

**EVALUATION OF THE STANDARDS OF NURSING  
CARE IN PEDIATRIC WARDS IN REFERRAL  
HOSPITALS IN SWAZILAND**

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**DECLARATION**

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and has not previously in its entirety or in part been submitted at any university for a degree.

**Signature**

**Date**

## ABSTRACT

Recent escalation of medical costs, cost containment and decreasing public funds, drew attention to the importance of formulation and evaluation of standards of nursing care.

Practice experience and consultations with nurse managers indicated a great need for standards to evaluate the quality of care in the pediatric units of the big hospitals in Swaziland.

A non-experimental, explorative and descriptive study was conducted in the four regional hospitals in Swaziland. Checklists were developed by the researcher to evaluate standards of care relating to the structure, process and outcome dimension of care.

*Structure standards* refer to minimum requirements regarding the facilities, equipment, supplies, and availability of generic documents and staff.

*Process standards* are mainly concerned with the specific nursing procedures and practices, while the

*Outcome standards* evaluate the parents' satisfaction with the nursing care of their child, the amount of information received prior to discharge and the level of communication between the parents and the nursing staff.

The most important results are:

- ❖ None of the hospitals met the pre-set requirement to be considered as delivering a satisfactory level of care for any of the three dimensions of care.
- ❖ Critical nursing procedures were often performed ineffectively and inefficiently.
- ❖ Most parents viewed their communication with the nursing staff negatively.

Recommendations include the development and implementation of a formalized quality improvement programme on all levels of care, auditing of records and patient care and in-service education for all personnel regarding quality care.

Keywords: Quality care, formulation and evaluation of standards – pediatric patients

## OPSOMMING

Die onlangse verhoging in mediese koste, kostebesparings en verminderde openbare fondse, het die aandag gevestig op die belang van formulering en evaluering van standaarde vir verpleegsorg.

Praktykervaring en konsultasies met verpleegbestuurders het aangedui dat daar 'n groot behoefte bestaan vir standaarde om die gehalte van verpleegsorg in pediatriese eenhede in die groot hospitale van Swaziland, te evalueer.

'n Nie-eksperimentele, verkennende en beskrywende studie is onderneem in die vier streekshospitale in Swaziland. Kontrolelyste is deur die navorser ontwikkel om standaarde van sorg te evalueer ten opsigte van die struktuur-, proses-, en uitkomsdimensie van sorg.

*Struktuurstandaarde* verwys na die minimum vereistes ten opsigte van die fasiliteite, toerusting en voorrade, die beskikbaarheid van generiese dokumentasie en die personeel.

*Prosesstandaarde* hou hoofsaaklik verband met spesifieke verpleegprosedures en praktyke terwyl

*Uitkomsstandaarde* die ouers se tevredenheid met die verpleging van hulle kind, die hoeveelheid inligting ontvang voor ontslag en die vlak van kommunikasie tussen die ouers en die verpleegpersoneel evalueer.

Die belangrikste resultate is:

- ❖ Geen hospitaal het ten opsigte van enige van die drie dimensies van sorg, aan die voorafbepaalde vereiste voldoen om beskou te word dat hulle 'n bevredigende vlak van sorg lewer nie.
- ❖ Kritiese verpleegprosedures is dikwels oneffektief en ondoeltreffend uitgevoer.

- ❖ Die meeste ouers het 'n negatiewe siening gehad ten opsigte van die kommunikasie met die verpleegpersoneel.

Aanbevelings sluit in die ontwikkeling en implementering van 'n geformaliseerde gehalte verbeteringsprogram op alle vlakke van sorg, oudit van rekords en pasiëntsorg en indiensopleiding vir alle personeel ten opsigte van gehaltesorg.

Sleutelwoorde: Gehaltesorg, formulering en evaluering van standaarde – pediatriese pasiënte

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Zanele Claudia Mhlongo

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## **DEDICATION**

This study is dedicated to institutionalized children, present and future, in the hope that it may contribute in some way to their quality of life.

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# CHAPTER ONE

## INTRODUCTION

### 1.1 RATIONALE

Children are a country's most precious assets, and their well being reflects the future of the nation. Children are different from adults in two important aspects: they are growing and developing, and they are dependent on others for sustenance and protection (Kibel and Wagstaff, 1991).

For children to grow, develop and thrive they require adequate nutrition, protection from the environment, essential health care and an emotional nurturing family setting. A deficiency in one or more of these components often results in children falling ill. Many of these children require health care on a primary, secondary or tertiary level. Health workers are expected to render comprehensive, early intervention services on all these levels of health care. Screening, identification, referral and appropriate interventions are necessary for the preventing of developmental disabilities (Blackman *et al.* 1992).

Emphasis on the importance of care at the community level, coordinated with care delivered in health institutions and involvement of the family, can result in positive effects on the promotion and maintenance of the health and well-being of children.

The recent escalation of medical costs and the recognition of limited public resources raise questions about the quality of care for children who often require specialized health care. Quality is very critical to health workers involved in the

care of children and the administrators of care in organizations. As a result, it is worth considering in depth as to how quality can be conceptualized for children and how it can be improved.

Although efforts are made to develop standards as indicators for quality of care of children, as seen in the mission statement of units, little attention apparently has been paid to conceptualizing quality of care as it relates to the care of children.

Ireys *et al.* (1992) and Hammermeister *et al.* (1995) define quality of care as:

*“The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge”.*

Many definitions of quality stress both the technical competence of providers and the interpersonal art of applying technical skills in the context of human relationships. This is particularly true for health care professionals who are involved with the caring of children and their families. Health workers need to be technically proficient, interpersonally skilled and committed to the integration of family-centered practices and policies that foster the health of all patients and families (Ireys *et al.* 1992). Health providers need to empower families with adequate health knowledge that promotes the goals of primary health care and can prevent occurrence of secondary conditions and complications. When the personnel, material or financial resources is inadequate, it can lead to interference with quality of care.

Little data is however available on standards for pediatric nursing care, to be used as indicators to measure the quality of care. This stimulated the researcher to investigate and evaluate the quality of care in pediatric units in Swaziland.

## **1.2 SIGNIFICANCE OF THE STUDY**

This study is to be carried out in the pediatric units of the referral hospitals of Swaziland. The study is intended to explore current practices and add to the body of knowledge of nursing based on the results that will be obtained from the study.

Uys and Booyens (1989) states that, the setting of practice standards for pediatric nursing has only emerged as a research priority since 1985. Setting standards and evaluating these standards will enhance the quality of care for children in pediatric units in Swaziland.

## **1.3 ORGANIZATION OF HEALTH CARE IN SWAZILAND**

In order to understand the context of this research project, a detail discussion of the current structure of health care services in Swaziland is done.

Swaziland is still a developing country. Recently the Government of Swaziland tried to re-organize the health care system in a manner that would minimize problems currently experienced. This new system is characterized by a more effective co-ordination of health care delivery in all four regions and on all levels of care.

In Figure 1.1 the organization of the health care system is presented.

The Ministry of Health and Social Welfare is responsible for developing action plans for the integration and co-ordination of the various sectors involved in health care services at the regional and community level.

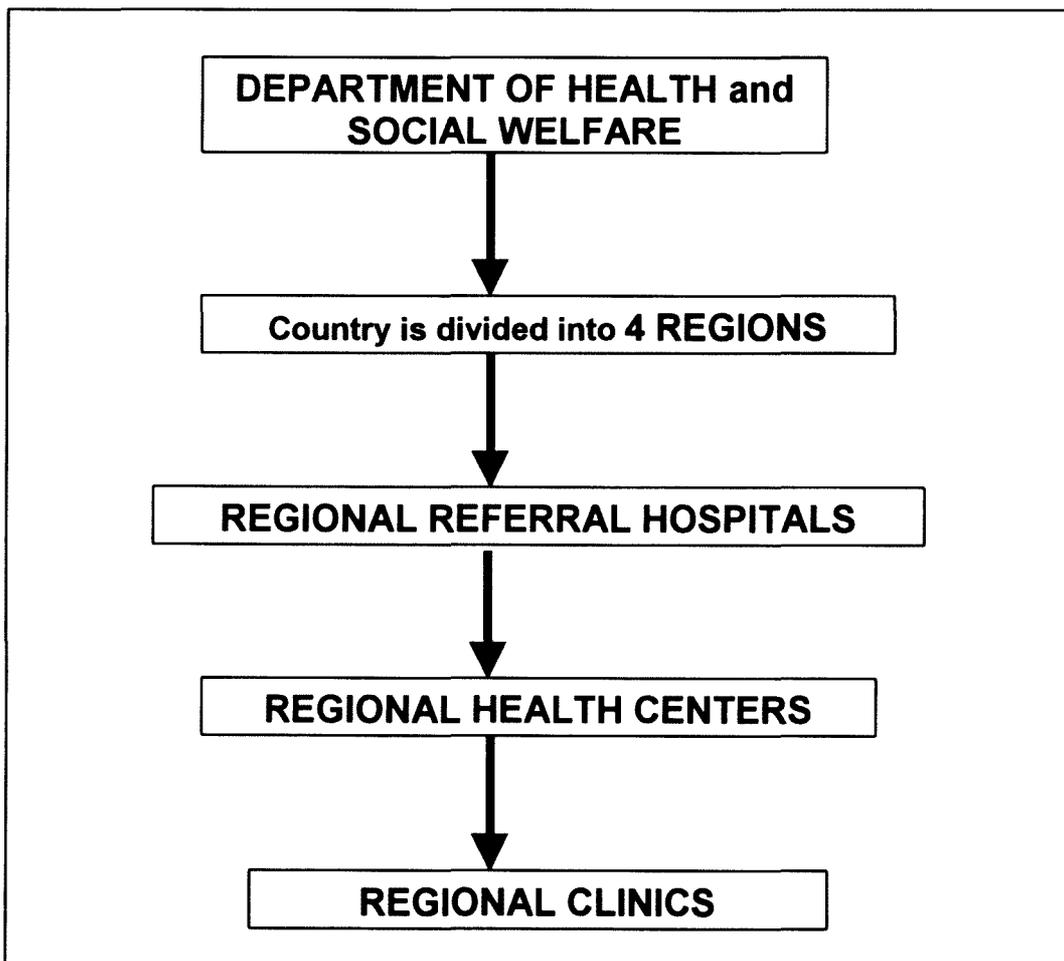
The country is divided into four regions. The Ministry of Health supervises these four regions through their regional health administrators.

Each region has its own *regional clinics*, which can be considered as the primary care, or first level of the health care system. Clinics are located strategically in the community, making it accessible and affordable to the Swazi nation to utilize. The clinics serve as primary point of contact for clients in need of health care services. Qualified nurses with qualifications in medical and surgical nursing, midwifery and the Diploma in Diagnostic Nursing run the clinics (National Development Plan, 1998).

The clinic hours are between 08:00 and 17:00 every day of the week, including weekends. After 17:00 till 20:00 and during weekends, nurses are on stand-by to attend to emergencies should they occur.

**FIGURE 1.1**

**ORGANIZATION OF THE SWAZILAND HEALTH CARE SYSTEM**



Services offered at this level include mostly preventive and promotive health interventions and treatment of minor illnesses. The clinics have no diagnostic and investigation services, such as x-ray facilities and laboratory services, thus all major problems must be referred to health centers and hospitals. (National Development Plan, 1998).

The *regional health centers* serve as the secondary or second level of the health care system. A health center is a mini-hospital with a bed capacity of 24 to 30 beds. The staff at the health centers is also responsible for supervising clinics of that region. They attend to patients referred to them by the clinics. Preventive, promotive and curative services are delivered here. Minor surgery can be done at these centers including suturing of lacerations, removal of foreign bodies, drainage of abscesses and closed reduction of fractures. All complicated cases are referred to the regional hospitals. A medical practitioner trained in community health, qualified nursing staff and auxiliary staff render the health care at this level on a 24-hour basis.

The tertiary, third level or highest level of the health care system is represented by the *regional referral hospitals*. The referral hospital co-ordinate their care with the care delivered at the health centers and clinics. Each of the referral hospitals (each of the four regions has one referral hospital) has a bed capacity of 300 to 500 beds. The referral hospitals in Swaziland are viewed as the 'ideal hospitals'. They are supposed to have the appropriate structure, equipment, personnel and supplies. These hospitals have the most sophisticated technology in the country's health system.

It must be noted however that emphasis is put on services at all levels to be comprehensive, thus providing preventive, health promotion, curative and rehabilitation services. Swaziland has adopted various strategies for promoting health including the promotion of health behaviour and attitudes through health education and community mobilization, active case-detection and preventive interventions through immunizations and early treatment of debilitating illnesses (National Development Plan, 1998).

## 1.4 PROBLEM STATEMENT

Quality assurance has become an essential factor influencing nursing care. Much has been done on quality assurance in health care services, because consumers expect value for their money. Hospitals that want recognition from consumers are expected to deliver proof of goal-oriented quality improvement, based on a complete and sophisticated system of monitoring and evaluation of quality care. This includes that each health practitioner accept responsibility for the quality of his/her own professional performance (Booyens, 1993).

Improving quality is a process, which consist of the formulation, monitoring and evaluation of standards. Evaluation is essential to ensure whether nurses comply with these standards and apply remedial action to address the problems identified and ultimately improve the quality of nursing care rendered.

The goal of nursing services, when adapting and implementing the scientific method of nursing, known as the nursing process, is to improve the quality of nursing care. Nurses are suppose to develop their own nursing standards in their specific units based on the value system of the nursing service and principles of the nursing process. This will enhance validity and ownership of the standards because it involves active group participation. Setting standards and measuring performance against these standards are necessary to ensure quality care.

The World Health Organization applied pressure in 1984 on all its member states ordering them that by 1990, all member states including Swaziland, should have implement an effective mechanism for ensuring quality of patient care within their health care system (World Health Organization, 1985). At present quality assurance programmes in Swaziland health care services are not formalized as in other countries like South Africa and Europe. The researcher is specifically interested in developing standards and criteria to serve as an instrument for auditing the quality of care as part of establishing a quality assurance programme for Swaziland referral hospitals.

The researcher has a special interest in the care of children and is also an experienced pediatric nurse, thus the specific focus of this research on the care of pediatric clients. The need for evaluating the quality of care of children was also expressed by various nursing managers in Swaziland.

Uys (1989) states that various factors significantly influence the quality of nursing care delivered. They further state that quality of care can only be measured when standards of practice are available against which the quality of care can be measured (Uys, 1989). Practice experience and consultation with nurse managers and nursing staff involved with the nursing care of pediatric patients in Swaziland, revealed a lack of uniform nursing care standards in pediatric units.

Another dimension of caring for a sick child, is the role of the parent and/or relative. The sick child is a vulnerable person. The quality of care in the hospital is very important. However, if the caregiver at home does not have sufficient knowledge on how to manage the child after discharge and apply the necessary measures for promoting health and preventing further problems, the total health and well-being of the child is endangered. It is generally known that these caregivers are not always equipped for this important role. The parent and/or relative must be an active participant in caring of the child throughout the whole hospitalization process to enable the parent to become a well-informed caregiver.

Although the quality of care is important at all levels of service rendering, the researcher decided to focus on the referral hospitals, being the highest level of care. The main reason for selecting these institutions for research purposes, was that these hospitals serve as referral centers and also supply the other levels of care of information and assistance. The health centers and health clinics are very dependent on these referral hospitals. The researcher is of the opinion that if valid, reliable standards can be developed on this level, they can be used with minor adaptations, also on the other levels of care.

In the light of this, the following questions are raised which will guide the research:

- What is the quality of care of patients in pediatric units in Swaziland and
- How involved are the parents and relatives in the caring process.

## **1.5 PURPOSE OF THE STUDY**

The present study is aimed at measuring the level of care delivered to children in referral hospitals in Swaziland, and identifying the problems and difficulties causing the level of excellence unattainable.

## **1.6 OBJECTIVES**

The objectives of the study are to:

- formulate standards for pediatric wards in Swaziland referral hospitals;
- evaluate the quality of care according the pre-set standards;
- assess the satisfaction of parents and/or relatives with the care rendered;
- identify the knowledge of parents and/or relatives for caring of the child after discharge from the hospital and
- make recommendations based on the findings of the study.

## **1.7 CONCEPTUAL FRAMEWORK**

A framework for a research study assists to organize the study and provides a context in which to examine a problem and gather and analyze data (Brink, 1996; Burns and Grove, 1997).

The researcher believes that the primary goal of nursing research is to develop a scientific knowledge base for nursing practice. Most of the time this knowledge base evolves primarily from beliefs, tradition and past experience in the field of interest and confirmed by other experts in the field (Burns and Grove, 1997).

The conceptual framework has been formulated and developed by the researcher to guide the research process, answer the problem and meet the research objectives. The concepts of the framework will be discussed on how they relate to one another and in particular the present study. The conceptual framework for the study has been formulated and developed by integrating concepts of Neuman (in Booyens, 1993) and Donabedian (1969).

The researcher has adopted a holistic view of humans and their environments when answering the problem at hand. The researcher believes in holism, whereby all characteristics of people and their environment are inseparable and taken as one entity. When only one characteristic or variable is being studied, it cannot give a picture of the totality (Burns and Grove, 1997). Nursing is concerned with the whole person and not as a human being with parts which is subdivided. The nurse is thus concerned with all the variables affecting the child's response to health problems. The goal of nursing is to protect the child through the provision of quality care and promoting the health and wellness of the child.

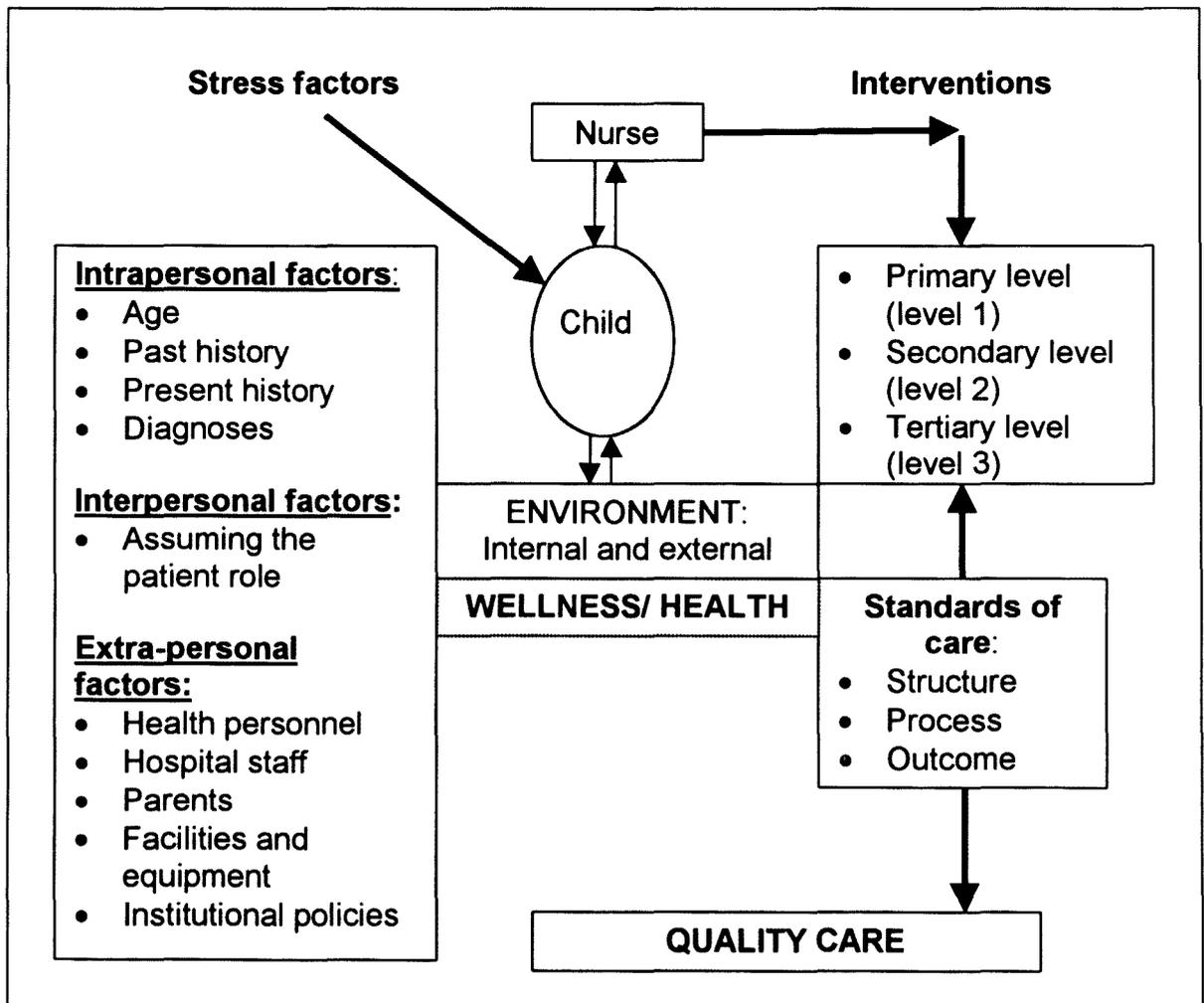
The *health and wellness* of the child is influenced by various factors, including certain *stress* factors. Neuman (in Booyens, 1993) equates health to wellness and defines it as the condition of a patient when all the systems of the body are in harmony. When harmony has been attained, it will be evidenced by health/wellness of the persons. The healthy/well person goes back to the environment and becomes an effective contributing individual in the society.

The stressors are aggravated or relieved by factors in the external and internal environment. The *internal environment* of the child comprises of biological factors (including age, developmental stage), physical factors (including diagnosis), spiritual and social dimensions of his/her well-being, while the *external environment* of the child relates to the infrastructure, equipment, interaction with health care personnel and institutional policies. Newman (in Booyens, 1993) states that these environmental factors can influence the child's well being significantly, as his/her coping mechanisms are still in a

developmental stage. Nursing care must aim at providing a safe external environment, thereby facilitating the internal environment to such an extent that the sick child can focus on surviving and maintaining his/her self-esteem, that are threatened by the illness experience.

The nursing profession is committed to deliver quality care to a child when in distress. Quality care implies that all the necessary interventions are implemented on an appropriate level, level one, two or three) to promote the child's well being and recovery.

**FIGURE 1.2:  
CONCEPTUAL FRAMEWORK FOR THE STUDY**



*Interventions* are directed towards preventing regression or unfavorable reactions due to stress factors. The interventions taking place consists not only of physical procedures, but also refer to counseling, advising, facilitating, collaborating, referring when appropriate and coordination of child care (Hinds, 1990). The nurse has also a responsibility to ensure that the caregiver of the child after being discharged from hospital, is empowered to provide the necessary care.

Measuring the *quality of care* implies that all the different dimensions of quality of care in nursing practice have been explored. The *structure* dimension of care includes the facilities, equipment, services and personnel available for providing care. The *process* dimension consists of the content of care as reflected by how the patient was moved into, through and out of the health care system and the services that are provided during the care episode. The *outcome* is identified as the results of care which include biological changes in disease, comfort, ability for self-care, physical function and mobility (Hammermester *et al.*, 1995). For the purpose of this study, integrating their perceptions of the quality of care that was rendered to their child or family member includes parent's and/ or relatives.

## **1.8 RESEARCH METHODOLOGY**

The researcher will use a non-experimental approach whereby exploratory and descriptive strategies are used to evaluate the standards of care in pediatric wards.

Both qualitative and quantitative methods of data collection and analysis will be utilized. The designs where qualitative methods are complemented by quantitative methods strengthen the research results and contribute to theory and knowledge development, and increases support for validity (Marshall and Rossan, 1995; Burns and Grove, 1997). Burns and Grove (1997) consider this approach as being very suitable for nursing research.

## **1.9 POPULATION AND SAMPLING**

All four regional hospitals are used in the research project, thus the whole population is used. The reason for using the whole population, is the small number of hospitals available. In the hospitals themselves, procedures and practices will be included as they present. The researcher will randomly select days and times to visit the hospitals, thereby eliminating any possible bias.

## **1.10 DATA-TECHNIQUE**

After a comprehensive literature study is conducted, a checklist will be developed for evaluating the standard of care. The standards with their relevant criteria will be grouped under three headings in the instrument namely structure, process and outcome standards. A pilot testing of the instrument will be done in one hospital convenient to the research prior to the data-gathering phase.

Information from the parents and/or relatives will be obtained through a semi-structured interview. Similar responses will be coded afterwards according to prior selected headings and groupings.

## **1.11 DATA-GATHERING**

The researcher is the only fieldworker involved in the research project. Data will be obtained during May to June 1999 in the different hospitals. Intra-observer differences will be minimized by becoming familiar with the instrument prior to commencing with the data-gathering phase of the project. The researcher will also confirm observations and perceptions with another person present in the situation where applicable.

## 1.12 DATA-ANALYSIS

Data analysis is the process of organizing and interpreting information. Data analyses will include the measurement of data for legibility and completeness and checked for accuracy prior to analyzing it by means of a Microsoft application namely *EXCEL*. Themes will be selected prior to the analysis phase for the qualitative data to be able to group similar responses together. Descriptive statistics will be used to analyze the data. Due to the explorative character of the research, no hypotheses will be formulated and tested. The researcher is of the opinion that this is the most suitable way of doing this specific research, and is supported by various researchers (Burns and Grove, 1997).

## 1.13 ETHICAL CONSIDERATIONS

A written proposal of the study was submitted to the Ministry of Health in Swaziland, requesting permission to carry out the study in the regional hospitals in the country (see Addendum B). Individual letters were also written to the regional hospital administrators requesting their permission to conduct the study in their hospitals and answers received (Addendum C).

The researcher will obtain individual permission after informing respondents about the aims and purposes of the study. The researcher will also assure respondents of anonymity, that information will be treated as confidential and no personal details would be included in the questionnaire. The respondents will be explained by the researcher that participation is optional and that they may withdraw from participation in the study at any time. The hospitals will be coded and thus not be identified.

## 1.14 OPERATIONAL DEFINITIONS

For the purpose of the research, concepts used in this study are defined as follow:

- A *child* is a person between the ages of 6 months and 12 years.
- A *referral hospital* is a hospital that receives patients referred from a clinic and health centers. These hospitals provide a range of in patient services and has a bed capacity of 300 tot 350 beds and admits 10234 to 12509 patients per annum (National Development Plan, 1998).
- A *relative* is a person of the same family by origin.
- A *nurse* refers to any category of nurse (except when stated otherwise) and who received training for her/his task.
- *Criteria* are predetermined elements against which aspects of care are compared.
- *Evaluation* is the mechanism by which a service is monitored and includes quality assessment and customer satisfaction (Katze and Green, 1992).
- *Monitoring (Audit)* is the inspection/ observational phase of any quality assurance/ management process.
- *Outcome criteria* relate to the expected performance of the patient of the results expected after good nursing care has been rendered (Booyens, 1993).

- *Outcome standards* are attached to the process standards and the objectives of other standards. In the clinical area, they are written on patient's care plans and teaching plans (Katz and Green, 1992).
- A *pediatric ward* is a unit in the hospital that offers care to children admitted to the hospital.
- *Procedures* are a series of recommended actions for the completion of a specific clinical, professional or administrative task (Katz and Green, 1992).
- *Process criteria* relate to the actions which must be taken by the staff in order to achieve the standard (Booyens, 1993).
- *Process standards* are the working standards and describe what nurse's do, which care patients receive and address all activities in an organization (Booyens, 1993).
- *Quality care* is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge (Ireys *et al.*, 1992).
- *Standards* are precise statements that specify the desired and/or achievable level of performance against which actual performance is compared.
- *Structure criteria* relates to the items of services which are in the system and are necessary for the achievement of the described task (Booyens, 1993).
- *Structure standards* describe the rules of the system and include the mission statement, philosophy, goals and policies.

- *Standard formulation* is a structured process in which the level of excellence in nursing is expressed clearly and precisely in a written format (Van der Merwe and Muller, 1997).

## **1.15 COMMUNICATION OF THE FINDINGS**

The findings will be organized into a research report and disseminated to the nursing staff of the relevant hospitals where the study was conducted. Where applicable, presentations will be given and the findings will also be compiled for publication in a nursing journal.

## **1.16 CONCLUSION**

In this chapter an introduction to the research project is done. In the rationale and problem statement, the importance of rendering quality care is stated. It appears that there is very little research and development done in the field of quality assurance in Swaziland.

The researcher explains how a descriptive, explorative design will be applied to measure the standard of care in terms of the structure, process and outcome standards. Reference is made to the development of the data-technique and how the data-analysis will be conducted. Lastly an explanation is given of the ethical considerations.

The study will consist of the following five (5) chapters:

- Chapter 1: Introduction.
- Chapter 2: Literature review
- Chapter 3: Research methodology
- Chapter 4: Data analysis
- Chapter 5: Discussion of results, conclusions and recommendations

## CHAPTER TWO

# LITERATURE REVIEW

## 2.1 INTRODUCTION

In chapter 1 a broad outlay of the research study was given, explaining the underlying rationale, the research questions that will guide the research and the methodology to be applied. In this chapter a detail discussion of the literature studied, is provided.

## 2.2 PURPOSE OF THE LITERATURE REVIEW

A literature review refers to a critical analysis of research on a topic of interest, generally prepared to put a research problem in context and to identify gaps and weaknesses in prior studies. It thus can justify a new research project of a problem already investigated (Polit and Hungler, 1993).

An in depth literature study was conducted of research undertaken nationally and internationally over the past thirty years. The reason for using material published in the sixties, was that the topic of the research, namely quality assurance, is no new topic, and the model used for the standard setting, was that of Donabedian, originated from 1969 (Donabedian, 1969). The literature was obtained mainly through a *MEDLAR* search, thus ensuring that all possible relevant material could be incorporated throughout the research process.

The literature review was specifically done to:

- provide a general overview of studies on quality care in general and compare it with what has been done on quality care in Swaziland;
- identify different quality assurance models to enable the researcher to select a model or combination of models most appropriate for the topic under discussion;
- redefine and refine the research questions and find the most appropriate methodology to be applied in the study (Marshall and Rossman, 1995);
- serve as a sound, scientific theoretical base and logical framework for the development of the instruments to be used and the project in general;
- be able to make comparison in findings between previous and the present studies and provide possible explanations for similarities or differences between findings and
- assist in establishing the reliability and validity of the project.

Upon obtaining relevant articles and journals, the researcher then studied them very carefully and those found to be having relevant and important information on standards of care, have been utilized to enrich this chapter. From the literature search, it is clear to the researcher that though many studies have been conducted on the problem, standards of care in nursing still pose a threat to the recipients, if not adhered to or continuously improved by the nursing professionals.

## **2.3 QUALITY ASSURANCE**

Booyens (1993) defines quality assurance as "... a *guarantee of knowledge and*

*competence by the practitioner, and an adequate service that provides value for money in accordance with characteristics associated with excellence.”*

Katz and Green (1992) states it as to be a part of quality management, consisting of specific evaluation activities that determine conformance to the value system.

### **2.3.1 History of quality assurance**

A brief history on the development of the concept of quality assurance is considered necessary to place the study in perspective.

The idea of monitoring quality of care is not new. In 1850 Florence Nightingale evaluated the care that was delivered to the sick, and she used the information to improve care in areas that were below standard (Corrigan and Parsley, 1993, Sale, 1991; and Booyens, 1993). She kept notes on her observations and used the information to establish the level of care being provided. After the second world war there has been a rapid growth of quality assurance in industry with the Japanese being the first to lead on quality assurance using Deming's quality assurance principles and the utilization of quality circles in management (Booyens, 1993). The concept of quality control circles is applicable to quality assurance in general. Managers in health care systems have tried to apply similar methods, but progress had rather been slow.

Many studies have been conducted on this subject. Around 1966 the Salmon report had a significant effect on the direction of the nursing profession in terms of managerial skills and the efficiency of the service (Corrigan and Parsley, 1995). The Royal College of Nursing in Britain is among the first organizations which was involved in setting standards of care. Other body's like the Community Health Councils, the National Association for Welfare of children in hospitals and the Charter for children in hospitals in 1984, encouraged nurse managers to monitor the standards of care within children's departments in Britain (Corrigan and Parsley, 1994).

In the late 1970 and early 1980's the Royal College of Nursing in the United Kingdom became concerned about falling standards in nursing practice. This led to the formation of a working group to develop ways of measuring the quality of nursing care. The group identified the need for a statement of the underlying values and philosophy to guide nursing practice before quality of nursing can be assured. It was also noted that accountability is the key to the formation of professional standards.

The World Health Organization in 1984, applied pressure on all its member states ordering them that by 1990, all member states including Swaziland, should have implemented an effective mechanism for ensuring quality of patient care within their health care system (W.H.O., 1985). At present quality assurance programmes in Swaziland health care services are however not as formalized as in other countries like South Africa and Europe.

In the 1990's the trend changed from optimal achievable standards and focused on the clinical and organizational performance as a whole, with the emphasis on providing individual patients with quality service (Booyens, 1993).

### **2.3.2 Reasons for participating in quality assurance programs**

Resources have become very scarce and it is vital that health professionals and nurses in particular, demonstrate the value of their contribution to the organization. The public demands value for their money. The Swaziland Government subsidizes the referral hospitals by 95% yearly (Development Plan, 1998) with the assumption that quality care is delivered to the people.

Nurses in the health care system comprise of the largest proportion of the workforce. They are expected to deliver high quality care to all patients and it is the responsibility of all nurses to assure that high quality care is delivered (Bergman, 1982; Pearson *et al.*, 1989). Carter and Dearman (1995) are of the opinion that quality assurance must be an intrinsic component of their daily work.

Wright (1984) states that nurses are accountable for their actions and professionally they have a responsibility to evaluate the effectiveness of their care in the light of new research findings. One of the characteristics of professionalism is the pursuit of excellence and the desire to regulate one's own performance.

Ethically one can argue that every individual has a right to the highest attainable level of health. The introduction of quality assurance programmes is important to ensure the safety of children and to protect them from ineffective, substandard practices. Therefore, guaranteed standards of care to the public must be a duty of all that work within the health care service (World Health Organization, 1993; Booyens, 1993).

The researcher believes that quality assurance is not just about improving customer service and auditing the process of agreed upon standards, but should include initiatives for promoting staff development and utilizing new ideas and methods, building on old practices while introducing new ones.

## **2.4 QUALITY CARE**

Carter and Dearman (1995) state that quality care is a process for the attainment of the highest degree of excellence in the delivery of patient care. A patient perceives quality from the point of view of the care he/she receives and to what extent his/her health needs have been met. A professional practitioner evaluates quality in terms of the knowledge and skills involved, while the management of the institution attach a monetary and financial value to it (Booyens, 1993).

Whittaker (1991) defines quality care as "*... care which consistently contributes to improvement in or maintenance of the quality and/or duration of life*"

## 2.4.1 Characteristics of quality care

There is a general opinion that if a person gets well, that person received quality care. It is though clear from different definitions and perspectives reflecting on quality and quality care, that there are different factors that could affect the outcome of care. These factors include a child's age, sex, environment, attitudes towards illness and medical history, and it would be shortsighted to make a statement that quality care equals always a positive outcome.

There are however a number of important elements, in addition to favorable outcome which can be used to identify care of high quality. The American Academy of Pediatrics in Starfield and Scheff (1972) believes that the following characterizes quality of care.

### **Quality care:**

- optimizes improvement in the patient's/child's physical status, physical function and intellectual performance and comfort at the earliest time possible consistent with best interest of the patient;
- emphasizes the promotion of health, the prevention of disease and disability and the early detection and treatment of such conditions;
- is provided in a timely manner without either undue delay in the initiation of care, inappropriate care, or unnecessary prolongation of such care;
- achieves the informed co-operation and participation of the patient in the care process and in decisions concerning that process;
- is provided with sensitivity to the stress and anxiety that illness can generate, and the concern for the patient's welfare;

- efficiently utilize technology and other health system resources needed to achieve the desired treatment goal; and
- is sufficiently documented in the patient's records to enable continuity of care.

(Taylor, 1997)

## 2.4.2 Assessment of quality of care

*“The objective of quality assessment is to determine how successfully health professionals give quality of care themselves and to ensure that the public has no fears of exploitation of incompetence “ (Donabedian, 1988).*

Quality assessment is a judgement of the *process of care* provided by practitioners either individually or as a group. When direct information concerning the processes is not available incomplete inferences may be drawn concerning the quality of the processes by examining either the structure or outcome dimension only (Hammersmeister *et al.* 1995).

Donabedian says that quality assessment is a judgement of care that uses what is known about the relationships between process and outcome, given the limits of current medical science. If a valid relation exists between the process and outcome dimension, it either can be used as an indicator of quality of care; if not, neither can be used (Donabedian, 1988).

Griffiths (1995) identifies three steps that should be taken during the process of quality assurance. These are:

- The establishment of a value system. This system must include the defining of quality, formulation of the desired standards and criteria, while taking into account the patient's characteristics. Standards reflect values because they are statements derived from a consensus of professional

thinking.

- The establishment of an appraisal system in which the adequacy of care is assessed in the light of the set standards and criteria.
- The development of a response system in which any problems identified are corrected and in which positive feedback can be given in order to maintain and facilitate quality performance.

### 2.4.3 Models for evaluation of quality

Many different methods have been utilized in attempts to measure quality of care in health institutions. These methods are all based on one or more models existing for evaluation of health care.

Models, if they have a scientific basis, can provide valuable frameworks for the development of standards and criteria. There are well known models available in the literature by various theorists to evaluate quality care in practice. The different models will now be discussed.

- **Donabedian's model**

Donabedian's model (Booyens, 1993) is one of the most well known models relating to quality assurance and standards. This approach focuses on the recipient of nursing care, within the prevailing structural conditions.

The model is based on three dimensions of standards, namely the structural , process, and the outcome standard of care.

- *Structure standards* refer to the setting in which the process of care takes place and the support structures. It includes

- the administrative and clinical procedures which direct the provision of care;
  - staffing numbers, categories and development and other characteristics of the caregivers;
  - the availability of material sources such as equipment and other facilities;
  - environmental factors;
  - styles of supervision; and
  - organizational structure.
- *Process standards* address the performance of the caregiver in relation to the patient's needs. This involves the study of the process of giving care, what the caregiver does. The performance is evaluated through direct observation of practice, studies of medical records and audits using explicit criteria to evaluate:
- patient assessment;
  - development of nursing care plans;
  - performance of technical aspects of nursing care; and
  - evaluation and documentation of care.
- *Outcome standards* refer to the results of care in terms of changes in the recipient of that care. It includes:

- improvements in the patients knowledge;
- patient behaviours e.g. dissatisfaction, knowledge of illness and compliance with the recommended regimen – psychosocial, cognitive and behavioural factors; and
- ill health, disability and death..

Donabedian (1988) believes that this type of three-part approach to quality assessment is effective because good structure increases the likelihood of good process, and good process increases the likelihood of good outcome. The understanding of the relationships existing between the three approaches is very important.

Donabedian (1988) states that structural factors have only a potential relationship to quality. The availability of the capacity to provide good care does not mean that good care is delivered. Griffiths (1995) looks at it in a slightly different way. He says although the capacity to provide to do care may exist, it may not be used appropriately or may not be supplied in sufficient quantity or with adequate skill. This is due to the relationship between structure and process which is very poorly understood, Consequently, the evaluation of quality of care based on structure alone is regarded as having no firm base of understanding.

- **Lang model**

The Lang model is proposed to assist the individual nurse or group of nurses to implement a programme assuring quality-nursing care.

The Lang model has an open, circular movement and has the following steps:

- value identification begins the cycle

- standards and criteria are identified and developed
- the difference between established standards and the current level of nursing is ascertained
- the results are interpreted and findings represent the strengths and weakness
- course of action are identified based in the interpretation of the strengths and weakness and
- a course of action is then selected, evaluated and finally the actions are implemented and documented.

(Booyens, 1993)

The concepts are clear and direct, but the application is more complex. It includes the process of evaluation as well as actions to implement remedial actions. It is an ongoing process with outcome leading to re-evaluation and is suitable for any setting and any level of evaluations.

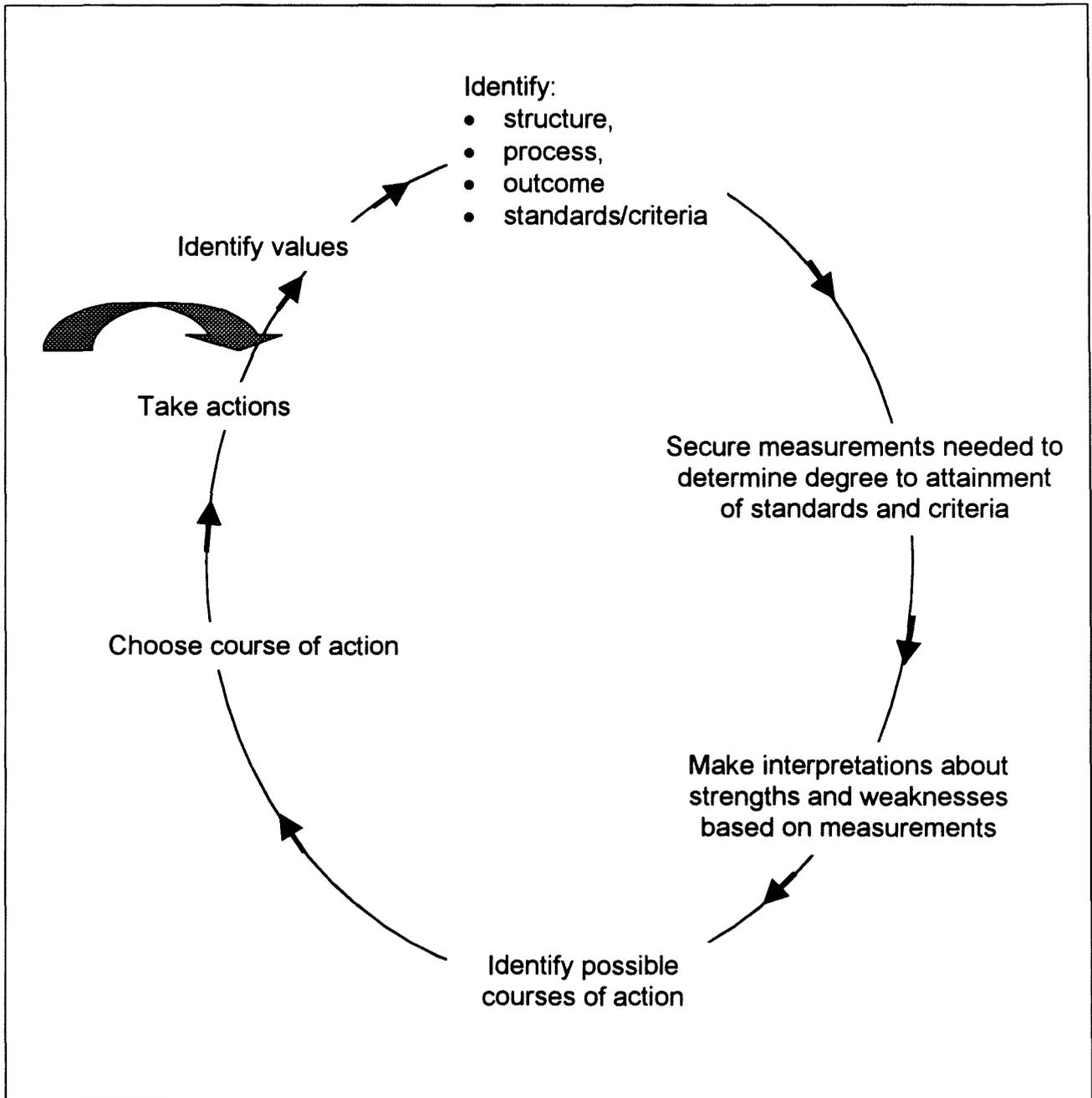
- **Lang/ American Nurses Association Model (Figure 2.1)**

The Lang/American Nurses Association Model has been further developed by Canadian nurses of the Nurses Association of British Columbia, using eight steps (Wright, 1984). Nurses at Royal Columbia Hospital have adapted this to a four-point model where nursing staff:

- choose aspects of care which they examine and develop standards for these aspects of care;
- evaluate current nursing practice against standards;

- review results and identify a plan to maintain or improve care; and
- re-evaluate nursing practices against standards.

**FIGURE 2.1**  
**THE LANG MODEL OF QUALITY ASSURANCE**



(Wright, 1984)

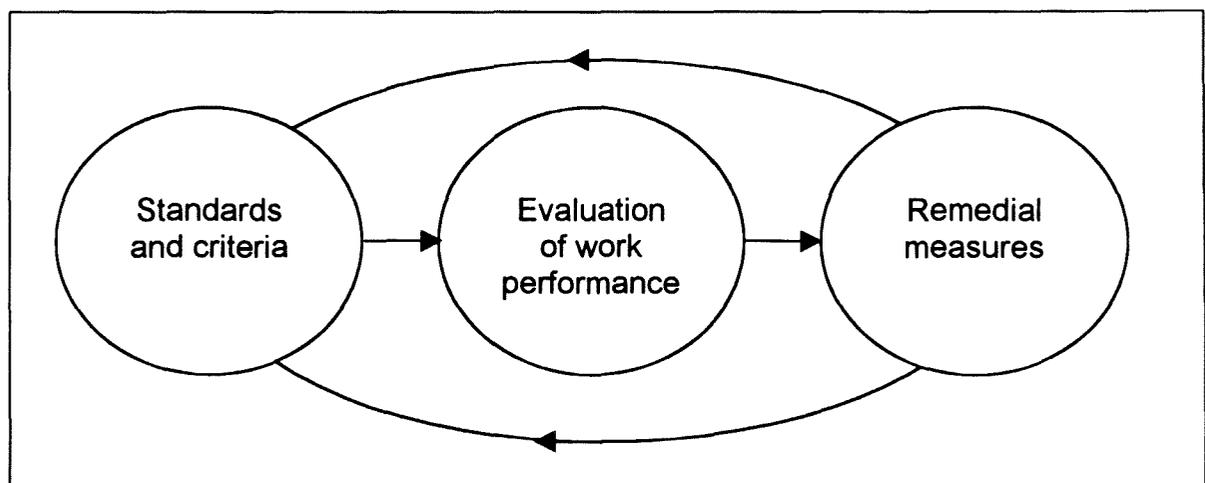
- **System Model (Figure 2.2)**

Gillies (1989) developed this model. Gillies (1989) postulated the functions of any system are to convert information, energy, or materials into a planned outcome or product for use within or without the system, or in combination.

The systems model is a cyclical process consisting of:

- inputs – information and resources needed;
- execution process – the way in which resources are employed to reach objectives;
- outputs – these represent the results achieved or the product produced and

**FIGURE 2.2**  
**SYSTEM MODEL**



(Muller, 1986)

- feedback - the results are compared with predetermined criteria, namely the achievement of objectives. The information is utilized

as inputs resources. In the system model, the external environment plays a significant role, because it may influence the quality of inputs and the execution process as well as outputs. These are the socio-economic situation, the political climate and the education system.

- **Betty Newman model**

Neuman (Fitzpatric and Whall, 1996) used this system model and adapted it to a new model, known as the Neuman model. This model is widely used by the profession. The model encompasses a wide variety of client's and client system stressors, which allows application to various general and specialty areas of nursing practice. The model is appropriate to facilitate the role of the nurse as health care coordinator. To prevent fragmentation of client care as illustrated in the model, the three levels of prevention overlap each other to ensure continuity in the care of clients.

The Neuman model (Fitzpatrick and Whall, 1996) focuses primarily upon two components, the nature of the client's response to internal and external environmental stressors and the nurse's interventions that assist the client to best respond to the stressors. The nurse's goal within the context of this model is to assist the client in maintaining an optimal state of health and wellness (Fitzpatric and Wahl, 1996).

The model has 10 major explicit assumptions:

1. Each client or client system is unique and possesses a normal range of responses.
2. There are many types of stressors that may disturb a client's equilibrium of his/her internal and external.

3. Clients develop over time a normal range of responses called their normal line of defense.
4. The flexibility of the 'defense responses' protects the client against stressors. When these responses cannot neutralize the stressors, the equilibrium of the client's system is disturbed.
5. Wellness represents a continuum of available system energy and is dynamic.
6. When the client is confronted with a stressor, the internal resistance lines attempt to stabilize the client by returning to a normal or enhanced state of wellness.
7. Primary prevention assessment and interventions, identifies and allays risk factors associated with stressors.
8. Secondary prevention relates to symptom identification and implementation of appropriate interventions to deal with the disruption of the system.
9. Tertiary prevention assists the adjustment of the client.
10. The client constantly exchanges energy with the environment.

- **Research model**

The researcher developed a conceptual framework for the study as presented in chapter 1, Figure 1.2. In developing this framework, the Donabedian model was used as a base and then integrated with the system model by Newman.

These two models were selected because the Donabedian model indicates the

multiplicity of factors that can be evaluated and the focus of evaluation can be on an individual practitioner to any institution and from an individual recipient to a group or the broader community (Bergman, 1982). The Newman model uses a holistic client approach and considers the impact of physiological, psychological, socio-cultural, socio-economic and spiritual variables on the child. Nursing interventions can be instituted at three levels of care, namely primary, secondary or tertiary level (Marriner-Tomey, 1994).

There are many more models of quality assurance available. The researcher is of the opinion that the models discussed, are the most important models for the purpose of this study that had to be considered.

The researcher and consultants in the field of quality assurance in health care selected the two models used for the purpose of this study, for guiding the study, answering the research problem of the study and the development of the research model. Both these models have a scientific approach and are easy to apply in a health care situation.

- **Other methods of evaluating quality care**

The researcher identified other methods that can be used for evaluating the quality of nursing care. Although the researcher decided not to apply these methods as such in the current study, some brief remarks are made regarding the methods and explained why these methods were not considered as suitable for the current research study.

- *Phaneuf audit*

The Phaneuf audit (Wright, 1984) is a retrospective examination of nursing records. The use of this instrument requires a multidisciplinary approach. It is not appropriate to evaluate nurse performance as such or for auditing patient

care.

The various health personnel could thus not use it in this research, because the research focus on the nursing care and not the general care provided in the unit.

□ *Peer review*

The peer review is an encounter between two individuals equal to one another in education, abilities and qualifications. One person critically reviews the practice that the other has documented in the client's record (Wright, 1984).

This method is aimed at allowing nurses to demonstrate accountability for their practice and to enhance learning by the nurse through continued education and staff development (Wright, 1984).

This method was either not found suitable for the study because it predominantly focuses on documentation of cares and does not evaluate the real process and caring.

□ *Auditing of processes and practice.*

In this method a group of professional experts are specially convened to review the nursing care in terms of the processes taking place during the caring process. The auditors may set criteria prior to the evaluation phase, but it is not a requirement. Berwick (1988) argues that this is a very costly process involving highly paid professionals and there are no standardized criteria available to the staff of the wards against which they can measure their work performance.

When a nursing model has been chosen as a framework within which to work and decision taken into which approach to take (structure, process and outcome), the next step is to develop standards and criteria.

## 2.5 STANDARDS AND CRITERIA

Standards of care can be defined as the optimum level of care against which performance is measured. (Sale, 1991). It reflects a written value defines the rules, actions, results or analysis that are related to the patient, staff or system and are sanctioned by an authority (Katz and Green, 1992).

Standards however cannot be valid unless they contain a means of measurement to enable nursing care to be evaluated in terms of effectiveness and quality (Sale, 1991). In order to measure a standard it must have criteria that are measurable. Criteria are variables selected as relevant indicators of quality of nursing care as: measures by which nursing care is judged as good (Wright, 1984; Sale, 1991). Attree (1993) defines it as "*predetermined elements against which aspects of service are compared to.*"

Standards of care play an important role in the evaluation of nursing practice. Standards and criteria nowadays have become the cornerstone for the evaluation of nursing care (Kock, 1992). Donabedian (1988) states that standards can be set at any level of quality, depending on the level of quality that one wishes to obtain or to use as a benchmark for comparisons.

To the researcher, this concludes that there are many frameworks from which to choose in writing of standards and criteria. Some standards are based on the nursing process framework, while others reflect health needs, body systems approach or developmental stages.

The different levels, on which standards can be set, will now be discussed.

### 2.5.1 Levels on which standards are set

Standards can be set on different levels, including the universal or generic, district or local level. The selection of a specific level is usually determined by

the purpose, whether it is aimed at evaluating the macro-environment, that is the institution itself, or the micro-environment, the ward. Standards can be set on the following levels (Sale, 1991).

- **Universal or generic level**

Standards at this level are related to the profession's philosophy of care, thus what the profession of nursing believes about caring for the patient.

- **District level**

Standards at this level constitute statements of good practice to which the district or organization is aiming. The district standards establish expectations about the standards of care that are desirable for all patients.

- **Local level**

These are statements that are more specific, concerning activities in wards/departments (Bergman, 1982; Sale, 1990)

Though many authors have written positively on the levels on which standards must be written, Kock (1992), disputes the methodology of standard writing that it is not written on all three levels. Kock (1992) says many standards are written only for specific areas or for decentralized quality assurance programmes.

Booyens (1993) and Bergman (1982) describes two levels on which standards can be set, namely a general or generic level and a more specific macro-level, usually referring to the ward environment.

In chapter 3 when the development of the instrument is discussed, a more in

depth discussion will take place on this approach of Booyens (1993) and Bergman (1982).

## 2.5.2 Criteria

In order to translate standards into operational measures, three kinds of criteria should be used: structure, process and outcome criteria (Donabedian, 1988).

The assessment of *structure criteria* is a judgement on whether care is being provided under conditions that are either conducive or detrimental to the provision of care. There are different definitions on what the structure criteria comprise of. All these definitions refer to the capacity of the provider to provide good quality of care. Griffiths (1995) states in this regard:

*“The structural factors are relatively easy to assess, although determining what technology, equipment, staff qualification and numbers and organizational arrangement are necessary to provide good nursing care, is a matter of professional judgement and is subject to change as new knowledge is acquired and new technology developed and used”*

*Process criteria* as defined by various authors, are as follows. It refers to the:

- actions that must take place in order to achieve the standard (Sale, 1991);
- actual practice or delivery of care, for example actions and interactions (Attree, 1993);
- what is actually done in giving and receiving care (Donabedian, 1988).

In the actual sense, it means the actions and behaviours required of nursing staff in rendering care as well the elements of care itself.

Donabedian (1988) approves of this approach because it focuses on the performance of the caregiver in relation to the patient's needs. This is the most time consuming and complex approach to carry out, but it is the most successful approach in answering the question "is good nursing care being carried out?"

*Outcome criteria* had received a great deal of attention as the most direct way to approach the assurance of quality in pediatrics.

Outcome is described by various authors in the literature as:

- primarily changes in health status that can be attributed to that care (Donobedian, 1988);
- the effects of the nursing care – the results expected in order to achieve the standard in terms of patient behaviour, responses, level of knowledge and health status (Sale, 1991); and
- the effects or end results of the other two criteria (structure and process) on the patient (Attree, 1993). This approach has the advantage that outcome is often easy to observe and its validity is seldom questioned (Wright, 1984).

Though this approach is easy to carry out, Wright (1984) identified some problems with it. These are:

- problems with the nursing care assessment because nursing takes a rather more holistic view of the patient than does medicine. As a result, defining a patient's health status becomes a difficult task when visual and emotional factors are considered;
- in nursing the outcome approach to evaluate nursing care is that few outcomes are wholly attributable to nursing care. For example, there are inputs from the body's mechanisms, the patient's own contributions,

his/her family member's contributions, medical people and physiotherapists;

- problems with the timing of the measurement. If outcome is measured on discharge rather than at some fixed point in time post-treatment, there could be bias depending on whether the patient feels better or worse and whether the patient is pleased to leave the hospital or not;
- the outcome approach requires value judgement of clinical experts and it results in differences of opinion and that makes it less objective than the other approaches and besides, the final outcome is not always directly related to the quality of care given or the process used.

The development of sets of criteria is very complex. Literature reveals that there is no ideal methodology (Wright, 1984). In the literature search on quality, there is a dilemma as to what is the better option between process and outcome criteria for evaluating nursing care. Others believe and feel that process criteria are the most practical way of assessing nursing care and that there is no reliable link between the quality of nursing care given and the patient outcome.

In the following chapter a detail discussion will be done on the setting of standards for the purpose of the research.

## **2.6 QUALITY CARE FOR CHILDREN IN SWAZILAND**

After a general discussion of the literature available on quality assurance and standard setting, it is important to comment on the current situation of quality care in Swaziland with specific reference to the situation regarding pediatric care.

The government of Swaziland is committed to a National Health Policy of providing primary health care by formulation of health policies and strategies that promote health and prevent diseases, and ultimately to provide a quality service

to the whole community.

### **2.6.1 Primary health care**

Primary Health Care aims to achieve more equitable distribution of health resources and to attain a level of health for all by the year 2000, for all citizens of Swaziland, that will permit them to lead a socially and economically productive life.

Primary health care consists of a comprehensive package in health care delivery to address the main health problems by providing preventive, primitive, curative and rehabilitation services (National Development Plan, 1998).

The main emphasis in primary health care is that services should be acceptable, accessible and affordable to individuals and families. The focus of the policy is on proper nutrition, adequate supply of safe water, basic sanitation, maternal and child health including family planning, immunization against major infectious diseases, education concerning prevailing health problems, methods of preventing and controlling them and appropriate treatment for common diseases (World Health Organization, 1985).

The current health status of the Swazi children is unacceptable. Major health problems among are the high infant, child and maternal mortality and high incidence of communicable disease (National Development Plan, 1998).

In 1976, children under five (5) years of age represented 18% of the total population with approximately 48% of children under the age of 12 years. (National Development Plan, 1998). This implies that the health services need to focus on the needs and problems of mothers and children in an attempt to improve their quality of care

## **2.6.2 Strategies towards improving quality pediatric care in Swaziland**

The Ministry of Health has put in place strategies and various programmes to address the problems identified. These are:

- control of diarrheal diseases;
- respiratory infection control;
- immunization programmes;
- promotion of young child feeding and growth monitoring;
- tuberculosis control programmes; and
- school health programmes.

To achieve the objectives of the various programme mentioned, the government in conjunction with the Ministry of Health utilized the expertise of key human resources to facilitate these programmes. This is done in various ways, including workshops, in-service education and formal education. All categories of health care workers, community members, traditional healers and church leaders are included in this training. Other strategies used, are mass media radio and local television programmes, printed material, video, and posters to reach out the public in improving their health practices and health matters (National Development Plan, 1998).

## **2.6.3 Hospital services in Swaziland**

Hospitals are the highest level of health care provision in the four regions. The

staff of these hospitals attends to emergencies and referral cases from outlying clinics and health centers. These hospitals provide a comprehensive range of outpatient and inpatient services including rehabilitative services. Several specialist services such as urology, dermatology and highly specialized surgery are not offered in the country due to their high cost technology. Patients who require such services are either transferred to hospitals in South Africa or treated by specialists from South Africa on a special voluntary arrangement between the two Governments (National Development Plan, 1998).

There has been little developments of hospital facilities for several years as a result of the Government's inability to expand staff levels due to the high capital costs involved in the adoption of the primary health care strategy in 1983, which meant shifting resources towards less expensive facilities in the rural areas.

There are various limitations on the capacity of the hospitals to provide adequate services. In pediatric wards in the different hospitals, patients with different problems are mixed because of shortage of equipment, wards, beds and trained manpower (National Development plan, 1998). This practice implies that the needs of specialized groups of patients, for example pediatric patients, are often overlooked and neglected.

The present study is aimed at finding out as to what are the difficulties that hinder the provision of quality care to hospitalized children. Evaluation and monitoring of standards of care in pediatric wards can contribute towards improving standards of care irrespective of the present status of the health care system. The findings and recommendations from the study can be utilized at the relevant institutions in improving nursing care.

## **2.7 CONCLUSION**

There are numerous publications available on quality care. In this chapter an overview of research and information on the evaluation of quality care of

international countries and the Swaziland health care system is presented.

Literature was studied regarding different quality care models and the formulation and evaluation of standards and criteria. These studies were of great assistance in refining and redefining the research process in the present study and enriched the current study.

It further appeared that although much has been written regarding the topic under discussion, there is indeed a need for research to supply scientific standards and criteria to evaluate the standard of care in pediatric units in Swaziland. From the researcher's experience working in some of the pediatric wards, it also became evident that there are several dimensions to the attainment of quality service that need to be addressed.

In the following chapter, a detail discussion will be done regarding the methodology of the project, the procedures and strategies implemented for gathering and analyzing the data.

## CHAPTER THREE

# RESEARCH METHODOLOGY

### 3.1 INTRODUCTION

The previous chapter presented the theoretical background of the study and placed the research project in perspective. In this chapter an outline of the scope of this research project is given.

The different steps of the research process and the components of the research method will be described. The researcher will indicate how these different components are applied in this study.

Many researchers argue that this part of any research project is the most crucial part of the research project (Burns and Grove, 1997). For research to be considered as valid and reliable, the research method must be scientifically sound and well described (Clifford, 1990).

### 3.2 RESEARCH APPROACH

The research approach refers to the research strategies and techniques that were used to answer the research problem.

In this study a non-experimental approach was used, where exploratory and descriptive strategies were used to evaluate the standards of care in pediatric wards (Marshall and Rossman, 1995). It is assumed that this method will

enhance full understanding of the research problem, because it will reveal data regarding the problem and its importance in nursing practice.

### **3.3 RESEARCH DESIGN**

The research design reflects the overall plan for collecting and analyzing data, including specifications for enhancing the internal and external validity of the study (Polit and Hungler, 1983).

For the purpose of this study triangulation was used. Triangulation implies that there is a mixed approach applied to data collection and data analysis. There are different types of triangulation, of which data triangulation the most important type presents (Burns and Grove, 1997). In this study qualitative data was obtained by interviewing parents and/or relatives of the children and also through auditing of patients charts. Quantitative data will be collected through observation of nurses' interventions with children according to a set of standards and criteria. Johnson and Olesinski (1995) states that qualitative information often provides the necessary background to interpret quantitative data correctly.

Marshall and Rassman (1995) is of the opinion that triangulation increases the validity of the project. Clifford (1990) states that this approach enables the researcher to consider the phenomenon under study from different perspectives and also contributes towards developing a more complete picture.

The researcher also believes that employing a combination of both methods to collect data, will strengthen the study, add power to the findings, and enhance better understanding of the problem.

### **3.4 POPULATION**

A population refers to a total group or set of events to which your research

questions apply. The different subjects in the population share a specific set of characteristics or criteria that have been established by the researcher (Bailey, 1997). This implies all elements like individuals, procedures, items or events that meet the criteria, can be included in the study (Bailey, 1997). Population is thus not restricted to human subject's alone (Polit and Hungler, 1993).

For this study under discussion, "three sets of populations" were involved, namely:

- the four referral hospitals in Swaziland with pediatric units;
- all procedures performed in pediatric wards; and
- the parents or relatives who acted as caregivers to the child.

The specific hospitals present the highest level of care in the Swaziland health care system. As explained in chapter 1, all patients that cannot be managed at the clinics and or the health centers, are transferred to the referral hospitals. The researcher is also of the opinion that because these referral hospitals also is responsible for guidance to the clinics and centers, standards and criteria set for these referral hospitals, would be also applicable to other levels of care with minimal adjustments. The Swaziland Ministry of health governs all health facilities in Swaziland. All facilities are accessible by means of telephone communication and road transportation. The standard of facilities, equipment and supplies are similar between the different levels of care. The only difference between the institutions is the type of patients treated at the specific level.

### **3.5 SAMPLING**

A sample is a smaller subset of the population that is selected to participate in the project (Brink, 1996; Bailey, 1997).

### 3.5.1 Sampling methods

Two main types of sampling methods are described in literature, namely probability and non-probability sampling.

Probability sampling implies random sampling procedures, and the main advantage is that the subjects are truly representative of the population under study (Brink, 1996). True probability sampling is however only possible when the population can be accurately defined.

Non-probability sampling uses non-random procedures, with the main types including event, convenience, purposive, or network sampling (Burns and Grove, 1997).

The main objection of scientists regarding non-probability sampling is that the researcher can be biased towards certain subjects and this can exclude certain subjects of the population and eventually endangers the generalization of findings. In health research a general problem is that the population cannot be defined well and it is not possible to assure that every element of a population has some chance of being selected (Risser, 1975).

Burns and Grove (1997) states clearly that in one project, different sampling methods may be implemented because these methods are not exclusive, but complement each other.

The specific sampling methods for the different populations are explained as follows:

- **Hospitals**

As explained in chapter 1 and chapter 3, the researcher in consultation with managers and other experts, selected the four-referral hospitals for the study.

The whole population was thus included in the study. All four hospitals have a separate pediatric unit. The reason for including all four hospitals, was that the total number of available hospitals (N=4), is very small. If a sample would be obtained from this population, it would almost be impossible to make conclusions. Another reason was that the number of admissions per annum varies between 5,500 and 55,755 patients per annum (National Development Plan, 1998). The researcher was of the opinion that it could be argued that the number of admissions per annum is a major variable that can influence not only the type of facilities, equipment or supplies available, but also the quality of care, specifically relating to the process- and outcome standards.

- **Procedures**

Probability sampling would be impossible when the process standards, reflecting the specific procedures and care given to the children, are sampled. It is not possible to determine prior to the data gathering exactly the number of procedures carried out.

It is almost impossible to obtain an equal, representative sample regarding structure, process and outcome events. Non-probability sampling, specific event sampling, is preferable in these type of situations (Risser, 1975). With this type of sampling, gross distortions and biases can be prevented. Burns and Grove (1997) are of opinion that this type of sampling is also more economical and not a complicated procedure.

Event sampling, the approach selected for this research, is very suitable for infrequent events. It also minimizes the risk of missing events of interest to the researcher in comparison with other sampling methods (Polit and Hungler, 1993). Event sampling will be used for observing procedures. This approach will be applied in various stages throughout the project. This approach selects events of pre-specified types of observations. These observations to be done in the pediatric units of the four referral hospitals are recorded on a measurement tool

with pre-specified criteria. Since the researcher is an experienced pediatric nurse, her knowledge concerning the occurrences of pediatric ward procedures as well as the routine of the pediatric ward, will be of advantage and causes minimal disturbance for the children and the health personnel. The specific nursing procedures to be observed, were selected by studying pediatric literature and nursing indicators were drawn from it.

- **Sampling of relatives**

A non-random, convenient sampling method was done to get a sample of the parents and/or relatives of the children. This method was the only suitable method to measure the outcome of care as defined for the purpose of this study, and is also recommended by Thomas and Bond (1992). The three specific aspects the outcome standards reflects on, are the satisfaction with care, the knowledge regarding the disease and future treatment and the communication between the nursing staff and the parent and/or relatives.

The researcher is aware of the possibility that the findings in this regard may be biased, because only parents and/or relatives, who could visit the child, were included. However, the researcher is of the opinion that the parent and/or relative child who visits and often stays with the child is in the best position to judge the quality of care his/her child received.

The researcher did not only visit the hospitals during the day, but also during the evenings and weekends. Parents and/or relatives that could only be with the child during the evenings and weekends were thus not excluded from the study.

### **3.5.2 Sample size**

No hypotheses were formulated for this study that needed to be tested statistically. The population could also not be defined prior to the fieldwork.

Conventional methods of assessing the sampling size were thus not applicable.

The researcher used the concept of data saturation to determine the sample size. Brink (1996) and Polit and Hungler (1993) agree that this principle is accepted if the sample size is sufficient, the information gathered is clear and no extreme data has been obtained. Another reason why the researcher is of the opinion that this method is not a danger to the validity and reliability of the project is that the nursing staff working in the referral hospitals does not move around health institutions. Most of them were working for many years in these institutions. The findings regarding the way they carried out nursing procedures, were most probable a true reflection of how they work.

### **3.6 INSTRUMENT/DATA COLLECTION TOOL**

The instruments or data collection tools refer to the approaches used to collect data (Clifford, 1990). Instruments used in research must be clear in terms of the purpose, and the specific aspects to be measured. These instruments must be self-explanatory and enable future researchers to use (Burns and Grove, 1997).

The instruments used in this study were specifically designed for this study by the researcher after an extensive literature review relevant to pediatric care and quality patient care.

#### **3.6.1 Formulation of standards and criteria**

In Chapter 2 the researcher referred to the approach for standard setting as described by Bergman (1982) and Booyens (1993) where general or generic and specific standards are formulated.

The *general approach* is of a more epidemiological nature and is related to national standards. This means that the Ministry of Health and Social Welfare

can set national standards which nursing staff must adhere to. Additional to these standards, the professional body can also supply a set of standards for nursing practice. Nursing regulations serve to a certain extent as a broad set of standards.

The *specific approach* aims at formulating standards applicable to an institution, unit or individual patients and/or personnel.

In this research study the specific approach was used to formulate standards of care in the pediatric unit. Standards were formulated regarding the structure, process and outcome dimension of care.

➤ *Structure standards*

Hammermeister *et al.*, (1995) states that structure standards and criteria encompass the facilities, equipment, services and manpower available for care. It includes the credentials and qualification of the health care professionals involved. Katz and Green (1992) include also the organizational mission statement, philosophy and policies.

The following *structure* standard and criteria were formulated (Addendum A: Section A):

- ❖ **Adequate facilities, equipment, supplies, personnel, administrative support and organizational commitment enhance the delivery of quality nursing care in pediatrics.**

Criteria for this standard were formulated under the following headings:

- ☆ Availability of generic documents in the hospital
- ☆ Availability of documents in ward
- ☆ Ward out-lay
- ☆ Safety measures

- ☆ Equipment, supplies, trays and medication
- ☆ Supplies
- ☆ Personnel

The following *process standard* and criteria were formulated (Addendum A: Section B):

- ❖ **Nursing interventions are proficiently performed by skilled staff to promote the client's/ child's health status to ensure quality patient care.**

Criteria for this standard were formulated under the following headings:

- ☆ Handwashing
- ☆ Monitoring vital signs
- ☆ Monitoring intravenous therapy
- ☆ Oral rehydration therapy
- ☆ Naso-gastric tube feeding
- ☆ Administration of medication
- ☆ Pre-operative care
- ☆ Post-operative care
- ☆ Administrative procedures
- ☆ Nursing documentation

The *outcome standard* was evaluated by a semi-structured interview. (Addendum A: Section C):

Questions were asked regarding the following:

- ☆ Hospital ward – general appearance, outlay and safety
- ☆ Concern and caring of nursing staff
- ☆ Communication between parent and nursing staff
- ☆ Technical skill and competency of nursing staff
- ☆ Sympathy, understanding and attitudes of nursing staff

- ☆ Quality of information received including discharge information and
- ☆ Acknowledgement and respect for parent's rights to be actively involved in caring for his/her child.

### **3.6.2 Format of checklists**

The instruments used in this research study, included checklists for recording of the observations by the researcher, semi-structured interviews with the parents and/or relatives of the child, hospital and children's' records.

The instrument to collect data on the standards of care, consists of a checklist with standards and criteria for the structure, process and outcome dimension of care. The standard and criteria are indicated on the left-hand side and on the right hand side responses of yes/no/not applicable are indicated (Addendum A).

A "Yes" denotes adequate evidence to support an affirmative response. A "no" means inadequate evidence or absence of evidence. Item scores will be calculated by adding the cores in the columns of "yes". The score will be out of the total item score of that procedure evaluated and observations made. At the bottom of the total score, there a space is provided for comments.

### **3.6.2 Validation of standards**

From the literature study and consultations with experts in the field of quality assurance and pediatric nursing and based on the researcher's own experience in pediatric wards, certain main areas were identified for which standards and applicable criteria must be formulated. The basic needs of a child were used as point of departure. The researcher also collected data from the referral hospitals and obtained a complete patient profile. From these data the researcher could ensure that the standards formulated, would be suitable to evaluate the care of any child admitted to the pediatric unit of a referral hospital in Swaziland.

Concept standards were then formulated and experts in the field of pediatric nursing and quality assurance, were asked to review it for content validity.

Minor changes were made and the same group of experts were requested again to evaluate the standards and criteria for validity. The final standards and criteria were then formalized in an instrument.

### **3.7 PILOT STUDY**

The pilot study is a small-scale study that is conducted on a limited number of subjects from the same population as that intended for the eventual study before the main study (Brink, 1996).

The pilot study will give the researcher an opportunity to have a trial run of the methodology envisaged for the research project and pre-test the instrument. Observations, patient's charts and parents/relatives will be done at a children's hospital convenient to the researcher.

Objectives of a pilot study is undertaken to:

- determine the face and content validity of the instrument;
- adapt instruments in order to improve appropriateness, accuracy and clarity;
- assist in ensuring the reliability of nursing standards and criteria and;
- gain base line information of the attitudes of respondents regarding the research that could have an impact on the findings. (Marshall and Rossman, 1995).

A pilot study was conducted during April 1999. The findings of this pilot study are not included in the results discussed in chapter 4. Minor changes were made to

the instruments, making it easier to complete and understand.

During the pilot study the researcher found that oral derion therapy was a procedure often undertaken in the hospital. However, when doing the main study, it was found that this procedure is not a general procedure in all the referral hospitals. A possible limitation of the pilot study was that it was not conducted in a hospital similar to the referral hospital. The researcher is however of the opinion that this is a basic procedure that all nursing staff must be familiar and skilled with to educate the parents regarding the importance thereof.

### **3.8 PERMISSION**

The researcher requested permission from the Ministry of health to carry out the study in hospitals in Swaziland (see Addendum B). Permission will also be obtained from the individual regional hospital administrators to conduct the study in their hospitals (see Addendum C). The letters for obtaining permission will include:

- The aims and purpose of the study
- Topic of the study
- Data collection method
- Ethical considerations
- Length of time for data collection.

An individual consent from relatives of children was obtained after explaining the study aims and objectives to him/her. The researcher will assure respondents of anonymity, that information will be treated confidential, no personal details would

be included in the questionnaire. The hospitals will be coded instead of using their real names. The researcher will also explain to the respondents that participation is optional and they may withdraw from the study at any point without penalty.

### **3.9 DATA COLLECTION**

The process of data collection is of critical importance to the success of a study. Without high quality data collection techniques, the accuracy of research conclusions is easily challenged (Uys and Basson, 1991; Brink 1996).

#### **3.9.1 General procedure**

When the permission has been obtained from the organization board of directors through the hospital administrators, the researcher before implementing the research project, requested for an appointment with the chief matron of the relevant hospital. The researcher then introduced herself to the matron. The research project, aims, objectives and data collection as well as the time frame of the data collection in that hospital was discussed. The matron was requested to introduce the research project to the pediatric ward personnel, stating the date when the data analysis will commence.

On the first day of data collection, the researcher requested to be taken to the ward by the matron and a proper introduction with all the ward staff present, took place. This assured that a good rapport was created from the beginning of the data collection process. Johnson and Olesinski (1995) states that establishing a good rapport before entry to the field enhances cooperation and access to data and avoids technical problems.

Data was collected over a period of 8 weeks. In each institution a period of 2 weeks were spent. The researcher visited the hospitals every day from 07:00 till

17:00 and every second day till 23:00. The researcher chose these times to be available in the ward because the stipulated shift is considered to be the time that most interaction take place between the children and the nursing staff and the most nursing procedures take place during these times.

### **3.9.2 Methods of data collection**

Data was collected through observation, from patient's records and interviews with parents/relatives of admitted children. All data were recorded on the relevant tools.

The researcher utilized concurrent evaluation. The evaluation was completed during the child's hospitalization, using the patient records, parent/relative interview and direct observations. This approach enabled the researcher to collect more information sooner and potentially enables improvement of care for the specific patient for whom the changes in care are indicated (Ventura, 1980). Retrospective evaluation was also used when auditing the records.

*Observation of care* will be done during the delivery of care while it is being given in the ward in which members of the nursing staff interact with the children in nursing care will also be evaluated regardless of the level of nursing personnel providing the care.

Observation is a technique for collecting data on behaviour, events and situations. Structural observation involves specifying in advance precisely which behaviours or events are to be observed and how they will be recorded. This method of observation was used to obtain the quantitative measurements. Observation can also be categorized according to the degree of involvement by the investigator. Clifford (1990) outlines two types of participation, namely non-participation and participatory observation. Non-participation implies that there is no involvement with the research subjects, while in participatory observation, the fieldworker is directly involved with the subjects and environment. The nurse-

observer (researcher) when doing the observation will be at the child's bedside. This is the appropriate time to do the observation, because several interactions may occur during that period which could enrich the evaluation (Venture, 1980).

In many qualitative studies, the researcher observes social behaviour and may participate in social interaction with those being studied (Burns and Grove, 1997). This type of participant-observer has been opted in order to reduce the degree of the researcher's influence to the individuals being studied (Burns and Grove, 1997).

Another technique to collect data is *interviews*. With this technique, responses are obtained from a subject in a face-to-face encounter. Interviews are frequently used in exploratory and descriptive studies like the present study.

The parents/relatives of children to be interviewed were randomly selected. The person must have stayed with or visited the child in hospital for at least the first three days after hospitalization. The reason for this criterion, is that extensive nursing care usually takes place within the first three days after admission (Caller, 1996) and parents who were involved during this time with the care, would be in the best position to evaluate the care the child received.

Two types of interviews are described, the unstructured and the structured interview. The interviews for this study will be structured in nature so that the questions are similarly formulated and in similar order. With structured interviews, the role and influence of the investigator is minimized, there is less chance for bias on the part of the researcher and a more objective comparison of results is possible (Brink, 1996).

The language used during the interviews will be the language the subjects can understand, being English or Siswate. Siswate is the first language spoken in Swaziland. Interviews will take about 15 to 20 minutes.

*Patient and hospital records* were be used as a source of information that is

readily available. Clinical patient records and other hospital records will be used and relevant information will be extracted and recorded. The researcher assumes that care that has been recorded, was actually done, while no recording of information implies that the specific interventions did not take place. Although people can object to this assumption, it is an assumption generally accepted when working with health care records. The researcher realizes that the recording of a procedure or intervention does not reflect at all on the quality of the performance.

### **3.9.3 Recording data**

Data collected about each hospital were kept together in different envelopes. Each hospital will be given a code to be able to differentiate between the hospitals to enable the researcher to make sound conclusions (Burns and Grove, 1997). All the recorded questionnaires will then be kept in a safe place. No information will at any time be made available to any unauthorized person directly involved in the research study.

The responses obtained from the interviews with the parents and/or relatives of the children were recorded directly on to the interview schedule and the actual words and remarks of the respondents will also be recorded and transcribed during the data-analyzing phase.

## **3.10 RELIABILITY AND VALIDITY**

A valid instrument measures what it supposes to measure. In order for it to be valid, an instrument must match the depth and scope of its intended topic, it must be reasonable and understandable to its intended subjects and it must bear a measurable relationship to the characteristics or quality that it is intended to assess (Polit and Hugler, 1993; Burns and Grove, 1997; Clifford, 1990).

Validity has three dimensions namely face validity, content validity and construct validity. Content and face validity are the only types relevant in this study. Clifford states validity as the

*representivity or appropriateness of the items of an instrument and is derived from the expertise of content area specialists who can judge the relationship of the items to the entire content domain"*  
(Clifford, 1990).

Validity has been rigorously assessed to ensure quality in measuring and evaluating quality nursing care. This was done through an extensive literature search by the researcher and constructing the instrument thereafter. It was taken to experts in research studies and quality experts to evaluate content validity. Some changes were made after consultation with these experts in the three areas of measuring quality: structure, process and outcome. A pilot study was also being carried out to test these dimensions of validity before the actual study is begun.

Burns and Grove (1997) comments on the issue of validity and reliability and states that when explorative and descriptive studies are conducted, and no hypotheses are generated, the important factor is that the process, findings and conclusions must be credible and clearly described in order to enable any person to repeat the research. The credibility of the project is further reflected in the fact that similar results were obtained during the pilot study and no extreme observations were made.

The techniques of direct observation as a data technique can due to the Hawthorne effect, have a negative impact on the validity and reliability of a study (LoBiondo-Wood and Haber, 1997). In this regard Lobiondo-Wood and Haber (1997) states that when information is needed about human behavior and interaction, observation is the only way to ensure the validity of the findings. No other data collection tool can match the depth and variety of information that can be obtained when using observation as a technique. This technique can be a threat to people when finding out that the data of their behavior and performance

is collected for a research study. It was with this in mind that the researcher, although she is familiar with the hospitals, spent time with the matron and staff prior to commencing with the data collection. Bailey (1997) states that participant observation decreases many of the problems experienced with direct observation. However, this was not an appropriate alternative in this specific study.

Reliability in explorative studies as the one current under discussion can further be ensured if an in depth literature study serves as a point of departure for the development of the instruments and collection of data. Extensive consultation with experts throughout the research process and obtaining consistent data further enhances the reliability.

Although it is not always possible to limit the number of fieldworkers, Mason (1994) states that reliability of results can also be assured when the researcher acts as the only fieldworker, thus decreasing the possibility of inter rater-variability. In the study under discussion, the researcher acted as the only person gathering the data.

### **3.11 DATA ANALYSIS**

Data analysis is the process of systematically organizing the field notes, interview transcripts and other accumulated material to be able to interpret the data gathered in the research study (Clifford, 1990; Bailey, 1997).

As explained in the research design, both qualitative and quantitative methods will be used for data analysis. This technique of analyzing data is geared towards meeting the goals of the study. Burns and Grove (1997) states in this regard that combining different methods often produce a more insightful analysis of complex phenomena in comparison to when one method is used.

Quantitative data will be analyzed by adding up the raw scores on the checklists

and then it will be analyzed by means of the *EXCEL (MSOffice)* programme. The results of the descriptive analysis will be presented in table forms and graphs.

Different techniques can be used when analyzing qualitative data. The method chosen will depend on the goal of the study (Bailey, 1996). The data obtained from the interviews with the parents and relatives of the children, will be analyzed systematically. The questions used in the structured interview will serve as an initial organizing framework. The questions address the views of parents on the structure (physical facilities), process (competency of nursing staff when performing procedures, communication), and outcome (satisfaction, information received, involvement with care) of care and responses will be organized in one of these three dimensions of quality care.

### **3.12 CONCLUSION**

In this chapter a review was given of the research process. It was indicated to the reader that a non-experimental, descriptive and explorative design was chosen. Information will be obtained by means of observation, interviews and auditing of records.

Data will be collected during a twelve-week period and will be analyzed by descriptive methods.

In Chapter 4 the findings of the project will be presented based upon the methodology described in this chapter.

## CHAPTER FOUR

# RESULTS AND DISCUSSION

## 4.1 INTRODUCTION

The presentation and discussion of results are the crucial part of any research project. It is essential that the presentation be systematic, logical, concise and drawn from all the analyzed data. Furthermore results should be discussed in detail to reflect clearly on the problem being investigated (Woods and Haber, 1994).

The findings reported in this chapter are based on a study on the evaluation of standards of care in pediatric wards in Swaziland. In the previous chapters a detail outlay was given on the methodology and theoretical basis for this study.

## 4.2 PRESENTATION OF RESULTS

The results of the quantitative analysis are presented in the form of graphs and/or tables. A narrative description about the graph is also given. The results of the qualitative analysis are grouped under themes, or where appropriate, the direct words or paraphrased words are given. The researcher is of the opinion that by reporting results in this manner, better understanding of scientific information by, and good communication of scientific information to the research consumer, is enhanced.

Most of the results are only presented in percentage, except where the actual

number is important. Referring to percentage only, especially when discussing the standard of care as such, makes comparison between the different hospitals easier and discussion of the results more comprehensible.

The researcher was faced with a dilemma on what percentage to consider as satisfactory and should be used as a yardstick. The ultimate aim of quality care is optimal care and this would imply that a standard of 100% would be considered as effective. However, this would not be a realistic viewpoint. From discussions held in this regard with experts and colleagues in the field of quality assurance, it was decided to set 80% as the minimum level to be considered as a safe, effective level of care.

### **4.3 DISCUSSION**

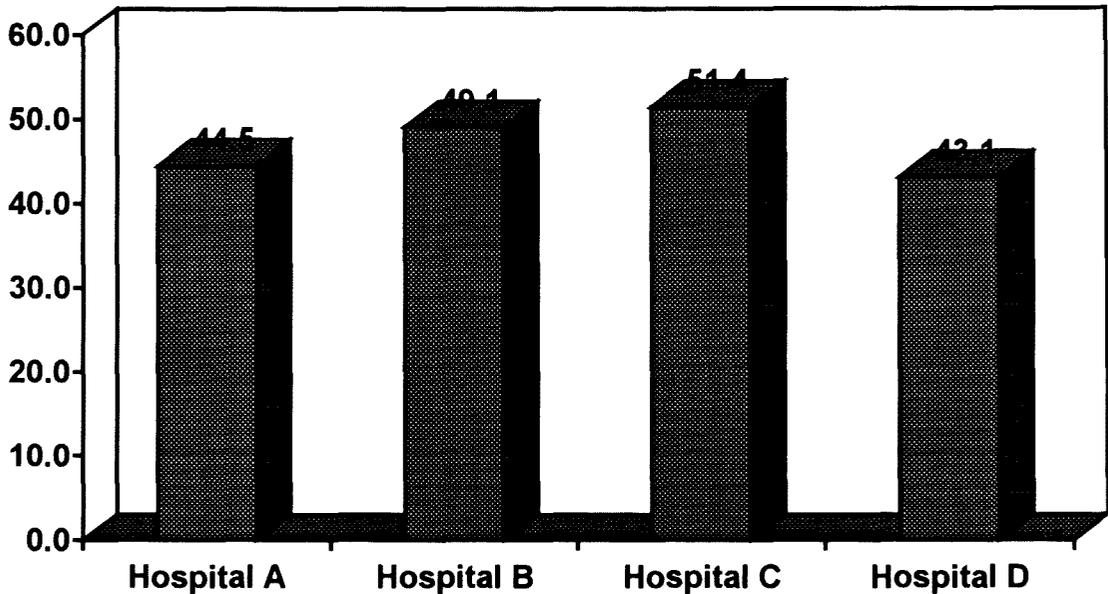
As follows thus is an in depth discussion of the results. The discussion will be done according to the:

- total standard of care followed by the
- three dimensions of the standard, namely the structure, process and outcome dimensions as it is organized in the instrument (Addendum A).

#### **4.3.1 TOTAL STANDARD OF CARE**

As explained in chapter 3, standards of care in pediatric units were evaluated according to the different dimensions of care. The quality of care when the three dimensions (structure, process and outcome) were collectively analyzed is reflected in Figure 4.1. None of the four hospitals obtained 80% or more, with a difference of 8,3% between the maximum and the minimum percentage.

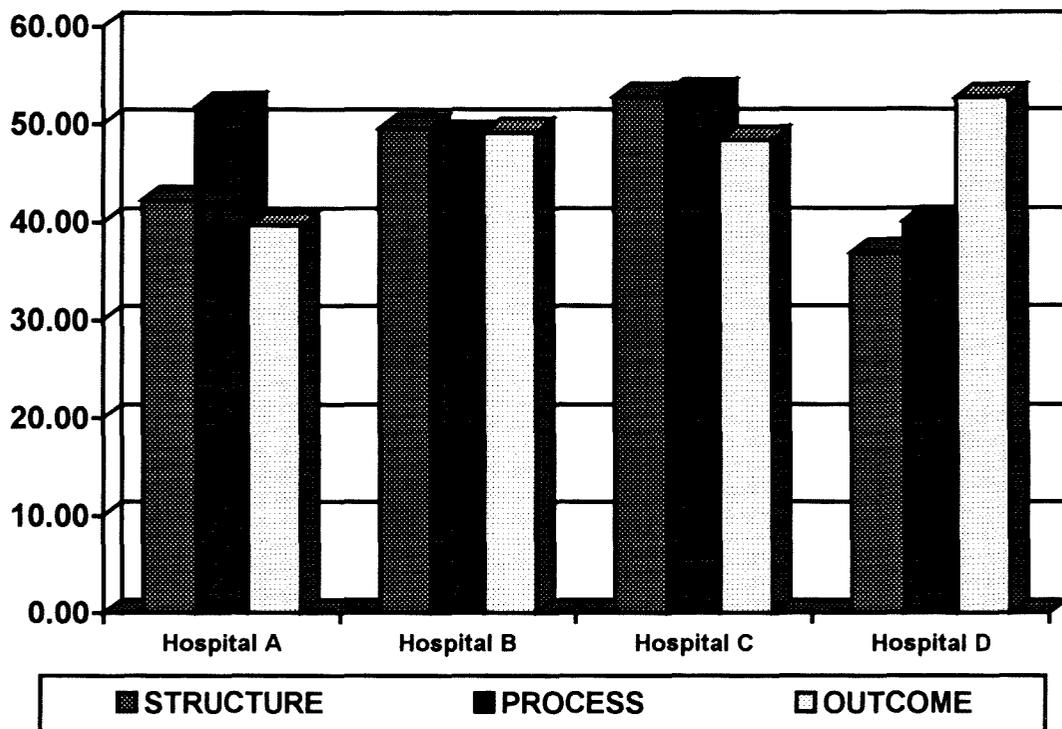
**FIGURE 4.1**  
**AVERAGE PERCENTAGE FOR TOTAL STANDARD**  
**N = 4**



When Figure 4.2 and Table 4.1 is analyzed, an interesting finding is that although Hospital B obtained the lowest percentage on the whole, it obtained the highest percentage for the outcome standard. The outcome standard reflected the satisfaction of the parent and/or relative with the care the child received. A possible explanation, that is also supported by the practice experience of the researcher, is that patients generally, if their needs are taken into consideration, they are respected by health care staff and is actively involved in their own caring process, and in the context of this research, an active participant in the care of their child, they tend to overlook deficiencies in other areas, for example the lack of facilities and equipment. It must not be forgotten that Swaziland is mainly a developing country and the people do not have expectations of sophisticated facilities and equipment. Currently there is no private hospital in Swaziland, implying that most of the patients do not have a 'better' example to measure their experience to.

**FIGURE 4.2**  
**TOTAL PERCENTAGE FOR STRUCTURE, PROCESS,**  
**OUTCOME STANDARD**

**N = 4**



**TABLE 4.1**  
**TOTAL PERCENTAGE**  
**(STRUCTURE, PROCESS, OUTCOME STANDARD)**

**N = 4**

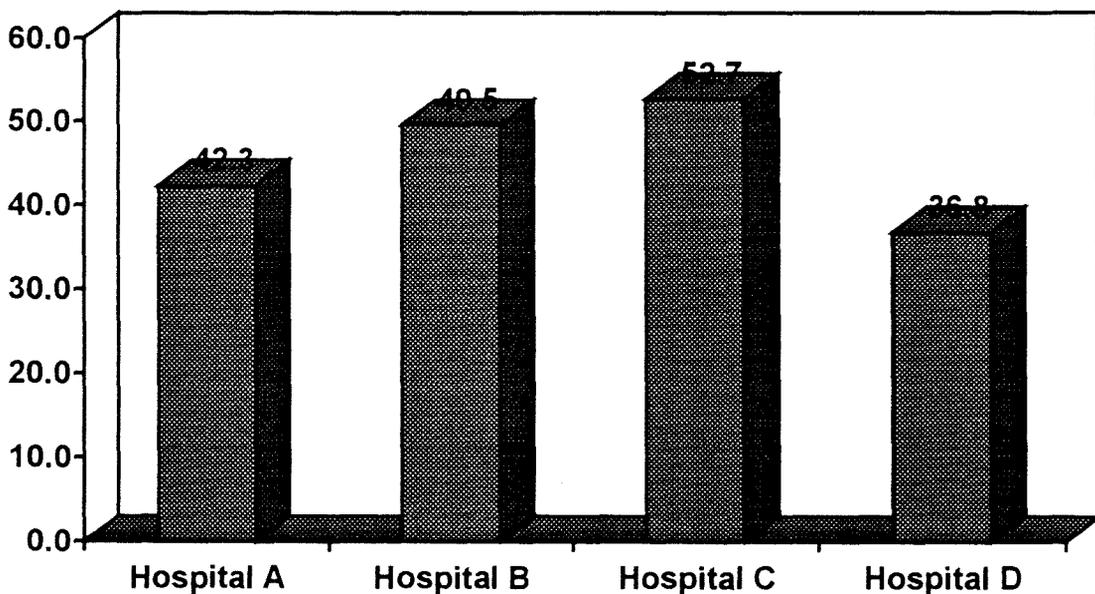
HOSPITAL	STRUCTURE	PROCESS	OUTCOME
A	42,3	51,7	39,6
B	49,5	48,8	49,1
C	52,7	53,1	48,3
D	36,8	40,1	52,6

It must be noted that Hospital D is the oldest of the regional hospitals. The hospital had just been upgraded with the final stages completed during the visit of the researcher. The researcher found that with the upgrading just finished, many of these documents have not yet been re-organized and put into place, explaining the low percentage this hospital obtained in this regard.

### 4.3.2 STRUCTURE STANDARD

The structure standard refers to the setting in which care occurs. It includes facilities, equipment and the availability of skilled personnel and policies (Addendum A).

**FIGURE 4.3**  
**TOTAL PERCENTAGE: STRUCTURE STANDARD**  
**N = 4**



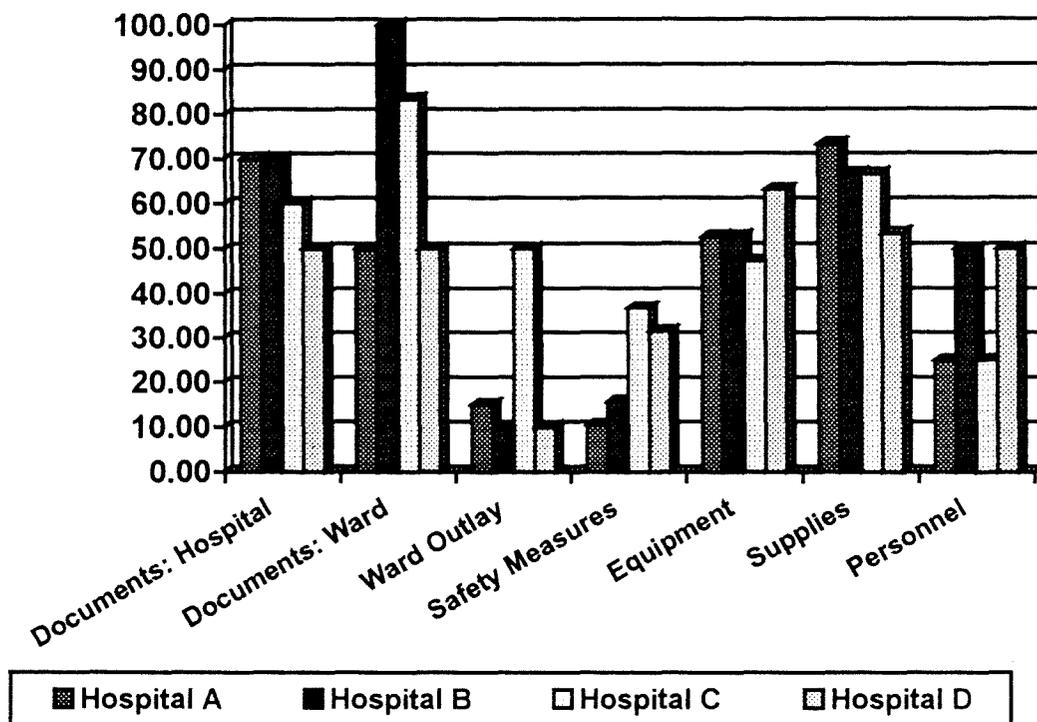
From Figure 4.3 it can be seen again that only one hospital scored more than

50% for these dimensions and no hospital met the pre-set requirement of 80%. The average percentage is 45,3%.

In Figure 4.4 and Table 4.2 the results regarding the different items evaluated as part of the structure standard are given.

**FIGURE 4.4**  
**STRUCTURE STANDARD: INDIVIDUAL ITEMS**

**N = 4**



**TABLE 4.2**  
**STRUCTURE STANDARD: INDIVIDUAL ITEMS**  
**N = 4**

ITEMS	HOSPITAL PERCENTAGE			
	A	B	C	D
Availability of documents in hospital	70,0	70,0	60,0	50,0
Availability of documents in ward	50,0	100,0	83,3	50,0
Ward outlay	15,0	10,0	50,0	10,0
Safety measures	10,5	15,6	36,8	31,5
Equipment	52,6	52,6	47,3	63,1
Supplies	73,3	66,6	66,6	53,3
Personnel	25,0	50,0	25,0	50,0

The different items as indicated in Figure 4.4 and Table 4.2 will now be discussed.

- *Availability of documents:*

As reflected in Figure 4.4 and Table 4.2, not one of the hospitals obtained 80,0% or more for this item. There is however a remarkable difference of 20,0% to 30,0% between the percentages allocated for the availability of documents in the hospital and the percentages allocated for the availability of documents in the ward. It appears that although the hospitals do have well written philosophies, objectives and policies, these documents are not utilized correctly.

The nursing staff is apparently not aware of the importance of these documents, or does not know how to integrate the content thereof in their nursing practice. In some hospitals the documents are available but hidden or locked somewhere in the cupboards. The following comment reflects the experience of the researcher in this regard:

*“Sister, please help the researcher, she is asking about certain documents, which I have never seen and I have no idea what she is talking about”*

This comment demonstrates to the researcher that possibly during orientation of new staff, or when staff changes between wards, proper orientation of all aspects, including documentation, is not done.

In none of the hospitals there were quality improvement and research programmes in place. Regarding the lack of research programmes, a general finding is that nursing staff is neither interested in participating in research, nor in applying research findings. A possible reason for this lack of interest can possibly be that research does receive minimal attention in the basic nursing curriculum. Gradually more nurses are obtaining degrees, where research is a major subject. As these nurses with advanced education are appointed in managerial positions, these programmes will hopefully be incorporated in hospitals. Another concerning factor is the lack of these programmes in the National Development Plan of Swaziland. Although it can be argued that the Government currently focuses more on primary health care programmes, the researcher is of the opinion that it is essential for any Government to officially acknowledge and underwrite the importance of these programmes in any institution.

The researcher also believes that nurses are key role players, who can initiate a tremendous change in the hospital environment if they are equipped with the necessary knowledge and skills. Nurses of today are challenged to expand their “comfort zone” by offering creative approaches to old and new health problems, designing new and innovative programmes that truly make a difference in the health system and for consumers (LoBiondo-Wood and Haber, 1997). This statement calls for nurses to engage in research in order to address health issues appropriately and scientifically.

It was encouraging to find that in three of the four hospitals the ward objectives

are displayed at the nurses' station. Hospital D had just been revamped and upgraded and the objectives were still being written at the time of the research. The procedure manual was also missing or misplaced in this hospital due to the re-arrangement, which had taken place.

- *Ward outlay:*

This item refers to the physical arrangement of the pediatric unit. From Figure 4.4 and Table 4.2 it can be seen that the percentage for this item was exceptionally low, with an average of less than 20% for this item.

Two of the hospitals, hospital B and C did not have a separate isolation room. However, this did not appear to be a problem since they have very few children with infections and communicable diseases treated in the regional hospitals. Melryk (1997) however considers an isolation unit to be essential in any pediatric unit to prevent possible transmission of infections, irrelevant of the number of infections reported. The nursing staff in these two hospitals were of the opinion that isolation rooms would be a waste of valuable space, specially since they experience a shortage of beds at times.

- *Safety measures:*

Figure 4.4 and Table 4.2 show that in all the hospitals investigated, less than 80% was obtained for this component, indicating that safety requirements were not

Toys in three of the hospitals met the structural requirements, however in none of the hospitals the toys are locked up when not in use. These toys are sometimes found lying on the floor, causing an obstacle and potentially injury because people can fall. Another concern regarding the toys lying on the floor is that the floor is a good medium for bacteria to multiply. The toys can become contaminated with these bacteria and children can become infected when putting the toys in their mouths.

It was disturbing to the researcher when evaluating the safety of the children concerning medicine cupboards. Two of the hospitals did not make use of medicine cabinets that can be locked, but use trolleys with open top and bottom shelves. This drew the attention of children to crowd around the medicine trolley when medicines were given. Since pediatric medicines usually have bright lovely colours, the researcher heard one child saying to the nursing handing out the medication:

*“Auntie (nurse), can I have that medicine, I have never drank it”*

This child was actually pointing to a bottle with Erythromycin® suspension.

Children can open and take whatever medication attracts their eyes or if the nurse is not careful enough to guard against taking medicine from the open medicine trolley while she is attending to another child.

Electrical outlets not being covered when not in use, seemed to be the norm in all the hospitals. It seems as if nurses generally do not recognize the dangers of these outlets. One nurse who originally trained overseas said:

*“I only saw the electric outlet covers when I did a post basic course, not here in Swaziland”.*

Sharps like used needles and razors were correctly disposed of in all the hospitals. Each unit has one box for the used sharps. The children are very safe in this regard, since they cannot gain access to the used needles and razors. When the boxes are full, they are taken to the incinerator of the individual

hospital, thus the safety of the children is ensured adequately.

- *Equipment:*

Although not one of the hospitals obtain 80% or more for this aspect, in comparison to some of the other items, the percentages were not so low as for some of the other items. Generally nursing staff argues their main problems causing them not to be able to deliver quality care, are the lack of equipment and supplies. In this specific research project it does appear as if it is not a problem.

However, all four hospitals have a problem of not properly maintaining and repairing broken equipment. Most of the sphygmomanometers were broken and while diagnostic sets were available in all the hospitals, they were mostly incomplete with some of the attachments either misplaced or disappeared.

The findings further illuminate the lack of very important equipment in any pediatric unit namely the resuscitation cart. Only hospital A and C had a cart, but it was incomplete. The American Academy of Pediatrics (1998) states that, it is crucial and threatens the quality of life of the children when a unit operates without a complete and readily available resuscitation cart. The other two hospitals have substituted a cart with an emergency tray with mainly drugs. These trays were however incomplete and/or the medicines were outdated.

Specialized pediatric procedures as lumbar punctures and venous incisions are not performed in the unit except in hospital A. This gives a possible explanation for not locating the specialized pediatric trays in the other hospitals. The staff of the operating theatres of the hospitals takes care of the specialized pediatric procedures in the other hospitals.

- *Supplies:*

The findings regarding this item were similar to the findings relating to equipment. It is interesting to note that again in comparison with other items, relative high percentages were obtained for this item. It appears thus that nursing staff in the referral hospitals has adequate supplies to work with. Where adequate supplies were not available, it was usually due to a nurse who forgot to order the necessary supplies.

- *Personnel:*

The American Academy of Pediatrics (1994) states that although design and physical characteristics do have a significant impact on the comfort and functionality of pediatric in patient units, the unit personnel's knowledge, skills, judgement and commitment ultimately determine the efficiency and quality of patient care.

It was discovered that in three of the four hospitals the number of nurse assistants was adequate. However sometimes they are used inappropriately to substitute registered nurses. Nursing assistants are generally hard workers and willing to take on any assignment. This is a major concern to the researcher, because a nurse assistant does not possess the same knowledge and skill level as a registered nurse, because their training are much shorter and different from that of a registered nurse. Manroe (1990) states that this situation consequently may impact negatively on the quality of nursing care provided to children in pediatric units. The practice to utilize nursing assistant in stead of registered nurses is very dangerous. The administration of medication in a pediatric ward requires skilled workers. Errors made when calculating the dosage to be administered and ignorance of side effects, can be life threatening in a pediatric ward.

It has been indicated that regarding the structure standard, various problems do

exist. As follows thus a discussion of the second dimension of standards, namely the process dimensions.

### 4.3.3 PROCESS STANDARDS

Process standards mainly refer to the content of care, including how the patient was moved into, through and out of the health care system and include also the services that were provided during the care episode.

Henderson (1969) said “... *nurses are responsible for providing a service to the individual that helps the person to attain or maintain a health state of mind or body; or where a return to health is not possible, the relief of pain and discomfort.*” She further emphasizes the importance of appropriate, effective and safe nursing procedures and actions with the aim of resolving the patient's problem, which has brought him to hospital for health assistance. Nurses form the majority of the workforce in any health institution; thus they tend to be responsible for providing most of the care in comparison to the other categories of workers.

In Figure 4.5 the average percentage obtained for the process standards is given. The average for all four hospitals was 48,4%. No hospital met the pre-set standard of 80%.

**FIGURE 4.5**  
**PROCESS STANDARDS: AVERAGE PERCENTAGE**

**N = 4**

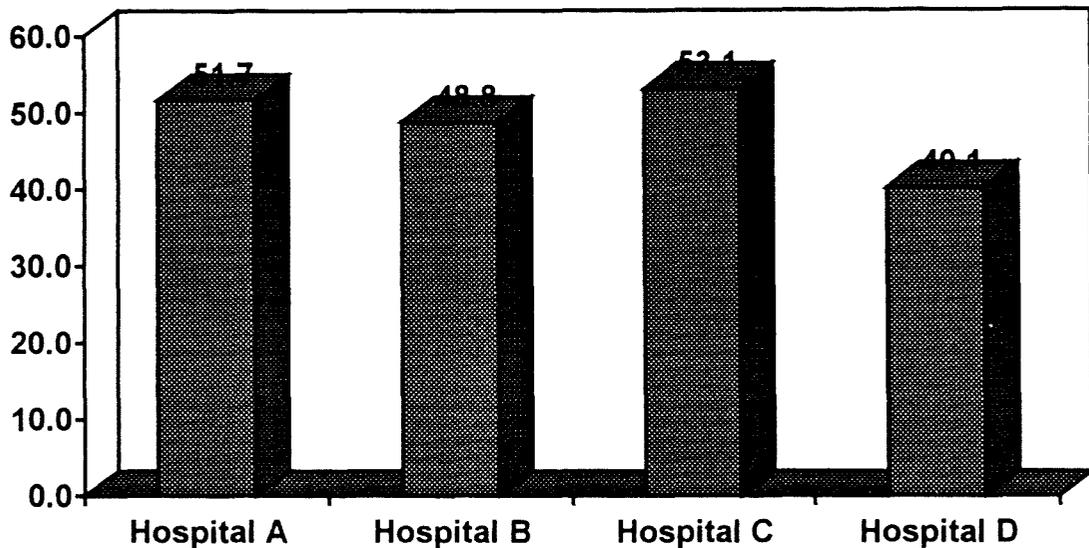


Table 4.3 reflects the percentages obtained for the different items and these percentages are presented in graphic form in Figure 4.6.

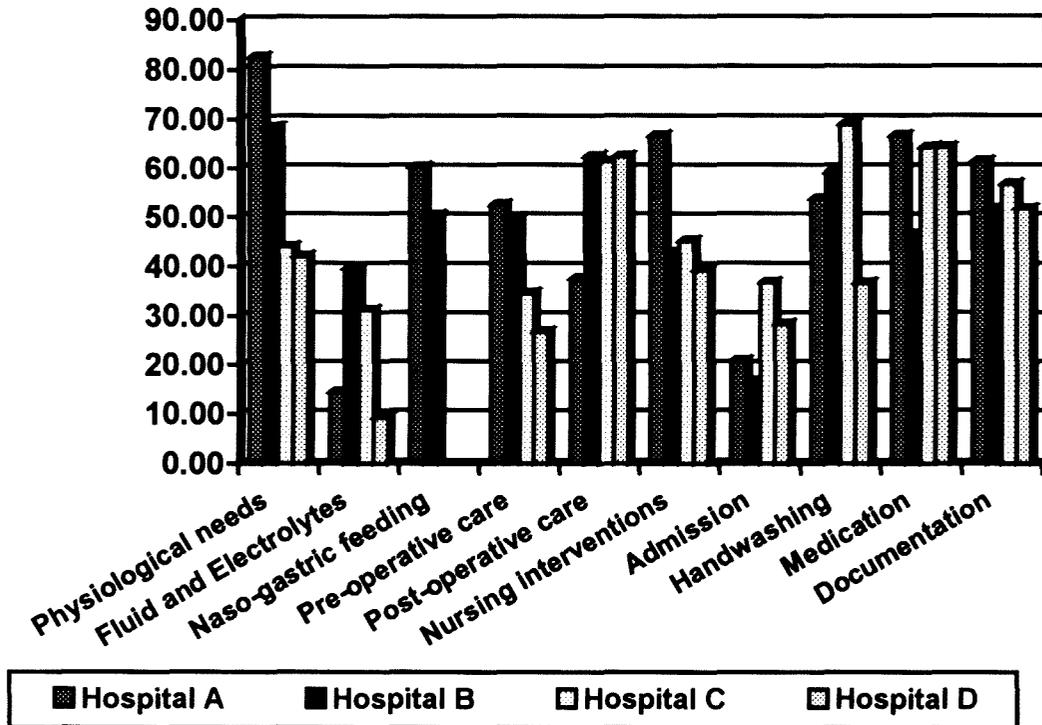
**TABLE 4.3**  
**PROCESS STANDARD: INDIVIDUAL ITEMS**

**N = 4**

ITEMS	HOSPITAL PERCENTAGE			
	A	B	C	D
Physiological needs	82,5	68,5	44	42
Fluid and electrolytes	14,5	39,5	31,2	9,3
Naso-gastric feeding	60,3	50,5	*	*
Pre-operative care	52,5	49,9	34,5	26,7
Post-operative care	37,5	62,5	61,4	62,5
Nursing interventions	66,6	42,8	45,1	39,2
Admission	20,8	16,6	36,7	28,3
Handwashing	53,8	59,3	69,2	36,6
Medication	66,6	46,6	64,3	64,3
Documentation	61,5	51,8	56,8	51,8

\* His procedure was not observed

**FIGURE 4.6**  
**PROCESS STANDARDS: INDIVIDUAL ITEMS**  
**N = 4**



It is interesting that hospital C obtained the highest percentages for both the structure and process standards (Figure 4.3 and Figure 4.5). The researcher is of the opinion that a possible explanation could be that hospital C is situated in a region very close to the Ministry of Health and its administration office in the capital city of Swaziland. This hospital tends to be used by high-ranking officials. It is not clear whether the staff tends to deliver better care, or whether it is easier to identify problems relating to quality care and address them immediately.

The individual items that need special attention draw to, as reflected in Figure 4.6 will now be discussed.

- *Handwashing:*

Handwashing is the most effective method of preventing and protection against many infectious diseases. This procedure is supposed to be done before and after each and every nursing procedure.

The results illustrate that this procedure is no longer considered to be important. Instead of washing their hands, nurses prefer to wear gloves to protect themselves when working with patients. The percentage fore this procedure varied between 36,6% and 69,2%. Although hospital D had the lowest percentage regarding this item, they had the highest percentage for the outcome standard (Figure 4.2). The reason why parents and/or relatives did not express concern in this regard is that they are not aware of the importance of this procedure.

The lack of carrying out this procedure routinely and replacing it by using gloves, is very concerning, as gloves cannot replace proper disinfecting of the hands.

- *Attending to physiological needs:*

Physiological needs in this study refer to temperature, pulse, respiration and blood pressure measures (Ulock, 1977). The measures are performed with certain equipment that must be clean, in working order and complete. These vital signs represent the functioning of the vital organs of the human body. When a child is sick, the function of the heart and lungs are frequently disturbed.

If vital signs are taken accurately, they provide the nurse with an estimate of the physiological status of the patient and provide important data to base decisions on regarding treatment of the patient (Brunner and Suddarth, 1982).

The percentages regarding this item were less than 80% for all hospitals. Not one of the hospitals had well prepared trays with thermometers, cotton balls,

cleaning solutions and recording books. There is also no standardization regarding the items needed to be included in the equipment when assessing vital signs. Each hospital compiles its own tray.

On observation it was noted that nurses often insert thermometers in the mouth and/or rectum of two to five patients simultaneously. The thermometers are collected at different times in one hand and then taken for recording. This raises a real concern as to how the nurse will be able to identify the individual's reading from the rest of the thermometers.

- *Monitoring fluid and electrolyte balance:*

Intravenous fluid therapy is a common practice in hospitals today. It forms a cornerstone of nursing interventions and is essential for sustenance of life (Dyk *et al.*, 1994).

The findings of the evaluation of this procedure indicate that nurses do not know how to regulate the rate of intravenous infusions. All four hospitals obtained far below 80% with an average of 23,6%, a minimum of 9,3% for hospital D and a maximum percentage of 39,5% for hospital B.

It is a real concern to the researcher that the infusion rate is not regulated as ordered by the physician. Inappropriate infusion rates can lead to potential harmful effects such as overloading of the circulatory or pulmonary system and may lead to pulmonary edema.

- *Food and nutrition:*

It was observed that all hospitals except hospital C do not have an area for rehydration of children. It was observed though that sometime previously these hospitals used to have an area where mothers while assisted by nurses offered

dehydrated children oral rehydration therapy. The equipment for this procedure was observed to be missing, scattered throughout the unit or used for other purposes. The chairs to be used by the mothers are used for visitors elsewhere in the unit. The situation in hospital C was exceptionally good in this regard. The cubicle set aside for rehydrating children is in a proper functioning condition with all the articles available and a nurse is assigned eight hours a day, seven days a week to this cubicle. The researcher thought that a possible reason for the lack of a proper functioning area for rehydration could be that this procedure is rather done at the health centers or clinics. However when questioning the nurses about this, their answers were that there are not sufficient equipment or staff to allocate only to this procedure.

- *Administration of medication:*

Magurek *et al.*, (1997) stresses that it is a serious responsibility when administering medication to a child. The possibility of medication errors is greater in children as compared to adults in terms of the dosage.

The hospitals observed obtained percentages of more than 60% with the exception of hospital B who scored only 46,6% for this item. Each hospital had its own unique time schedule and charting of medication.

Administering medication to 48 children was observed in the different hospitals. During 75% of these procedures observed, one or more of the crucial rules regarding the administration of medication were ignored, for example not checking whether it is the correct child, dose or correct route. Medication is not always recorded immediately after administering it and before continuing to the next child. In hospital B more than one nurse gives out medication. They administered medication to children in different cubicles simultaneously. This is done to suite the nurses in terms of time containment, but when looking at the children's safety, a lot of errors in charting could occur.

- *General procedures – admission:*

When a child is admitted into hospital, both the child and the parent experience a certain degree of anxiety of the environment and hospital personnel irrespective of the child's diagnosis (Mark and Burleson, 1995; Aasland *et al.*, 1998). Most of the time nurses overlook the most important and simple task of creating a warm and welcoming environment by introducing him/herself to the child and accompanying person. This may be due to the fact that they have one this repetitively during their practice. However, this reason is unacceptable because it is essential to treat each patient as a new unique individual.

The findings also indicate that an incomplete assessment is done on admission. Only the temperature is often assessed and sometimes also the weight of the child. This implies that an incomplete database is obtained, making the detection of changes in the functional status of the child almost impossible, and this can even lead to misdirection of the care for the particular child.

- *Nursing documentation:*

The completeness and quality of documentation of nursing care rendered by children was assessed retrospectively by auditing the child's records. Records according to Booyens and Uys (1989), is the only reflection of what has been done and what has not been done to the particular patient.

For this aspect of care, the percentages varied considerably for the different aspects with the lowest percentage being 23,7% and the highest percentage being 100%.

In table 4.4 the percentages for the different aspects of this item is broken down. The researcher audited 112 records, 28 patients' records in each of the four hospitals.

**TABLE 4.4**  
**PROCESS STANDARD: RECORDKEEPING**  
**N = 112**

ITEMS	HOSPITAL PERCENTAGE			
	A	B	C	D
General aspects	55,0	53,0	53,5	55,0
Admission data	24,9	27,7	39,5	23,7
Baseline data	41,4	37,1	50,0	44,2
Records reflecting changes in child's condition	67,8	54,1	64,5	69,0
Records are accurate reflection of reality	100,0	72,1	66,6	85,7
Nursing prescriptions are updated appropriately on nursing care plan	79,9	66,6	66,6	33,3

Although the incompleteness of the records regarding admission and baseline data, is concerning, the researcher comments positively on the relative high percentages obtained for the accuracy of the records in terms of reflecting effectively on the child's condition and progress.

In Table 4.4 the percentages regarding the individual aspects of records are given. The discussion will take place under the heading of *records*.

In Figure 4.6 the percentages are indicated for this item collectively, indicating a minimum of 51,8% and a maximum of 61,5%. However, when this item is broken down into the different aspects as indicated in Table 4.4, it can be seen that the minimum percentage was 23,7% and a maximum of 79,9% for certain aspects. It is interesting though that the apparent ignorance of this important aspect did not influence the parents and/or relatives negatively. The outcome percentages will indicate that in all the hospitals the parents and/or relatives were satisfied with how they were treated during the admission procedure.

Baseline data refers to the recording of biographical data such as age and

contact details of parents and/or relatives and physical data such as vital signs, weight and health problems. This particular record is very important to the nurse to facilitate future planning of nursing care of the child. Hospital C scored 50% while the other hospitals scored less than 50% for this aspect. This is very concerning to the researcher because the records serve as communication between the nursing staff when changing shifts and valuable information impacting on the child's progress can be lost.

Regarding the recording of progress data, which reflects on the documentation of the child's problem, care plans and recording of changes in the child's condition, (indicated as the last three items in Table 4.4), the percentages varied between 33,3% to 100% between the different hospitals. A positive remark is to report that events are recorded chronologically in the records and nurses use scientific language when recording.

Other aspects to be mentioned regarding record- keeping, includes:

- nurses added their professional registration correctly when signing in the records as required;
  - physical baseline data for example weight, blood pressure, findings of physical examination and previous history of illness were mostly not documented;
  - data on allergies of the child was mostly lacking and
  - nursing care plans in all four different hospitals are either not done at all, or are incomplete.
- 
- *Peri-operative care:*

Peri-operative care includes pre- and post-operative care. Table 4.5 indicates the results regarding this item.

**TABLE 4.5**  
**PROCESS STANDARD: PERI-OPERATIVE CARE**  
**N = 38**

ITEMS	HOSPITAL PERCENTAGE			
	A	B	C	D
Pre-operative care	52,6	47,4	31,6	23,7
Post-operative care	36,8	63,2	60,5	63,2
<b>AVERAGE</b>	<b>44,7</b>	<b>55,3</b>	<b>46,0</b>	<b>44,6</b>

The results of this item as reflected in Table 4.5 are very concerning. Being referral hospitals, all patients in need of surgery are referred to these hospitals. Regarding the pre-operative care, it was further alarming that baseline data is most of the time either not done, or not recorded. This implies that if a serious problem, even a possible allergy exists, the theatre staff would not be aware of it. Post-operatively vital signs are not taken as prescribed, also a cause for concern, because potentially deterioration in the child's condition would be undetected.

#### 4.3.4 OUTCOME STANDARD

For the purpose of this study, two aspects were evaluate as part of the outcome standard, namely the:

- satisfaction of the parents and/or relatives with the care the child received and
- the scope and completeness of the discharge information received from the nursing staff regarding the caring of the child after discharge.

The outcome standard of care regarding the outcome covers the patient's experience of their admission, stay, discharge and their overall impressions of the care given (Davis, 1999). Since subjects of this study involved children who are below twelve years, the parents and/or relatives' perceptions regarding the

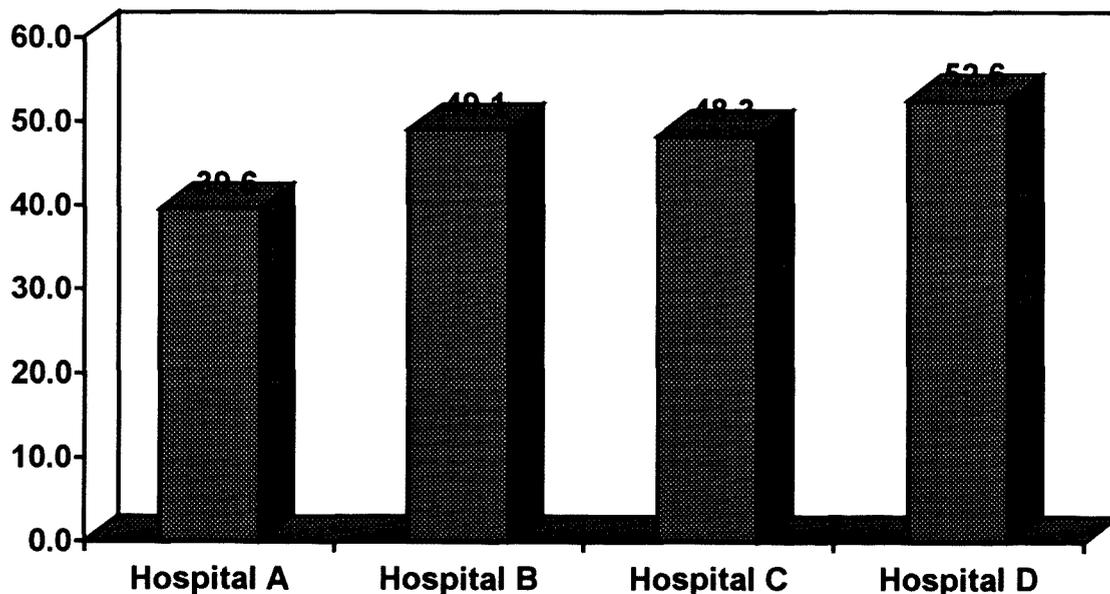
care of the children, were used. The parents and or relatives are the persons who must act on behalf of the child. Parents and/or relatives were interviewed regarding their satisfaction with:

- the physical environment;
- treatment of the child;
- relationships with the nursing staff;
- information received regarding the condition of the child and
- information received on discharge of the child regarding management of the child after discharge.

In Figure 4.6 the percentages for this standard is given for the four hospitals.

The child is a dependable person. The relatives are responsible for sustaining their lives. Care cannot be considered to be of high quality unless patients and parents or relatives state that they are satisfied (Mark and Burleson, 1994; Davis, 1999). In the light of this it is a concerning factor that no hospital met the preset value of 80%.

**FIGURE 4.7**  
**OUTCOME STANDARDS: INDIVIDUAL ITEMS**  
**N = 4**



**TABLE 4.6**  
**OUTCOME STANDARD: INDIVIDUAL ITEMS**  
**N = 84**

ITEMS	HOSPITAL PERCENTAGE			
	A	B	C	D
Satisfaction with physical facilities and equipment in ward	53,6	61,9	47,6	63,1
Discharge information	9,5	8,3	22,6	29,8
Communication between staff and parents	57,1	78,6	75,0	66,7

This reflects that apparently nurses did not meet the parent's expectations on the care of their children and the needs of the parents and/or relatives are not well addressed by the health workers.

When the different aspect regarding the outcome standard are analyzed as shown in Table 4.6, it can be seen that generally all the hospitals achieved a very low percentage regarding the satisfaction of the parents and/or relatives with the quality of the discharge information they received.

The responses of the parents and/or relatives regarding the different items in Table 4.6 will now be discussed.

- *Satisfaction with physical facilities:*

Respondents expressed dissatisfaction regarding the mattresses in the ward, because they were dirty. In hospital A the respondents also complained about the bedside lockers that could not be locked, was very dirty and could not close properly.

One mother said:

*"I am hurt because one child came to ask for juice which*

*was placed on the locker, because it could not be put in the locker, I had to pour for her, yet this juice was bought by the father of my child to pacify my child when crying”*

Generally interviewees expressed poor satisfaction with the cleanliness in all the hospitals. Hospital C had a major problem with cleanliness because it was always overcrowded, making cleaning very difficult.

- *Discharge information:*

The interviewees were asked about the information they received regarding the:

- medication;
- disease recurrence;
- possible complications and
- treatment.

All of the interviewees expressed a need for more information. The findings are concerning for this aspect of care. One of the fundamental roles of the nurse is that of being an educator. Generally teaching or information giving to patients pertaining to health problems is lacking. More than 90% of the parents and/or relatives stated that though they know the diagnosis of the child, they have little information or insight of the disease. This was evidenced by the fact that most parents and/or relatives lacked information concerning the complications of the disease, or the disease process.

Parents have a right to information related to their children's disease. One old grandmother raised her concern and said:

*“I always rely on you nurses, but now I see, you are right my child. These nurses are not harsh per se, but seemingly they are withholding some information, because whenever the doctor checks my child, the nurse and the doctor talks for a long time, but the nurses never talks a long time when talking to me”.*

- *Communication between staff and parents and/ or relatives*

Parents were reluctant to appear critical of the hospital staff but when given an opportunity to tell their whole story and to explain problems they had experienced in context, they provided the researcher with detailed accounts, which suggested dissatisfaction with some aspects of the services. This is in agreement with Callery and Luker (1996) who stated that people tend to be very reserved with criticism when their opinions are requested.

The parents were also reluctant to explicitly judge the technical quality of care to their children even when the child had been hospitalized for longer periods. A possible explanation for the reluctance of parents to give detailed information could be that they do not know their human rights, their right to quality care and their right to health related information and care by skilled workers. This can at least partly be contributed to many parents' low education level, a finding supported by Burke *et al.*, (1997).

Findings referring to the answering of the telephone highlighted this aspect as one of the main reasons for dissatisfaction by parents. Parents mostly are reluctant to allow nurses to inform their relatives about the child's progress. They verbalized that nurses are not the whole time with the children as they as parents do, and give the wrong information to relatives.

#### **4.4 CONCLUSION**

In chapter 4 a detailed discussion of the results was done. The results were discussed according to the different dimensions of standards, namely the structure, process and outcome dimension.

In chapter 5 the main conclusions and recommendations will be given.

## CHAPTER FIVE

# CONCLUSIONS AND RECOMMENDATIONS

## 5.1 INTRODUCTION

In the previous chapters the research process was discussed in depth, as well as the theoretical background on the topic of the research. In chapter 4 the results were presented and discussed. In this chapter the most important aspects of the findings will be highlighted and given as conclusions after which the recommendations will be made.

## 5.2 LIMITATIONS

Prior to presenting the conclusions and recommendations, the limitations of the study must be discussed. Theoretical and methodological restrictions in a study may decrease the generalization of the findings, according to Burns and Grove, (1997).

- *Period of time spent in the field:*

The researcher had three months available for fieldwork. This relative short period was due to financial and other logistical reasons. This could be the reason why certain observations could not be made, because no children were admitted with the problem, which warranted specific nursing procedures.

However, most of the standards and criteria were applicable for all types of patients, thus the researcher are of the opinion that this factor was not a real threat to the validity of the study.

- *Use of referral hospitals as only research institutions:*

Though only four hospitals, namely the referral hospitals were used, the hospitals from each of the regions of the country were included. These hospitals serve as referral centers for health clinics and health centers and are said to provide technical and clinical support for all outlying health units (National Development Plan, 1998). Due to a very close working relationship between these referral hospitals and the centers and clinics associated with the hospitals, the researcher is of opinion that the quality of care in the referral hospitals, is possibly similar than that in the clinics and health centers.

- *Number of observations:*

The number of observations done may appear little. However, the concept of data saturation was applied. The researcher continued observing a specific procedure till no new data was revealed. This technique to discontinue data gathering when information being obtained becomes repetitive is supported by other researchers (LoBiondo-Wood and Haber, 1997). The rare procedures could not be obtained for observation.

Another reason why the researcher feels comfortable with the technique of data saturation to determine the sample size is that Swaziland is a relative small country and there is minimal mobility of nursing staff. It thus implies that the nursing staff tends to make the same mistakes and one can assume that they will continue in the same way the researcher observed them.

- *Effect of direct observation as a data technique:*

LoBiondo-Wood and Haber (1997) states that if the study is designed to obtain substantive findings about human behavior, observation is the only way to ensure the validity of the findings. No other data collection can match the depth and variety of information that can be collected when using this technique, according to LoBiondo-Wood and Haber (1997).

The direct observation technique was however found to be a threat to some of the nursing staff under observation, especially when they discovered that data of their behavior was being collected for a research study. The researcher is of opinion that the data obtained, is still a true reflection of their everyday practice, and at no time got the impression that they try to work correctly because of her presence. This view is confirmed by the fact that the same problems occurred with every procedure observed as part of the process standard.

- *Reliability:*

The researcher as explained in chapter 3 constructed the instrument for the purpose of the study. Since this was a new instrument, it is not possible to state its reliability. There is however reasons for the researcher to believe that the checklists do have credibility:

- the results obtained during the pilot study indicated similar trends as the data obtained during the fieldwork;
- no extreme observations were observed during the fieldwork;
- an in-depth literature study was conducted prior to developing the checklists and this formed a sound theoretical basis;

- where observations and interpretations were made that could be biased, it was checked with a second person prior to recording it and
- experts in the field of quality assurance and standard formulation were consulted when constructing the instrument and during planning the research project.

### 5.3 CONCLUSIONS

Burns and Grove (1997) states that conclusions are the synthesis and clarification of the meaning of the study. The conclusions of the study will be based upon the objectives of the study as set out in chapter 1.

- *OBJECTIVE 1:*  
**Formulation of standards of care for pediatric wards in Swaziland referral hospitals.**

Kemp and Richardson (1987) support the belief of the researcher that the formulation of standards with appropriate, observable, achievable, measurable and desirable criteria is essential for any institution planning to develop and implement a quality assurance programme.

Various models exist for the format in which standards must be written. The researcher selected the well-known Donabedian model (1969) and formulated standards and criteria for the three dimensions of care, namely the structure, process and outcome dimension.

The researcher believes that these standards must have integrity for the nursing staff working in the institutions in Swaziland and based the standards on an extensive literature study consultation with peers in the nursing profession and experts in the field of standard setting and quality assurance.

The instrument was also pilot tested prior to the evaluation phase.

The instrument used for this research can be used for evaluating the standard of care. It provides a checklist for internal auditing and can reveal important information when used correctly.

- **OBJECTIVE 2:**  
**Evaluation of the quality of care according to the pre-set standards.**

The pre-set standards were used to evaluate the quality of care regarding the structure, process and outcome standard.

The research findings as explained in chapter 4, revealed a sub optimal level of care. No hospital achieved the desired level of 80% as decided upon and explained in chapter 4. The results indicate that the majority of hospitalized children received unsatisfactory nursing care. The nursing care delivered in pediatric units in referral hospitals in Swaziland presently seems to be a “trial and error” situation. The lack of standards of care, inappropriate staffing composition and attitudes of nursing staff regarding quality care, contributed largely to the unacceptable quality of nursing care.

The low percentages scored for the process dimension were not surprising if compared to other research studies. Kemp and Richardson (1990) and Mason (1995), states that nursing interventions or procedures contain the process standards that define the actions done by the nurse to, for or with the patient. Nurses are however not performing these procedures the right way, but try to use ‘short cuts’. This may be explained by the limitation of resources and increasing demand for quality services. The demand is greater than the supply, and/or there may be less experienced qualified children’s nurses available to care for the children with complex health needs as often found in the regional hospitals. Carter and Dearman (1995) believe that nevertheless lack of resources, nurses when performing procedures should consider quality assurance as a priority.

When a nurse harms a child by delivering care below the acceptable standard, the parent and/or relatives may sue the nurse and hospital for negligence (Carter and Dearman, 1995).

It is indeed a great concern that in all the four regional pediatric wards, nursing procedures were either not done at all, or when they were done, it was not done correctly and completely and the level of care rendered, was not satisfactory. Confidence in professional standards of care is essential because parents entrust their children to the nurses' care. This implies that the nurse has a legal and ethical duty to care for the child in the most professional and best way possible, a viewpoint also expressed by Carter and Dearman, (1995).

The referral hospitals like all pediatric units, regardless of the size are supposed to be furnished and equipped appropriately with adequate supplies and human resources. (Committee on hospital care, 1998). Findings indicated that although the equipment and supplies in some hospitals were adequate, one of the major problems was the inappropriate allocation of nursing assistants to tasks normally performed by registered nurses.

- *OBJECTIVE 3:*  
**Evaluation of the parents' and/or relatives' satisfaction**

Parents and/or relatives expressed dissatisfaction with the physical facilities. However, they were initially very reserved to comment. Ethically, the principles of justice and equity are central to the allocation of resources. The current political situation has however resulted in the disregard of the individual's wishes. This could be one of the reasons why the parents did not comment on certain aspects.

- **OBJECTIVE 4:**  
**Identification of the parents' and/or relatives' knowledge of caring for the child after discharge**

The findings of poor discharge information given to parents further indicated that one of the nurse's roles of being a health educator, is considerably and clearly missing. Parents had a lack of basic health knowledge and more specific knowledge on the child's condition and how to promote health once the child has been discharged. It is important for the welfare of children to disseminate information to parents and empower the parent. Nurses have more continuous and intimate contact with children and parents than doctors. They are expected to be equipped and ready to meet not only the needs of the illness, but also the needs of children and parents for explanations and comfort.

## **5.4 RECOMMENDATIONS**

Recommendations are made based on the findings in chapter 4 and the conclusions in chapter 5.

### **5.4.1 Research**

Further research extending the study to other levels of the health care system need to be conducted.

### **5.4.2 Developing and implementing a quality assurance programme**

Health care authorities must plan and implement a quality assurance programme in clinics, health centers and referral hospitals in Swaziland. The core of this

programme must be a formalized set of structure, process and outcome standards and criteria for each unit, similar to what has been done in this research project.

As part of the quality assurance programme, regular audits of records and care must be conducted. This can be done internally by involvement of the staff during all stages and will enhance group cohesiveness. With support of administration, nurses must and can become enthusiastic on the subject of quality improvement by competing with other units (Katz and Green, 1992).

Nurses must be encouraged to revisit their nursing procedure books and "*...learn to do things right the first time...*" (Booyens, 1993; Katz and Green, 1992).

Staffing is a crucial component of any quality assurance program. The Committee on hospital care (1994) recommended nursing staff ratios used in this study. Understaffing of registered nurses might have contributed to sub-standard of care in the hospitals studied and thus contributed to poor patient outcomes. It is thus crucial that this aspect needs to be addressed urgently.

### **5.4.3 In-service training**

In-service training should be provided. The nurses themselves must identify specific learning needs. Staff should be permitted to attend suitable symposia and regular meetings regarding quality assurance.

### **5.4.4 Active participation by parents**

Parents must be considered as members of the multi-professional team and be actively involved in the care of children. By encouraging parents and/or relatives to develop their knowledge and skills, they become empowered and more independent of health professionals. Empowering parents with the vital

knowledge through patient education and information pertaining the disease process, complications and appropriate treatment, can prevent unnecessary re-admissions and complications (Kemp and Richardson, 1994).

## **5.5 CONCLUSION**

In Chapter 5 general conclusions based on the research conducted, are presented. These conclusions must be interpreted in the light of the limitations set out. The recommendations are based on the findings and subsequent conclusions.

## **5.5 SUMMARY**

A study was conducted to formulate standards of care and evaluate the quality of care in the referral hospitals in Swaziland. The findings were mostly negative regarding all three dimensions (structure, process and outcome) of care. Recommendations were made on how to address these problems.

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**ADDENDUM A**

**STANDARDS OF CARE**

**INSTRUCTIONS:**

Y = Yes; correct; complete

N = No; incorrect; incomplete

NA = Not applicable

## **ADDENDUM A**

<b>CHECKLIST FOR RECORDING EVALUATION OF STRUCTURE AND PROCESS STANDARDS</b>
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The checklist consists of three sections:

SECTION A:           STRUCTURE STANDARD AND CRITERIA

SECTION B:           PROCESS STANDARDS AND CRITERIA

SECTION C:           OUTCOME STANDARDS AND CRITERIA

SECTION D:           SEMI-STRUCTURED INTERVIEW

### **INSTRUCTIONS TO COMPLETE:**

- **Criteria applied with:**           Tick (x) in Yes(Y) column
- **Criteria not applied with:**       Tick (x) in No(N) column
- **Criteria not applicable:**         Tick (x) in Not Applicable(NA) column

### **CALCULATIONS:**

1. calculate the total of criteria for each substandard by subtracting the number of Not Applicable items
2. count the total number of items in the YES column

<b>calculate percentage</b>	
<b>NUMBER OF ITEMS IN YES COLOMN</b>	<b>X 100%</b>
<hr style="border: 0.5px solid black;"/> <b>TOTAL NUMBER OF ITEMS MINUS NOT APPLICABLE ITEMS</b> <hr style="border: 0.5px solid black;"/>	

<b>SECTION A: STRUCTURE STANDARDS</b>
---

**STANDARD:**

**The delivery of quality nursing care in pediatric wards is enhanced by the availability of adequate provision of resources.**

**1. Facilities:**

*1.1 Hospital:*

**The following generic documents should be available and easy accessible in the hospital.**

CRITERIA	Y	N	NA
Mission statement			
Organizational objectives			
Policies according to legal requirements			
Policies pertaining to staff: organigram			
Policies pertaining to staff: recruitment			
Policies pertaining to staff: job descriptions for all categories			
Policies pertaining to staff: leave <ul style="list-style-type: none"> <li>• Annual</li> <li>• Sick</li> <li>• Maternity</li> </ul>			
Staff development programmes <ul style="list-style-type: none"> <li>• Orientation</li> <li>• In service</li> <li>• Staff appraisal</li> </ul>			
Procedure manual			
Quality improvement programme			
Infection control programme			
Research programme			
Baby friendly programme			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

<p><b>REMARKS:</b></p>
------------------------

1.2 *Ward:*

**The following documents should be available and accessible in the pediatric ward to enhance quality nursing care**

<b>CRITERIA</b>	<b>Y</b>	<b>N</b>	<b>NA</b>
Philosophy statement			
Ward objectives			
Ward policy: <ul style="list-style-type: none"> <li>• Visiting hours</li> <li>• Ordering of drugs</li> </ul>			
Pediatric ward protocols: <ul style="list-style-type: none"> <li>• Admission</li> <li>• Discharge</li> <li>• Transfer of patient</li> </ul>			
Pediatric ward procedure manual			
Reference books			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

**REMARKS:**

1.3 *Ward out-lay:*

**Flexibility in design of the unit is important so that optimum use of space is possible at all times**

<b>CRITERIA</b>	<b>Y</b>	<b>N</b>	<b>NA</b>
Structure of cubicles: <ul style="list-style-type: none"> <li>• Permit visibility of all the children by nursing staff</li> <li>• Fitted with a call (communication system)</li> <li>• Adequate lighting during the day and night</li> </ul>			
Inside cubicles: <ul style="list-style-type: none"> <li>• Each bed has its own cabinet</li> <li>• Running water facility with handles in working condition</li> <li>• Pedal rubbish bin</li> <li>• Container for used sharps</li> <li>• Container for other used material</li> <li>• Suction outlet</li> <li>• Oxygen outlet</li> <li>• Disinfectant for hands</li> <li>• Fixed heaters</li> </ul>			
Isolation room: <ul style="list-style-type: none"> <li>• Adequate space</li> <li>• Bedside cabinet</li> <li>• Chairs</li> <li>• Pedal bin</li> <li>• Running water facility with handles in working order</li> <li>• Adequate light during the day and night</li> <li>• Hand disinfectant container in working condition</li> <li>• Suction outlet available</li> <li>• Oxygen outlet available</li> <li>• Heater fixed</li> </ul>			
Treatment room <ul style="list-style-type: none"> <li>• Easily identifiable in the ward</li> <li>• Medicine trolley kept locked</li> <li>• Medicine clearly labeled</li> <li>• Sharps disposal box</li> </ul>			
Store room/ cupboards locked at all time when not in use			
Visitors room: <ul style="list-style-type: none"> <li>• Waiting room for parents/relatives available</li> <li>• Colorful decorated, comfortable chairs available</li> <li>• Adequate reading material</li> </ul>			

(Ward outlay: continued)

CRITERIA	Y	N	NA
Play area: <ul style="list-style-type: none"> <li>• Spacious to allow free movements</li> <li>• Décor scaled to children's size</li> <li>• Enough and appropriate toys &amp; toys not lying around</li> </ul>			
Meal area: <ul style="list-style-type: none"> <li>• Centrally situated in the ward</li> <li>• Enough small tables, chairs, benches</li> <li>• Water facility in working condition</li> <li>• Wash hands before and after meals</li> <li>• Soap and hand towels available</li> </ul>			
Consultation room situated in the ward			
Education room situated in the ward			
Intensive care unit for pediatric patients situated in the hospital			
Procedure room situated in the ward for specialized procedures			
Nurses station: <ul style="list-style-type: none"> <li>• Centrally situated in the ward</li> <li>• Desk with drawers, chairs, bulletin board</li> <li>• Telephone/ communication system</li> <li>• Permits visibility of all children in the ward</li> <li>• Fixed heater in place</li> </ul>			
Milk room in hospital: <ul style="list-style-type: none"> <li>• Centrally situated and easily identifiable</li> <li>• Sterilizing buckets with lids</li> <li>• Feeding aprons</li> <li>• Sink and drainage in working condition</li> <li>• Feeding bottle cleaning apparatus (brush, sterilising solution), feeding cups, bottles</li> </ul>			
Oral rehydration corner: <ul style="list-style-type: none"> <li>• Tables, chairs</li> <li>• Measuring jars, feeding cups, teaspoons</li> </ul>			
Oral rehydration policy: <ul style="list-style-type: none"> <li>• Mother taking care of child</li> <li>• Receiving food from hospital</li> <li>• Mother is taught how to make oral rehydration solution (1/2 teaspoon salt, 8 teaspoons sugar, 1 liter cooled down, boiled water)</li> <li>• Nursing staff know how to mix solution</li> </ul>			

(Ward outlay: continued)

<b>CRITERIA</b>	<b>Y</b>	<b>N</b>	<b>NA</b>
Environmental hygiene: <ul style="list-style-type: none"><li>• Dirty linen handled properly</li><li>• Ward clean</li><li>• Toilets working</li><li>• Floors: even, not slippery</li><li>• Warning signs displayed when floors are wet</li></ul>			
Miscellaneous: <ul style="list-style-type: none"><li>• Colourful children's clothing</li><li>• Linen, including bed spreads clean and available</li><li>• Racks, space to store charts at bed</li></ul>			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

**REMARKS:**

## 1.4 Safety measures:

**All measures are taken to prevent accidents**

CRITERIA	Y	N	NA
Fire hazard: <ul style="list-style-type: none"> <li>• Fire/smoke detector present</li> <li>• Fire/smoke detector tested weekly</li> <li>• Warning signs displayed when oxygen therapy is in progress</li> </ul>			
Windows: <ul style="list-style-type: none"> <li>• Not accessible to children</li> <li>• Window stops/guards are in place</li> <li>• Fitted with screens, locked</li> <li>• Fitted with safety bar</li> </ul>			
Doors on closets, cabinets, rooms: <ul style="list-style-type: none"> <li>• Easily operable from inside</li> <li>• Not to be locked from the inside</li> </ul>			
Toys, furniture, equipment free of rust, splinters, sharp corners			
Heaters: <ul style="list-style-type: none"> <li>• Not free standing, mounted on the wall</li> </ul>			
Hot water temperature not exceeding 36,2°C			
Catches on the: <ul style="list-style-type: none"> <li>• Side gates of the crib in good condition</li> <li>• Side gates always up when child is in bed</li> </ul>			
Restraints if used, applied correctly – no constriction formed			
Medicine cabinets: <ul style="list-style-type: none"> <li>• Locked when not in use</li> <li>• Medicine trolley never left unattended to</li> </ul>			
Medication never left standing on a bedside table			
Instruments and solutions kept in cabinets/shelves where children cannot reach them			
Safety pins <ul style="list-style-type: none"> <li>• closed at once when removed from child's clothing and</li> <li>• put out of reach</li> </ul>			
Toys: <ul style="list-style-type: none"> <li>• Rounded rather than sharp edges</li> <li>• Not painted with leaded paint</li> <li>• Never left on the floor when not in use</li> </ul>			
Children not allowed to play with used equipment and supplies			

((Safety measures continued

<b>CRITERIA</b>	<b>Y</b>	<b>N</b>	<b>NA</b>
Isolation technique carried out on all children with infectious diseases			
Wash hands before caring for a child			
Wash hands after caring for a child			
Thermometer bulbs checked for cracks			
Electrical outlets covered when not in use			
Sharp corners of wooden/metal furniture covered			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

**REMARKS:**

1.5 *Equipment:*

**Equipment, supplies, trays for procedures and medication should be easily accessible, labeled and logically organized and in a good working condition.**

The following equipment must be available:

CRITERIA	Y	N	NA
Resuscitation cart: the following is available, updated, in working order <ul style="list-style-type: none"> <li>• arrest board</li> <li>• oral airway</li> <li>• bag and mask devices</li> <li>• intravenous infusion supplies</li> </ul>			
Pediatric defibrillator available in hospital			
Emergency drugs available on resuscitation cart: <ul style="list-style-type: none"> <li>• antidote (poison)</li> <li>• adrenalin</li> <li>• anticonvulsant</li> </ul>			
Electrocardiograph monitor in hospital			
Cardio-respiratory monitor in hospital			
Electric suction machine in ward			
Foot pump suction machine in ward			
Oxygen equipment: <ul style="list-style-type: none"> <li>• pediatric face mask</li> <li>• valve device pediatric ambubag</li> <li>• chest tube: French: 14-28</li> </ul>			
Airway control: <ul style="list-style-type: none"> <li>• nasal cannula for infant/child</li> <li>• suction catheters (French 6-14)</li> <li>• oral airways (sizes 0-5)</li> <li>• nasogastric tubes (French 6-16)</li> </ul>			
Nasal airway endotracheal tube: <ul style="list-style-type: none"> <li>• pediatric: 2,5-5,5</li> <li>• nasal canulla</li> <li>• face mask</li> <li>• head hood</li> </ul>			
Endotracheal tube: pediatric: 1 – 9 <ul style="list-style-type: none"> <li>• laryngoscope</li> <li>• new batteries</li> <li>• new extra light bulb</li> </ul>			
Observation of vital signs: <ul style="list-style-type: none"> <li>• infant scale</li> <li>• standiometer for measuring of height</li> </ul>			

(equipment and supplies continued)

<b>CRITERIA</b>	<b>Y</b>	<b>N</b>	<b>NA</b>
Thermometer tray with: <ul style="list-style-type: none"> <li>adequate thermometers</li> <li>thermometers: oral, rectal</li> <li>sterile cotton balls</li> <li>disposable bag and kidney basin</li> </ul>			
Blood pressure tray with: <ul style="list-style-type: none"> <li>pediatric/infant cuff</li> <li>sphygomanometer</li> <li>stethoscope</li> </ul>			
<b>Complete diagnostic sets with attachments:</b>			
1. Ear and hearing: <ul style="list-style-type: none"> <li>otoscope</li> <li>small speculum for child's ears</li> <li>new batteries</li> <li>tuning fork</li> </ul>			
2. Eye and vision: <ul style="list-style-type: none"> <li>ophthalmoscope</li> <li>pen light</li> <li>new batteries</li> </ul>			
3. Mouth and throat: <ul style="list-style-type: none"> <li>light</li> <li>disposable tongue depressor</li> </ul>			
4. Nose and sinusses <ul style="list-style-type: none"> <li>nasoscope</li> <li>small speculum</li> </ul>			
Portable equipment: <ul style="list-style-type: none"> <li>intravenous stands</li> <li>lamps</li> <li>hand basin</li> <li>arm slings for infants</li> <li>splints for arms and legs</li> </ul>			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

<b>REMARKS:</b>
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1.6 *Supplies:***Adequate supplies must at all time be available.**

CRITERIA	Y	N	NA
Vascular access supplies: <ul style="list-style-type: none"> <li>• armboards(infant, child size)</li> <li>• butterflies (19-25)</li> <li>• needles (18-27)</li> <li>• catheters for intravenous infusions</li> <li>• intravenous administration pediatric sets</li> <li>• pediatric blood sets</li> </ul>			
Specialized paediatric trays:			
Lumbar puncture with: <ul style="list-style-type: none"> <li>• no 21-30 gauge needle</li> <li>• 3.5cm spinal needle</li> </ul>			
Venous cut down with: <ul style="list-style-type: none"> <li>• treatment towels</li> <li>• syringes</li> <li>• no.20-25 needle</li> <li>• knife handle and no 15 blade</li> <li>• forceps</li> <li>• scissors</li> <li>• gauge sponges</li> <li>• suturing material</li> <li>• needle holder</li> </ul>			
Intravenous tray with: <ul style="list-style-type: none"> <li>• intravenous administration set</li> <li>• alcohol sponges</li> <li>• dry sponges</li> <li>• small tourniquets</li> <li>• padded armboard</li> <li>• restraining devices for e.g. bath blanket, sand bags,</li> <li>• safety razor</li> <li>• antiseptic solution</li> </ul>			
Miscellaneous: <ul style="list-style-type: none"> <li>• antiseptic solutions</li> <li>• disinfectants</li> <li>• sterile syringes</li> <li>• identification bands</li> </ul>			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS:

1.7 *Personnel:*

**The unit personnel's knowledge, skills, judgement and commitment ultimately determine efficiency and quality patient care**

<b>CRITERIA</b>	<b>Y</b>	<b>N</b>	<b>NA</b>
Medical director available			
Nursing director in charge			
Nursing staff per shift seems adequate: morning			
Nursing staff per shift seems adequate: evening			
Nursing staff per shift seems adequate: night			
All team members are available: <ul style="list-style-type: none"> <li>• social work</li> <li>• occupational therapist</li> <li>• audiologist</li> <li>• dietician, nutritionist</li> </ul>			
Tasks are performed by appropriate nurse category			
Nurses knowledge regarding nursing procedures is efficient			
Nursing actions are done timely			
Procedures are done as prescribed			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS:

<b>SECTION B: PROCESS STANDARDS</b>
---

STANDARD:

**Nursing interventions are proficiently performed to promote the client's/ child's health status to ensure quality patient care**

1. *BASIC NEEDS:*

*Handwashing:*

**Handwashing is an effective method of preventing transmission of infection in the hospital from one child to another child.**

CRITERIA	Y	N	NA
Nails short			
Cuts and abrasions are covered with occlusive dressing			
No rings or watches			
Sink elbow or foot operated taps			
Soap/skin disinfectants used			
Soap/skin disinfectants dispensed onto moistened hands			
Decontaminate all surfaces: <ul style="list-style-type: none"> <li>• interdigital space</li> <li>• fingertips of each hand</li> <li>• thumbs and wrists</li> </ul>			
Tap operated with elbows or feet			
Hands washed before procedures			
Hand washed after procedure			
Hands dried with paper towel			
Gloves put on correctly without contact to unsterile area			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS:
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## 2. VITAL SIGNS:

*Temperature, pulse, respirations:***Vital signs must be monitored continuously**

CRITERIA	Y	N	NA
Checked that the mercury level is below 35°C on thermometer			
Placed a clean thermometer deep into axilla			
Left the thermometer in place for 3 minutes or as required			
Respirations counted for 30 seconds x 2			
Wipe thermometer and put in the used thermometer holder			
Wash and disinfect hands			
Clean thermometer after use			
Store the thermometer tray in safe place			
Record results in patient's chart			
Report deviation from the normal to the nurse in charge			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS

3. *FLUID AND ELECTROLYTES*

**Accurate and constant monitoring of intravenous therapy is essential as changes occur rapidly in infants and children.**

CRITERIA	Y	N	NA
Check that the correct solution is in progress			
Check the commencement time			
Check the completion time			
Check the infusion rate			
Nurse can calculate infusion rate correctly			
Check that tube is not kinked or obstructed			
Check the intravenous site quarter hourly: <ul style="list-style-type: none"> <li>• swelling</li> <li>• pain</li> <li>• tenderness</li> <li>• redness</li> <li>• blanding</li> <li>• warmth</li> <li>• coldness</li> <li>• splint does not rest directly on intravenous site</li> </ul>			
Wash and disinfect hands			
Record on charts volume given			
Record on chart the output			
Record on chart the control of the infusion site			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS

4. *ORAL REHYDRATION THERAPY:*

**Rehydration with liquids is important to replace the water and electrolyte losses that occur with vomiting and diarrhea.**

CRITERIA	Y	N	NA
Indication for commencing therapy: guidelines available: <ul style="list-style-type: none"> <li>• 10% dehydrated: 100ml/kg/24 hours</li> <li>• 5% dehydrated: 50ml/kg/24 hours</li> </ul>			
Maintenance guidelines available: <ul style="list-style-type: none"> <li>• &lt;1year: 120ml/kg/24 hours</li> <li>• 1-2 years: 100ml/kg/24 hours</li> <li>• 2-4 years: 80ml/kg/24 hours</li> <li>• &gt;4 years: 60ml/kg/24 hours</li> </ul>			
Ongoing losses: 25 ml oral rehydration solution e.g. Sorrol after each loose stool			
Record stools and vomits: <ul style="list-style-type: none"> <li>• color</li> <li>• amount</li> <li>• character</li> </ul>			
Instruct mother on guidelines for use at home			
Know formula for rehydration at home			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS:

## 5. NASO-GASTRIC TUBE FEEDING

**Tube feeding is performed effectively to provide a safe method of feeding the child when oral feeding is not possible.**

CRITERIA	Y	N	NA
Position child on side or back with neck hyperflexed			
Catheter measured and marked: tip of nose past ear to top of sternum			
Catheter lubricated with water or other lubricant			
Patients' head stabilized with one hand			
Other hand insert tube			
Catheter passed smoothly and quickly			
Infant observed for bradycardia and apnea			
Catheter taped to the patients face			
Test for correct position of the catheter in the stomach inject 0,5ml of air into catheter and stomach			
Listen to the typical stomach sound using a stethoscope placed on the epigastrium or aspirate small amount of stomach content			
Feeding position correct – supine or right sided			
Aspirate always before feeding begins			
Flow of the feeding: slowly			
Fluids not forced down with syringe			
Time duration: minimum 5 minutes			
Catheter clamped at end before fluid reaches end of catheter and withdrawn quickly			
Discard feeding tube after use			
Burp child			
Place child on right side/ on abdomen			
Observe and record after feeding for: <ul style="list-style-type: none"> <li>• bradycardia</li> <li>• vomiting</li> <li>• intestinal activity</li> </ul>			
Record procedure: <ul style="list-style-type: none"> <li>• time of feeding</li> <li>• type of feeding</li> <li>• amount given</li> <li>• how child tolerated the feeding</li> </ul>			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS:

6. ADMINISTRATION OF MEDICINE:

**The nurse is expected to administer drugs safely as prescribed by the doctor**

CRITERIA	Y	N	NA
Medication administered: <ul style="list-style-type: none"> <li>• to the correct child (identification done)</li> <li>• the correct dose</li> <li>• at the correct time</li> <li>• correct medication</li> </ul>			
Explain medication at the child's level of understanding. Tell the truth when the child asks about the medicine, for e.g. the taste of it			
Mix distasteful medication or crushed pills with small amount of something tasting nicely			
Does not threaten child ever with an injection if child refuses oral medication			
Medication not mixed with milk			
Nurses do not hand out any medication they are not familiar with – check it with the doctor, pharmacist or medication handbook			
Charts and records medication given in patient's record			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS:
----------

7. *PRE-OPERATIVE CARE:*

**The nurse is expected to prepare and support the child pre-operatively.**

<b>CRITERIA</b>	<b>Y</b>	<b>N</b>	<b>NA</b>
Emotional support and psychological preparation given			
Pre-operative teaching appropriate for level of child			
Allows and encourages questions from child			
Allows and encourages questions from parent			
Physical preparation: <ul style="list-style-type: none"> <li>• laboratory tests in record</li> <li>• keep child nothing per mouth as prescribed</li> <li>• administer appropriate medication</li> <li>• record all actions</li> <li>• vital signs taken 15 minutes prior to surgery</li> </ul>			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS:

8. *POST-OPERATIVE CARE:*

**Post operative care should be carried out effectively and appropriately until the child is fully awake and thereafter till his/her condition stabilizes.**

<b>CRITERIA</b>	<b>Y</b>	<b>N</b>	<b>NA</b>
Position child on side or abdomen			
Observation: <ul style="list-style-type: none"> <li>vital signs taken every 15 minutes till stable or as ordered</li> <li>note rate and quality of pulse and respirations</li> <li>monitor blood pressure</li> </ul>			
Check dressing for: <ul style="list-style-type: none"> <li>drainage, constriction, dressing</li> <li>constriction</li> <li>pressure</li> </ul>			
Check drainage tube for: <ul style="list-style-type: none"> <li>functioning properly</li> <li>tubes connected</li> </ul>			
Record intake and output accurately: <ul style="list-style-type: none"> <li>parenteral</li> <li>oral intake</li> <li>drainage tube</li> </ul>			
Prevent infection: <ul style="list-style-type: none"> <li>change position 2 – 3 hourly</li> <li>encourage child to cough and breath deeply</li> </ul>			
Provide general hygiene: <ul style="list-style-type: none"> <li>good skin care e.g. bathing</li> <li>allow for rest and sleep</li> <li>exercises given</li> <li>child moved in and out of bed</li> </ul>			
Measures of comfort: <ul style="list-style-type: none"> <li>keep child warm</li> <li>mouth care done</li> <li>provide appropriate toys to play with</li> </ul>			
Prepare for discharge, care to continue at home: <ul style="list-style-type: none"> <li>educate parent</li> <li>educate child</li> <li>arrange for community referral</li> <li>determine types of activity allowed</li> <li>arrange follow up visit</li> </ul>			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS:

9. *ADMISSION OF CHILD:*

**Admission of a child in the ward is promotive to adherence to medical treatment and well being of a child.**

<b>CRITERIA</b>	<b>Y</b>	<b>N</b>	<b>NA</b>
Greet the child/relative by name			
Introduce the nurse to the child			
Introduce the child to other children			
Introduce the mother to other mothers around him			
Orientate the child to the hospital routine: <ul style="list-style-type: none"> <li>• Physical environment</li> <li>• Visiting hours</li> <li>• Meal times</li> <li>• Play times</li> </ul>			
Answer all questions by parents			
Answer all questions by child truthfully			
Complete history obtained: <ul style="list-style-type: none"> <li>• Past illness</li> <li>• Present illness</li> <li>• Allergies</li> </ul>			
Vital signs taken: <ul style="list-style-type: none"> <li>• Temperature</li> <li>• Pulse</li> <li>• Respirations</li> <li>• Blood pressure (if indicated)</li> <li>• Weight</li> </ul>			
Physical assessment done: <ul style="list-style-type: none"> <li>• Colour</li> <li>• Skin</li> </ul>			
Identification			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS:

10. *NURSING DOCUMENTATION:*

**The documentation complies with legal requirements and reflects accurately the condition the child and nursing care rendered.**

<b>CRITERIA</b>	<b>Y</b>	<b>N</b>	<b>NA</b>
Characteristics of patient record			
Dates indicated			
Time indicated			
Legible			
Signed			
Registration indicated			
Corrections done correctly			
No abbreviations			
Records identified with patient's particulars			
Baseline data recorded			
<ul style="list-style-type: none"> <li>• Age</li> <li>• Vital signs</li> <li>• Weight and length</li> <li>• Skin colour</li> <li>• Mental state</li> </ul>			
Details of contact persons recorded			
Needs of child recorded: <ul style="list-style-type: none"> <li>• Medication</li> <li>• Allergies</li> <li>• Hygiene</li> <li>• Activity</li> <li>• Psychosocial</li> <li>• Intake and output</li> <li>• Safety</li> <li>• Comfort</li> <li>• Spiritual</li> <li>• Medical history</li> </ul>			
Findings of physical examination			
Documentation of patient problems, treatment and changes in condition: <ul style="list-style-type: none"> <li>• Problem identified</li> <li>• Nursing care prescriptions recorded</li> <li>• Physicians orders recorded</li> <li>• Changes in patient's condition reflected</li> </ul>			
Documentation of new/changed nursing activities: <ul style="list-style-type: none"> <li>• New or changed nursing actions recorded</li> <li>• All treatment recorded</li> </ul>			



<b>SECTION C: OUTCOME STANDARDS AND CRITERIA</b>
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**STANDARD:**

1. **Children and their families will verbalize, demonstrate improved health, change in behaviour and attitude. They will reflect positively on their experiences during hospitalization.**
2. **Relevant information will be given to the parents and/or relatives during the hospitalization of the child to prepare the parent for caring of the child after discharge.**

CRITERIA	Y	N	NA
<b>FACILITIES:</b>			
Care is readily available			
Care is accessible			
Physical facilities is clean			
Physical facilities is adequate			
Safety of children is important: <ul style="list-style-type: none"> <li>• Covered electrical outlets</li> <li>• Appropriate window locks</li> <li>• Appropriate door handles</li> <li>• Padding of all sharp edges</li> <li>• Non slip floor</li> <li>• Warning signs when floor is wet</li> </ul>			
Rooms large enough to accommodate parents			
Bedside lockers clean, can lock			
Signs are clear and understandable			
Hospital diet appropriate for children			
<b>DISCHARGE INFORMATION</b>			
Warning signs of recurrence of diseases explained			
Diagnosis explained			
Wound care explained			
Information given on: <ul style="list-style-type: none"> <li>• Allowed activities</li> <li>• Food and nutrition</li> <li>• Minor complications</li> </ul>			
Referral procedure explained			
Detailed information given about medication – effects and side effects			
<b>TOTAL NUMBER OF ITEMS APPLICABLE:</b>			

REMARKS:
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<p style="text-align: center;"><b>SECTION D</b></p> <p style="text-align: center;"><b>SEMI-STRUCTURED INTERVIEW</b></p>
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During the semi-structured interview, the following schedule is applied. Detail field notes are made and where applicable, the direct responses of the interviewee are recorded. Interviewees will be requested to motivate all answers:

1. Are you comfortable with the hospital visiting policy?
2. Should visiting hours be changed?
3. Have the health care providers been involving you in the care of your child while hospitalized?
4. Who do you think should answer the telephone calls when relatives want to know the child's condition?
5. According to your belief system, are you comfortable not to mix traditional medicine with Western Medicine while hospitalized?
6. What is your evaluation of the following behaviour/ conduct of the nursing staff?
  - 6.1 Assessment of your child when admitted?
  - 6.2 Concern and caring illustrated by the staff
  - 6.3 Competence and skills demonstrated when carrying out procedures?
  - 6.4 Sympathy and understanding shown by nurses?
  - 6.5 Attitudes of nurses
  - 6.6 Quality of information received
  - 6.7 Information shared by nurses regarding the child's condition
  - 6.8 Acknowledgement of the parent's rights to decisions about their children?

**ADDENDUM B**

**REQUESTING PERMISSION**



**ADDENDUM B**

**01 MARCH 1999**

UNIVERSITEIT VAN STELLENBOSCH  
UNIVERSITY OF STELLENBOSCH

Dear Sir/Madam

**REQUEST FOR PERMISSION: RESEARCH PROJECT**

1. I am a registered nurse and a student at the Department of Nursing, University of Stellenbosch registered for a MCur (Master Degree)

The title of my thesis is: *Evaluation of the Standards of Nursing Care in Pediatric Wards in Referral Hospitals in Swaziland.*

2. I request permission to visit your institution and specific the pediatric unit during the following period:

.....

If the duration of my visit needs to be extended, I will inform you as soon as possible.

3. During my visit, I plan to do the following:

- Gain access to clinical records of hospitalized children;
- Observe nursing staff while carrying out nursing procedures;
- Interview parents and/ or relatives on their perceptions of care received and
- Have informal interviews with nursing staff and nurse managers.

4. All information obtained will be treated as confidential. All participants will be informed of their right to withdraw from the study at any time of the project.

5. The project has no financial or manpower implications for your institution.

Thank you for your cooperation

Kind regards

Zanele Mhlongo

Promotor:

.....*M. Bester*.....

Dr ME Bester:

Department of Nursing

*Z. Mhlongo*

Verw. / Ref. ....

Departement Verpleegkunde / Department of Nursing

Fakulteit Geneeskunde / Faculty of Medicine

Posbus / PO Box 19063, 7505 Tygerberg

Tel. 021 - 938 9297, Fax. 021 - 931 7810, Suid-Afrika / South Africa

**ADDENDUM C**

**PERMISSION GRANTED**

**SWAZILAND****GOVERNMENT**  
ADDENDUM C

April 8, 1999

Ms. Zanele Mhlongo  
C/o professor E.B. welmann  
University of Stellenbosch  
Department of Nursing  
P.O. box 19063  
**Tygerberg 7505**

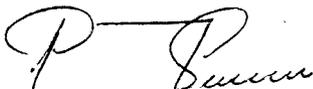
Dear Ms. Mhlongo,

**RESEARCH PROPOSAL: EVALUATION OF THE STANDARDS OF  
NURSING CARE IN PEDIATRIC WARDS IN REFERRAL HOSPITALS IN  
SWAZILAND**

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Please note that you have been granted clearance to carry out the above noted proposed study. Under normal circumstances, the ministry reviews the actual protocol before clearance is given. Noting that communication back and forth will delay your progress, an exception has been made in your cases. However, you are encouraged to submit in retrospect a copy of your study protocol for our records. Subsequent to this clearance, it is recommended that you seek the permission of your study sites. Make sure that your subjects complete consent forms prior to interviews.

We wish you success in your studies and request that you provide the ministry with a copy of your dissertation upon completion.

**Sincerely,**  
S.S. Mdziniso

Acting Principal Secretary  
Ministry of health and Social Welfare  
P.O. Box 5  
**MBABANE**

**ADDENDUM C**

HLATIKULU GOVERNMENT HOSPITAL  
P.O. BOX 20  
HLATIKULU  
SWAZILAND  
3 MAY 1999

ZANELE C. MHLONGO  
UNIVERSITY OF STELLENBOSCH  
DEPARTMENT OF NURSING  
C/O P/B 13  
STIKLAND BELLEVILLE  
7535

Dear Zanele

Thank you for choosing our hospital for your research on "Evaluation of standards of care in Paediatric wards in Swaziland", from 31<sup>st</sup> May to 5<sup>th</sup> June 1999.

Your request is hereby granted. I hope you will share your findings with us as this will help the Institution to achieve its goal "Excellent quality patient care".

Yours Faithfully

  
ROSTER R. SHIBA  
FOR SENIOR MATRON



# Good Shepherd Hospital

P.O. BOX 2, SITEKI  
SWAZILAND  
SOUTHERN AFRICA  
Tel: 343 4133/4, 343 4467  
Fax: 343 4003, 343 4064  
Telegrams - "SAMARITAN"

01/07/99

University of Stellenbosch  
Dept of Nursing  
P.O. Box 19063  
TYGERBERG  
7505

Dear Sir/Madam

Subject:- Evaluation of the standard of nursing care in Pediatric wards in referral hospitals in Swaziland.

Good Shepherd Hospital is one of the referral hospitals in Swaziland. It has 125 beds, and a bed occupancy of 214%.

Ms. Zanele C. Mhlongo was granted permission to do her research by nursing service department and management.

She did her study one week from 10 to 14 May, 1999.

She worked very closely with the nursing sister and the other nurses in that ward. She was kind, considerate and very educative to the staff. She was willing to listen and to share ideas with her colleagues.

Hoping the information given will help her to meet the requirements necessary to pursue her course.

Yours Sincerely,

MATRON  
GOOD SHEPHERD HOSPITAL  
P.O. BOX 2  
SITEKI TEL. 34133

  
Mrs. Anna D. Zwane

Chief Matron