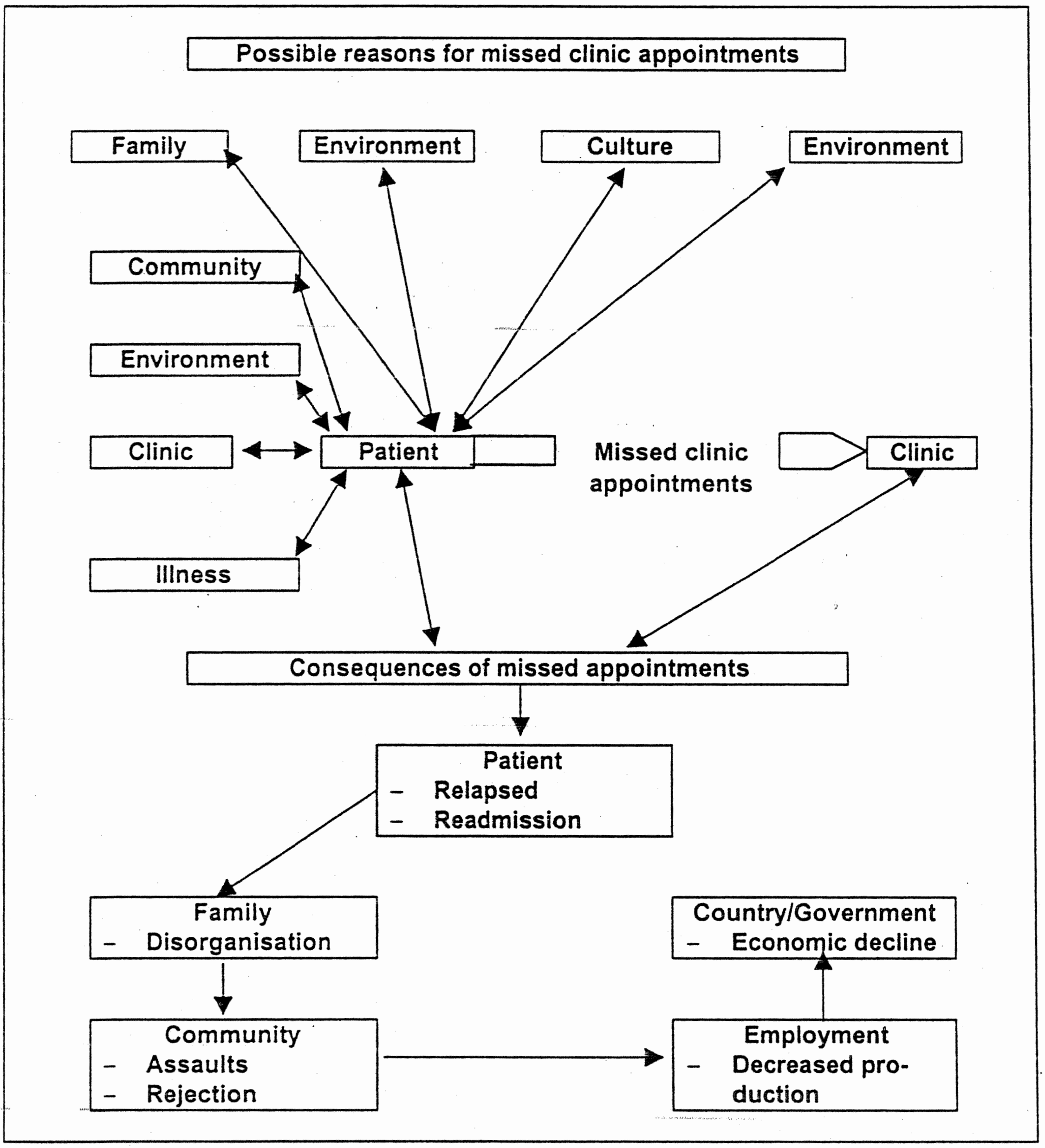

FIGURE 1.1: **Conceptual model**

1.3.1 Short description of the conceptual model

According to the model which represent a system, the patient who forms the central part of the system is influenced by the surrounding environment which consists of the family, community, health services (clinic) culture and the nature of the illness to miss clinic appointments. The interrelations of the subsystems as indicated by arrows show the influence of the individual subsystem to one another including the patient, towards missed clinic appointments. Three stages which are involved in the functioning of the system (inputs, throughputs and outputs) are interrelated in this model and could not be divorced from one another.

Example: The nature of the illness on the patient, the family, the health services and the culture influence the patient to miss clinic appointments. The consequences of missed appointments on the patient also affect other subsystems mentioned.

1.4 CONCEPTUAL DEFINITIONS

1.4.1 Patient

According to Orem's self-care model the patient is defined as a person who receives help and care from a nurse, or someone who is under the care of a health care professional at a specific time and specific place (Fawcett, 1989:107).

Orem in Fawcett (1989:107) further explains that human beings are normally able to perform self-care which is defined as actions directed by individuals themselves or their environment to regulate their own functioning and development in the interests of sustaining life, maintaining or restoring integrated functioning under stable or changing environmental conditions, and maintaining or bringing about a condition of well-being.

A person who is unable to perform self-care requires assistance from a health professional as a patient (Fawcett, 1989:211).

King in Fawcett [1989:110] agrees with Orem in describing her conceptual model of interacting systems that a human-being interacting with the environment selects the positive ideas and roles to maintain and restore health. As soon as a person cannot cope and perform his usual activities he requires help [Fawcett, 1989:110].

In this study a patient is a person who is suffering from schizophrenia and requires treatment and nursing care.

1.4.2 Schizophrenia

The term schizophrenia was coined by the Swiss psychiatrist, Eugen Bleuler in 1911. The term derives from the Greek words schizo [to split] and phren [spirit], thus splitting of the mind, or splitting of psychic processes. This reflects Bleuler's view that a disharmony of psychic functions, other than a deteriorating course [as proposed by Emil Kraepelin [1898] who named the illness dementia praecox and believed that the illness affects people at an early age and develops faster with symptoms similar to those of dementia] is the characteristic feature of schizophrenia [Flack, Miller & Weiner, 1991:59; Kaplan & Sadock, 1998:488].

In this study the definition of schizophrenia will be described according to the DSM-IV Diagnostic Criteria.

The illness schizophrenia is characterized by two or more of the following symptoms which are present for a significant portion of time during one month period or less if successfully treated:

A. 1. Delusions
   2. Hallucinations
   3. Disorganised speech [frequent derailment or incoherence]

4. Grossly disorganised or catatonic behaviour
5. Negative symptoms, i.e. affective flattening, and avulation [a disturbance of drive or expression of will especially in the residual phase. Alogia such as poverty of speech, blocking and poverty of content of speech together with Anhedonia [few recreational interests, impaired intimacy] are some of the negative symptoms common in schizophrenic patients.

B. Social occupation dysfunction. Failure to achieve expected level of interpersonal academic or occupational achievements [Cromwell & Snyder, 1993:90; American Psychiatric Association, 1994:284].

C. The minimum duration of symptoms to subside is six to twelve months period.

1.4.3 Clinic

A clinic is defined as an organised place where physically or mentally ill, or hurt people who require health care assistance are seen for preventive, promotive, curative and rehabilitative measures [Caton, 1984:75; Hawthorne & Burns, 1994:16].

For this study a clinic in the primary health care is an organised place which brings health care as close to the community as possible.

1.4.4 Family

A family is one of the most important social institutions which forms an immediate supportive system for an individual.

A family is a group of persons directly linked by kin connections, the adult members of which assume responsibility for caring for the children.

A family is divided into two types which influence family relationships.

The nuclear family consists of two adults living together in a household with their own or adopted children. The relationship of the family is intimate and strong.

The extended family is defined as a group of three or more generations living either within the same dwelling or very close to each other. It may include grandparents, brothers and their wives, sisters and their husbands, aunts, uncles, nieces and nephews. The relationship may not be as strong as in the nuclear family (Giddens, 1990:384-386).

1.4.5 Community

A community is a body of people living in one place, district or country. In most cases this body of people have culture, religion, ethnic origin and interests in common. Like a family the community plays a supportive role to individual members during crisis situations such as illness, death or other activities which require support (Stanhope & Laucaster, 1992:103; Oxford Dictionary, 1996:167).

For this study a community refers to a body of people living in a specific area and utilizing specific available resources and facilities.

1.4.6 Culture

Culture refers to the whole way of life of the members of a society. It consists of the values the members of a given group hold, the norms they follow, and the material goods they create. Values are abstract ideas, while norms are definite principles or rules which people are expected to observe. Norms represent the "dos and "don'ts" of social life (Giddens, 1990:31).

1.5 OBJECTIVES OF THE STUDY

1.5.1 To identify the possible reasons for missed clinic appointments among patients who suffer from schizophrenia in Botshabelo.

1.5.2 To suggest nursing guide-lines to enhance clinic attendance.

1.6 METHODOLOGY

1.6.1 Research design

The study type will be a quantitative one using descriptive and exploratory designs to gain insight into the contributory factors for missed clinic appointments among patients who suffer from schizophrenia.

The quantitative research approach is commonly chosen when the researcher wishes to identify the possible reasons for the problem, and to develop strategies to improve clinic attendance (Uys & Basson, 1991:38; Polit & Hungler, 1995:372).

Quantitative research is very valuable in nursing because it enables nurses to investigate a variety of research problems (Burns & Grove, 1993:372; Polit & Hungler, 1995:148).

1.6.2 Population

All people living in Botshabelo from the age of 19 years suffering from schizophrenia as well as a family member residing with the patient.

1.6.3 Sampling

Sampling is the process of selecting a portion of the population to obtain data regarding a problem. The main purpose of sampling is to make certain that the research study accurately reflects the population sample (Uys & Basson, 1991:87; Burns & Grove, 1993:235; Polit & Hungler, 1995:229; Talbot, 1995:241).

■ Sampling approach

Non-probability sampling will be used because of the type of problem identified.

The advantages of this type of sampling are as follows:

It is less expensive, less complicated and allows the researcher to be more spontaneous when a research situation arises.

It is commonly used in nursing research because it is feasible especially when records are used as in this study, where the problem was identified in the statistics and available patients' records (Polit & Hungler, 1995:235).

■ Sampling procedure

Purposive sampling or judgmental sampling will be used. The researcher will select the schizophrenic patients who missed clinic appointments.

■ Sampling criteria

Inclusive criteria:

- Patients who are suffering from schizophrenia with the following criteria will be included:
  - * Admitted at the clinics between January 1995 and January 1996.
  - * Males and females aged 19 years and above.
  - * Missed clinic appointments twice or more in the 12 months period.
  - * Selected from five specific clinics at Botshabelo. These clinics have been selected because they are the biggest clinics which cater for many patients.

- Other selected respondents are as follows:
  - * One immediate family member who lives with the patient, and whose name was identified in the patient's record as a parent or guardian.
  - * All respondents are residents of Botshabelo.

1.6.4 Data collection instrument

A semi-structured interview with the aid of a questionnaire will be used to collect data from the respondents. The questionnaire will consist of open-ended and closed questions.

> *"A questionnaire is a printed self-report form designed to collect information that can be obtained through written response of the subject"* [Burns & Grove, 1993:368].

■ Advantages of a questionnaire

- It is less expensive and a large number of subjects can be involved.

- Through closed questions, objectivity can be maintained and it avoids extra information being added by the researcher. The answer is either "yes" or "no".

- Open-ended questions enable the researcher to identify the core of the problem, such as possible reasons contributing to missed clinic appointments. The respondents are free to give the information required in their own words [Uys & Basson, 1991:65; Burns & Grove, 1993:368].

1.6.5 A pilot study

A pilot study is a small version or trial run done to prepare for a major study [Burns & Grove, 1993:373; Polit & Hungler, 1995:288].

A pre-test of the questionnaire will be performed to determine the clarity of questions, effectiveness of instructions, completeness of data collection during allocated time, and the success of the data collection technique.

The respondents for the pilot study will be similar to those selected for the main study to acquaint the researcher with the instrument, and to ensure reliability and validity. Corrections to the instrument made during the pilot study will be taken into consideration before the same instrument is used for the main study.

The respondents selected for the pilot study will not be included in the main study. Two patients and two family members will be interviewed for the study [Burns & Grove, 1993:373; Polit & Hungler, 1995:288].

1.6.6 Data collection

Data will be collected from all the respondents (patients and family members), by using a semi-structured interview aided by a questionnaire with closed and open-ended questions. The questionnaire which will be translated by the researcher during the interview from English to South Sotho, will also be completed by the researcher to counteract the problem of illiteracy. South Sotho is the language spoken by the majority of people in Botshabelo.

Data will be collected in privacy at the respondents' homes. The patients will be interviewed in privacy away from family members to avoid influence. The same procedure will be carried out in the case of the family members who will also be interviewed in private. Consent for participation in the study was obtained from the respondents before the interviews.

1.6.7 Reliability and validity

Reliability and validity are the important issues in the evaluation of the findings of a research study. The researcher in any research project attempts to avoid as many errors as possible because accuracy is the key point in reliability and validity. The reliability and validity of the data collection instrument and the whole procedure of undertaking the study will be evaluated after the pilot study (Uys & Basson, 1991:80; Burns & Grove, 1993:373).

■ Reliability

Reliability is concerned with how consistently the measurement technique measures the concept of interest. If the subject is weighed by using a scale, the results obtained at first are expected to be obtained again when the same subject is weighed using the same scale immediately. Consistency of the results proves reliability [Uys & Basson, 1991:75; Burns & Grove, 1993:339] [see discussion in Chapter 3].

■ Validity

Validity refers to the degree to which an instrument measures what it is supposed to measure. For example, a questionnaire in a research study is considered to be an instrument to collect data [Uys & Basson, 1991:80; Burns & Grove, 1993:342; Polit & Hungler, 1995:353].

There are different types of validity which are tested in the research studies to ensure accuracy of the instrument. The following types will be discussed in Chapter 3:

- Content validity
- Predictive validity
- Construct validity [Uys & Basson, 1991:83; Burns & Grove, 1993:344; Polit & Hungler, 1995:357; Talbot, 1995:387].

1.6.8 Data analysis

Statistical analysis is a method for rendering quantitative information meaningful and intelligible. Interpretation of quantitative data collected during the research study would be difficult without the aid of statistics. Statistical procedure enables the researcher to reduce, summarize, organize, evaluate, interpret and communicate numerical information. Analysis of data in this study will be done by means of a computer to save time and to obtain correct and accurate results [Burns & Grove, 1993:497; Polit & Hungler, 1995:379; Talbot, 1995:320] [see Chapter 3].

1.6.9 Processing and data interpretation

Completed interview schedules will be coded by the researcher and the data processed by the computer. Data will finally be interpreted by means of tables and graphs [Burns & Grove, 1993:498; Polit & Hungler, 1995:379].

1.7 ETHICAL CONSIDERATIONS

Ethical considerations are important in research studies to protect the human rights of subjects. Subjects should be protected physically, mentally, psychologically and socially. It is the right of the subjects to participate willingly without being forced even though they might benefit from the research study. The following ethical considerations were followed in this study:

- Permission for conducting the study was obtained from the appropriate authorities
- Informed consent was obtained from the respondents
- Privacy and confidentiality were maintained
- Attention was paid to the rights of persons with diminished autonomy
- The right to protection from discomfort and harm was respected

In this chapter a short description and discussion of the ethical considerations are given while more discussion will take place in Chapter 3 [Uys & Basson, 1991:98; Burns & Grove, 1993:95-97; Polit & Hungler, 1995:125; Talbot, 1995:36].

■ Obtaining permission

Permission for the research study was obtained from:

- The superintendent and management of the hospital. This is the first step to allow the use of patients' records, and to interview patients.

- The District Facilitating Committee of Botshabelo to interview members of the community [family members of the patients, and the patients as respondents.

- The Ethics Committee of the Faculty of Health Sciences, University of the Orange Free State [see Annexure A].

■ Informed consent

Voluntary consent will be obtained from the respondents [patients and family members] after they are informed of the purpose of the study. The designed consent form which was translated into South Sotho will be signed by the respondents and the researcher [Burns & Grove, 1993:95; Polit & Hungler, 1995:127] [see Annexure B].

■ Privacy and confidentiality

The respondents will be promised that the information obtained would not be publicity reported. Their names will not appear on the questionnaire. Privacy will be maintained by collecting data from individuals in a private room [Burns & Grove, 1993:372; Polit & Hungler, 1995:125].

■ Persons with diminished autonomy

Some patients suffering from schizophrenia and other types of mental illness are incapable of giving informed consent due to abnormal perceptions which affect their thinking process. In such situation the willing members of the family will be involved to give consent and to answer on behalf of the patients [Uys & Basson, 1991:98; Burns & Grove, 1993:97; Polit & Hungler, 1995:127].

■ Right to protection from discomfort and harm

The respondents will not be kept for long during the interview to avoid fatigue and discomfort. Physical harm will be avoided as no treatment will be introduced as in experimental studies. Comfort will be maintained as interviews will be conducted at the respondents' homes where individuals will be relaxed and free to answer questions (Burns & Grove, 1993:94; Polit & Hungler, 1995:128).

The interview will be stopped if a respondent experiences any discomfort.

1.8 CONCLUSION

Research that involves human subjects requires effective ethical consideration to protect their rights. Thorough explanation of the study and the procedures involved should be made clear and the researcher ensures that everything is understood by the respondents (Burns & Grove, 1993:95; Polit & Hungler, 1995:129; Talbot, 1995:36).