DETERMINATION OF FAMILIES' NEEDS OF PATIENTS ADMITTED IN THE INTENSIVE CARE UNIT (ICU) AND THE EXTENT TO WHICH THESE NEEDS ARE MET AS PERCEIVED BY THE FAMILY MEMBERS AND THE ICU NURSES AT KENYATTA NATIONAL HOSPITAL.

A dissertation submitted in part fulfillment of the degree of Master of Science in Nursing (Critical Care Nursing) of the University of Nairobi.

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DECLARATION

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This Thesis is my original work and has not been presented in any other university for a degree.

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DEDICATION

This work is dedicated to my wife, Purity Mutheu, who had to persevere with my prolonged absence from home. She has always been a source of encouragement to me and has always prayed for my success.

This work is also dedicated to my mother, Alice Mbee, and my late father, Samson Ngui Nzine, for being a beacon of guidance and hope in my life.

This work is further dedicated to my newborn daughter, Joy Museo, for bringing joy at this critical time.

IMPORTANT QUOTE

It's necessary

"To create a health care system driven by needs of patients and families in which critical care nurses make their optimal contribution."

(By American Association of Critical Care Nurses [1])

ACKNOWLEDGEMENT

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ABBREVIATIONS

Abbreviation	Word in full
ABH:	Abraham Maslow's Hierarchy
APASHE:	Acute Physiology, Age, Chronic Health Evaluation.
CCFNI:	Critical Care Family Needs Inventory
CCN:	Critical Care Nurse(s)
CCU/ICU	Critical Care Unit/ Intensive Care Unit
Dept:	Department
FM(s):	Family Member(s)
FN(s):	Family Need (s)
GST:	General Systems Theory
HCT:	Health Care Team
HDU:	High Dependency Unit
ICU:	Intensive Care Unit
KNH:	Kenyatta National Hospital
SAPS:	Simplified Acute Physiology Score
SDEV:	Standard Deviation
SPSS:	Software Package for Statistical Solutions/Statistical Package for the Social Sciences
U.K. :	United Kingdom
U.S.A. :	United State of America

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OPERATIONAL DEFINITION OF TERMS

1. Critical Care Family Needs Inventory: Is a collection of needs statements initially developed by Molter and widely used, tested and modified over time[2,3,4,5,] and which have been obtained for this study through literature review.

2.Critically ill patient: A person admitted to the ICU because of life-threatening or potentially life-threatening alterations of the physiologic state.

3. Critical Care Nurses: A nurse who has a post-basic diploma in critical care nursing.

4. ICU nurse: A nurse who is deployed to give critical care nursing in the Intensive Care Unit. The term includes both trained and untrained critical care nurses.

5. Family's circular behaviour: - Where each subsystem affects the others in time and space.

6. Family member/Relative: A spouse or partner, parent, adult child, brother or sister, uncle, aunt, cousin, grand parents, grand children, brother(s) and sister(s) in-law or guardian who come to visit a patient in ICU/HDU.

7. Family need: Is a requirement, which if supplied, relieves or diminishes their distress or improves their sense of adequacy and well being. The needs were established by use of the Critical Care Family Needs Inventory (CCFNI). They were grouped into five domains i.e. information, assurance, support, proximity and comfort.

8. Friends: - Those associating closely with the family to provide physical, social and/or emotional support. They are treated as part of family members in this study or as 'significant others'.

9. Hierarchy: Arrangement into levels of importance or significance.

10. Importance: Was used to indicate the level of perceived necessity of the need statements. The terms 'importance' and 'necessity' were used interchangeably in this study.

11. Intensive Care Unit: - A special ward in the hospital, which is well equipped for diagnosis, treatment and support of patients during a life-threatening phase of illness. It is synonymous to critical care unit.

12. Linear behaviour: - Refers to cause and effect relationship between variables.

13. National Hospital: - Is a national referral and teaching hospital.

14. Perceived need: A requirement of family members that if not met becomes a demand that may produce distress among family members.

15. Subsystem: - a part of the system with an objective of advancing the goals of the larger system.[6] Each family member is a subsystem of the family system.

16. System: - 'set of objects or elements that interact to achieve a specific goal'[6] The family is a system whose members (subsystems) interact with one another to bring about the goals of the family. Again the family as a system interacts with other systems in the context of the suprasystem.

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ABSTRACT

This was a descriptive cross sectional study carried out over a period of two and half months i.e. from mid May to July 2006. The purpose of the study was to determine families' needs of patients admitted in the Intensive Care Unit (ICU) and the extent to which these needs are met as perceived by patients' families and nurses working in ICU at the Kenyatta National Hospital (KNH).

The data was collected from patients' family members and from the nurses working in the Intensive Care Unit. The Critical Care Family Needs Inventory (CCFNI) was used for data collection. This tool had thirty- nine (39) need statements with one additional open-ended question. The need statements were grouped into five domains i.e. information, assurance, support, proximity and comfort. A total of two hundred and eighty two (282) family members and eighty-four (84) nurses were recruited. Four (4) close family members of each patient in ICU were conveniently recruited and interviewed using the questionnaire while all the nurses available at the time of data collection filled the questionnaire. The data was analysed by use of computer software package for statistical solutions (SPSS). Presentation of data was done in tables, pie charts, column graphs, line graphs, means and percentages.

Authority to carry out the study was given by the Kenyatta National Hospital Ethical Committee and the office of the president through the Ministry of Education.

Among the 39 family needs expressed in the questionnaire, 37 (94.9%) were ranked by the family respondents as necessary while nurses ranked 34 (87.1%) as necessary. The need for information was ranked the most important followed by the needs for assurance, proximity, support and comfort in that order by the family respondents. The need for information was also ranked the most important by the nurses followed by the needs for assurance, support, comfort, and proximity in that order. There were significant differences ($p<0.01$) in perception of the necessity and extent to which family needs are met amongst the families and amongst the nurses.

It was concluded that families of patients admitted in the ICU have needs relating to information, assurance, proximity, support and comfort. The meeting of these needs falls below the expectation of the families and of the nurses at the Kenyatta National Hospital ICU hence compromising the quality of family centered nursing. Some of the reasons contributing to low quality of family centered nursing were: low nurse: patient ratio, lack of written protocol for interacting with patients' families, lack of a conducive waiting room with adequate amenities for the patient's visitors.

It's recommended that the families' needs identified and ranked in order of their perceived importance should be used in planning and implementing care for ICU patients and their families. This would also require adequate staff and a conducive environment for staff: patient: family interaction.

CHAPTER 1

1.1 Introduction

Nursing care today is increasingly taking concern not only of a sick family member but also the rest of the family members. In this regard, family centered nursing and holistic approach to care are adopted. Success is only realized when nurses come to understand the real issues surrounding the concern of family members when one of them falls sick and is hospitalized. This descriptive cross sectional study has belabored to establish families' needs of patients admitted in Intensive Care Unit (ICU) and the extent to which those needs are met. This was realized by assessing the perceptions that family members, Critical Care Nurses (CCN) and other ICU nurses have on the relative necessity of families' needs and the extent to which those needs are met. This chapter outlines the background of the problem, statement of the problem, the justification, expected benefits, research questions, purpose of the study, study objectives, study hypothesis and assumptions.

1.2 The Background of the Problem

Health care professionals and patient families in Critical Care Unit (CCU) have a long history of conflicting relationships whose roots are multifaceted, and enmeshed in social, economic and professional issues[7]. In many Critical Care Units, nurses and patient families work in a parallel fashion at best and in opposition at worst.[7, 8]

The application of nursing theories to a family as a unit of care appears to be superficial or at best incomplete. Among the major recognized nursing theorists, there is a tendency to focus their assessment and interventions on individual patients as opposed to the family of the patient.[7]

Critical illness of a family member has been recognized as a life threatening event that comes without warning, allowing little time for families to adjust.[9] The critical illness and hospitalization in the critical care unit are considered important stressors[10] that induce role alterations, disorganization and fragmentation of families.[11] The family might experience psychological crisis in which new needs emerge. Emotional responses of family members of hospitalized, critically ill patients include despair, helplessness and frustration.[12] If unresolved, these responses adversely affect the families well being[13] and subsequently, patients health.[11] Nurses need to understand the families' experiences and identify their needs associated with hospitalization of critically ill members. This knowledge is essential to optimize families' well being and coping, so that they can provide appropriate and effective support to their critically ill members.[14] Therefore, it is crucial that nurses assess families' needs during hospitalization of their ill relatives and measure whether or not these needs are being met.

Although numerous studies on needs of families of patients admitted in ICU have been done in United States of America and United Kingdom[7], little is known about this phenomenon in Africa, Kenya being included.

1.3 Statement of the problem

Admission of a patient into Intensive Care Unit is not only a crisis for the patient but also for the patient's family and friends.[15] Family members experience high levels of emotional distress,[16] often with disruption of the integrity of the family as a unique and basic system of society[7] and also have exhaustion of usual coping mechanisms.[17] Family members of patients in ICU experience stress, disorganization and helplessness, which ultimately result in difficulty in mobilizing appropriate coping resources, thus leading to anxiety.[18] Within 24-48 hours, families respond to this crisis with denial, fear and lack of control.[18] Families with a relative in the critical care unit are said to go through four-stage process: hovering, information seeking, tracking of the patient's progress and garnering of resources.[19] Whilst the development of Intensive Care Units has gone a long way towards its goal of caring for the critically ill patient, they have created a unique threat to family system and to each of the family members because at such times of great stress for the patient and family, the patient is deliberately separated from his/her family.[7] The structure and visiting policies often mean families can only visit their sick relative for short periods of time.[18]

Critical Care Nurses might not feel prepared to provide families with support.[7,20] Nurses do not meet all the family needs because of differing beliefs in obligations to family care.[21] Again, it has been observed that family members do not believe that the critical care team is responsible for helping them meet their needs, instead they belief that the critical care team should direct their time and energies towards the care of patients.[17] This inconsistency underscores the importance of critical care staff being prepared to assume responsibility for assessing the families' ability to function during crisis and for providing or coordinating the necessary services to help families restore their equilibrium. It is part of the responsibility of ICU nurses and physicians to meet the needs of patients and family members.[16] Failure to acknowledge and respond to the needs of the families of patients is to fail in holistic care in its truest sense.[15] The achievement of effective and ethical care during an acute illness event lies on increased awareness of and attention to the experiences, values, priorities and expectations of patients and their families. If families' needs are not met, they might be unable to provide an ongoing social support system for the patient during the crisis of critical illness.[22] Nurses need to be aware of the relationship between patient recovery and the family members support. Families

are and continue to be a much undervalued and little used resource for care in the high tech domain of critical care nursing.[7]

In Johannesburg, South Africa, it was observed that the least attention is given to psychosocial needs of patients and families.[23] In Kenya, although there is generally lack of accessible information regarding this phenomenon, certain indicators do point to lack of meeting of families' needs. For instance the architectural organization of the Kenyatta National Hospital (KNH) ICU lacks a designated waiting room for patients' families. Families usually wait in a small space, which is part of the corridor forming access route to ICU. Anecdotal evidence from review of the nursing care records in Jan and Feb, 2006 at the KNH ICU (Patient's Nursing Care Plans) showed that there is lack of objectives and content in care given to the patients' families. It is possible that certain other aspects of families' needs may as well not be addressed to appropriately. This has created the need to identify the specific and broad needs of families of patients admitted in the critical care unit and the extent to which these needs are met within our critical care setting.

1.4 Justification

Determining better ways to empower patients' families and meet their needs requires a good understanding of not only what family members perceive their needs to be but also what critical care service providers perceive these needs to be. If families' needs are not met, they may be unable to provide ongoing social support system for the patients during crisis of critical illness.[22] The needs of family members are varied, and nurses must become attuned to these needs and acquire the skills to direct their interventions more appropriately to meeting these needs. Recognition of these needs by nursing personnel and development of methods to measure whether these needs are met is necessary if health care personnel are to continue the practice of holistic nursing care.[24] There is no other study that has been carried out to determine the needs of families of patients in ICU in Kenya, and in KNH ICU in particular. Most studies done in the past were based on western culture, values and beliefs and may therefore not be representative of the Kenyan situation. Again, most of the earlier studies used small convenient samples and hence their generalizability is low. The findings and recommendations of this study serves to enhance the quality of nursing offered to the critically ill patients and their families.

1.5 Expected benefits

The following benefits accrue from this study:

1. Needs of adult family members of patients admitted in ICU have been explored and ranked in terms of their perceived necessity. ICU nurses can use this ranking to rationalise their priority in planning to meet families' needs.

2.Differences in perception of the relative necessity and the extent of meeting families' needs by the ICU nurses and family members was established. This serves to inform the critical care givers of issues that may contribute to inadequate care to patients' families.

3.Information on the extent of meeting families' needs should shine light on the way to restructure service delivery to families by accomodating the needs that have previously not been addressed.

4.This study is part of the basis for evidence-based practice pertaining to nursing care of families of patients admitted in ICU. Critical care team can use the findings to formulate interventions that lead to intentional, systematic improvements in informed decision making by patients' families, decrease the families' stress, and improve the patient's outcomes.

1.6 Research questions

1. What are families' needs of patients admitted in KNH ICU as perceived by patients' families and nurses working in the ICU?
2. To what extent are families' needs met?
3. Do families and ICU Nurses differ in their perception of the necessity of families' needs?
4. Do families and ICU Nurses differ in their perception of the extent to which families' needs are met?

1.7 Purpose of the study

The purpose of this study was to understand families' needs of patients admitted in ICU and the extent to which these needs are met as perceived by the patients' families and the ICU nurses. Differences in perception of these needs and the perception of the extent to which the needs are met between the ICU nurses and the patients' families were explored. Again, differences in perception of necessity and the degree of meeting family needs relating to information, assurance,

support, comfort and proximity between the families and nurses working in ICU were determined.

1.8 Objectives

1.8.1 Broad objective:

To determine families' needs of patients admitted in Kenyatta National Hospital Intensive Care Unit and the extent to which they are met as perceived by the patients' family members and the ICU nurses.

1.8.2 Specific Objectives:

1. To determine the socio-demographic characteristics of nurses working in KNH ICU.
2. To determine the socio-demographic characteristics of patients' families in KNH ICU.
3. To assess the families' needs as perceived by the family members.
4. To assess the families' needs as perceived by the ICU nurses.
5. To determine the extent to which families' needs are met as perceived by the family members and the ICU nurses.
6. To compare the perception of families' needs between patients' family members and ICU nurses.

1.9 Hypothesis

1. There is no significant difference in family members' perception of the necessity of families' needs and the extent to which these needs are met.
2. There is no significant difference in nurses' perception of the necessity of families' needs and the extent to which these needs are met.

1.10 Assumptions

This study was guided by the following assumptions:

- The critical illness of a family member represents a potential crisis situation for the family.
- The needs of family members and friends of patients admitted in ICU, although influenced by a variety of factors, are unique.
- Family members, friends and registered nurses are capable of identifying and assessing families' needs.
- Incorporating the needs of family members and friends into the care of the patient who is critically ill is essential to holistic nursing practice.

CHAPTER 2

2.1 LITERATURE REVIEW

2.1.1 Introduction

A number of studies in United States of America, and little in United Kingdom have been done to support the existence of family needs[7]. In Africa and particularly in Kenya there is little accessible literature on studies involving family needs of patients admitted in Intensive Care Unit.

2.1.2 History of meeting family needs

The interest in, and indeed recognition of the importance of the family has been acknowledged since the days of Nightingale.[7] During the traumatic times of the Crimea, Nightingale recognized the importance of family needs and worked tirelessly to support the wives and families of the soldiers.[7] Over the years there has been a growing awareness of nurses' concern with the family as a whole as reflected in recent researches into family needs and family stressors and the use of specific interventions with a critically ill person's spouse.[7] Most of these original researches focused on the needs of grieving spouses.[24,25] The aim was to discover if a grieving spouse could identify his or her own needs, and the relationship of nursing interventions of these needs.

2.1.3 Perception of family needs by the families

A study in USA[26] was done to discover the perceived personal needs of family members of critically ill patients, how important the needs were to the family and if the needs were being met, and if so by whom. An inventory of 45 needs statements (Critical Care Family Needs Inventory) developed by Molter was used to provide a structured interview guide. A sample of the study included 40 family members of critically ill patients in two large teaching hospital. The needs were ranked in order of importance, importance by age of family member, and importance by social class. The ten most important needs identified were:

To feel there was hope

To feel that hospital personnel care about the patient

To have the waiting room near the patient

To be called at home about any changes in the patient condition

To know the prognosis

To have questions answered honestly

To know specific facts about patients progress

To receive information about the patient once a day

To have explanations given in understandable terms

To see the patient frequently

There is considerable evidence to support the importance of information and the need for hope as critical family needs. Demographic variables were reported to have no influence on the ten most important needs listed. The needs identified were being met most frequently by other family members, with nurses being identified as the next major group.
The rank ordering of families' needs changes from region to region,[27] but the ten top needs remain most consisted.

In UK[7], an investigation was done on the needs of family members in ICU in South Wales. 3 Critical Coronary Units participated in the study, which used a semi-structured interview schedule, developed by Molter and Daley. 20 participants completed the interview. The families were asked to identify the importance of the list of needs (n=47) statements, and in addition they were asked to indicate if the need was been met and by whom. A four point Likert scale ranged from not important to very important. Descriptive statistics included means, modes, percentages and rank ordering of the responses. Field notes were kept for each interview which lated 35 minutes to 1.5 hours. The ten most important needs were identified and included the need to have questions answered honestly and the need to feel that staff care about patients' relatives- as the most important needs. The most important category of needs were the need for information and the need for relief of anxiety. One of the limitations of the study was the small sample size. The response of who met the needs was poorly addressed, and proved difficult to analyse.

A study of self-perceived needs of family members in ICUs,[28] found that the need for relief from anxiety was perceived as the most important category, followed by need for information. Data was collected from 24 family members. The results show similarity with those of Millar,[7] and lend support to the conclusion that family members can identify their own needs. The families in this study perceive the doctor as most appropriate for information concerning diagnosis, prognosis and treatments. Nurses in both studies were seen as the most appropriate for day to day information and progress reports. Limitations included the small sample size, time constrain and the inexperience of the two researchers. Nevertheless they believed that nurses who have knowledge of the patients needs will be in a stronger position to deliver the quality nursing care that criticall ill patients and their families deserve.

In a study[29] on the perceived needs of Jordanian families of hospitalised critically ill patients, families' ranked order needs for assurance, information and proximity as the highest and need for support and comfort the lowest. The Sample size was 158 participants. A modified Molter's CCFNI to collect data was used. >80% perceived 16 need statements as important or very important. The most important specific needs were: To receive information about the

patient; To feel that the hospital personnel care about the patient; To have information given in understandable terms.

A study[30] in a large urban teaching medical center established a difference from the other studies that had used Molter's CCFNI. The difference was that there was a striking finding where the need for hope was ranked low and there was a common ranking exercised by parents, siblings, spouses and adult children.

A study[31] done in Hong Kong found out that 25 out 45 needs statements were ranked as important or very important. The top ten needs were met by doctors and nurses. There were significant differences in needs between family members with different gender, experience of visiting ICU, religious backgrounds and characteristics of patients. The families perceived information and assurance needs as the most important.

2.1.4 Comparison of families' perception of their needs with the nurses' perception of the same needs

Studies of the family needs in 1980s began to include both the families' perceptions of needs and the nurses', and to offer some comparison between the two groups.[7] Results of such studies report some variations in the perception of need by the two groups. Specifically, families identified three needs as more important than nurses did: to feel there is hope; To know about the patient; and to have questions answered honestly.

A study[32] was done on the relationship between critical care families' perception of needs and the assessment of these needs by a confederate sample of intensive care unit nurses using the CCFNI. Sample consisted of 92 family members and 49 critical care nurses. Paired t test (two tailed) were calculated to detect significant differences between confederate pairs of family members' perceptions and ICU nurses' assessment of the importance of the needs studied. Significant (p less that 0.001 to p less than 0.05) differences were detected between confederate pairs of the family members perceptions and ICU nurses' assessment of the importance of 15 (50%) of the critical care family needs studied.

2.1.5 Perception of needs of families of specific group of patients

There are differences in perception of needs by families of specific groups of patients and families of mixed groups of patients in ICU. A study[33] carried out using Molter's 45 need statements was conducted to establish if there was a difference between the families' needs of those patients with an acute brain injury and those patients without. The sample included 26 family members of patients admitted to a large teaching hospital in USA. Use of a Chi square statistical test was applied to the needs statements to examine if there were differences in the frequency of identified needs between those reported by Molter and the families in the study. It

was found out that there were indeed differences in the perception of personal needs. These results were reported as supporting other studies.[24,25,26]

2.1.6 Adequacy of meeting family needs

The degree of meeting families needs varies from place to place. A descriptive study[34] carried out to ascertain how well the needs identified by relatives of patients admitted in ICU were met and what could be implemented to improve this care of patients' family members, 85 relatives of patients were studied using a modified Molter's (1979) questionnaire. Needs were classified into 4 groups: Information; Confidence; Comfort of ICU environment and emotional support. Results showed that the most frequently identified needs were related to information and confidence. In overal, 94% of the needs of all groups were found to be adequately met. The least met needs were related to information and comfort in ICU environment. Again another study[14] that involved a 3-level trauma center, only 4 out of 10 family needs identified were ranked as being met. Nurses do not meet all the family needs because of differing beliefs in obligations to family care.[21]

A prospective multicenter study[35] of family member satisfaction evaluated using the CCFNI was carried out in French. 43 French ICUs participated in the study. ICU charasteristics, patient and family member demographics and data on satisfaction were collected. Factors associated with satisfaction were identified using Poisson regression model. Seven predictors of family satisfaction were found. 637 patients were involved in the study. 895 family members completed the 14 item CCFNI. 11% of family members reported receiving contradictory information. 55% did not know the specific role of caregivers. 47.7% were not receiving help from their usual doctor. 91% were satisfied with information provided by Junior doctors. No difference in satisfaction level in family members of adult and paediatric CCUs. Availability of family booklet also failed to correlate with family members satisfaction ($p=0.43$). Also satisfaction was not related to SAPS II score, length of stay, or mortality.

Family members are more likely to be dissatisfied[36] with care if:

-More than one ICU physician cared for the patient.

-Different nurses cared for the patient in two consecutive days.

-The family members were male.

-The APACHE II score was low.

-The most significant family member is not a sibling of the patient.

This study also validated a modified version of Molter's CCFNI as a reliable instrument for evaluating the needs of next of kin and secondary respondents in the same family.

2.1.7 Overal grouping of families needs

An integrative analysis of families needs was done in USA, in which primary needs from 27 studies done using CCFNI were identified.[11] They were grouped into: assurance, proximity and information. Further categorization of the 45 need statements resulted into 5 broad needs: support, comfort, information, proximity and assurance.[8]

2.1.8 Situation in Africa

According to a study done in Johannesburg, South Africa, whose aim was to describe the nature of care that patients with blunt chest injuries received during the first 48hours after injury, it was found that the least attention was given to psychosocial needs of patients and families. 'Since their mortality and morbidity is not obvious, psychosocial and spiritual needs tend to be given low priority'(p. 20). Nyangena, continues to say that 'if patients and families are to receive holistic care, the psychosocial and spiritual needs must always be met'[23] (p. 20)

2.1.9 Conclusion

The literature reviewed shows that families of critically ill patients have specific needs and that the rank ordering of families' needs vary from region to region. Again, the degree to which needs are met is also variable. Most studies have used small sample sizes such that their generalizability is low. Inaccessibility of relevant literature in Africa and particularly in Kenya is gap that needs to be addressed especially so at such a time of increased efforts to seek the way forward for provision of family centered nursing and holistic care.

2.2 THEORETICAL FRAMEWORK

The General Systems Theory (GST) and Abraham Maslow's hierarchy of needs were used as the theoretical framework for this study.

2.2.1 The General Systems Theory (GST)

This theory, developed by Von Bertalanffy in 1950s forms the theoretical and conceptual framework for working with families as 'the client' rather than just focusing on an individual person.[14] This theory has stimulated most of the efforts made to achieve systematic understanding of the normal and troubled families.[14] It consists of universal concepts that can be applied in many disciplines including the family system. The following are some of the concepts of the GST applied to the family:

- Holism: - The whole is greater than the parts.
- Interconnectedness: - Parts of a system are interrelated.
- Openness: - Ability to interact with the environment in which a system is situated

- Hierarchy of systems: - Arrangement of systems in the universe in form of ranks i.e. from high to low and vice versa
- Boundaries: - That which defines the system and demarcates it from its environment.
- Input: - Is what goes to a system inform of information, matter and energy.
- Output: - Is the result of a systems processing of the input. Output is released to the environment. Some of it goes back as input hence constituting the feedback loop. Feedback is positive if the output turning back as input moves the system away from equilibrium and towards change. On the other hand if the feedback is negative the output returned to the system promotes equilibrium and stability of the system.

2.2.2 Abraham Maslow's Hierarchy (AMH) of Needs

Abraham Maslow's Hierarchy of Needs states that all people want to realize their potential. Unmet basic needs interfere with holistic growth whereas satisfied or needs perceived as met promote growth.[14] Maslow's theory evolved into the development of five basic needs. The needs are assumed to operate in a certain order. The five needs from lowest level to highest level include: physiologic, safety, belongingness or social needs, esteem, and self-actualization. These five sets of needs are perceived in a hierarchical manner, and people seem to satisfy or meet them in a particular sequence, from lowest to highest.

Each level controls behaviour until it is satisfied, then the next level is energized and directs behaviour. Maslow suggested that the first need on the hierarchy results from things that a person lacks; therefore, the physiologic needs are called deficiency needs. This hierarchy of needs was evident in a study that found the greatest perceived needs identified by the family members were having the restrooms near the waiting rooms and having the waiting rooms in close proximity to the critical care unit.[20] Ultimately, the nurse may become the catalyst that energizes the process of change so that the patient and family may progress.

2.2.3 The Family as a system

The family is defined as a unique, small group of closely interrelated and interdependent individuals who are organized into a single unit in order to attain family functions or goals.[32] Again, it is defined as a living social system that extends over at least three generations.[37] The family is also viewed as two or more persons who depend on each other for emotional, physical or environmental support.[38] The following concepts apply to the family system:[37,39]

- A family system is part of a larger suprasystem and is composed of many subsystems
- The family as a whole is greater that the sum of its parts (holism)
- A change in one family member affects all family members

- The family is able to create a balance between change and stability. Although change is desirable in maintaining families' belief system and behavioral patterns, sudden and unexpected change may alter family composition and cause distress.
- Behaviour of family members is best described as circular as compared to linear.

2.3 Conceptual framework

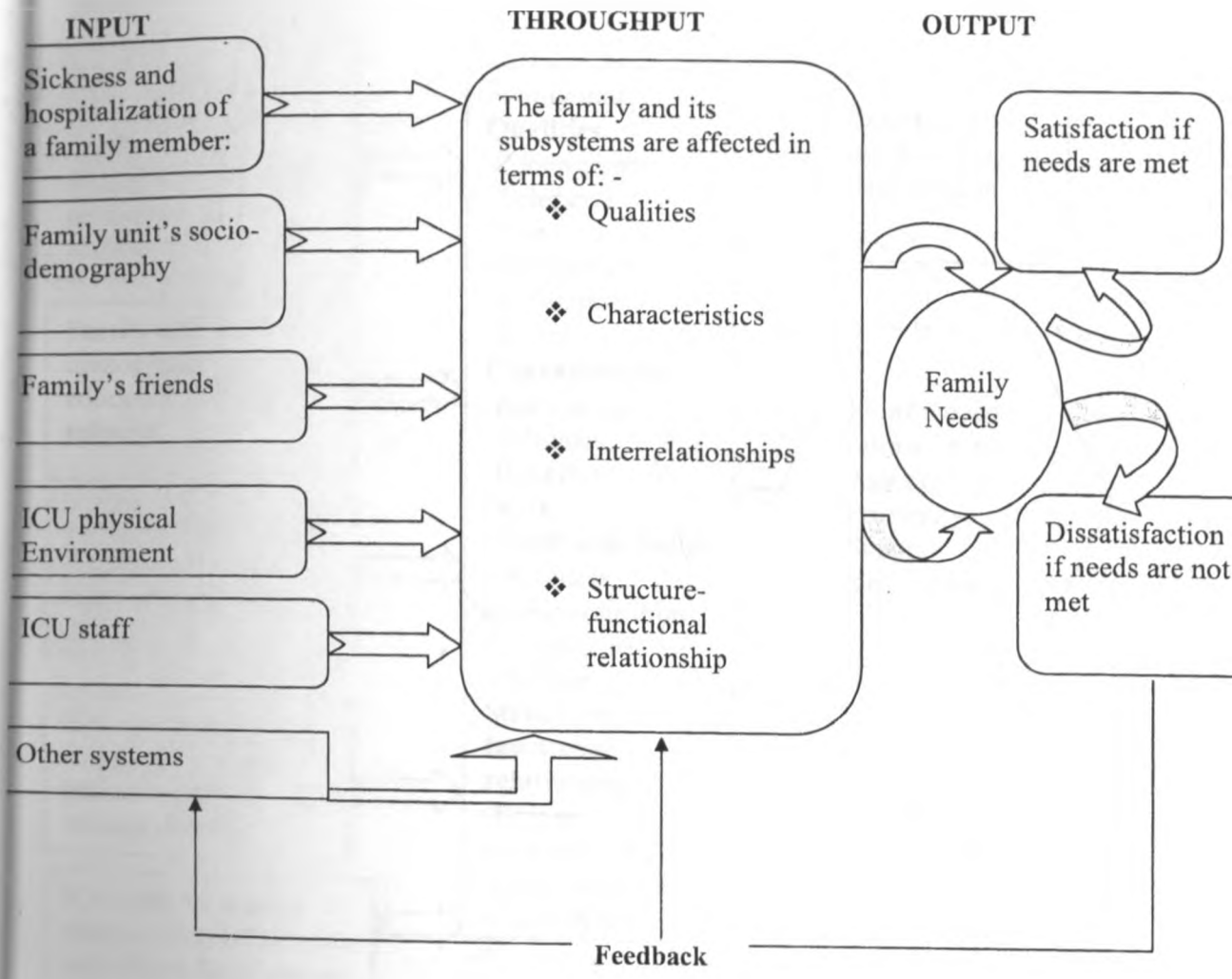


Figure 1: Conceptual framework

2.4 Operational framework

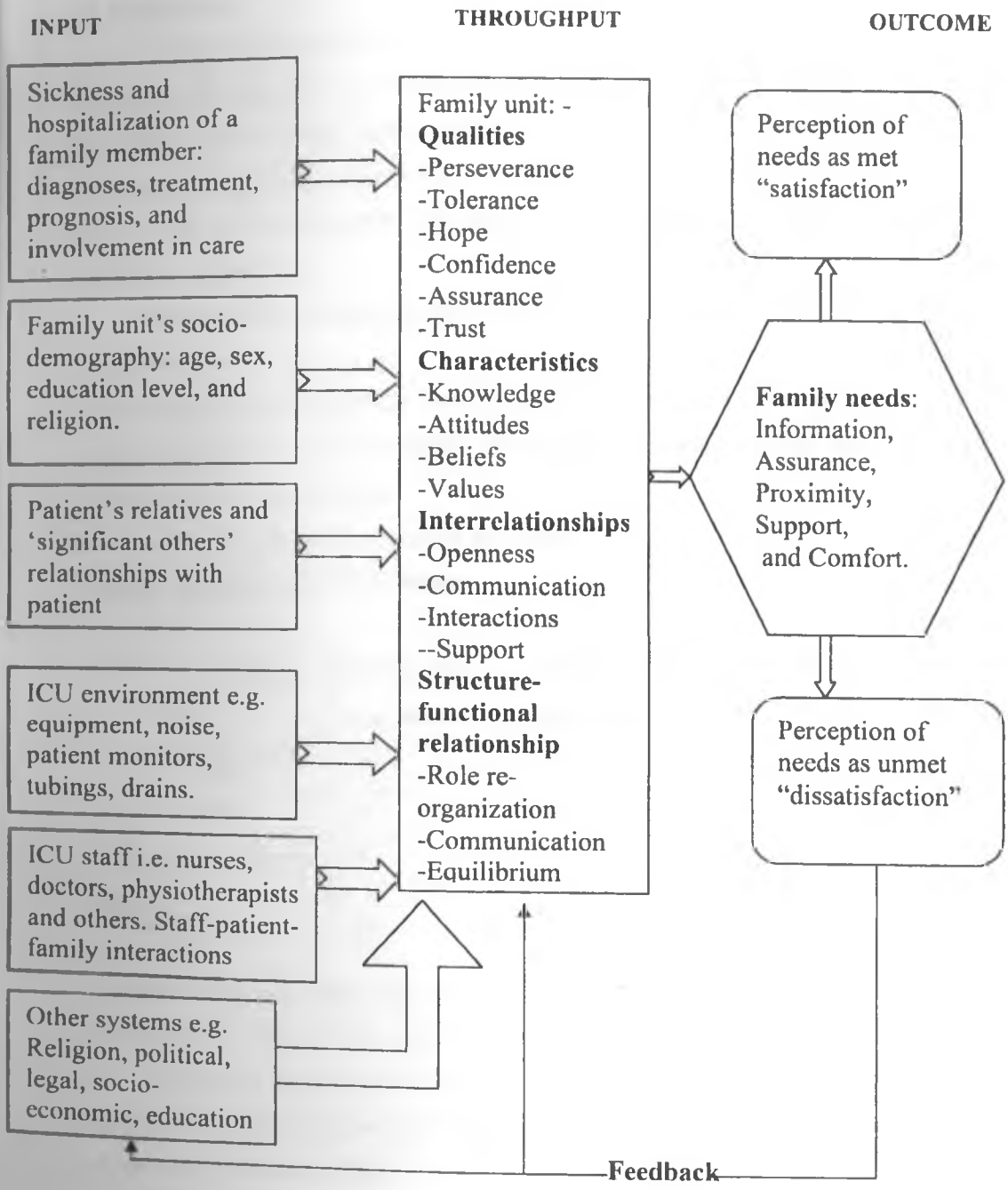


Figure 2: Operational framework

CHAPTER 3: METHODOLOGY

3.1 Study design

This was a descriptive cross sectional study carried out between mid May and July 2006.

3.2 Study area

This study was carried out at the Kenyatta National Hospital intensive care unit. The unit is divided into two sides i.e. Intensive Care Unit side and High Dependency Unit side (HDU) side. This division is only physical since the characteristics of patients admitted in both sides are the same with exclusion of patients having undergone heart surgery who are usually admitted in the ICU side. For this reason the two sides were treated the same for the purpose of the study.

3.3 Study population

The families of patients admitted in ICU and the nurses working in the ICU were the study populations.

Calculation of the population of families was based on a pilot observation of the flow of patient visitors done on 21st, 22nd and 23rd of December 2005 during visiting time i.e. from 12.30pm to 2pm and from 4.30pm to 6pm.

Pilot survey of ICU patient visitors flow rate

Table 1: Frequency of ICU visiting:

Date / Time	21st Dec 05 frequeny	22nd Dec 05 frequeny	23rd Dec 05 frequency	Average
12.30-2.00pm	138	136	84	119.3
4.30-6.00pm	50	54	34	46
no. of patients per day	14	16	17	16

Average visitors per patient was calculated as:

(119.3+46) /16=**10.3** This is approximately equal to 10 visitors per patient.

The total monthly patient admission according to KNH ICU admission book for 2005 is 106 patients. So the total families' population for a duration of one month is given by the product of 106 and 10, which is 1060.

All nurses working in the ICU present at the time of data collection were recruited into the study. The total number of ICU nurses was one hundred and one (101).

3.4 Inclusion criteria

i. Family members

- Participants were relatives and 'significant others' of patients in the ICU.
- Those who gave consent and who had visited their patient for at least two occasions.

ii. ICU Nurses

- Those who gave consent and were willing to complete the questionnaire
- Those who have worked for 6 months and above in ICU.

3.5 Exclusion criteria

i. Family members

- Those who declined to give consent for participation.
- Those who participated in pre-testing of the questionnaire
- Those who had not visited their patients for at least two occasions

ii. ICU Nurses

- Those who had worked in ICU for less than 6 months
- Those who were unwilling to give consent and fill the questionnaire
- Those who participated in pre-testing of the questionnaire

3.6 Sample size determination

The Fisher's formulae[40] were applied. The two formulae were applied in successive steps since the reference population was less than 10,000.

$$n = \frac{Z^2pq}{d^2}$$

Where:

n=the desired sample size (if the target population is >10,000)

z=the standard normal deviate at the required confidence level

p=proportion in the target population extimated to have the characteristics being measured.

q=1-p

d=the level of statistical significance set

This formular gives the sample size (n) for a population of more than 10,000. Then the (n) obtained is used in the formular below to obtain (nf) i.e. the sample size for a population of less than 10,000.

$$nf = \frac{n}{1+n/N}$$

where nf =sample size of population <10,000

n= sample size of population >10,000

N=target population size

Sample size for Family members:

$$n = \frac{Z^2pq}{d^2} = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} = 384.16$$

Then (nf) =

$$nf = \frac{n}{1+n/N} = \frac{384.16}{1+384.16/1060} = 281.97 = 282 \text{ (approx.)}$$

where: n=sample size for a population >10,000

z= the standard normal deviate set at 1.96 which corresponds to the 95% confidence level

p=50% or 0.5 (50% is used where there is no reference proportion of the population with the characteristic of interest.[40] The earlier studies used small sample sizes and therefore, their generalization is compromised.)

q=(1-0.5) =0.5

d =the degree of accurancy desired set at 0.05 level

nf=desired sample size (when the population is less than 10,000)

N=the estimated population size i.e. 1060

Sample size for nurses working in the ICU:

$$n = \frac{Z^2pq}{d^2} = \frac{(1.96)^2(0.5)(0.5)}{(0.05)^2} = 384.16$$

Then (nf):

$$nf = \frac{n}{1+n/N} = \frac{384.16}{1+384.16/107} = 83.69 = 84 \text{ (approx.)}$$

Where: n=sample size for a population >10,000

p=50% or 0.5 (50% is used where there is no reference proportion of the population with the characteristic of interest.[40] The studies reviewed used small sample sizes and therefore, their generalization is compromised.)

q=1-0.5 =0.5

d =the degree of accurancy desired set at 0.05 level

nf=desired sample size (when the population is less than 10,000)

N=the estimated population size i.e. 107

3.7 Sampling method

i. Family members

Four (4) family members per every patient were conveniently recruited into the study because of ease of access.The sampling interval for population of the families was 3.75.

ii. ICU Nurses

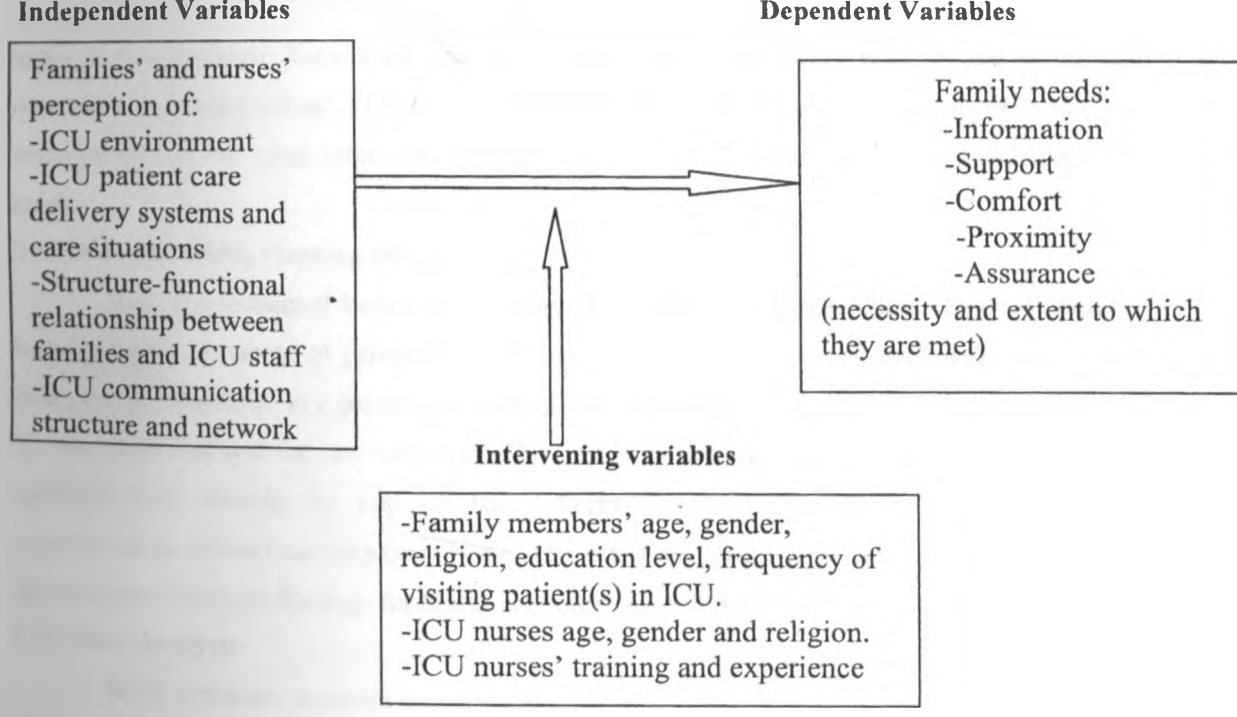
All the nurses available at the time of the study and who met the criteria were recruited into the study i.e. 84 nurses. The sampling interval was 1.3, therefore random sampling methods were not used. All subjects (whole population) had to be considered.

iii. Sampling interval

The sampling interval for the family members was 3.75, therefore four visitors per patient were recruited until the desired sample size of 282 was reached. The sampling interval for ICU nurses was 1.3, so all ICU nurses available at the time of the study were recruited i.e 84 nurses.

3.8 Study variables

This study has focused on the following variables. Independent variables are viewed as the origin of families' needs and the Intervening variables may influence those needs.



3.9 study instruments

Data was collected from the family respondents by interiviewing them using the stuctured questionnaire. This brought uniformity among the respondents with diverse education capabilities. A self administered questionnaire was used for the nurse respondents. The tools had two sections: The first section (part 1a) was related to the socio-demographic variables of the family respondents and (part 1b) for socio-demographic data of nurses working in the ICU.

The second section was the CCFNI that included 39 need statements which is a moldified Molter's[26] tool used in previous similar studies and which was drawn from the literature reviewed.

3.10 Pre-testing of the study instruments

The study questionnaire was pre-tested with 2%[40] of the total number of respondents i.e. 6 family respondents and 3 ICU nurses. Analysis and revision of the instrument was done thereafter.

3.11 selection and training of research assistants

Two Bachelor of Science in Nursing (B.Sc.N) fourth year students were approached to assist in this research. They were oriented to the nature of the study with emphasies on the objectives and methodology. They were involved in the pre-testing of the questionnaire and then subsequently, in the actual interviewing of the family respondents using the structured interview guide.

3.12 Data collection, cleaning and entry

Data was collected between mid May 2006 and end of June 2006. Four (4) family members were requested to parcipate in the study. Upon giving consent, each was interviewed using the questionnaire in a private room within the ICU/HDU. The interviews were carried out by the researcher and the two assistants. The nurses working in the ICU/HDU were given the questionnaires towards the end of data collection period. They filled and returned the questionnaires without carrying them home. The data was subsequently cleaned and entered into the computer Software Package for Statistical Solutions (SPSS) version 12.01 for analysis.

3.13 Data Analysis

SPSS computer program was used to determine frequencies of responses to the various questions. A four-point Likert score ranging from 0 to 3 was used to indicate the respondents' perception of the necessity and the extent to which each need is met (i.e. score-0- for not necessary or never met, score-1-for slightly necessary or sometimes met, score-2-for necessary or usually met and score-3-for highly necessary or always met). Mean scores on perception of

necessity and mean scores on extent to which each need is met were computed and need statements ranked on the basis of mean scores of necessity for each group of respondents. Perceniage of mean scores was calculated. Microsoft Excel Package was used for grouping of need statements into five domains i.e. information, assurance, support, proximity and comfort. Mean scores of grouped need statements were calculated and comparison within and between groups of respondents done.

Descriptive statistics namely; means, percentages, and rank ordering of the scores of responses on necessity and extent of meeting needs were used. Data was presented in form of text, tables, graphs, charts.

Statistical test of significance i.e. z-test (where n >30) and t-tests (where n<30) were used to identify differences in average scores of needs (necessity and extent to which needs are met) between family members and the ICU nurses.

Chi-square test was used to determine the effect of various socio-demographic variables on perception of the top ten families' needs and the least met needs as per each group of respondents at 5% confidence level. Correlation was also done on perception of importance of the need statements and perception of the extent to which needs are met.

3.14 Ethical consideration

Permission to carry out this study from the office of the president through the Ministry of Eduaction and from Kenyatta National Hospital ethical committee was sought.

Each potential participant was approached, explained about the purpose of the study, benefits of the study, any risks involved, procedure, the anonimous identity, the confidentiality of what they say and their freedom to/not to participate in the study or even to pull out before completion. Participants who agreed to take part in the study signed the consent form.

On the basis of the study findings, suggestions for improvement of the care given to families of patients admitted in ICU were raised and will be disseminated first to the ICU staff fraternity through open forum discussion and to all other interested parties. Efforts will be made to have the study published in a journal so as to have a wider audience.

3.15 study limitations

The generalizability of this study may be limited by the following issues:

- the sample was only drawn from the Kenyatta National Hospital ICU. Replication of the study in other categories of hospitals is needed for comparison purpose. Such categories of hospitals include the private hospitals, the faith based hospitals and the provincial hospitals.

- The four (4) family participants per patient were recruited conveniently. There is no demographic data on those who were not recruited or those who refused to participate.
- The CCFNI sub-scales[29] may lack sensitivity to elicit needs of Kenyans who may have different beliefs and values compared to western population. The open ended question provided an opportunity for the respondents to express additional needs.
- The CCFNI, measures the environmental aspect of comfort and does not include other aspects (e.g. mental, spiritual or social). The open ended question provided the respondents with freedom to express any additional needs.

CHAPTER 4: RESULTS

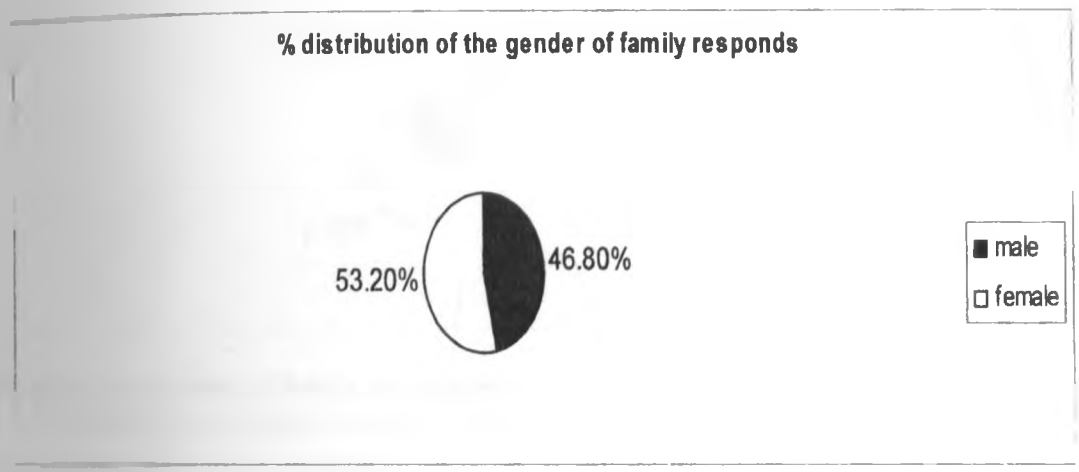
4.1 Social-demographic data of families and nurses and their influence on perception of families' needs

The relationship of various social-demographic variables and their influence of on perception of the top ten families' needs and the ten most 'unmet' families' needs were established using Chi-square.

4.1.1 Distribution of the gender of family respondents

53.2%(150) were female and 46.8%(132) were male. female: male (ratio)=1.1:1

Figure 3: Pie chart on gender of family respondents



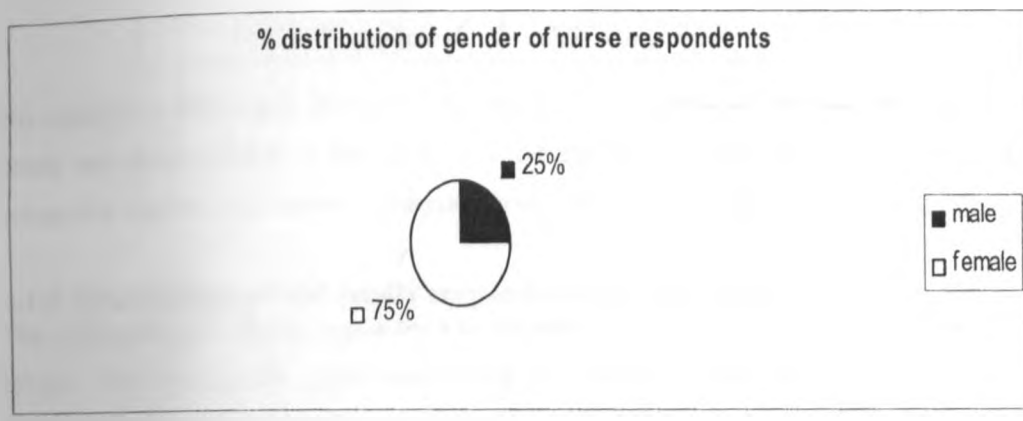
There were differences in perception of necessity and extent to which families' needs are met between male and female. In four (i.e. ' to have questions answered honestly', 'to have explanations given in understandable terms', 'to feel accepted by the hospital staff', and 'to receive information about the patient daily'.) out of the top ten family needs and in two (i.e.' to know staff qualifications' and 'to be called at home about changes in patients condition.) out of the ten most unmet needs, there were significant differences ($p<0.05$). Female respondents had a higher frequency of perception of importance of the top ten need statements and a lower perception of extent to which needs are met than male. Sex of family member therefore influences their perception of families' needs.

4.1.2 Distribution of the gender of nurse respondents

25%(21) of the nurse participants in this study were male and 75%(63) were female. male: female (ratio)=1:3. Among the one hundred and one (101) nurses working in ICU/HDU (total number of nurses including those who did not participate), 20.8% (21) were male and 79.2%(80) were female. A ratio of 1:4 i.e. male: female. The nurse respondents had therefore a slightly higher number of male making a ratio of 1:3 i.e. male to female. There was a significant difference ($p<0.05$) in perception necessity of one (i.e. 'to be told specific facts about patients

progress') of the top ten important needs between male and female nurses and a significant differences in perception of meeting two (i.e. ' to have a telephone near the waiting room', and 'to have a family doctor participate in care of the patient'.) of the ten most unmet needs. The female nurses had a higher perception of need necessity and a higher perception of needs 'not met'. Sex of the nurses therefore influences perception of families' needs.

Figure 4: Pie chart on gender of nurse respondents



4.1.3 Age distribution of family respondents

The family respondents had a mean age of 34.7 years. The active age categories were: 18-27yrs(99) and 28-37 yrs. Members of the various age brackets showed a significant ($p<0.05$) difference in perception of necessity of one (i.e. 'to be given realistic hope'.) out of the ten most necessary needs and no significant difference ($p>0.05$) in perception of the ten most unmet needs. Chi-square test was non-contributory in relating the various ages with perception of families' needs. Nevertheless, age influences families' perception of their needs.

Table 2: Age distribution of family respondents

S.NO.	Age bracket	Frequency	Freq. %
1	18-27	99	35.10%
2	28-37	83	29.40%
3	38-47	56	19.90%
4	48-57	31	11%
5	58-67	9	3.20%
6	>67	2	0.70%
7	Missing	2	0.70%
	Total	282	100.00%
	Mean	34.7yrs	

4.1.4 Age distribution of nurse respondents

Among the nurse respondents, the majority were aged 28-37yrs (50) and 38-47yrs (31). The mean age was 37.4yrs. There was no respondent aged 18-27. Possibly this age group is too young to have achieved the requirements for deployment in the critical care unit.

Table 3: Age distribution of nurse respondents

S.NO.	age bracket	frequency	freq. %
1	18-27	0	0%
2	28-37	50	59.50%
3	38-47	31	36.90%
4	48-57	3	3.60%
	Total	84	100%
	mean	37.4yrs	

No significant differences ($p>0.05$) were found in perception of necessity of top ten families' needs and in perception of the extent of meeting the ten most unmet needs among the age categories. Age was not seen to influence nurses' perception of families' needs.

4.1.5 Relationships of the family respondents to the patients

The relationships of family respondents to the patients admitted in the ICU are shown in the table below. Majority i.e.44% (124) were from the nuclear family, 38.7% (109) were from the extended family and 17.4%(49) were friends.

Table 4: Relationships of family respondents to the patients

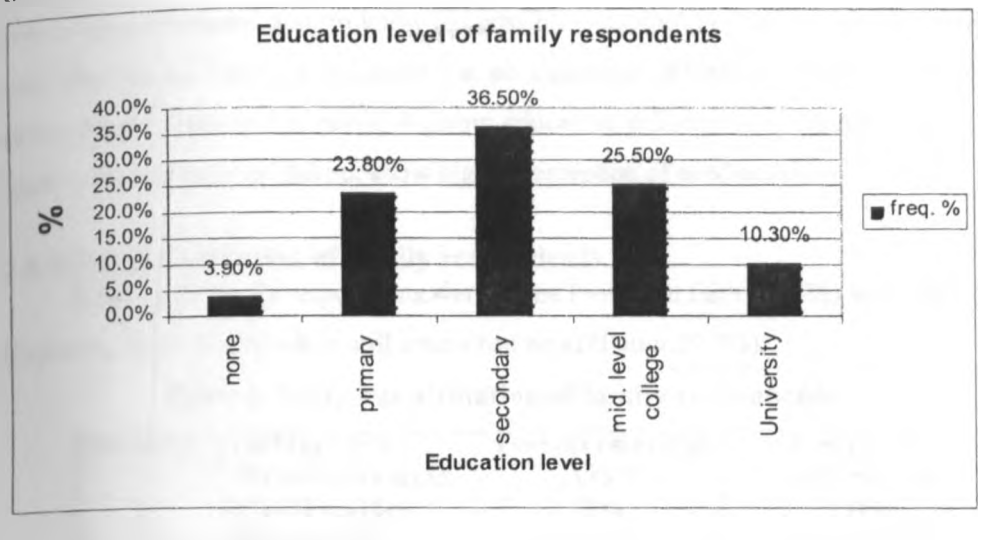
S.NO.	Relationship	frequency	freq. %
1	spouse	16	5.70%
2	parent	40	14.10%
3	adult child	29	10.30%
4	brother/sister	39	13.80%
5	uncle/aunt	34	12.10%
6	nephew/nice	29	10.30%
7	cousin	28	9.90%
8	in-law	8	2.90%
9	guardian	10	3.50%
10	friend	49	17.40%
	Total	282	100.00%

No significant differences ($p>0.05$) were found in perception of necessity of top ten families' needs and in perception of the extent of meeting the ten most unmet needs among the categories of relationship. The relationship of family member to the patients was not seen to influence perception of family needs

4.1.6 Level of education of the family respondents

3.9%(11) had no formal education, 23.8%(67) had primary education, 36.5%(103) had secondary school education, 25.5(72) had middle level college education and 10.3%(29) had university education.

Figure 5: Column graph on level of education of the family respondents



There was a significant difference ($p<0.05$) in perception of necessity of one (i.e. 'to be told specific facts about patients progress'.) of the top ten families' needs and significant differences ($p<0.05$) in perception of extent of meeting five (i.e. 'to have a bathroom near the waiting room', 'to have young children visit patients in ICU', 'to have a toilet near the waiting room', 'to know staff qualifications', and 'to have a family doctor participate in care of the patient'.) of the ten most unmet family needs. Those with university education showed a higher perception of need necessity and those with lower level of formal education showed a higher perception of needs 'not met'. Level of education of family members influences perception of families' needs.

4.1.7 Level of education of the nurse respondents

Majority of the nurse participants had post-basic diploma in nursing (58.3% i.e.49) followed by those who had basic diploma in nursing (12.4% i.e.18)

Table 5: Level of education of the nurse respondents

S.NO.	education Level	frequency	freq. %
1	post-basic diploma in nursing	49	58.3%
2	basic diploma in nursing	18	21.4%
3	undergoing a course in post basic diploma in nursing	8	9.5%
4	post-basic diploma in othe field	5	6.0%
5	Bachelor of Science in Nursing (training)	2	2.4%
6	other	2	2.4%
	Total	84	100.0%

There was a significant difference ($p<0.05$) in perception of necessity of two (i.e. 'to be free to express emotions' and 'to know the possible outcome'.) out of the ten top families' needs among the various levels of education but no significant difference in perception of extent of meeting the ten most unmet needs. Nursing education influences perception of families needs. Higher levels of education did not show higher perception of need necessity.

4.1.8 Religious affiliation of family respondents

Majority of family respondents were of the Protestant faith (58.5%) while the least where affiliated to Hindu (0.4%) while still others had no affiliation (0.4%).

Table 6: Religious affiliation of family respondents

S.NO.	religion	frequency	freq. %
1	Protestant	165	58.50%
2	Catholic	79	28%
3	Muslim	29	9.60%
4	Hindu	1	0.40%
5	Other	1	0.40%
6	None	1	0.40%
7	missing	6	3%
		282	100%

There were significant differences ($p<0.05$) in perception of necessity of nine of the top ten families' needs (Table 11, needs with serial No. 1-8 and 10) and a significant difference ($p<0.05$) in perception of extent of meeting one (i.e. 'to have a bathroom near the waiting room') of the ten most unmet family needs. In general, Protestants showed a higher perception of necessity of the nine most important needs and the Muslim members showed a higher perception of need 'not met'. Religion influences perception of families' needs.

4.1.9 Religious affiliation of nurse respondents

Majority of the nurse participants were affiliated to the Protestant faith (66.6%), followed by affiliation to Catholic faith (26.2%). Some had no affiliation (1.2%). There were significant differences ($p<0.05$) in perception of necessity of one (i.e. 'to know the possible outcome'.) of the top ten families' needs and significant differences ($p<0.05$) in perception of extent of meeting three (i.e. 'to have a telephone near the waiting room', to know staff qualifications' and 'to have toilet near the waiting room.') of the ten most unmet family needs. Catholic faithful showed a higher rating of necessity of the need 'to know possible outcome'. The Protestant faithful had a higher perception of needs 'not met' than other groups. Religion influences nurses' perception of families' needs.

Table 7: Religious affiliation of nurse respondents

S.NO.	religion	frequency	freq. %
1	Protestant	56	66.60%
2	Catholic	22	26.20%
3	Muslim	4	4.80%
4	None	1	1.20%
5	missing	1	1.20%
6	Hindu	0	0%
	Total	84	100.00%

4.1.10 Length of nursing practice of nurse practitioners

The table below shows the number of nurses in various categories of experience in general nursing practice. Majority (25%) had practiced for 7-8yrs. Mean length of practice is 9.7yrs.

Table 8: Length of nursing practice of nurse practitioners

SNO	Years of practice	Frequency	Frequency %
1	>3	2	2.4
2	3-4	3	3.6
3	5-6	17	20.2
4	7-8	21	25.0
5	9-10	9	10.7
6	11-12	10	11.8
7	13-14	7	8.3
8	15-16	5	6.0
9	17-18	4	4.8
10	19-20	4	4.8
11	>21	2	2.4
	Total	84	100.0
Mean	**9.7 Yrs**		

There were significant differences ($p<0.05$) in perception of four (i.e. 'to have assurance that good care is being given', 'to be free to express emotions', 'to feel that staff are caring' and 'to feel accepted by the hospital staff'.) out of the top ten families' needs among the various groups of nursing experience but no significant difference in perception of extent of meeting the ten most unmet needs. Chi-square test showed that those with an experience in nursing >10 years had a higher perception of necessity of the above-mentioned needs. Nursing experience influences nurses' perception of families' needs.

4.1.11 Nurses length of critical care nursing practice

The table below summaries the length in years of critical care nursing practice of the nurse respondents. Majority of the nurses have been in critical care practice for ½-2yrs (32%). The mean length of practice in critical care is 4.7yrs.

There was no significant difference ($p>0.05$) in perception of the top ten families' needs among the various groups of critical care nursing experience and in perception of the ten most unmet

needs. Therefore the length of experience in critical care nursing was not found to influences the nurses' perception of families' needs.

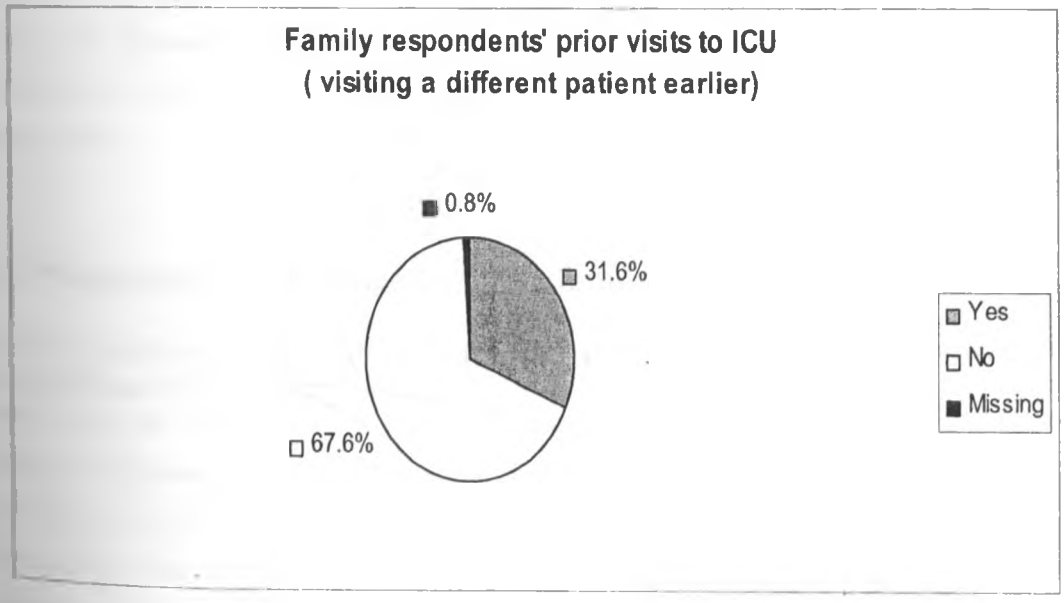
Table 9: Length of critical care nursing practice of the nurse respondents

SNO	Length in years	Frequency	Frequency %
1	½-2	27	32.0
2	3-4	16	19.0
3	5-6	20	23.8
4	7-8	5	6.0
5	9-10	4	4.8
6	11-12	4	4.8
7	13-14	3	3.6
8	15-16	1	1.2
	Missing	4	4.8
	Total	84	100.0
Mean	**4.7 years**		

4.1.12 Family respondent's prior visits to ICU (visiting a former patient)

Majority of the family members i.e. 67.6% (191) had not visited another patient in ICU before. This means that they had no exposure to ICU situation earlier. 31.6% (82) had visited another patient in ICU before. 0.8% (2) did not respond to this question.

Figure 6: A pie chart displaying family respondent's prior visit to ICU



There was a significant difference ($p<0.05$) in perception of one (i.e. 'to be given realistic hope') out of the top ten families' needs among those who had visited another patient in ICU previously and those who had not and a significant difference ($p<0.05$) in perception of extent of

meeting one (i.e. 'to have a bathroom near the waiting room.') of the ten most unmet needs. Those who had not visited a patient before had a higher rating of families' need- 'to be given realistic hope' and a higher perception of the need 'to have a bathroom near the waiting room as 'unmet'. Previous visit to ICU influences perception of families' needs.

4.1.13 Number of visits made by family members (to the admitted patient) prior to interview.

The table below shows the frequencies of visits by family respondents to their patients before participating in this study. Majority i.e. 47.9% (135) had visited their patients in the ICU for two occasions before being recruited into the study. Others had visited for more than two occasions (52.1%).

Table 10: Frequency of visits to ICU by family members prior to recruitment into the study.

SNO	Grouped visits	Frequency	Frequency %
1	2	135	47.9
2	3-5	61	21.6
3	6-8	22	7.8
4	9-11	16	5.7
5	>11	48	17.0
	Total	**282**	**100.0**

There was no significant difference ($p>0.05$) in perception of the top ten families' needs among those with different number of visits to the ICU prior to the interview and no significant difference ($p>0.05$) in perception of extent of meeting the ten most unmet needs among the five groups above.

4.2 Perception of family needs by the family members

4.2.1 Necessity of family needs and the extent to which they are met as perceived by the family members.

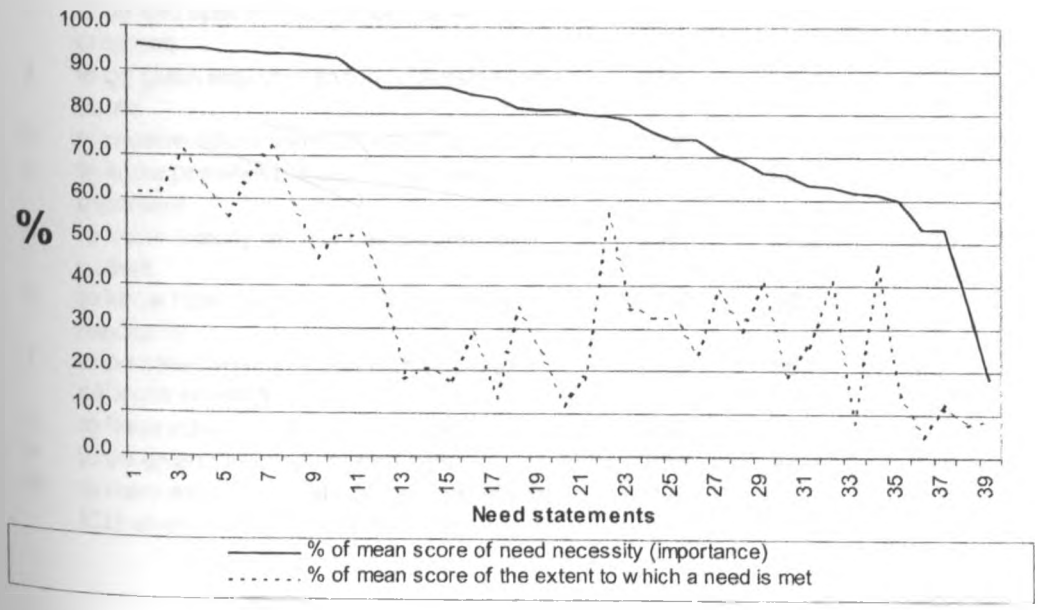
Mean scores of the various need statements were computed with the Software Package for Statistical Solutions (SPSS). Ranking of the need statements on the basis of the mean score was also done and the percentages of the mean scores calculated. The significance of the difference between the mean of importance and the mean of extent to which needs are met was calculated and the p-value ascertained. ($P<0.01$, correlation coefficient, $r=0.6709$)

Table 11: Rank ordering of mean scores and corresponding percentages of need statements as perceived by family respondents (on basis of scores of necessity)

SNO	need statements	mean score of necessity (out of 3)	% of mean score of need necessity (importance)	mean score of extent to which a need is met (out of 3)	% of mean score of the extent to which a need is met
1	to have assurance that good care is being given	2.88	96.0	1.85	61.7
2	to have good communication with health care team	2.86	95.3	1.85	61.7
3	to feel that the staff are caring	2.85	95.0	2.12	70.7
4	to have questions answered honestly	2.85	95.0	1.88	62.7
5	to be told specific facts about pt. progress	2.83	94.3	1.67	55.7
6	to be given realistic hope	2.83	94.3	1.96	65.3
7	to feel accepted by hospital staff	2.81	93.7	2.15	71.7
8	to be given explanations in understandable terms	2.81	93.7	1.76	58.7
9	to know possible outcome of patient's treatment	2.79	93.0	1.39	46.3
10	to receive information about patient daily	2.78	92.7	1.56	52
11	to know exactly what is being done on patient	2.67	89.0	1.55	51.7
12	to know how patient is treated medically	2.58	86.0	1.15	38.3
13	to be called at home about changes in patient's condition	2.58	86.0	0.54	18
14	to have specific person to call when unable to visit	2.58	86.0	0.62	20.7
15	to have advice on financial matters	2.57	85.7	0.53	17.7
16	to be given directions at bed side	2.54	84.7	0.86	28.7
17	to have toilets near waiting room	2.51	83.7	0.41	13.7
18	to a have spiritual care person visit patient	2.44	81.3	1.04	34.7
19	to have counseling when death of patient is inevitable	2.42	80.7	0.72	24
20	to have telephone near waiting room	2.42	80.7	0.35	11.7
21	to have explanation about environment of ICU when visiting for the first time	2.4	80.0	0.55	18.3
22	to be allowed to visit more often	2.39	79.7	1.7	56.7
23	to talk to doctor daily	2.36	78.7	1.05	35
24	to have a nurse in attendance while at bed side	2.27	75.7	0.98	32.7
25	to be allowed to visit any time	2.23	74.3	0.98	32.7

26	to talk to the same nurse daily	2.22	74.0	0.73	24.3
27	to have comfortable furniture in the waiting room	2.13	71.0	1.16	38.7
28	to participate in day to day decision making & planning for patient	2.08	69.3	0.89	29.7
29	to be free to express emotions	1.99	66.3	1.21	40.3
30	to have a chaplain talk to FMs while visiting	1.98	66.0	0.56	18.7
31	to help with patient's physical care	1.91	63.7	0.78	26
32	to talk to any nurse daily	1.9	63.3	1.22	40.7
33	to have a television near waiting room	1.85	61.7	0.25	8.3
34	to be allowed to stay with patient most of the time	1.84	61.3	1.34	44.7
35	to know staff qualifications	1.8	60.0	0.44	14.7
36	to have food/refreshments near waiting room	1.59	53.0	0.15	5
37	to have family doctor participate in care of patient	1.59	53.0	0.36	12
38	to have a bath room near waiting room	1.08	36.0	0.23	7.7
39	to allow young children in ICU	0.54	18.0	0.27	9
	Mean	**2.30**	**76.71**	**1.05**	**34.89**
	SDEV	**0.52**		**0.59**	
	Level of significance	z=9.9285		**p<0.01**	
	Correlation coefficient		0.6709		

Figure 7: Line graph of families' perception of their needs



Families perceived thirty-seven (94.9%) needs as necessary i.e. having mean scores of >1.5 (serial no. 1-37 in Table 11 above). Two (5.1%) needs were perceived as not necessary i.e. having mean scores of <1.5. (Serial no. 38-39 in Table 11 above). Again, they perceived eleven (29.7%) of the necessary needs as met (mean score of extent to which a need is met >1.5). The rest of the necessary needs are perceived as unmet (71.3%).

4.2.2 Comparison of the necessity of the needs for information, assurance, support, comfort and proximity and the extent to which the groups of needs are met as perceived by the family members

The 39 need statements were categorized into needs for information, assurance, support, comfort and proximity. Mean scores and standard deviations of the necessity of each category and the extent to which each is perceived to be met were calculated. A two tailed t=test was used to determine the significance of the difference between necessity and extent to which each need category is met.

Table 12: Comparison of groups of Family Needs as perceived by family members

S.NO.	Need Statements	mean score of necessity(out of 3)	% of mean score of necessity (importance)	mean score of extent to which needs are met (out of 3)	% of mean score of the extent to which needs are met
	Information				
1	to be told specific facts about patient's progress	2.83	94.3	1.67	55.7
2	to be given explanations in understandable terms	2.81	93.7	1.76	58.7
3	to receive information about patient daily	2.78	92.7	1.56	52
4	to know possible outcome of patient's treatment	2.79	93.0	1.39	46.3
5	to know exactly what is being done on patient	2.67	89.0	1.55	51.7
6	to know how the patient is being treated medically	2.58	86.0	1.15	38.3
7	to be called at home about changes in patient's condition	2.58	86.0	0.54	18
8	to have advice on financial matters	2.57	85.7	0.53	17.7
9	to be given directions at bed side	2.54	84.7	0.86	28.7
10	to have explanation about environment of ICU when visiting for the first time	2.4	80.0	0.55	18.3

11	to talk to doctor daily	2.36	78.7	1.05	35
12	to talk to any nurse daily	1.9	63.3	1.22	40.7
13	to talk to the same nurse daily	2.22	74.0	0.73	24.3
	MEAN	**2.52**	**84.70**	**1.12**	**37.34**
	SDEV	0.27		0.45	
	Level of significance of the difference	t= 9.6179 (24df)	p<0.01		
	Support Needs				
1	to feel accepted by hospital staff	2.81	93.7	2.15	71.7
2	to have counseling when death of patient is inevitable	2.42	80.7	0.72	24
3	to a have spiritual care person visit patient	2.44	81.3	1.04	34.7
4	to have a nurse in attendance while at bed side	2.27	75.7	0.98	32.7
5	to be free to express emotions	1.99	66.3	1.21	40.3
6	to have a chaplain talk to FMs while visiting	1.98	66.0	0.56	18.7
7	to help with patient's physical care	1.91	63.7	0.78	26
8	to participate in day to day decision making & planning for patient	2.08	69.3	0.89	29.7
9	to allow young children in ICU	0.54	18.0	0.27	9
	MEAN	**2.05**	**68.30**	**0.96**	**31.87**
	SDEV	**0.63**		**0.53**	
	Level of significance of the difference	t=3.9723 (16df)	p <0.01		
	Assurance				
1	to have assurance that good care is being given	2.88	96.0	1.85	61.7
2	to feel that the staff are caring	2.85	95.0	2.12	70.7
3	to have good communication with HCT	2.86	95.3	1.85	61.7
4	to be given realistic hope	2.83	94.3	1.96	65.3
5	to have questions answered honestly	2.85	95.0	1.88	62.7
6	to know staff qualifications	1.8	60.0	0.44	14.7
7	to have family doctor participate in care of patient	1.59	53.0	0.36	12
	MEAN	**2.52**	**84.09**	**1.49**	**49.83**
	SDEV	0.57		0.75	
	Level of significance of the difference	t=2.893 (12df)	0.01<p<0. 05		
	Comfort needs				
1	to have toilet near waiting room	2.51	83.7	0.41	13.7
2	to have a television in the waiting room	1.85	61.7	0.25	8.3
3	to have comfortable furniture in the waiting room	2.13	71.0	1.16	38.7
4	to have food/refreshments near waiting room	1.59	53.0	0.15	5
5	to have a bath room near waiting room	1.08	36.0	0.23	7.7
	MEAN	**1.83**	**61.08**	**0.44**	**14.68**
	SDEV	0.54		0.41	
	Level of significance of the difference	t=4.5844 (8df)	p <0.01		

	Proximity needs				
1	to have specific person to call when unable to visit	2.58	86.0	0.62	20.7
2	to be allowed to visit more frequently	2.39	79.7	1.7	56.7
3	to have telephone near waiting room	2.42	80.7	0.35	11.7
4	to be allowed to stay with patient most of the time	1.84	61.3	1.34	44.7
5	to be allowed to visit any time	2.23	74.3	0.98	32.7
	MEAN	**2.29**	**76.40**	**1.00**	**32.70**
	SDEV	0.28		0.54	
	Level of significance of the difference	t=4.7426 (8df)	p<0.01		

Table 14 above, shows that the families perceived the grouped need for information as the most important (84.7%), followed by the need for assurance (84.1%), then proximity (76.3%), support (68.3%) and comfort (61.1%).

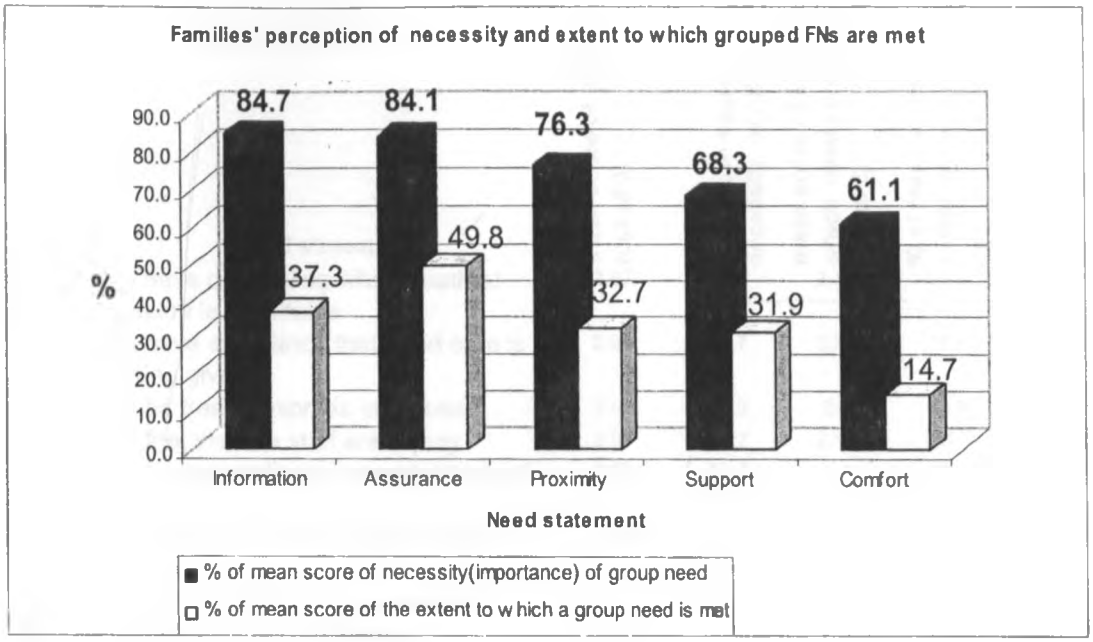
4.2.3 Extent to which grouped family needs are met as perceived by the families

According to families' perception, the best-met needs relate to assurance (49.8), followed by information (37.3%), then the needs for proximity (32.7%), support (31.9%)and comfort (14.1%).

4.2.4 Graphic presentation of the percentage of necessity and extent of meeting grouped family needs as perceived by family members

The column graph in figure 6 shows that family members perceived the need for information as the most important, followed by the need for assurance, proximity, support and comfort in that order. The highly met need relates to assurance, followed by information, proximity, support and comfort in that order.

Figure 8: Column graph on families' perception of necessity of grouped family needs and the extent to which they are met (percentage of mean scores).



There is a gap between the level of perceived necessity and perceived extent to which family needs are met. There are bigger significant differences ($p<0.01$) in perception of necessity and perception of extent to which grouped needs for information, proximity, support and comfort are met. The difference in perception of necessity and extent to which the need for assurance in met is only significant at significance level of 5% ($p<0.05$)

4.3 Nurses perception of families' needs

4.3.1 Nurse' perception of necessity of family needs and the extent to which they are met

Mean scores of the various need statements were computed with the Software Package for Statistical Solutions (SPSS). Ranking of the need statements on the basis of the mean score was also done and the percentages of the mean scores calculated.

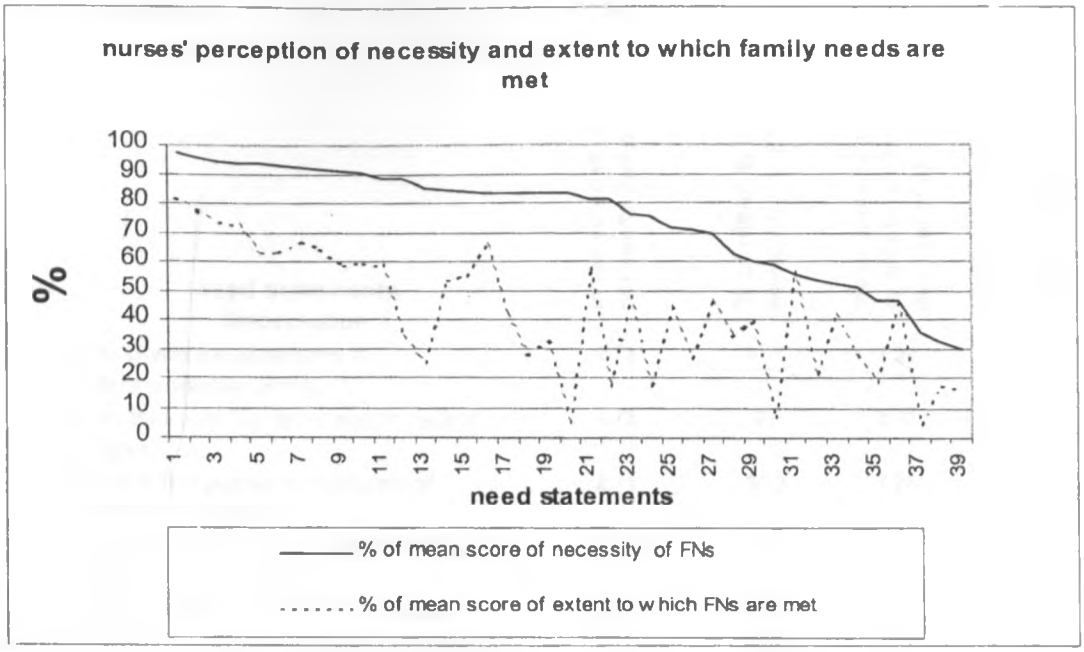
The significance of the difference between the two means (mean of perceived importance and mean of perceived extent to which needs are met) was calculated and the p-value ascertained. ($P<0.01$, correlation coefficient, $r = 0.6542$)

Table 13: Rank ordering of mean scores and corresponding percentages of need statements as perceived by nurse respondents (based on mean scores for necessity)

SNO	need statements	mean score of necessity (out of 3)	% of mean score of necessity of FNs	mean score of extent to which needs are met (out of 3)	% of mean score of extent to which FNs are met
1	to have counseling when death of patient is inevitable	2.93	97.7	2.45	81.7
2	to have assurance that good care is being given	2.87	95.7	2.33	77.7
3	to be free to express emotions	2.83	94.3	2.2	73.3
4	to feel that the staff are caring	2.81	93.7	2.16	72
5	to have questions answered honestly	2.81	93.7	1.9	63.3
6	to have good communication with HCT	2.79	93	1.9	63.3
7	to feel accepted by hospital staff	2.77	92.3	2.02	67.3
8	to be given explanations in understandable terms	2.75	91.7	1.94	64.7
9	to be told specific facts about patient's progress	2.73	91	1.77	59
10	to know the possible outcome of patient's treatment	2.71	90.3	1.78	59.3
11	to know exactly what is being done on patient	2.66	88.7	1.77	59
12	to have advice on financial matters	2.66	88.7	1.01	33.7
13	to have a toilet near waiting room	2.56	85.3	0.76	25.3
14	to receive information about patient at least once a day	2.53	84.3	1.6	53.3
15	to be told how patient is being treated medically	2.52	84	1.65	55
16	to be allowed to visit more frequently	2.49	83	1.95	65
17	To have a chaplain talk to family members while visiting	2.49	83	1.24	41.3
18	to have more comfortable furniture in the waiting room	2.49	83	0.84	28
19	to be given directions at the bed side	2.49	83	0.96	32
20	to have a television near waiting room	2.49	83	0.16	5.3
21	to be given realistic hope	2.44	81.3	1.73	57.7
22	to have explanation about the ICU environment before visiting for the first time	2.43	81	0.52	17.3

23	to have spiritual care person visit patient	2.29	76.3	1.44	48
24	to have telephone near waiting room	2.27	75.7	0.53	17.7
25	to talk to the same nurse attending to the patient daily	2.14	71.3	1.32	44
26	to be called at home about changes in patient's condition change	2.13	71	0.79	26.3
27	to talk to doctor daily	2.1	70	1.38	46
28	to participate in day to day decisions & planning for the patient	1.87	62.3	1.02	34
29	to have a nurse in attendance while at bed side	1.81	60.3	1.18	39.3
30	to have food/refreshments near waiting room	1.76	58.7	0.22	7.3
31	to talk to any nurse daily	1.66	55.3	1.68	56
32	to have specific person to call when unable to visit	1.61	53.7	0.63	21
33	to be allowed to visit any time	1.57	52.3	1.23	41
34	to help with patient's physical care	1.53	51	0.81	27
35	to have a family doctor participate in care of patient	1.4	46.7	0.56	18.7
36	to be allowed to stay near the patient most of the time	1.4	46.7	1.38	46
37	to have a bath room near waiting room	1.07	35.7	0.14	4.7
38	to know the staff qualifications taking care of the patient	0.96	32	0.53	17.7
39	to allow young children in to visit the admitted patient in ICU	0.9	30	0.49	16.3
	Mean	**2.22**		**1.28**	
	SDEV	**0.58**		**0.64**	
	Level of significance (z-test)	z=6.7966	p <0.01		
	correlation coefficient		0.6542		

Figure 9: Line graph of nurses' perception of family needs



Nurses perceived thirty-four (87.1%) of the needs as necessary i.e. having mean scores of >1.5 (serial no. 1-34 in Table 13 above). Five (12.8%) needs were perceived as not necessary i.e. having mean scores of <1.5. (Serial no. 35-39 in Table 13 above). Again, they perceived sixteen (47.1%) of the necessary needs as met (mean score of extent to which a need is met >1.5). The rest of the needs are perceived as unmet (52.9%). Nurses therefore show a lower perception of importance of families' needs as well as a higher perception of needs being met.

4.3.2 Comparison of the necessity of the needs for information, assurance, support, comfort and proximity and the extent to which the groups of needs are met as perceived by the ICU nurses.

The 39 need statements were categorized into needs for information, assurance, support, comfort and proximity. Mean scores and standard deviations of the necessity of each category and the extent to which each is perceived to be met were calculated. A two tailed t=test was used to determine the significance of the difference between necessity and extent to which each need category is met.

Table 14: Comparison of mean scores of groups of Family Needs as perceived by nurse respondents

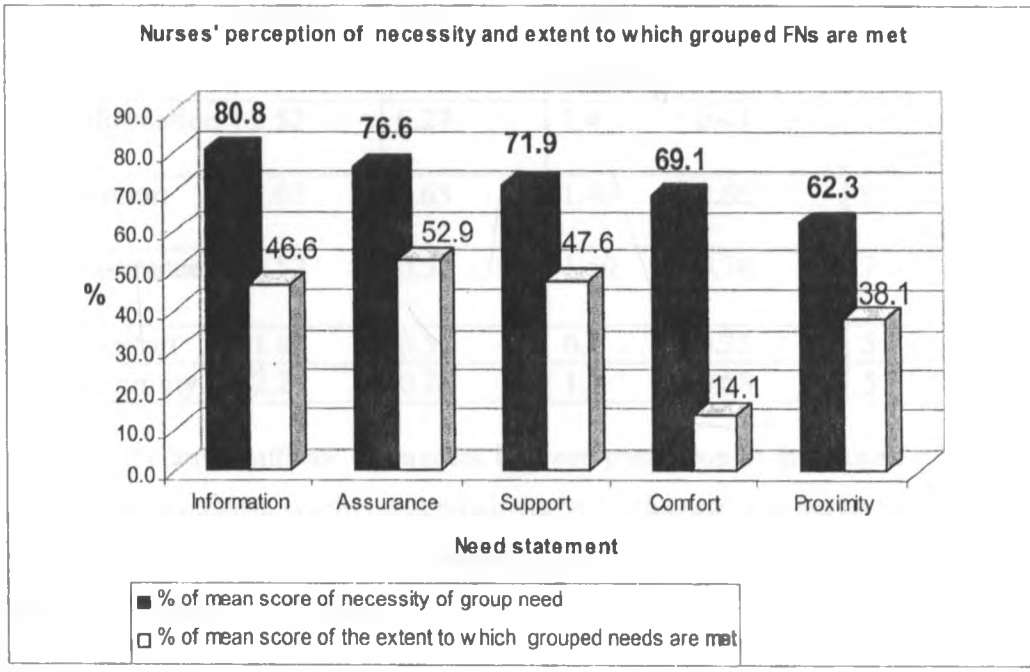
SNO	need statements	mean score of necessity (out of 3)	% of mean score of necessity of FNs	mean score of extent to which needs are met (out of 3)	% of mean score of extent to which FNs are met
	Information				
1	to be given explanations in understandable terms	2.75	91.7	1.94	64.7
2	to be told specific facts about patient's progress	2.73	91	1.77	59
3	to know the possible outcome of patient's treatment	2.71	90.3	1.78	59.3
4	to know exactly what is being done on patient	2.66	88.7	1.77	59
5	to have advice on financial matters	2.66	88.7	1.01	33.7
6	to receive information about patient at least once a day	2.53	84.3	1.6	53.3
7	to be given directions at the bed side	2.49	83	0.96	32
8	to be told how patient is being treated medically	2.52	84	1.65	55
9	to have explanation about the ICU environment before visiting for the first time	2.43	81	0.52	17.3
10	to be called at home about changes in patient's condition change	2.13	71	0.79	26.3
11	to talk to doctor daily	2.1	70	1.38	46
12	to talk to any nurse daily	1.66	55.3	1.68	56
13	to talk to the same nurse attending to the patient daily	2.14	71.3	1.32	44
	Mean	**2.42**	**80.79**	**1.40**	**46.58**
	SDEV	0.33		0.43	
	Level of significance	t=6.785 (24df)	p<0.01		
	Support				
1	to have counseling when death of patient is inevitable	2.93	97.7	2.45	81.7
2	to be free to express emotions	2.83	94.3	2.2	73.3
3	to feel accepted by hospital staff	2.77	92.3	2.02	67.3
4	To have a chaplain talk to family members while visiting	2.49	83	1.24	41.3
5	to have spiritual care person visit patient	2.29	76.3	1.44	48
6	to participate in day to day decisions & planning for the patient	1.87	62.3	1.02	34
7	to have a nurse in attendance while at bed side	1.81	60.3	1.18	39.3
8	to help with patient's physical care	1.53	51	0.81	27

9	to allow young children in to visit the admitted patient in ICU	0.9	30	0.49	16.3
	Mean	**2.16**	**71.91**	**1.43**	**47.58**
	SDEV	0.68		0.66	
	Level of significance	t=2.3116 (16df)	0.01<p<0.05		
	Assurance				
1	to have assurance that good care is being given	2.87	95.7	2.33	77.7
2	to have questions answered honestly	2.81	93.7	1.9	63.3
3	to feel that the staff are caring	2.81	93.7	2.16	72
4	to have good comm. with HCT	2.79	93	1.9	63.3
5	to be given realistic hope	2.44	81.3	1.73	57.7
6	to have a family doctor participate in care of patient	1.4	46.7	0.56	18.7
7	to know the staff qualifications taking care of the patient	0.96	32	0.53	17.7
	Mean	**2.30**	**76.59**	**1.59**	**52.91**
	SDEV	0.79		0.74	
	Level of significance	t=1.7355(12df)	p>0.05		
	Comfort				
1	to have comfortable furniture in the waiting room	2.49	83	0.84	28
2	to have a toilet near waiting room	2.56	85.3	0.76	25.3
3	to have a television near waiting room	2.49	83	0.16	5.3
4	to have food/refreshments near waiting room	1.76	58.7	0.22	7.3
5	to have a bath room near waiting room	1.07	35.7	0.14	4.7
	Mean	**2.1**	**69.1**	**0.4**	**14.1**
	SDEV	0.65		0.35	
	Level of significance	t=5.1492 (8df)	p<0.01		
	Proximity				
1	to be allowed to visit more frequently	2.49	83	1.95	65
2	to have telephone near waiting room	2.27	75.7	0.53	17.7
3	to have specific person to call when unable to visit	1.61	53.7	0.63	21
4	to be allowed to visit any time	1.57	52.3	1.23	41
5	to be allowed to stay near the patient most of the time	1.4	46.7	1.38	46
	Mean	**1.9**	**62.3**	**1.1**	**38.1**
	SDEV	0.48		0.58	
	Level of significance	t=2.3761 (8df)	0.01<p <0.05		

4.3.3 Graphic presentation of the percentage of necessity and extent of meeting grouped family needs as perceived by nurses

Nurses perceived the need for information (80.8%)as the most important, followed by the needs for assurance (76.6%), support (71.9%), comfort (69.1%) and proximity (62.30%) in that order. The highly met grouped needs relate to assurance (52.6%), followed by support (47.6%), then information (46.6%), proximity (38.1%), and comfort (14.1%) in that order.

Figure 10: Column graph on nurses' perception of necessity of grouped family needs and the extent to which they are met (percentage of mean scores).



There is a gap between the level of perceived necessity and perceived extent to which family needs are met. There are bigger significant differences ($p<0.01$) in nurses' perception of necessity of needs for information and comfort and perception of extent to which they are met. The difference in perception of necessity and extent to which the needs for proximity and support are met is only significant at significance level of 5% ($p<0.05$). There is no significant difference ($p>0.05$) in perception of the necessity and extent to which the need for assurance is met.

4.4 Comparison of perception of family needs by the two groups

4.4.1 Comparison of families' perception of necessity of grouped family needs and nurses perception of the extent to which these needs are met.

Table 15: Computed significance of the differences in mean scores of grouped family needs as perceived by families and mean scores of extent to which these needs are met as perceived by nurses.

SNO	Grouped needs	Mean scores of necessity of grouped needs (FMs)	SDEV of scores of need statements from the mean score	Mean scores of extent of meeting grouped needs (nurses)	SDEV of scores of need statements from the mean score	N	t-value	p-value
1	Information	2.52	0.27	1.4	0.43	13	6.0369 (24df)	$p<0.001$
2	Support	2.05	0.63	1.43	0.66	9	2.0388 (16df)	$p>0.05$
3	Assurance	2.52	0.57	1.59	0.74	7	2.6345 (12df)	$p<0.05$
4	Comfort	1.83	0.54	0.4	0.35	5	4.9687	$p<0.01$
5	Proximity	2.29	0.28	1.1	0.58	5	4.1319	$p<0.01$

There are significant differences between perception of importance of family needs for information, assurance, comfort and proximity by the families and perception of extent to which these needs are met according to the nurses. This constitutes a gap in delivery of family centered nursing that nurses are not aware of, consequently compromising the quality of care given to the families of patients admitted in the intensive care unit. Nevertheless, the need for support is adequately met ($p>0.05$).

4.4.2 Comparison of perception of necessity and extent to which family needs are met between family members and ICU nurses

Table 16

Group of respondent (And p-value)	Mean score of necessity of FNs	SDEV	Mean score of extent of meeting FNs	SDEV
Family members	2.3	0.52	1.05	0.59
Nurses	2.22	0.58	1.28	0.64
p-value	Z=0.6415	p>0.05	Z=1.6499	p>0.05

There is no significant difference in perception of necessity of family needs and extent to which they are met between the ICU nurses and family members.

CHAPTER 5

5.1 DISCUSSION

Certain socio-demographic variables were observed to influence the perception of families' needs by both nurses and family members. These are: gender, education level and religious affiliation. The age of the nurses is an exception, but the age of family respondents had an influence. The relationship of the family members to the patients did not have an influence. A study to explore family needs in critical care unit in Hong Kong[31] showed a significant difference in perception necessity of one of the top ten important needs ($p<0.05$) between male and female nurses but no significant difference in perception of meeting the ten most unmet needs. A study done in U.K, [7] did not identify any influence of social demographic variables on perception of families needs. In a study on families' needs carried out in a large, urban, teaching medical center, parents, spouses, siblings, adult children and 'significant others' ranked their needs in a strikingly similar way.[30]

This study established that the length of nursing experience in general has an influence in perception of families' needs. Indeed a review of literature[41] had shown that nurses with less experience are still developing skills in patient care, and tend to focus on patient-nurse relationships while more experienced nurses may be more aware of the positive outcomes of making good relationships with families.

Families' earlier exposure to ICU by having visited another patient did not show a difference in perception of the top ten most important and the ten least-met families' needs. Indeed it has been said that the failure to empower patients and their families with appropriate information makes them not improve in their perception.[8]

Families of patients admitted in the ICU identified the need for information (84.7%) as the most important, followed by the needs for assurance (84.1%), proximity (76.3%), support (68.3%)and comfort (61.1%) in that order (figure 8). Similar studies[29,31,41,42] have ranked the needs for assurance, information and proximity the highest and then the needs for support and comfort.

Among the ten (10) most necessary families' needs, five (5) addressed assurance need, four (4) information need and one (1) support need (Table 17 below). The ranking made by Molter[26]contained seven (7) of the needs identified among the top ten i.e. 70% of the top ten (10) needs identified in this study. The classification by Engli and Kirsivali[27] had included six (60%) of the top ten (10) needs.

Table 17: Top ten families' needs compared with those from other studies

<table>
<tr>
<th>Top ten FNs from this study (as perceived by family members)</th>
<th>Common FNs from Molter's study[26]</th>
<th>Common FNs from a study by Engli and Kirsivali[27]</th>
</tr>
<tr>
<td>1.To have assurance that good care is being given (a)
2.To have good communication with health care team (a)
3.To feel that the staff are caring (a)
4.To have questions answered honestly (a)
5.To be told specific facts about patient's progress (b)
6.To be given realistic hope (a)
7.To feel accepted by hospital staff ©
8.To be given explanations in understandable terms (b)
9.To know possible outcome (b)
10.To receive information about the patient daily (b)
Key:
<table>
<tr><th></th><th></th><th>Count</th></tr>
<tr><td>(a)</td><td>Assurance</td><td>5</td></tr>
<tr><td>(b)</td><td>Information</td><td>4</td></tr>
<tr><td>©</td><td>Support</td><td>1</td></tr>
</table>
</td>
<td>1.To be given realistic hope (a)
2.To feel that hospital personnel care about the patient (a)
3.To know the possible outcome (b)
4.To have questions answered honestly (a)
5.To know specific facts about patients progress (b)
6.To receive information about the patient daily (b)
7.To have explanations given in understandable terms (b)
Key:
<table>
<tr><th></th><th></th><th>Count</th></tr>
<tr><td>(a)</td><td>Assurance</td><td>3</td></tr>
<tr><td>(b)</td><td>Information</td><td>4</td></tr>
</table>
70% of needs identified in this study</td>
<td>1.To know the possible outcome (b)
2.To have questions answered honestly (a)
3.To have assurance that good care is being given (a)
4.To feel that the staff are caring (a)
5.To be given explanations in understandable terms (b)
6.To be told specific facts about patient's progress (b)
Key:
<table>
<tr><th></th><th></th><th>Count</th></tr>
<tr><td>(a)</td><td>Assurance</td><td>3</td></tr>
<tr><td>(b)</td><td>Information</td><td>3</td></tr>
</table>
60% of needs identified in this study</td>
</tr>
</table>

It is therefore evident that the rank ordering of families' needs changes from region to region but the top ten needs remain most consisted.[27] Again ICU nurses shared eight (80%) of the top ten needs identified by the family respondents.

Families perceived the need for assurance as the best met need followed by the needs for information, proximity, support and comfort. The levels at which these needs are met are lower than those expected. This study has shown that there is a significant difference between what families perceived as important and what is perceived as met ($p<0.05$). Despite the need for information being the most important, it is met at a level lower than that for assurance. A study[34] carried out in a Spanish hospital had indicated that 94% of families' needs were being met. This is higher than the 34.9% obtained in this study. In a study[14] to evaluate the needs of 45 family members in a 3 level trauma center, it was discovered that only 4 (40%) out 10 needs identified as most important were being met. In this study, families perceived nine (90%) of the top ten needs as being met. The nurses are inconsisted in meeting families' needs because of differing beliefs in obligations to care.[14] This study has established that the families of patients in the ICU are able to identify their own needs, however these needs are not adequately met.

This study has shown that the nurses working in the ICU have underestimated the necessity of families' needs. Among the thirty nine (39) need statements, nurses perceived thirty four (34) as important while the families perceived thirty seven (37) as important. In a study[31] of neuro-surgical patients in Hong Kong, nurses tended to under-estimated those items that the families considered as important. Nurses rated the needs for support and comfort higher while the families valued information, especially from the same nurse, proximity to the patient, and assurance through offering hope. These observations agree well with the findings of this study where nurses have rated the needs for support and comfort higher than the need for proximity (figure 10). It is therefore important that nurses abandon their subjective thinking and try to find out what family members really need.[43]

This study has found out that nurses overestimate the level at which families needs are met. Among the thirty nine (39) need statements, sixteen (47.1%) were perceived by nurses as having been met while families only perceived eleven (29.7%) as having been met. Nurses are only moderately accurate in their assessment of families' needs.[32] Nursing education should therefore focus on assessment of unmet needs. The nursing paradigm at present does not adequately account for the family phenomena.[7] Most nursing theories do not address the family as a client but concentrate on the patient, resulting into lack of basis for family care.[38]

This study has established that there are differences in perception of importance of families' needs by the family members and the nurses' perception of the extent to which they are met (Table 15). Significant differences ($p<0.05$) exist between perception of importance of the needs for information, assurance, proximity and comfort by the families and assessment of the extent to which nurses perceive them as being met. A gap therefore exists between the families'

expectation and the care received. Family centered nursing in KNH ICU is therefore inadequate. It has been established that, because of their 24-hour cover and close relationship with patients in crisis, nurses are in the best position to meet families' needs.[42] In another study, the patient relatives, even though being comforted by the competency and efficiency of nursing staff, they often referred to the ease with which they could communicate with the nurses.[43] Some of the reasons why nurses fail to meet families' needs involve being overwhelmed, tired or busy with an unstable patient. In this, nurses feel justified in limiting visiting times or not answering questions in detail, but their actions are not understood by some families.[42] Where relatives have been invited in certain aspects of caring for patients, such as eye and mouth care and other simple hygiene needs, it has been shown that good relationships are created between the family and the nurses. An opportunity is provided for the nurses to discuss patients, the care received and relatives' feelings, thus meeting one of the families' most important needs, which is for information.[45] Low staffing ratios are and continue to be a teething problem in the critical care settings.[42] The Nursing Council of Kenya[46] recommendation for nurse to patient ratio in critical care unit is 1:1. The current ratio in the area where this study was conducted is at best 2:3 and at worst 1:2 i.e. two nurses to three patients or one nurse to two patients.

The need to have children visit their relatives in the ICU was perceived by both groups of respondents as of least necessity. This practice seems to be wide. A study done in England[47] whose aim was to gain greater insight and understanding into the reason why, despite evidence to support the benefits to children of visiting their critically ill family and friends, they remain discouraged and restricted. One main reason that came out was that there is a desire of well parents to protect and shield their children from the crisis of critical illness. This feeling seems to be shared by both the families and the nurses in this study.

Nurses and families perceived comfort needs as least met, a finding shared by other studies.[29,31,41,42] The KNH ICU lacks a conducive waiting room for patients' visitors. The relatives wait in a corridor that forms access route to the entrance of the ICU. There are inadequate seats in the space. One of the additional needs mentioned by the families was to have more seats. There is no toilet facility for the relatives near the waiting space. Relatives with immediate need to use toilet facilities have to request for permission to use the staff toilet. There is no form of entertainment in the 'waiting room', making the relatives wait anxiously for the time of getting into the ICU/HDU. It has been reported in review of literature that most of the ICU's waiting rooms are poor and/or often away from the unit.[7]

Strict policies regarding visiting of patients in ICU may serve to limit the meeting of need for proximity. The needs: 'to be allowed to visit any time', to be allowed to visit more often', 'to

be allowed to stay with the patient', 'to be allowed to visit conveniently', and 'to have a specific person to call in the ICU when unable to visit' were perceived by the families as important (with mean scores of >1.5). These express the families' need for proximity, which was ranked the 3rd in the five domains of needs. These needs are inadequately met (32.7%). The KNH ICU visiting policy indicates visiting times to be: Monday to Friday –1pm to 2pm and 4.30pm to 6pm and on Saturday and Sunday 1pm to 2pm and 4.30pm to 5.30pm. Only two visitors are allowed at a time. This is therefore a rigid visiting policy. Flexibility may increase relatives' satisfaction. A study on needs of families of patients with traumatic brain injury[8] showed an increasing families' satisfaction with lenient visiting hours for the patient's immediate family members; and waiting rooms that are more convenient in size, décor and proximity to patients.

The null hypotheses of this study have been rejected by the virtue of the findings of the study and therefore the alternative hypotheses hold true i.e.

1. There is a significant difference in family members' perception of the necessity of families' needs and the extent to which these needs are met.
2. There is a significant difference in nurses' perception of the necessity of families' needs and the extent to which these needs are met.

5.2 CONCLUSION

It is concluded that:

Family members are able to identify their own needs. Nurses have a tendency to underestimate the importance of families' needs and overestimate the extent to which the needs are met.

There are significant differences in perception of the necessity and extent to which family needs are met among family members and among the ICU nurses.

Families have identified the needs for information, assurance and proximity as the most important and the needs for support and comfort the least important while nurses identified the needs for information, assurance and support as most important and the needs for comfort and proximity the least important.

The meeting of families' needs in the critical care unit does not match the expectation of the patients' families hence compromising the quality of family centered nursing in KNH ICU/HDU.

5.3 RECOMMENDATIONS

1. The Intensive care team should use the family needs identified and ranked in order of their perceived importance to prioritize and rationalize the care given to the family members and their patients.
2. It is important to identify interventions that support families and demonstrate the holistic caring commitment that the critically ill patient and his/her family deserve. A holistic approach of nursing management requires that nurses assess families' needs using valid and reliable tools and develop interventions, strategies and counseling programmes to meet the identified needs. It would be worthwhile for nurses to begin to adopt interventions that meet the specific needs.
3. Critical care nurses and the health care team in general needs to be updated on the concept of family centered nursing and its practicability in the critical care area.
4. There is need to identify factors which influence staff and family interactions in the critical care unit so as to come up with a written protocol for interacting with patients' families in the critical care unit.
5. Staffing of the critical care unit should be maintained at the ratio of one nurse to one patient for all the working shifts. There is need for more counselors. Nurses deployed in ICU/HDU should preferably have undergone the one-year post basic training in critical care nursing.
6. Hospital policy regarding visiting of patients by their relatives should be more flexible. Allowing the family to stay by the patient's bedside is an idea that should be considered by the hospital.
7. The critical care environment needs to be improved to take concern of the patients' relatives. The waiting room should be spacious with comfortable furniture, a nearby telephone, a toilet and some source of entertainment for occupying the minds of the relatives and for distracting them from the patient's critical situation. It should again be located near the ICU/HDU.
8. Regular auditing of patient and family care may help in identifying areas requiring improvement.

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Appendix 1

Critical Care Family Needs Inventory (CCFNI)

S.NO.	Need Statements
	Information Needs
1	to be told specific facts about patient's progress
2	to receive information about patient daily
3	to be given explanations in understandable terms
4	to know possible outcome of patient's treatment
5	to know exactly what is being done on patient
6	to be given directions at bed side
7	to be called at home about changes in patient's condition
8	to know how the patient is being treated medically
9	to have advice on financial matters
10	to have explanation about environment of ICU when visiting for the time
11	to talk to doctor daily
12	to talk to any nurse daily
13	to talk to the same nurse daily
	Support Needs
1	to have counseling when death of patient is inevitable
2	to a have spiritual care person visit patient
3	to have a nurse in attendance while at bed side
4	to have a chaplain talk to family member while visiting
5	to help with patient's physical care
6	to participate in day to day decision making & planning for patient
7	to allow young children in ICU
8	to feel accepted by hospital staff
9	to be free to express emotions
	Assurance Needs
1	to have assurance that good care is being given
2	to be given realistic hope
3	to have family doctor participate in care of patient
4	to feel that the staff are caring
5	to know staff qualifications
6	to have good communication with the Health Care Team
7	to have questions answered honestly
	Comfort Needs
1	to have comfortable furniture in the waiting room
2	to have a television in the waiting room
3	to have food/refreshments near waiting room
4	to have a bath room near waiting room
5	to have toilet near waiting room
	Proximity Needs
1	to be allowed to visit more often
2	to be allowed to stay with patient
3	to be allowed to visit any time
4	to have specific person to call when unable to visit
5	to have telephone near waiting room

(Developed by Molter and modified over time. Adopted from literature)

APPENDIX 2a

CONSENT EXPLANATION FORM (FAMILIES)

The author of this study is a student at the University of Nairobi pursuing a master's degree in Critical Care Nursing with the University of Nairobi. The purpose of the study is to determine the needs of families of patients admitted in ICU and the extent to which these needs are met as perceived by the patients' family members and the ICU nurses at the Kenyatta National Hospital. The results of this study will be used to improve the care given to families of patients admitted in ICU and therefore promote family centered nursing and holistic care. The study is also undertaken in partial fulfillment of the requirements for the degree of Master of Science in critical care nursing.

The researcher and his two assistants will collect the data through an interview guide or questionnaire from the respondents who give consent. Answering the questionnaire may take between 30 and 45 minutes.

There are no perceivable risks involved. There are no invasive procedures used. No potential psychological, emotional and social harm associated with the study.

The interview will be conducted in a private room to enhance privacy. The family respondents are to be given explanation of any issue of their concern during the interview. There is no monetary benefit for the respondents.

The respondents are to participate voluntarily. One is free to decline to participate or to withdraw at any stage of the process without service being denied to the participant or to his/her patient(s). Participants are obtained by random selection. The total number of family members expected to participate is 282 and that for the nurses working in the ICU is 107. They are all expected to respond to the same questions.

Upon giving consent, the participant will be asked to avail himself or herself at a convenient time to him/her.

There is anonymous identity of all participants since no specific identity of the participants will used and records will be coded and no names or any other record linking the participant to the information given will be used. Confidentiality of the interview is maintained. Sharing of the study results will be inform of the perceived needs of families

of patients admitted in ICU and the extend of meeting these needs. Therefore no specific information from specific sources will be identifiable. The results will be shared with the ICU care providers and others who have a responsibility of improving the quality of care given to patients and their families in a critical care setting. Efforts will also be done to publish the results in a journal so as to have a wider audience.

The results of this study can be availed to any participant upon placing a request. Any further information, clarification or complains can be obtained from the author of the study and from Prof. Ngumi through the following addresses:

Investigators address
Mark Lewa Ngui,
School of Nursing,
University of Nairobi,
P. O. Box 19676.
Nairobi.
Tel. 0722-670704.

Prof. Ngumi
The Chairman,
Dept. of Surgery,
University of Nairobi
P. O. Box 19676.
Nairobi.

APPENDIX 2b

PARTICIPANT'S CONSENT FORM (FAMILIES)

In signing this document, I am giving my consent to be interviewed by the researcher or his assistants at Kenyatta National Hospital (KNH). I understand that I will be part of a research study that seeks to determine the needs of families of patients admitted in ICU and the extent to which these needs are met as perceived by the family members and the ICU nurses at KNH. I also understand that this study is also done in partial fulfillment of the Master of Science in critical care nursing degree of the University of Nairobi.

I understand that I will participate in the study at KNH at a time convenient to me. I will be asked questions relating to the needs being investigated, their necessity and the extent to which I perceive those needs are met. I also understand that answering the questions may take 30-45 minutes to complete.

I understand that I was selected to participate in this study at random. I have been informed that the interview is entirely voluntary and that even after the beginning to answer questions I can decline to respond to a specific question or decide to terminate the process at any point. I have been told that my answers to questions will not be given to anyone else and no reports of this study will ever identify me in any way. I have also been informed that my participation or non-participation or my refusal to answer some questions will have no effect on services that I or any member of my family may receive from health or social services providers.

This study will help to develop a better understanding of the needs of families of patients admitted in ICU and improve the family-centered nursing and holistic care.

I understand that the results of this study will be given to me if I ask for them and Mr. Mark Lewa Ngui and/or Prof. Ngumi can be contacted in case I have questions about the study or about my rights as a study participant. They can be reached through the following addresses:

Investigator's address
Mark Lewa Ngui,
School of Nursing,
University of Nairobi,
P. O. Box 19676.
Nairobi.
Tel. 0722-670704.

Prof. Ngumi
The Chairman,
Dept. of Surgery,
University of Nairobi ,
P. O. Box 19676.
Nairobi.

Participant's Signature..... Date.....

APPENDIX 3a

FOMU YA UFAFANUZI WA MAKUBALIANO (FAMILIA)

Mwandishi wa mtaala huu ni mwanafunzi katika chuo kikuu cha Nairobi anayesoma shahada ya uzamifu katika uuguzi fahamivu (critical care nursing) katika hicho chuo.

Lengo la utafiti huu ni kuchunguza mahitaji ya familia za wagonjwa wanaolazwa katika chumba cha wagonjwa mahututi na kiwango ambacho mahitaji haya yameweza kutimizwa kama yanavyofahamika na jamaa za wagonjwa na wauguzi katika chumba cha wagonjwa mahututi kilichoko hospitali kuu ya Kenyatta.

Matokeo ya utafiti huu yatatumika kusitawisha huduma inayotolewa kwa familia za wagonjwa waliolazwa katika chumba cha wagonjwa mahutututi na hivyo basi kukuza uuguzi uliojikita katika familia zenyewe na kuhakikisha utoaji wa huduma inayozingatia mahitaji yao yote. Utafiti huu unafanywa kama sehemu ya kutimiza mahitaji ya shahada ya uzamifu katika uuguzi fahamivu (critical care nursing).

Mtafiti na wasaidizi wake wawili watakusanya data kupitia mwogozo wa maswali au hojaji kutoka kwa mhojiwa anayeafiki. Kujibu hojaji kwaweza kuchukua kati ya muda wa dakika thelathini hadi arobaini na tano.

Kamwe hakuna mashaka ya kuhisika yanayohusika. Taratibu zilizotumika ni za kuaminika na zimejifunga katika mipaka yake. Fauku ya hayo, pia ifahamike kwamba hakuna uwezekano wowote wa kudhuru akili na utendakazi wake, maono ya moyoni na/au hisia za utangamano yanayohusiana na utafiti huu. Shughuli ya mahojiano itafanyiwa katika chumba cha faragha ili kuhakikisha kuwa kuna siri kati ya wanaohusika.

Wanajamaa watakaokuwa wanajibu maswali watapewa maelezo yoyote yatakayowahusu wakati huo wa mahojiano. Ieleweke kwamba hakuna faida za pesa kwa wahojiwa. Wahojiwa wanatazamiwa kushiriki kwa hiari yao wenyewe. Mtu ana uhuru wa kukataa kushiriki au hata kujiondoa kufikia daraja yoyote ya mafuatano ya mambo ya mahojiano pasipo kunyimwa huduma kwa mshiriki wala mgonjwa wake aliyelazwa hospitalini humo ili apate matibabu. Washiriki watachagulia bila kufuata kanuni au utaratibu wowote. Kiasi kamili cha wanajamaa wanaotazamiwa kushiriki ni watu

wapatao mia mbili, themanini na wawili pamoja na wauguzi wapatao mia moja na saba wafanyao kazi katika chumba wanacholazwa wagonjwa mahututi. Wote watajibu maswali sawa.

Baada ya kukubali, mshiriki ataombwa ajitolee wakati unaomfaa. Hapatakuwa na haja ya majina ya washiriki kutambulika kwa sababu habari dhahiri kuwahusu haitahitajika na kumbukumbu zitahifadhiwa bila majina wala habari zozote zinazohusisha mshiriki. Siri ya mahojiano itahakikishwa. Kushirikisha watu wengine katika kujadili na kutathmini matokeo ya utafiti huu kutategemea mahitaji ya familia za wagonjwa waliolazwa katika chumba cha wagonjwa mahututi na kwa kiwango cha kutimiza mahitaji haya. Kwa hivyo hakuna habari dhahiri kutoka kwa watu binafsi itakayoonyeshwa. Watakaohusishwa na matokeo ni wahudumu katika chumba wanacholazwa wagonjwa mahututi na wengine walio na uwezo wa kuimarisha hali ya huduma inayotolewa kwa wagonjwa pamoja na familia zao katika mazingira ya uuguzi fahamivu (critical care nursing). Jitihada pia zitafanywa ili kuchapisha matokeo kwenye jarida, ili kusomwa na watu wengi.

Matokeo ya utafiti huu yatapewa mshiriki yeyote atakayeomba kuyaona.

Habari zozote za ziada, ufafanuzi ama malalamiko yoyote yatashughulikiwa na mwandishi wa mtaala/utafiti au na profesa Ngumi kupitia kwa anwani zifuatazo;

ANWANI YA MTAFITI

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APPENDIX 3b

FOMU YA UKUBALI WA MSHIRIKI (FAMILIA)

Kwa kuweka sahihi kwenye mkataba huu ninakubali kuhojiwa na mtafiti au wasaidizi wake katika hospitali kuu ya Kenyatta. Ninaelewa fika kwamba nitahusika kwenye utafiti unaodhamiria/ulio na lengo la kudhihirisha mahitaji ya familia za wagonjwa waliolazwa katika chumba cha wagonjwa mahututi na kwa kiwango ambacho mahitaji hayo yamekabiliwa na kutimizwa kama yanavyochukuliwa na wanajamaa na wauguzi wanaohudumia wagonjwa mahututi katika hospitali kuu ya Kenyatta. Pia ninafahamu kwamba utafiti huu umefanywa kama sehemu ya kutimiza mahitaji ya shahada ya uzamifu katika sayansi ya uuguzi fahamivu (science in critical care nursing) ya chuo kikuu cha Nairobi.

Ninaelewa kwamba nitahusika katika utafiti utakaofanyiwa hospitali kuu ya Kenyatta kwa wakati unaonifaa. Nitaulizwa maswali yanayohusiana na mahitaji yanayochunguzwa, manufaa yake na maoni yangu kuhusiana na kiwango ambacho mahitaji hayo yametekelezwa. Pia ninafahamu kwamba kujibu maswali kwaweza kuchukua muda wa dakika thelathini hadi arobaini na tano kabla ya kufikia tamati ya shughuli ya mahojiano.

Ninajua kwamba nilichaguliwa kushiriki katika utafiti huu bila utaratibu wowote. Nimefahamishwa kwamba mahojiano ni ya hiari na pia hata baada ya kuanza kujibu maswali ninaweza kukataa kujibu swali fulani ama kuamua kutoshiriki wakati wowote. Nimeambiwa kwamba majibu yangu hayatapatiwa yeyote yule na wala hakuna ripoti ya utafiti huu itakayonitambulisha kwa njia yoyote ile. Pia nimeelezwa kwamba kushiriki au kutoshiriki kwangu au hata kukataa kujibu maswali kadhaa hakutakuwa na madhara katika huduma ambazo mimi au mwanajamaa wangu anaweza kupata kutoka kitengo cha afya na watoa huduma kwa watu wote kwa jumla.

Utafiti huu utasaidia kuimarisha ufahamu mzuri ulio mwafaka wa mahitaji ya familia za wagonjwa waliolazwa katika chumba cha wagonjwa hali maututi na kusitawisha/kukuza uuguzi unaolenga familia na huduma yoyote kwa jumla.

Ninafahamu kwamba nawezapewa matokeo ya utafiti huu kama nitayahitaji na Bwana Mark Lewa Ngui na/au profesa Ngumi watakuwa na jukumu la kuyajibu maswali yoyote

nitakayokuwa nayo kuhusu utafiti au kuhusu haki zangu kama mshiriki katika utafiti. Wanaweza kupatikana kupitia anwani zifuatazo;

ANWANI YA MTAFITI

MARK LEWA NGUI,
SHULE YA UUGUZI,
CHUO KIKUU CHA NAIROBI,
SANDUKU LA POSTA 19676
NAIROBI.
NAMBARI YA SIMU:0722-670704.

PROFESA NGUMI,
MWENYE-KITI,
IDARA YA UPASUAJI,
CHUO KIKUU CHA NAIROBI,
SANDUKU LA POSTA 19676
NAIROBI.

SAHIHI YA MSHIRIKI..... TAREHE.....

APPENDIX 4
INFORMED CONSENT (nurses)

Dear Respondent

The author of this study is a student at the University of Nairobi pursuing a master's degree in Critical Care Nursing with the University of Nairobi. The purpose of the study is to **"determine the needs of families of patients admitted in ICU and the extent to which these needs are met as perceived by the patients' family members and the ICU nurses at the Kenyatta National Hospital."** The results of this study will be used to improve the care given to families of patients admitted in ICU and therefore promote family centered nursing and holistic care. The study is also undertaken in partial fulfillment of the requirements for the degree of Master of Science in critical care nursing.

The researcher and his two assistants will collect the data through an interview guide or questionnaire from the respondents who give consent. Answering the questionnaire may take between 10 and 15 minutes.

There are no perceivable risks involved. There are no invasive procedures used. No potential psychological, emotional and social harm associated with the study. There is no monetary benefit for the respondents.

The respondents are to participate voluntarily. One is free to decline to participate or to withdraw at any stage of the process. The total number of family members expected to participate is 282 and that for the nurses working in the ICU is 107. They are all expected to respond to the same questions.

Upon giving consent, the participant will be asked to avail himself or herself at a convenient time.

There is anonymous identity of all participants since no specific identity of the participants will be used and records will be coded and no names or any other record linking the participant to the information given will be used. Confidentiality of the information is maintained. Sharing of the study results will be inform of the perceived needs of families of patients admitted in ICU and the extend of meeting these needs. Therefore no specific information from specific sources will be identifiable. The results will be shared with the ICU care providers and others who have a responsibility of

improving the quality of care given to patients and their families in a critical care setting. Efforts will also be made to publish the results in a journal so as to have a wider audience.

Any further information, clarification or complains can be obtained from the author of the study and/or from Prof. Ngumi through the following addresses:

Investigators address
Mark Lewa Ngui,
School of Nursing,
University of Nairobi,
P. O. Box 19676.
Nairobi.
Tel. 0722-670704.

Prof. Ngumi
The Chairman,
Dept. of Surgery,
University of Nairobi
P. O. Box 19676.
Nairobi.

CONSENT FORM (Please sign, if you agree to participate)

In signing this document, I am giving my consent to participate in this study. I understand that I will be part of a research study that seeks to determine the needs of families of patients admitted in ICU and the extent to which these needs are met as perceived by the family members and the ICU nurses at KNH. I also understand that this study is also done in partial fulfillment of the Master of Science in critical care nursing degree of the University of Nairobi.

I understand that I will participate in the study at KNH at a time convenient to me. I will answer questions relating to the needs being investigated, their necessity and the extent to which I perceive those needs are met. I also understand that answering the questions may take 10-15 minutes to complete.

I understand that all nurses working in ICU are expected to participate. I have been informed that my participation is entirely voluntary and that even after the beginning to answer questions I can decline to respond to a specific question or decide to terminate the process at any point. I have been told that my answers to questions will not be given to anyone else and no reports of this study will ever identify me in any way. I have also been informed that my participation or non-participation or my refusal to answer some questions will have no effect on me in any way.

This study will help to develop a better understanding of the needs of families of patients admitted in ICU and improve the family-centered nursing and holistic care.

I understand that the results of this study will be revealed to me upon completion of the study.

CONSENT

I have read, understood and voluntarily consent to participate in this study. I have understood the nature and purpose of this study, and that my identity will not be revealed in the study.

Participant's Signature..... Date.....

I have explained the nature of this study to the above subject, in writing, and have sought his/her understanding for informed consent.

Researcher's Signature:. .....Date.....

APPENDIX 5

QUESTIONNAIRE (nurses) **SERIAL NO.....**

SECTION 1

Please answer the following questions in the space provided after each question or tick the appropriate box

1. What is your gender? ☐ Male ☐ female
2. What is your age? ☐ 18-27 ☐ 28-37 ☐ 38-47 ☐ 48-57 ☐ 58-67 ☐ >67
3. How many years have you been practicing as a nurse? ☐ <3 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10 ☐ 11-12 ☐ 13-14 ☐ 15-16 ☐ 17-18 ☐ 19-20 ☐ 21 and above
4. How many years have you worked in the Critical Care Unit? ☐ 1/2-2 ☐ 3-4 ☐ 5-6 ☐ 7-8 ☐ 9-10 ☐ 11-12 ☐ 13-14 ☐ 15-16 ☐ 17-18 ☐ 19 and above
5. What is your highest Nursing education/qualification level?
   - ☐ Basic diploma in Nursing
   - ☐ Currently training in post basic diploma in Critical Care Nursing
   - ☐ Post-basic diploma in Critical Care Nursing
   - ☐ Post-basic diploma in other field, specify.....
   - ☐ Bachelor of Science in Nursing
   - ☐ Any other.....
6. What is your religion? ☐ Catholic ☐ Protestant ☐ Muslim ☐ Hindu ☐ any other, specify.....

SECTION 2

Please read the need statements below and answer questions (a) and (b) by circling the best response.

SNO	Need Statements	(a) How necessary are the following families' needs? KEY: 0=*not necessary* 1=*slightly necessary* 2=*necessary* 3=*highly necessary*				(b) To what extent are the needs met? KEY: 0=*never met* 1=*sometimes met* 2=*usually met* 3=*always met*			
1	To be allowed to visit the patient more frequently	0	1	2	3	0	1	2	3
2	To be allowed to stay near the patient most of the time	0	1	2	3	0	1	2	3
3	To be allowed to visit the patient at any time convenient to one	0	1	2	3	0	1	2	3
4	To have more comfortable furniture in the waiting room	0	1	2	3	0	1	2	3
5	To have a bath room near the waiting room	0	1	2	3	0	1	2	3
6	To have toilet facilities near the waiting room	0	1	2	3	0	1	2	3
7	To have a telephone near the waiting room	0	1	2	3	0	1	2	3
8	To have a television in the waiting room	0	1	2	3	0	1	2	3
9	To have food/refreshments available in the hospital near the waiting room	0	1	2	3	0	1	2	3
10	To allow young children to visit the admitted patient	0	1	2	3	0	1	2	3
11	To have a specific person to call in the hospital when unable to visit	0	1	2	3	0	1	2	3
12	To have explanations about the environment before going to ICU for the first time	0	1	2	3	0	1	2	3
13	To have directions as to what to do at the bedside	0	1	2	3	0	1	2	3

14	To know the possible outcome of patient's treatment	0	1	2	3	0	1	2	3
15	To know the qualification of staff taking care of the patient	0	1	2	3	0	1	2	3
16	To be told how the patient is being treated medically	0	1	2	3	0	1	2	3
17	To talk to the same nurse attending to the patient every day	0	1	2	3	0	1	2	3
18	To talk to any nurse daily	0	1	2	3	0	1	2	3
19	To talk to the doctor daily	0	1	2	3	0	1	2	3
20	To have a family doctor participate in the care of patient	0	1	2	3	0	1	2	3
21	To have a nurse in attendance while at the bed side	0	1	2	3	0	1	2	3
22	To receive information about the patient at least once a day	0	1	2	3	0	1	2	3
23	To have explanations given in understandable terms	0	1	2	3	0	1	2	3
24	To have a hospital chaplain talk to the family while visiting the patient, if required	0	1	2	3	0	1	2	3
25	To be called at home about changes in the patients condition	0	1	2	3	0	1	2	3
26	To have good communication between the health care team and the family	0	1	2	3	0	1	2	3
27	To have questions answered honestly	0	1	2	3	0	1	2	3
28	To be told specific facts about patient's progress	0	1	2	3	0	1	2	3
29	To know exactly what is being done for the patient	0	1	2	3	0	1	2	3
30	To be allowed to help with the patient's physical care	0	1	2	3	0	1	2	3
31	To be involved in day to day decision making and planning about the ongoing care for the patient	0	1	2	3	0	1	2	3
32	To have a spiritual care person (from the family) visit the patient	0	1	2	3	0	1	2	3
33	To have someone to advise on financial matters	0	1	2	3	0	1	2	3

34	To have counseling service when death of patient is inevitable	0	1	2	3	0	1	2	3
35	To feel free to express emotions	0	1	2	3	0	1	2	3
36	To be assured that the best possible care is being given to the patient	0	1	2	3	0	1	2	3
37	To feel that the hospital personnel are caring to the patient	0	1	2	3	0	1	2	3
38	To be given realistic hope about patient's recovery	0	1	2	3	0	1	2	3
39	To feel accepted by the hospital staff	0	1	2	3	0	1	2	3
40	Any additional need(s)	0	1	2	3	0	1	2	3
		0	1	2	3	0	1	2	3
		0	1	2	3	0	1	2	3
		0	1	2	3	0	1	2	3
		0	1	2	3	0	1	2	3

APPENDIX 6

QUESTIONNAIRE [family members]

SECTION 1

Please answer the following questions in the spaces provided after each question or tick the appropriate box.

1. What is your gender? ☐ Male ☐ female
2. What is the gender of your patient? ☐ Male ☐ female
3. What is your relationship to the patient? I am a ..... ☐ Spouse ☐ parent, ☐ adult child, ☐ Brother or sister ☐ Uncle/Aunt ☐ Nephew/niece ☐ Cousin ☐ Guardian ☐ in-law ☐ any other, specify.....
4. What is your age? ☐ 18-27 ☐ 28-37 ☐ 38-47 ☐ 48-57 ☐ 58-67 ☐ >67
5. What is your highest level of education? ☐ Primary ☐ secondary ☐ certificate/diploma college ☐ university
6. What is your religion? ☐ Catholic ☐ Protestant ☐ Muslim ☐ Hindu ☐ any other, specify.....
7. For how long has your patient been in ICU? ☐ <4 days ☐ 4-6 days ☐ 7-9 days ☐ >9 days
8. What is your perception of the patient's age ☐ young ☐ middle age ☐ old
9. Have you ever visited a patient in ICU before? ☐ Yes ☐ no
10. If yes, how many times? ☐ 1-2 ☐ 3-4 ☐ 5-6 ☐ >6
11. How many times have you visited the patient in ICU at present? ☐ 2 ☐ 3-5 ☐ 6-8 ☐ 9-11 ☐ >11
12. How is the condition of your patient? ☐ Very serious ☐ Serious ☐ slightly serious ☐ Can't tell

SECTION 2 (families)

Please read the need statements below and answer questions (a) and (b) by circling the best response.

SNO	Need statements	(a) How necessary is it to have the following needs met? **KEY:** **0**=*not necessary* **1**=*slightly necessary* **2**=*necessary* **3**=*highly necessary*				(b) To what extent have the following needs been met? **KEY:** **0**=*never met* **1**=*sometimes met* **2**=*usually met* **3**=*always met*			
1	To be allowed to visit the patient more frequently	0	1	2	3	0	1	2	3
2	To be allowed to stay near the patient most of the time	0	1	2	3	0	1	2	3
3	To be allowed to visit the patient at any time convenient to me	0	1	2	3	0	1	2	3
4	To have more comfortable furniture in the waiting room	0	1	2	3	0	1	2	3
5	To have a bath room near the waiting room	0	1	2	3	0	1	2	3
6	To have toilet facilities near the waiting room	0	1	2	3	0	1	2	3
7	To have a telephone near the waiting room	0	1	2	3	0	1	2	3
8	To have a television in the waiting room	0	1	2	3	0	1	2	3
9	To have food/refreshments available in the hospital near the waiting room	0	1	2	3	0	1	2	3
10	To allow young children to visit the admitted patient	0	1	2	3	0	1	2	3

11	To have a specific person to call in the hospital when unable to visit	0	1	2	3	0	1	2	3
12	To have explanations about the environment before going to ICU for the first time	0	1	2	3	0	1	2	3
13	To have directions as to what to do at the bedside	0	1	2	3	0	1	2	3
14	To know the possible outcome of patient's treatment	0	1	2	3	0	1	2	3
15	To know the qualification of staff taking care of the patient	0	1	2	3	0	1	2	3
16	To be told how the patient is being treated medically	0	1	2	3	0	1	2	3
17	To talk to the same nurse attending to the patient every day	0	1	2	3	0	1	2	3
18	To talk to any nurse daily	0	1	2	3	0	1	2	3
19	To talk to the doctor daily	0	1	2	3	0	1	2	3
20	To have a family doctor participate in the care of patient	0	1	2	3	0	1	2	3
21	To have a nurse in attendance while at the bed side	0	1	2	3	0	1	2	3
22	To receive information about the patient at least once a day	0	1	2	3	0	1	2	3
23	To have explanations given in understandable terms	0	1	2	3	0	1	2	3
24	To have a chaplain talk to you while visiting if required	0	1	2	3	0	1	2	3
25	To be called at home about changes in the patients condition	0	1	2	3	0	1	2	3
26	To have good communication between the health care team and the family	0	1	2	3	0	1	2	3
27	To have questions answered honestly	0	1	2	3	0	1	2	3
28	To be told specific facts about patient's progress	0	1	2	3	0	1	2	3
29	To know exactly what is being done for the patient	0	1	2	3	0	1	2	3
30	To be allowed to help with the patient's physical care	0	1	2	3	0	1	2	3

31	To be involved in day to day decision making and planning about the ongoing care for the patient	0	1	2	3	0	1	2	3
32	To have a spiritual care person visit the patient	0	1	2	3	0	1	2	3
33	To have someone to advise on financial matters	0	1	2	3	0	1	2	3
34	To have counseling service when death of patient is inevitable	0	1	2	3	0	1	2	3
35	To feel free to express emotions	0	1	2	3	0	1	2	3
36	To be assured that the best possible care is being given to the patient	0	1	2	3	0	1	2	3
37	To feel that the hospital personnel are caring to the patient	0	1	2	3	0	1	2	3
38	To be given realistic hope about patient's recovery	0	1	2	3	0	1	2	3
39	To feel accepted by the hospital staff	0	1	2	3	0	1	2	3
40	Any additional need(s)	0	1	2	3	0	1	2	3
		0	1	2	3	0	1	2	3
		0	1	2	3	0	1	2	3
		0	1	2	3	0	1	2	3
		0	1	2	3	0	1	2	3

PAGE 2

THIS IS TO CERTIFY THAT:

Prof./Dr./Mr./Mrs./Miss MARK LEWA NGUI

of (Address) UNIVERSITY OF NAIROBI P.O.BOX 30197 NAIROBI

has been permitted to conduct research in KENYATTA NATIONAL HOSPITAL Location,

NAIROBI District,

NAIROBI Province,

on the topic DETERMINATION OF THE NEEDS OF FAMILIES OF PATIENTS ADMITTED IN INTENSIVE CARE UNIT AND THE EXTENT TO WHICH THESE NEEDS ARE MET.

for a period ending 30TH JUNE, 2006

AT KENYATTA NATIONAL HOSPITAL

Applicant's Signature

PAGE 3

Research permit No. MOEST 13/001/36C 60

Date of issue 1.2.2006

Fee received SHS.500.00

FOR: P.O. ADEWA

Permanent Secretary,
Office of the President

CONDITIONS

1. You must report to the District Commissioner of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit.
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least four (4) bound copies of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.

GPK 7092—6m—11/96

REPUBLIC OF KENYA

RESEARCH CLEARANCE PERMIT

(CONDITIONS—*see* back page)

KENYATTA NATIONAL HOSPITAL
Hospital Rd. along, Ngong Rd.
P.O. Box 20723, Nairobi.
Tel: 726300-9
Fax: 725272
Telegrams: "MEDSUP", Nairobi.
Email: **KNHplan@Ken.Healthnet.org**

Ref: KNH-ERC/ 01/ 3481 **Date: 8th May 2006**

Mark Lewa Ngui
Dept. of Nursing Sciences
Faculty of Medicine
University of Nairobi

Dear Mark

RESEARCH PROPOSAL: "DETERMINATION OF THE NEEDS OF FAMILIES OF PATIENTS ADMITTED IN INTENSIVE CARE UNIT AND THE EXTENT TO WHICH THESE NEEDS ARE MET AT K.N.H." (P15/01/2006)

This is to inform you that the Kenyatta National Hospital Ethics and Research Committee has reviewed and **approved** revised version of your above cited research proposal for the period 8th May 2006 – 7th May 2007.

You will be required to request for a renewal of the approval if you intend to continue with the study beyond the deadline given.

On behalf of the Committee, I wish you fruitful research and look forward to receiving a summary of the research findings upon completion of the study.

This information will form part of database that will be consulted in future when processing related research study so as to minimize chances of study duplication.

Yours sincerely

PROF A N GUANTAI
SECRETARY, KNH-ERC

c.c. Prof. K.M.Bhatt, Chairperson, KNH-ERC
The Deputy Director CS, KNH
The Dean, Faculty of Medicine,UON
The Chairman, Dept. of Nursing Sciences, UON
The HOD, Medical Records, KNH
Supervisors: Dr. Prof. Z. Ngumi, Dept. of Surgery, UON
Mrs. Odero, Dept. of Nursing Sciences,UON
Dr. Omuga, Dept. of Nursing Sciences, UON