FACTORS INFLUENCING PROVISION OF CARE TO HOSPITALIZED PEADIATRICS BURN PATIENTS: A QUALITATIVE STUDY AMONG NURSES IN MUHIMBILI NATIONAL HOSPITAL DAR ES SALAAM, TANZANIA

Marwa P. Nyakanda

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By:

Marwa P. Nyakanda

A dissertation to be submitted in partial Fulfilment of the Requirement for the Degree of Master of science in Nursing (MSc. Nursing Critical Care and Trauma) of Muhimbili University of Health and Allied Sciences

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CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance by Muhimbili University of Health and Allied Sciences a thesis/dissertation entitled **Factors influencing provision of care to hospitalized paediatrics burn patients: A qualitative study among nurses in Muhimbili National Hospital, Dar-es-Salaam, Tanzania,** in (Partial) fulfilment of the requirements for the degree of Master of Science in Nursing (Critical care and Trauma) of Muhimbili University of Health and Allied Sciences.

.....

Dr E. Tarimo.

(Supervisor)

Date: **…….**

DECLARATION AND COPYRIGHT

I, **Marwa Patrick Nyakanda** declare that this **dissertation** is my own original work and that it has not been presented and will not be presented to any other University for a similar or any other degree award.

Signature…… Date…….

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DEDICATION

This work is dedicated to my lovely parents Mr. & Mrs. Patrick Marwa who always supported and encouraged in my academic carrier. I thank GOD for gifted me such kind of parents.

ABSTRACT.

Background

The increase number of burn patients' admission in Muhimbili National Hospital indicated that burn injury is still a problem in our setting. In July 2011 up to June 2012 a total of 6135 paediatrics patients were admitted in MNH due to various diseases of which 319 patients were admitted due to burn injury. This is equal to 5.2% of all paediatrics admission (unpublished report). However hospital management made good coordination and availability of working equipments in order to archive optimal care for paediatric burn patients. Even though Health care providers especially nurse were facing some difficulties in provision of burn care.

Objective

The main objective of this study was to explore nurses' perceptions on factors influencing provision of care to pediatric burn patients among nurses at Muhimbili National Hospital.

Methods

Five in depth interviews were conducted in order to explore nurses' perception on factors that may influence provision of nursing care to hospitalized pediatric burn patients. This study was conducted from May 2012 to June 2012 in MNH. Simple observation method was used to complement data obtained through in-depth interviews. The study informants were sampled by using purposive sampling procedure. Data was analyzed by using content analysis approach.

Findings

The present study revealed two major categories which include motivating factors and barriers in provision of burn care. Participants described the use of closed method of wound dressing as an important skill that accelerates healing, decrease risk of wound contamination and decreased number of contractures. Presence of team work in burn care, facilitated patients recovery through reviewed and discussed management of patients as a team. Availability of equipments helped nurses to

perform nursing care smoothly. Furthermore, participants felt gratified and increased work performance when they saw patients who sustained very severe burn injury recovering and going back home.

Despite the fact that burn care was found somehow successfully in Muhimbili National Hospital (MNH), participants revealed several factors that hindered provision of care. These factors include limited resources, patient workload, and lack of standard skills. Participants described that there were limited human and non human resources, such as shortage of staffing which resulted into overworking, physical and emotional exhaustion among nurses, lack of water which is the mainstay of infection prevention control, lack of specimen equipment like pus swab. Since burn patient are at risk of infection therefore they need to take pus swab frequently. Nevertheless, participants expressed that they lack standard skills on burn care since there was no special training on burn care. Instead they were teaching themselves in the sense that experienced nurses in burn unit were teaching new nurses who came to work in burn unit.

Conclusion

The finding of this study revealed that there are both positively and negatively factors that influence provision of burn care. Positive factor (motivation) needed to be maintained but action is required to be taken in order to reduce negative factors.

Recommendation

More public health enlightenment is needed on prevention and initial intervention for burns in children. Community need to be aware that prevention of burn should be a priority since caring for burnt patient is very expensive. Further studies are needed in large population since this information is not conclusive to factors influence burn care in Tanzania.

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LIST OF ABBREVIATION

MNH-	Muhimbili National Hospital
UK-	United Kingdom
KCMC-	Kilimanjaro Christian Medical Centre
MOHSW-	Ministry of Health and Social Welfare
WHO -	World Health Organization
HIV-	Human Immunocompromised Virus
AIDS-	Acquired Immunocompromised Disease Syndrome

CHAPTER ONE

INTRODUCTION

1.1 Background

The increase number of burn patients' admission in Muhimbili National Hospital indicated that burn injury is still a problem in our setting. In July 2011 up to June 2012 a total of 6135 paediatrics patients were admitted in MNH due to various diseases of which 319 patients were admitted due to burn injury. This is equal to 5.2% of all paediatrics admission (unpublished report). Burn is a type of injury to flesh caused by heat, electricity, chemicals, light, radiation or friction (Saunders, 2007)**.** The extent of the injury depends on the degree of heat and length of time in contact with the heat (Burn injury model, 2009). A burn is an injury that can not cause disability, if proper treatment is provided on time. On the contrary, if the injury is inadequately treated or not following standard rules and principles, burn injury can seriously threaten the patient's life, and complications such as disabilities that increase burden to family, community and the nation may arise.

Hospitalized paediatric burn patients; exhibit physiological changes which need to be recognized and treated appropriately by skilled health care providers. Burns in paediatrics differ from those in adults in multiple aspects; the extent and depth of the burn injury are often more severe; the paediatrics' body proportions differ, from that of adult resulting in greater evaporative water and heat loss, and fluid requirements are therefore generally greater. Paediatrics have a relatively thinner dermis, so for any given thermal insult the infant will sustain a deeper burn than the adult (Lowell, Quinlan, Gottlieb,2008).The pattern of burn injuries has been reported to vary from one community to another and is influenced by age, sex, economic status and local customs, social and environmental circumstances (Al-Shehri, 2008).

Optimal management of burn injuries is important because they are commonly painful and can result in disfiguring, disabling scarring, amputation of affected parts

or death in severe cases. The management of paediatric burns and their sequelae remains demanding and extremely costly even in well-equipped, modern burn units of advanced societies (Atiyeh, Costagliola, Hayek, 2009). However, in most developing countries, late presentation to health facilities, lack of well equipped burn centres and trained medical personnel for treatment and rehabilitation of burn injury patients, non existing early excision and skin grafting contributes significantly to increasing morbidity and mortality (Dongo, Irekpita, Oseghali, Ogbebor, Iyamu,et al, 2007). The outcome of burn injuries is greatly influenced by the quality of care that patients receive, patient nutritional needs, resources available and skills of health care providers (Burn injury model, 2009). Burn injury can results into many complications such as infections, electrolyte imbalance, respiratory distress, shock and multiple organ dysfunction syndrome. Infection is the leading cause of mortality and morbidity in the critical care patient.

1.2 Problem Statement

Burn injuries are major problems in the low and middle-income countries. Mortality rates from burn injury vary across regions of the world. Low and middle income countries suffer higher mortality and morbidity rates from burns. Paediatrics are more affected than other groups of people (Burn model of care, 2009). Paediatrics are at risk of many complications if immediate optimal nursing care will not be provided. Such complications may include- infections, decrease tissue perfusion, acute renal failure, contracture and death (Pham, Cancio &Gibran, 2008).

Suboptimal nursing care can result in an avoidable deaths and injuries, and this adds significantly to the costs of patients care and the organizations that finance care. McQuillan, Pilkington, Allan, Taylor, Short, et. al. (1998) carried out a prevalence study which examined the nature, causes and consequences of suboptimal care by evaluating the optimal care prior to admission to Intensive care in the UK. Of 100 patients studied, 54 received inadequate care. Provision of care to patients with burn

injury is more problematic in low and middle income countries like Tanzania where by there are few nurses with adequate skills on caring these patients and inadequate equipments (WHO, 2004).

In Muhimbili National Hospital (MNH) burn injuries are common indication for paediatric surgical admission and contribute significantly to high morbidity and mortality. In July 2011 up to June 2012 a total of 6135 paediatrics patients were admitted in MNH due to various diseases of which 319 patients were admitted due to burn injury. This is equal to 5.2% of all paediatrics admission (unpublished report)). Infection is the leading cause of morbidity and mortality among burn patients. In MNH, no study has been done on this area. Therefore, this study describes factors influencing provision of nursing care to the hospitalized paediatric patients with burn in Muhimbili national Hospital.

1.3 Statement of purpose

The purpose of this study was to assess nurses' perception on factors influencing provision of nursing care to hospitalized burn patients. The findings will be used to improve nursing care to pediatrics burn patients.

Research questions

a. What are nurses' perceptions on factors influencing provision of nursing care to hospitalized burn patients?

b. What are challenges faced by nurses' caring pediatrics burn patients?

1.4 Objectives

1.4.1 Broad objective

To explore factors that influence provision of nursing care from nurses who are caring pediatrics burned patients in Muhimbili National Hospital, Dar-es- Salaam, Tanzania.

1.4.2 Specific objectives

1. To assess nurses' perception on how organization of burn unit influences provision of nursing care to the hospitalized pediatric burn patients.
2. To assess nurses' perception on how availability of equipments influences provision of nursing care to the hospitalized pediatric burn patients.
3. To examine nurses' perception on how nurses' clinical skills influence provision of nursing care to hospitalized pediatric burn patients.
4. To identify challenges in caring pediatrics burn patients among nurses.

1.5 Operational definition of terms

Nursing Care: In this study, nursing care is the provision of necessary intervention needed for the health, welfare, maintenance, and protection of paediatric burn patients.

Burn care: In this study burn care is the care provided to the pediatric burn patients by skilled and knowledgeable health care providers in a well equipped working environment.

Clinical skills: In this study clinical skills involve ability of nurses to assess, recognize and manage physiological changes that occur to pediatric burn patients.

1.6 Conceptual model

A conceptual model by Quirke, Coombs &Mc Eldowney, (2011) has been employed in this study to explore factors influencing provision of nursing care to hospitalized paediatric burn patients in MNH. This conceptual model shown in figure 1 below consists of the attributes of suboptimal care which include delays in diagnosis, treatment or referral, poor assessment and inadequate or inappropriate patient management. These attributes are preceded by contextual antecedents which categorized into patient complexity, healthcare workforce, organization and education factors.

Patients' complexity described as an increase in patients with multiple co-morbidities as a result of unmet of patient needs.

Health care workforce based on workload and skill mix alterations, and changes in working practices which have an impact on healthcare teams.

Educational factors described the educational needs of staff caring acutely unwell patients.

Organizational factors described the way patient care is organized and availability of equipments.

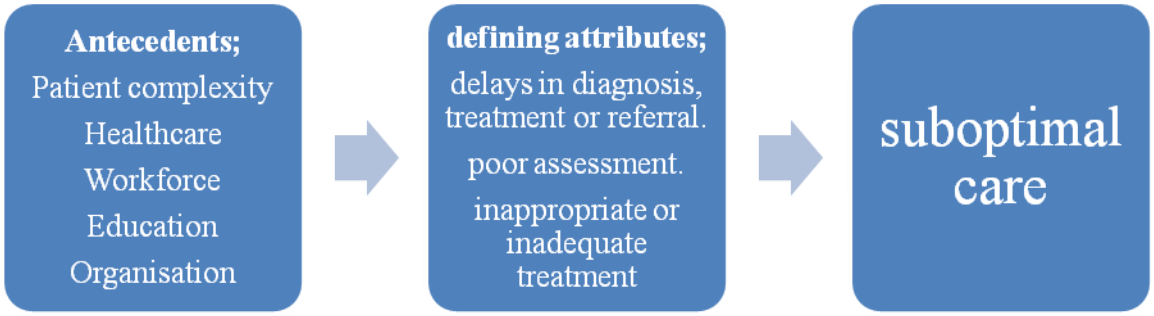

Figure 1: Conceptual model by Quirke, Coombs &McEldowney, 2011

1.7 Modified conceptual model

Conceptual model by (Quirke, Coombs &McEldowney, 2011) has been modified and employed in this study to explore factors influencing provision of nursing care to hospitalized paediatric burn patients in MNH. This conceptual model as shown in figure 2 below addresses the manner in which organization of care to burned patients, availability of working supplies in burn unit and clinical skills in caring burned patients influence patients' outcome. This study focused on those areas in order to get nurses' perception in relation to patients' outcome. These three perspectives of the modified conceptual framework were used to guide literature review, data collection and presentation of the findings in this study.

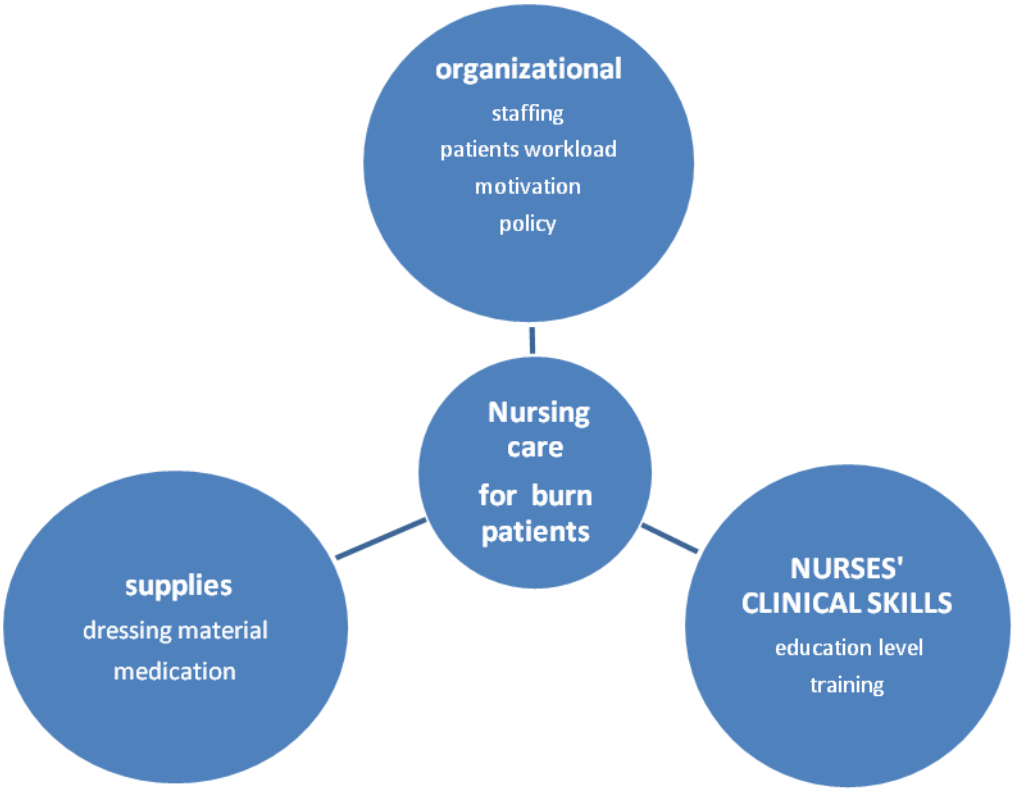

Figure 2: Modified conceptual model.

CHAPTER TWO

LITERATURE REVIEW

Burn injury is an acute surgical problem which needs optimal management. Paediatric burn patients are at risk of many complications if immediate optimal nursing care is not provided, (Pham, Cancio &Gibran, 2008).

The burn patients usually exhibit physiological changes which need to be recognized and treated appropriately by skilled health professionals. Therefore, according to conceptual model, optimal care of patients with burn requires good organization of care; nurses' clinical skills; and availability of equipments/supplies.

2.1 Organization of patient care

Good organization of patients' care which include the presence of enough, dedicated and skilled health care provider, good standards of care and motivation among health providers influencing optimal patients care.

In a study done by Aiken, Clarke, Sloane, (2002) showed that Heavy nursing workload seems to be related to suboptimal patient care. Research done by Lang, Hodge, Olson, (2004) showed that heavy nursing workload adversely affects patient safety. Furthermore, it negatively affects nursing job satisfaction and, as a result, contributes to high job termination and the nursing shortage which mostly lead to suboptimal care to patients (Duffield, & O'Brien-Pallas, 2003). Another study done by Curtin, 2003) showed that staffing affect patients' outcome, medical error, patients' length of hospital stay and patient mortality.

2.2 Nurses' clinical skills

Nurses' competences and skills attained through training are the best solution in their working performance. According to McQuillan, Pilkington, Allan, Taylor, Short, et al (1998), poor assessment skills in both nursing and medical staff and lack of recognition of patients' deterioration are defined as the attributes of suboptimal care. Many researchers Schein, 1990, Franklin & Mathew, 1994, Buist, 1999, Hodgetts, 2002 explained how failure to appreciate clinical urgency can be related to the ability to determine which vital signs should be acted upon immediately. However, Kause, Smith, Prytherch, Parr, Flabouris, et. al., (2004) said that many patients show signs of physiological deterioration before death. If timely and appropriate detection of physiological deterioration is undertaken by medical and nursing staff it is likely to benefit the patients. Mostly these patients present with hypotension and decreased level of conscious.

Additionally, Smith and Poplett,2002) found that lack of knowledge and understanding in interpreting the signs of acute illness such as oxygen saturation, capillary refill time, oxygen therapy and management of an unconscious patient; results into poor patient outcome. The ability of carrying out an appropriate assessment and determining the best course of action is related to both clinical exposure and appropriate education and training. The ability to recognise physiological abnormalities is a key factor in the prevention of an impending adverse event. Considine & Botti (2004) indicated that the recognition and interpretation of physiological abnormalities is primarily a nursing responsibility. Another study done by Massey, Aitken, &Wendy (2008) on factors influencing suboptimal care in the acutely unwell ward patient showed that suboptimal care implies lack of knowledge relating to the significance of clinical findings relating to dysfunction of airway, breathing and circulation or problems related to system failures that inhibits care delivery. Moreover, West (2006), has indicated that respiration rates are increasingly cited as one of the most sensitive and important indicator of an impending adverse event. In United Kigdom, Cullinane, Findlay, Hargraves, Lucas (2005) found that there is increasing evidence that nurses do not routinely assess, record or document

vital signs. Accurate and timely assessment is therefore a vital component of holistic patient care.

2.3 Availability of Equipments

Good performance by nurses is enhanced by a supportive working environment like having sufficient equipments and supplies. It also includes organizational issues such as decision-making and information-exchange processes, and capacity issues like support services and infrastructure. The availability, reliability and consistency in equipments between areas have been shown to contribute to the acuteness of care to some patients, (Wood, Douglas &Priest, 2004). Difficulties in obtaining or being unfamiliar with equipments due to the number and variety of different devices in hospitals have been reported to be the cause of suboptimal care to the patients (Cox, James & Hunt (2006). A study done in KCMC by Ekvall (2009) on nursing care for patients with burn showed that nurses encounter problems of providing optimal care to the patients due to lack of equipments.

2.4 Significance of the Study

Positive burn patients' outcome depends on the burn care team and close collaboration among its members. Burn nurses coordinate all patients care activities such as occupational and physical therapy, social services, nutritional services and availability of medication (Greenfield, 2010).

Complications that arise after burn injury demand burn nurses to have broad-based knowledge of wound care techniques, organs failure, critical care techniques, and diagnostic studies, rehabilitative and psychosocial skills. Nurses oversee the total care of paediatrics burn patients and are able to note slight changes that require immediate attention, prevention of infections and pain management (Greenfield, 2010).

The present study contributes in the literature on nursing care by focusing on factors influencing provision of care with the purpose of improving care to paediatrics burn

patients. The outcome of this study can assist in addressing the needs of nurses to archive good patients' outcome. Also, this information can be used by MNH management to improve nursing care to burn patients. However, for the policy makers to use the study findings to modify guidelines for burn care, more studies are needed from a larger sample.

CHAPTER THREE

RESEARCH METHODS

3.1 Study Design

A qualitative study design was used to obtain richness and depth of information about the study phenomenon (Hancock (1998). This approach provided an opportunity to understand participants [‘nurses’] thoughts and experiences about the factors affecting provision of nursing care to the hospitalized paediatric burn patients.

3.2 Study setting

This study was conducted in the paediatric burn unit in MNH. MNH located in Ilala Municipal, Dar-es-Salaam City, Tanzania and is a University Teaching Hospital. It has a capacity of attending 1000 to 1200 patients per day. MNH has different departments; among others is the department of surgery with two burn units; one unit for adults and another for Paediatrics. Paediatrics burn unit has 26 beds capacity, but patients admitted in this unit exceed bed occupancy due to large number of referral cases or admissions.

3.3 Study Population

Population in this study consisted of all registered nurses who were working in paediatric burn unit. They were needed to have working experiences of more than one year in paediatric burn unit.

3.4 Sampling procedure

In this study, sampling began by searching for participants who were likely to provide rich information in respect to the phenomenon under study. Purposive sampling was employed in this study to get informants that most benefit the study (Polit&Beck (2004). Therefore, only nurses who were considered to have enough information about the study through their experiences in caring of burn patients were involved in the study. Purposive sampling was used because it enabled the researcher to base on her judgment and interest in selecting informants that best satisfied the specific needs in the study.

Ten participants whom I thought would provide valuable information about the study were identified. The identification was based on participants' position in the burn unit. For example ward in charge and nurses who are responsible in ordering supplies and other nurses with no specific activity in the ward.

The researcher (I) went to the burn unit early in the morning, participated in receiving report together with nurses from night shift. Nurse in charge introduced the researcher to the nurses and asked for their cooperation during the study. Then the researcher sought consent from nurses by giving them the consent form to read and to sign for those who were willing to participate in the study. Only five among ten participants participated in the study. The other five did not participate due to reasons such as sickness and family problems. However, those who participated gave valuable information that adequately answered the research question.

3.5 Criteria for selecting study participants

3.5.1 Inclusion criteria

All nurses who were working in the paediatrics burn unit in MNH for more than one year and who agreed to participate in the study.

3.5.2 Exclusion criteria

All nurses who were working in paediatrics burn unit in MNH for less than one year and those who disagreed to participate in the study.

3.6 Data collection

This study was conducted from May 2012 to June 2012 in Muhimbili National Hospital. Where by five informants who participated in the study read a consent form that informed them about the details of the study and their right as informants. (See appendix 1) They were asked for the possibility of tape recording the interview and they agreed to be recorded.

Therefore prepared interview guide was used to conduct interviews (see appendices 2 &3), interviews were conducted in Swahili language. The researcher carried out the data collection as well as data analysis. Tape recording was used to ensure that the whole interview was captured and provides complete data for analysis (Hancock, 1998).

A simple observation method was used to complement data obtained through In-depth interview. During observation I saw the burn unit was congested with a large number of patients; beds were close to one another; there were shortage of staffing; lack of water; lack of supplies like swabs for pus and silverex cream for wound dressing.

According to Denzin and Lincolin (2000) by using more than one method in data collection, reflects an attempt to secure an in depth understanding of the phenomenon of the study and increase validity.

3.7 Data analysis

In this qualitative study, data analysis was active, interactive (Polit & Beck, 2004)) and a continuous process. The researcher transcribed all the tape recorded information word by word. After transcribing the interview, then she read the transcripts several times to obtain a sense of whole. Content analysis by Graneheim and Lundman(2003) was employed in this study. After reading the transcripts meaning units were obtained. Coding was independently done on the margins of the meaning units by my main supervisor (EAMT) and I. Minor differences on renaming of the codes were discussed for consensus. Then we compared codes according to similarities and differences. Similar codes were sorted into sub categories and then categories were constructed (Table 1: Example of coding process). Observational notes were summarized to complement the information obtained through the interviews. Direct quotations from participants are presented to ensure that the informants' concerns are reflected in the report.

Table 1: Examples of codes, subcategories and category from content analysis.

codes	subcategory	Category
Inadequate Specimen equipmentsP1 Inconsistent supply of topical antimicrobial P1 No linen sterilizationP2 Shortage of staffing P1,P3,P4,P5 .	Limited resources	Barriers in provision of burn care.
Lack of trainingP1,P2,P3 Teaching themselves P1,P4 On job training P2,P3,P4 Lack of guidelinesP2	Lack of standard skills	

3.8 Trustworthiness

The aim of trustworthiness in a qualitative inquiry is to support the argument that the inquiry's findings are "worth paying attention to" (Lincoln & Guba, 1985 as cited by Polit & Beck, 2004) In order to assess trustworthiness in this study, I used two methods in data collection. In this study, in depth Interview and observation methods were used in the data collection. Data were collected by using high quality tape recorder to ensure all information captured well. Analysis was done by more than one researcher. Moreover, in this study informants were selected according to the purpose of the study.

3.9 Ethical considerations

Ethical clearance was obtained from the research publication committee of Muhimbili University of Health and Allied Sciences. The permission to conduct the study was obtained from Executive director of Muhimbili National Hospital. Confidentiality, consent and anonymity were strictly followed. Anonymity was emphasised by not recording the informants' names on the tapes or in the transcripts. Where as in the in depth interview the confidentiality was maintained between the researcher and informant.

Methodological Reflection

As a nurse with extensive experience in caring of patients at MNH, I was aware that caring patients who sustained burn injury is very challenging especially for nurses who provide care to these patients. They may be encountered with physical and emotional exhaustion in which some how can affect provision of care.

Therefore I became interested to do a study in this area by using qualitative method in order to explore nurses' experiences in their own words; perceptions and challenges encountered during caring of burn injury patients. Given the familiarity with the setting and study informants, I strived to avoid my pre-understanding about the caring situation and adhered to research principles throughout the study.

CHAPTER FOUR

FINDINGS

Study participants

Five participants who participated in this study had working experience in the burn unit with the range of one (1) to nine (9) years. Also their age range was between 40 and 58 years old. All five participants were female nurses. Of the total participants two (2) participants had certificate in nursing, two (2) had diploma level and one had degree level of education.

The present findings describe factors that influence provision of nursing care to paediatrics burn patients as described by study informants. The findings are divided into two major categories; **motivating factors** and **barriers in provision of burn care to paediatric patients** as shown in table 2.

Table 2 below is the table for sub categories and categories.

Sub-categories	**Categories**
Coordinated management of burn care(skills, team work) Involve family caregivers Job satisfaction Adequate equipments	Motivating factors in provision of burn care
Patients' overload, Lack of standard skills Lack of motivation Limited resources Poor social economical status.	Barriers in provision of burn care.

4.1 MOTIVATING FACTOR

4.1.1 Coordinated management of burn care

The informants explained how good skills facilitated provision of optimal care to paediatric burn patients. They said that before, all burn patients were managed in surgical ward as other surgical cases, but in 2004 the burn unit was started by an

Arabic Doctor. Having this burn unit in place, they experienced a decreased number of deaths and rate of infection among hospitalized burn patients. In addition, the participants said that after the establishment of the burn unit, burn wounds were no longer disturbed by being soaked in large dishes of water and dettol solution. . They said they left this old method which was called an open method; the method that delayed wound healing. After starting to use a closed method, they realized that patients were recovering quicker than before the number of contractures decreased and even the rates of infections among burn patients decreased to a large extent. One informant explained the consequences of the old method and praised the new method. She said:

> *Any body who sustained burn injury, if you leave the wound open, the cold passes through the flesh, it [wound] becomes dry. Using this [old] method, once you want to perform dressing, you must remove the dried flesh by soaking, but currently we are not doing that. As a result, cases of contracture have decreased. P5*

Also informants realized that team work facilitated provision of nursing care to burn patients. They noted that burn patients needed multidisciplinary care due to complications associated with burn injuries; they needed plastic surgeon, nurse, social worker, dietist, and physiotherapist. Therefore, they said during major ward rounds, the team reviewed and discussed about the patient management. This helped them to understand patients' needs and facilitated patients' recovery progress. For instance, they said when the dressing antibiotics were out of stock, relatives were asked to buy.

However, because of team work the social worker managed to find donors who donated fifty tubes of silverex cream for the patient(s).

On the other hand, participants said that involving family caregivers in patients care facilitated patients' recovery. They noted that family care givers were the one who stay longer with their patients, and they needed to be aware of their responsibility towards patients' outcome. In order to facilitate that, the participants said they provided daily health education in the morning shift. They provided education on hygienic behaviours, nutrition, prevention of burn injury, and complications associated with burn injury. One participant said:

> "*Every day in the morning, after night shift report we provided health education to the patients' care givers [relatives]"P5*

4.1.2 Availability of equipments

All participants appreciated how hospital management gave a priority to this unit especially in terms of consumables materials such as sandwich, Vaseline gauze, povidone iodine and bandages. One participant stated that availability of working equipments made the environment conducive for providing care to the patients. Another participant said that most of the dressing materials were consistently available in the unit; once they were finished the store people were informed, and the supplier officer ordered the purchasing officer to buy them. Another participant emphasized on availability of dressing equipments by saying that most of the time they received enough equipment unless there was large number of patients. However, they still managed to get more from the tray centre:

> *Most of the time in the burn unit, we do not miss [supplies]; we are always given a priority. (*P1)

On the contrary, in case the equipments were not available in the hospital stock they struggled to get them somewhere else. They said they might go to look for them in

another hospital like Lugalo in order to make sure that all patients who were supposed to be dressed on that day were dressed.

4.1.3 Commitments of nurses

The participants said that their compassion, perseverance, gratification and sense of harmony in the paediatric burn unit in Muhimbili national Hospital enabled them to provide good nursing care to burn patients. They believed that nurses in the burn unit have created an environment in such a way that every new nurse who comes in adapts that situation; as a results patient's outcome was improved. One participant described the situation:

> *……"the way we feel for these children it hurts us a lot. Sometimes we take them as our own children. We feel sorry for their suffering. Some time we perform dressing until time for changing shift; we feel sorry to leave other children. So we continue until we finish all dressing. (P1)*

Another participant expressed her feelings about perseverance in caring burn patients despite the commitment of ensuring proper care

> "*Caring for a burnt patient is a very tough job, [she shook her head as a sign of sadness]. As you have seen when you start dressing procedures, it is not possible to stop and leave the patient to look for food. So you find most of the time we stay without eating until we go back home (P5).*

They emphasised that in order to be successfully in every thing that they were doing in their daily activities, they often invited God. They stated that in the unit, they had set a behaviour of praying together during the morning shift before starting provision of care. They realized that this habit had increased harmony among them and achievement of their daily objectives in a peaceful manner.

4.1.4 Job satisfaction

Furthermore, participants perceived their responsibility of caring for burn patients as rewarding and gratifying experience. They felt that if some one is providing the care and another person appreciates what has been done, it increases working morality. This situation was observed in the paediatric burn unit, where some patients' relatives came back to give their gratitude. They noted that this habit of appreciation from care recipients increases their performance. One participant described:

> . …. "*Most of the time we receive information from director of hospital that there were people who came in her office to appreciate for good care which they got for their children, eeh apart from that some relatives come direct to the ward for thankfulness [she smile]. I think we are doing a good job* (P3)

Moreover, the nurses felt satisfied after taking care of severely burnt patients who recovered fully. They appreciated all the efforts they undertook to make patient survived. This feeling brought happiness in their work.

The participants believed that patients with burn are managed better in Muhimbili than in other hospitals in Dar-es-salaam. This was evidenced by patients who demonstrated hesitance to go to peripheral hospitals after being discharged from burn unit; they requested to continue to be cared at Muhimbili instead of continuing with care in the peripheral hospitals.

4.2 BARRIERS IN CARING FOR BURN PATIENTS

Although the participants demonstrated various motivations in caring for burn patients, sometimes they encountered barriers in provision of care. These included limited resources such as human (*staffing*) and non human resources (*lack of water, sterilized materials, dressing drugs, poor social economic status, and lack of standard skills.* Both human and non human resources were not adequate to meet the care needs of patients with burns.

4.2.1 Limited human resources

Human resource especially nurses were not enough to meet the needs of burn patients. Thus, staffing was a problem in the burn unit. Despite the fact that this problem was organizational, it had more effect in the burn unit than in other units because of increased needs of paediatric burn patients. Burn patients needed to be monitored in terms of feeding, fluids intake and output, wound dressing and general cleanliness. Therefore nurses were the ones to supervise all these needs. Due to shortage of nurses, it was difficult to manage all these properly; as a result some patients end up with malnutrition and Septicemia. One participant said that:

> *"Staffing is not enough because a paediatric burn patient has a lot of things to be monitored; Need to supervise feeding, enough fluids, documentation and dressing". (P4)*

Also shortage of staffing increased workload among nurses. As a result they become tired and failed to do extra activities. Even some of them claimed to fall sick because of excessive work. One participant reported:

> *"You see here, I have decided to leave other work and start to enter specimen in the computer; there are people who want syringe for feeding; I don't know what! You see up to now, we have not yet started wound dressing"* (P1)

They said burn care was a really tough job which needed dedicated and committed health care providers. Nurses in burn unit experienced physical and emotional exhaustion in provision of care. Due to staffing shortage, nurses were performing wound dressing without sitting down or eating for up to six hours. One participant described how this situation affected her:

> *"I have only one year since I came in this unit already I have varicose vein." (P3)*

Despite of heavy workload the participants said that there was no organizational motivation to increase their work morality. They[participants] expressed the feelings

of lack of motivation by saying burn care was a difficult task; which needed sufficient energy and good health because being standing from 9am up to 3pm doing dressing was not easy as some one could fall down due to hypoglycaemia. Therefore they were concerned of being provided with at least something to eat to gain energy and continue with the procedures. Also, they complained about hotness condition in nursing station. One participant said that;

> *"In the dressing room there is an air condition, but once you get out may be you are tired and you want to rest in the nursing station, it is very hot; there is no fan or air condition. Currently is very hot there: really we are experiencing difficulties in providing care to the patients".* (P3)

4.2.2 Lack of standard skills

The participants complained that there was no strict criterion of selecting staff to work in burn unit. Instead, any registered nurse could be allocated to work in burn unit. As a result they set program of teaching one another in order to facilitate consistency in provision of care to burn patients. Those nurses who had more experience were responsible to teach new nurses. They said, there was one participant who was the main trainer of new nurses and students who pass in this unit.

They said although they taught themselves, still they lack standard skills because they were providing care as a routine. One participant saw this as a problem and realized that they need more knowledge and skills in caring for burn patients. She said if there is education on burn care anywhere, they would need to be considered and sent in order to be updated.

4.2.3 Limited Non human Resources

Despite of prioritizing consumables, still there were some resources which were very important in provision of care but they were not frequently available like swabs for culture and sensitivity specimen collection (laboratory equipments). Burn care need multidisciplinary approach and laboratory is the key area where diagnosis of the underlying problem like causes of fever takes place. Due to scarcity of laboratory equipments it was difficult to manage the causes of fever properly as a result patients may suffer from fever and other complications like anaemia and malnutrition. One participant explained how this problem affected provision of care. She said:

> *"For burn patients we need to take pus swab several times, but you find no equipments…You will find patients having running fever but no equipments for pus swab".(P1)*

Also during data collection, there was a problem of swabs and bottles for blood culture and sensitivity specimen collection. So when patients were suspected to have the infection, they were given antibiotics without doing drug sensitivity test.

Also the availability of dressing antibiotics such as silverex was inconsistently available. Some participants reported that;

> *"Some time there is no medication like silverex, therefore they [doctors] have to give prescription to relatives to buy". (P4)*

Although sterilization centre tried to sterilize material for dressing such as gauze, sandwich, Vaseline gauze; still health care providers found weakness which hinder provision of care. Some of participants said that in the tray, they put only one towel while they needed two; One to put on mackintosh and another for covering the patients. Instead they placed patients on mackintosh directly and that area is very cold for the patients.

Another thing was lacking of linen sterilization. One participant explained that during the beginning of burn unit eight years ago there was linen sterilization which facilitated the healing progress of patients. She gave an example:

> *"There were five patients from railway station who sustained burn injury almost all over the body, but it took only one week to recover. They recovered very quickly so these changes in burn care brought good patients outcome .Patients recovered with no disabilities and they do not get infection because of closed wound dressing"(P2)*

She emphasised that currently there is no linen sterilization

4.2.4 Lack of water

Lack of water was the major concern in the paediatric burn unit. All participants complained about this as it hindered provision of proper care. They stated that water is the mainstay of infection prevention control. One participant said:

> *"In the unit there is no water; attendants are needed to go and fetch water from other places in order to wash hands before and after dressing procedures."* (P3)

Another participant said that running water was a problem in burn unit, and some times this shortage caused out break of diarrhoea among patients.

4.2.5 Patient workload

The participants revealed that the incidence of burn injuries in paediatrics had increased. Some of participants complained of the limited space as compared to a large number of patients received/admitted. One participant reported that the rate of admission had increased within one year of her experience in burn unit. She said when she came in burn unit there were 14 or 15 patients in the wards but as time went the number had increased in the sense that two patients may sleep in one bed

and some time they were lodged in surgical ward. She said the cases of burn injuries had tremendously increased.

Another participant reported that many patients with burn injuries were brought to Muhimbili resulting into congestion in the burn unit with only two rooms with 26 beds, and these beds were very close to each other. She found it difficult to provide care because all patients regardless their status were placed together. Patients with clean wound were managed in the same room with patients with septic wound. She emphasised:

> *"I think we need enough space in order to separate patients. For example new admission could have their room. Once they gain good progress they should be shifted into another room and if patient develop malnutrition or diarrhoea, he/she should be shifted into a separate room or patients who develop septicaemia also should be separated in a different room and those patients with clean wound placed in separate room".* (P3)

4.2.6 Poor social economical

Patients' economic status has high influence on healing progress. The participants noted that poor patients' social economic status resulted into poor nutrition status and delay to seek care from the hospital. Most of the patients who were admitted in burn unit were under five years old; they were at high risk of infection and burn injury added more risk to this group. Therefore, if patients have malnutrition or diarrhoea the healing progress was slowed down. One participant said:

> *"Lack of income resulted into poor living condition which in turn causes lack of required food nutrients to the patients….Poor patient nutritional status result into longer patient's stay in the ward. Therefore, as a nurse I failed to achieve good outcome meaning patient recovering on time and go back home" (P1)*

4.2.7 Delayed visit to hospital

The participants noted that some patients delayed to visit hospital and when they came the wound were already septic. Thus, it became difficulty for such patients to go back to normal and those are the ones who die of sepsis. Also once patients came in the ward with high total body surfaces area like 60% (percentage) to manage this kind of patient is real challenging. One participant said;

> "*One day we received a young boy, about 7 years old who sustained burn injury with high percentage, had already presenting sign of electrolyte imbalance and infection. We stayed with him for about 15 hours and then he died. (P2)*

CHAPTER FIVE

DISCUSSIONS AND RECOMMENDATIONS

This study explored factors that influence provision of paediatric burn care among nurse. Two major categories which include motivating and barriers in provision of burn care were revealed by using content analysis.

5.1 Organization of patient care

Caring burn patient is a complex thing which needs good organization. As the findings revealed, there were team work in which all people who were responsible in caring burn patients required to sit together and discuss about patients progress. The overall care of a child with burns is dependent on the depth and extent of the injury, the age of the child, the degree of wound healing, presence of infection, and the psychosocial status of the child and family. Therefore, a multidisciplinary team is required to ensure that every aspect of the child's physical, psychological and social needs is met during hospitalization and following discharge.

The multidisciplinary team which include doctors, nurses, dieticians, physiotherapists and social workers, becomes involved in assessing and planning the care for the child. Each team member plays a vital role in determining the needs of the child and will consult separately with the patient and family upon admission. Dressings and operative procedures are planned in consultation with all the team and the family. Team meetings were vital in ensuring communication was optimal between team members. Complex issues were discussed with the aim of care planning towards solutions and goals for the patient and family. Similarly in the study done by Kornharber, (2009) stated that multidisciplinary team was a greatest asset of burn unit. Participants described that without the team they would not nurse burn patients competently. Multidisciplinary approach gave them support, direction, and assisted in providing competent nursing care to burn patients.

Also this study showed the way nurses and other team members committed in caring burn patients. They expressed their compassion and dedication in caring these patients as a way of improves patients care. In a study done by Okoro, Igwe & Ukachukwu, (2009) reported that there were experienced nurses who were dedicated in caring burn patients. Also Kornharber, (2009) in her study on lived experiences of nurses on caring severely burn injury patients found that participants described the need of be dedicated and committed in caring burn patients. They expressed their effort towards returning function and independence back to the patients who sustained severe burn injury.

Participants expressed that caring burn patients was a rewarding and gratification experiences. It was apparent the participants in this study expressed a high level of job satisfaction and accomplishment as burns nurses. Seeing patients who had sustained a severe burn injury regained their independence and go back to the society as a result of the care rendered by burn team. Also participants' feelings reinforced by patients return in the ward after being discharged to visit staff and express their appreciation for all their effort. In accordance with the study done by Kornharber, (2009) on lived experiences of nurses on caring severely burn patient stated that participants expressed job satisfaction when they saw patients who sustained severe burn injury recovered and went back to the society.

Also participants described presence of staffing shortage which causes burden to few nurses who were working in the shift. They experienced heavy workload because of large number of burn patients. They claimed on physical and emotional exhaustion because burn patients' need demand a lot from nurse. Nurses who have a heavy workload may not have sufficient time to perform tasks safely, apply safe practices or monitor patients. Similarly a study done by Aiken, Clarke & Sloane, (2002) found that heavy nursing workload increases burnout and job dissatisfaction.

5.2 Nurses' clinical skills

Participants in this study stated the importance of having technical skills to be able to perform burn care properly by using closed method of wound dressing which facilitated quick wound healing, decreased number of contractures and even rate of infection among burn patients has been decreased to large extents. They were using topical antimicrobial (silverex) which enhance wound disloughing and healing. Also any patient who suspected infection was given antibiotics. Similarly in the study done in eastern Nigeria by Okoro, Igwe & Ukachukwu, (2009) reported that Dressing was usually done using topical antimicrobial (gentamycin creams) and sufratulle gauze, if it is a closed dressing. All patients were started on antibiotics as their wounds were considered to be infected or potentially infected. Adequate hydration of the patient was ensured in all cases. Physiotherapy was promptly started once the wounds had healed significantly in order to preventing contractures and stiff joints.

5.3 Availability of Equipment

In the present study participants explained how hospital management handling paediatric burn unit through provision of enough working material. The availability of material like gauze and bandages influenced working performance among health care providers. However, they were facing barriers caused by deficiency of some equipments which were important in caring burn patients like laboratory equipments specifically swabs for taking pus and bottles for blood culture. Also participants explained about the limited space, some time patients were sleeping two in one bed or can be shifted to the general surgical ward. Similarly a study done by Ekvall, (2009) in KCMC hospital showed that burned patients were mixed with other surgical patients due to lack of space.

Poor social economic status among most Tanzania people resulted into poor nutrition and delayed to bring patient to the hospital. This resulted into more death. Burn injury is acute conditions which need aseptic immediate care; if delayed many complications arise quickly like oedema due to albumin loss, electrolyte imbalances

and infections. In a study done by Aldemir, Ismail, Kara, Sadullah, & Girgin, (2005) reported that most deaths were due to infection and sepsis, and the patients had been admitted more than 72 hours after the injury. In another study done in Nigeria by Kalayi,(2006) showed that the delay in arrival in the hospital as well as the age of the patients (below four(4) years) contributed to the severity of injury and the mortality. Also Chalya**,** Mabula**,** Dass**,** Giiti**,** Chandika**,** et. al., (2011) did a study in Bugando Hospital, reported that most patients presented late to the hospital. Late presentation in that study attributed to transport costs and other factors such as delay in referral from private and public clinics, dispensaries and health centres, self-treatment at home, consultation with traditional healers. Delayed presentation following burn injury increases the likelihood of death as well as prolonged hospital stay as the child may only be brought to hospital once the wound has become infected. Delay also results in deeper wounds and increased healing time.

5.4 Study limitations

Getting all the potential informants in the study was challenging. Some informants told me to wait until they finish their work in the ward including wound dressing so that I can interview them. But due to shortage and large number of patients, sometimes I engaged in minor activities like giving material during wound dressing to get in touch with potential informants.

However, after dressing they became so tired and told me we should postponed the interview until next day. I followed the next day which told me I found they had an excuse may be due to sickness or family problem. This was major limitation that I encountered in getting ten participants whom I expected. However, the number of informants who were able to participate in the interview provided valuable data on the topic.

Generally participants were very positive in the interview. They were so happy when they saw a nurse researcher (I) coming to do a research on burn care. They said people in the community do not take burn injury as a serious problem as they take in other diseases like malaria and HIV/ AIDS. To me this positive reaction

reflected that they were eagerly to see the government talking about burn injury especially on prevention, since burn injury has high effect in the family, community and government in general.

In the part of confidentiality, there was one participant who was suffering from flu had fear of speaking because of being recognized in the tape. But I reassured that all information will be treated with confidentiality. She agreed and we continued with conversation. Other participants were very free in talking and participated well in interview.

The present study cannot be generalized beyond the studied sample. Nevertheless, the knowledge generated in the present study may be of relevance in similar context. The strength of this study lies in the richness of information gathered that has strong implications for practice in burn care.

5.5 Conclusion

The finding of this study revealed that there are factors that positively and negatively influence provision of burn care. Those which influence positively needed to be maintained ; but for those which influence negatively action required to be taken in order to reduce mortality and morbidity caused by burn injury.

According to nurses perception found that there were good organization of care in the burn unit. Team work, involvement of family caregivers and nurses commitment in caring burn patients influenced provision of care and needed to be maintained.

Also nurses appreciated the availability of working supplies like dressing materials. But they complained on the lack of supplies which are very important in caring burn patients like laboratory supplies (swabs for culture and sensitivity specimen collection).

However, burn injuries in paediatrics continue to be a challenging problem in our setting due to poor medical facilities, lack of well equipped burn centres and

specialized professionals and absence of public awareness on prevention of burn care.

Delayed to visit health facilities following burn injury is a common phenomenon and it is associated with prolonged hospital stay resulting in increased costs of care as well as consumption of hospital resources. Appropriate and timely treatment of these patients can ensure good outcome in majority of cases.

Poor living condition among majority of Tanzanians hindered good patients' progress, because burn patients require very nutritious food in order to enhance recovery. Furthermore, prevention is needed because caring burn patient is much cost fully and time consumption.

5.6 Recommendation

Researcher recommends that more public health enlightenment is needed on prevention and initial intervention in burns in children. Community need to be aware that caring burnt patient is very expensive. It consumes time, resources and even family become poor because of putting all effort on serving burnt patient.

Government should put more effort on establishment of adequate burn units, in term of human and non human resources especially in the peripheral hospitals in order to reduce mortality and morbidity associated with delayed to get definitive care.

Hospital management required to enroll more workers especially nurses inoder to reduce shortage of staffing. Moreover, education is needed among nurses on ways of caring burned patients. Since these patients encountered with many complications: so they are needed to be cared by nurses who are real competent in burn care.

Management requires providing good working environment for nurses such as motivation inoder to increase working performance.

Hospital management required to provide continuous water supply in the burn unit because this unit is very sensitive. Burn patients especially children need enough

water for general cleanness. Normally burn wound have tendency of albumin oozing and mostly smelling bad, so continuous supply of water is very important.

Apart from this enough space is needed in which patients will be managed in separate rooms according to their health status, for example patients with septic wound placed in different room with patients with clean wound. However unit autoclave is needed for linen sterilization as a strategy in reducing infection associated with using non sterilized linen.

More studies are needed in large population since this information is not conclusive to all burn nurses in Tanzania. Further studies are required on this area to explore more factors that influencing caring of burned patients.

REFERENCES

Ahuja, R, B., & Bhattacharya, S. (2004). ABC of burns: Burns in the developing world and burn disasters. British Medical Journal 329, 447-449

Aiken, L.J., Clarke, S.P., & Sloane, D.M. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. JAMA; 288(16):1987-93.

Aldemir, M., Ismail, M.D., Kara, H., Sadullah, M.D., & Girgin, M.D. (2005). Factors affecting mortality and epidemiological data in patients hospitalised with burns in Diyarbakir, Turkey Dicle University faculty of medicine vol 43, no. 4,

Al-Shehri, M. (2008). The pattern of paediatric burn injuries in South western Saudi Arabia.

Atiyeh, B.S., Costagliola, M., & Hayek, S.N. (2009). Burn prevention mechanisms and outcomes: pitfalls, failures and successes. *Burns*, **35**(2)**:**181-193

Buist, M., Moore, G.E., Bernard, S.A., Waxman, B.P., Anderson, J.N., Nguyen, T.V. (2002). Effects of a medical emergency team on reduction of incidence of and mortality from unexpected cardiac arrests in hospital: preliminary study. BMJ; 324: 387–390.

Burn injury Model of care. (2009).

Chalya**,** P.I., Mabula, J.B**.,** Dass**,** M.R., Giiti**,** G**.,** Chandika**,** A.B**.,** Kanumba, E.S., & Gilyoma**,** J.M.(2011). Pattern of childhood burn injuries and their management outcome at Bugando medical centre in Northwestern Tanzania *BMC research notes***4**:485

Considine, J., & Botti, M., (2004). Who, when and where? Identification of patients at risk of an in-hospital adverse event: implications for nursing practice. *International Journal of Nursing Practi*ce10 (1):21—31.

Cox, H., James, J., & Hunt, J. (2006). The experiences of trained nurses caring for critically ill patients within a general ward setting. *Intensive and Critical Care Nursing* 22, 283–293.

Cullinane, M., Findlay, G., Hargraves, C., & Lucas, S. (2005). An acute problem. In: *Death NECEPOD London*

Curtin, L.L. (2003).An integrated analysis of nurses staffing and related variables; effects on patients outcome .online J. issues. nursing 8(3):5

Denzin, K.N., & Lincolin, S.Y (2000). Handbook of Qualitative Research (2nd Ed.).

Dongo, A.E., Irekpita, E.E., Oseghali, L.O., Ogbebor, C.E., Iyamu, C.E., Onuminya, J.E. (2007): A five-year review of burn injuries in Irrua. *BMC Health Serv Res*, 7:171.

Duffield, C., & O'Brien-Pallas, L. (2003). The causes and consequences of nursing \ shortages: A helicopter view of the research. Aust Health Rev;26(1):186-93.

Ekval, K., (2009). Nursing care for patients with Burn in Tanzania: An Observation Study.

Franklin, C., & Mathew, J. (1994). Developing strategies to prevent in hospital cardiac arrests: analysing responses of physicians and nurses in the hoursbefore the event. Critical Care Medicine; 22: 244–247.

Graneheim,U.H.,& Lundman,B.(2003)Qualitative Content analysis in nursing

research: Concepts, procedures and measures to achieve trustworthiness.

Greenfield, E. (2010). The pivotal role of nursing personnel in burn care. 43(3): 94-100

Hancock, B. (1998). Introduction to qualitative Research.

Kalayi, D.G.,(2006). Mortality from burns in Zaria; An experience in developing economy. East African Medical Journal vol. 83.no. 8

Kause,J.,Smith,G.,Prytherch,D.,Parr,M.,Flabouris,A., & Hillman,K.(2004). A comparison of Antecedents to Cardiac Arrests, Death and Emergency Intensive Care Admission in Australia and New Zealand and the United Kingdom-the ACADEMIA study

Kornharber, A. R. (2009). The Lived experience of nursing severe burns injury patients. A phenomenological inqury. thesis , University of Adeilade South Australia

Lang, T.A., Hodge, M., & Olson, V. (2004). Nurse-patient ratios: a systematic review on the effects of nurse staffing on patient, nurse employee, and hospital outcomes. *J Nurs Adm:*34(7-8);326-37.

Lowell, G., Quinlan, K., & Gottlieb, L.J. (2008): Preventing unintentional scald burns: Moving beyond tap water *Paediatrics*. Oct;122(4):799-804

Massey D, Aitken, L.M, &Wendy, C. (2008). What factors influence suboptimal ward care in the acutely ill ward patient? Aust Crit Care. Aug; 21(3):127-40. Epub 2008 Jul 16

McQuillan, P., Pilkington, S., Allan, A., Taylor, B., Short, A., Morgan, G., Nielsen, M., Barrett D., Smith, G. & Collins, C.H. (1998). Confidential inquiry into quality of care before admission to intensive care. *British Medical Journal* 316(7148), 1853–1858.

Okoro,P.E., Igwe, P.O., & ,Ukachukwu, A.K.,(2009).Childhood burns in South Eastern Nigeria. Vol.6 issue 1 pg 24-27

Pham, T. N., Cancio, L. C., & Gibran, N. S. (2008). American Burn Association practice guidelines: Burn shock resuscitation. *Journal of Burn Care & Research, 29*(1), 257–266

Polit, F.D., & Beck, T.C., (2004). Nursing research; principles and Methods (7th Ed.).

Quirke, S., Coombs, M., & McEldowney, R. (2011). Suboptimal care of the acutely unwell ward patient: a concept analysis. *Journal of Advanced Nursing* 67(8), pages 1834–1845

Ritchie, J., & Lewis, J (Eds.). (2003). Qualitative Research Practice. A Guide for Social Science Students and Researchers

Saunders, D.H (2007).Total Burn Care, (3rd Ed.).

West, S.L. (2006).Physical assessment: whose role is it anyway? *Nurs. Cri.Care*; 11(4):161-7.

WHO (2008). Global Burden of Disease 2004 Summary Tables. Geneva, *www.who.int/healthinfo/global_burden_disease/estimates_regional/en/index.html (Accessed on September 20, 2011*

Wood I., Douglas, J. & Priest, H. (2004). Education and training for acute care delivery: A needs analysis. *Nursing in Critical Care* 9(4),159–166.

APPENDICES

Appendix i.

INFORMED CONSENT FORM

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATIONS, MUHAS

ID-NO

Consent to participate in a project about; Factors influencing provision of optimal nursing care to hospitalized paediatric burn patient.

Greetings! My name is Marwa, Nyakanda Patrick. I am currently registered as Msc. student at Muhimbili University of Health & Allied Sciences. I am conducting a research with the title says exploring factors influencing provision of nursing care to hospitalized paediatric burn patients.

Purpose of this study

The purpose of this study is to obtain information from nurses working in the paediatric burn unit on factors that influence provision of nursing care to hospitalized paediatric burn patients. Then this information will be shared by hospital management for the aim of improving patient care by developing and enhancing practitioners' knowledge and skills

What participation involves

If you will agree to join the study, you will be asked to participate in face to face interview with me (study researcher). This will take about 30 to 40 minutes for one interview.

Confidentiality

You are assured that all information that you are providing in this study will not be disclosed to anybody. And the information collected during interview will be analysed by using identification number. If, this study is published or presented at a scientific meeting, names and other information that might identify you will not be used.

Risk

No harm is anticipated to you because of participating in this study

Benefits

You will derive no direct benefit from participating in this study; however, I hope the results of this study will provide valuable information regarding factors influencing provision of optimal nursing care to hospitalized paediatric burn patients and other patients.

Also, this information will direct nursing education, training, continuing professional development and established advanced equipped burn unit.

Right to withdrawal and alternatives

Participation in the study is entirely voluntary. You may choose not to participate or to withdraw from the study at any time, without any penalties whatsoever

In Case of Injury

We do not anticipate that any harm will occur to you.

Whom to contact

Thank you for taking time to read this information letter. If you have any question regarding this study you may contact Marwa, Nyakanda Muhimbili University of Health and Allied sciences, P.O BOX. 65004, Dar-es- Salaam. Mobile phone number; 0716-939406.

In case you have questions regarding your rights as a participant, you may contact Prof. Aboud, Director of Research and Publications at MUHAS, P.O. Box 65001, Dar es Salaam. Tel: 2150302-6.

Signature:

Do you agree to participate?

Participant agrees ……..…… Participant does NOT agree ……..

I, _____ have read the contents in this form.

My questions have been answered. I agree to participate in this study.

Signature of participant _____

Signature of witness (if person/caretaker cannot read) _____

Signature of researcher _____Date_____

Appendix ii

Interview guide (English version)

Interview no; …

Date;…./…./2012

Time of interview; Start….. Finish….

Personal characteristics; Age…….

Sex……..

Education level…….

Working experiences in burn unit…….

Please, tell me what kind of duties do you do in this burn unit?

How do you see the care provided to the paediatric burn patients?

Can you describe to me in general the Organization of providing nursing care to burn patients?

Probes;

- Staffing?
- Patients' workload?
- Guideline for burn care?
- Nurses Motivations?
- Patients' relative involved in the care of burn patients?

Can you say something about availability of equipments or supplies in relation to provision of care to the burn patients?

Probes;

- Adequacy in term of dressing equipments and medicines for each patient?
- Availability of sterilized equipments for all patients?
- What other option in case of deficiency of sterilized equipments?

Please, can you tell me how nurse's clinical skills affect provision of care to the burn patients?

- What are the criteria used to allocate nurses in burn unit?
- What about in service training, specific for burn care?

What is your suggestion on the care provided to the paediatric burn patients?

Is there anything you want to say about care of burn patients that we have not covered?

Thank you very much for your cooperation.

Appendix iii

Interview guide (Swahili version)

Muongozo wa mahojiano.

Namba ……

Tarehe…/…./2012

Muda wa mahojiano;…kuanza……kumaliza…….

Miaka…….

Jinsia……..

Kiwango cha elimu……

Uzoefu wa kazi katika wodi ya watoto walioungua moto…….

Tafadhali unaweza kunieleza ni aina gani za kazi unazifanya kila siku katika wodi hii ya watoto walioungua moto?

Unaionaje huduma itolewayo kwa hawa wagonjwa walioungua Moto?

A)Unaweza kunielezea kwa ujumla mfumo wa utoaji huduma bora kwa watoto walio ungua moto ?

- Idadi ya manesi?
- Muongozo wa hutoaji huduma bora kwa wagonjwa walioungua moto?
- Huhamasisho wa kutoa huduma bora kwa manesi?
- Ushirikishwaji wa ndungu katika kutoa huduma bora kwa wagonjwa?

B)Unaweza ukasema ni kwa jinsi gani hupatikanaji wa vifaa unavyoweza kuchangia hutoaji wa huduma kwa wagonjwa?

- Utoshelevu wa vifaa kama vile vifaa vya kufungia vidonda na madawa kwa kila mgonjwa?
- Upatikanaji wa vifaa vilivyotakaswa kwa wagonjwa wote?
- Je ?Unafanyaje wakati ambapo vifaa vilivyotakaswa havitoshelezi kwa wagonjwa wote?

C).Tafadhali niambie ufahamu wa manesi kuhusu kuhudumia wagonjwa walioungua moto kunachangia hutoaji wa huduma bora ?

- Je? nivigezo gani vinavyotumika kwa nesi kupangiwa kufanya kazi katika wodi hii?
- Je? Kuna nyakati ambazo mnahudhuria masomo kuhusu namna ya kuwahudumia hawa wagonjwa?

Nini maoni yako kuhusiana na huduma inayotolewa kwa wagonjwa walioungua moto?

Je? Kunachochote unataka kusema ambacho hatujakizungumzia katika mahojiano haya kuhusiana na huduma kwa watoto walioungua moto?

Aksante Sana kwa Ushirikiano wako.

Appendix iv

P=participant, 1-5= participant number.

Codes	Sub category
Inadequate Specimen equipmentsP1 Inconsistent supply of topical antimicrobial P1 Shortage of staffingP1,P3,P4,P5 No linen sterilizationP2 Lack of water p2,p3	Limited resources.
Lack of motivationP1,P2 Unfavourable resting rooms for nursesP1,P3	Lack of motivation
Lack of trainingP1,P2,P3 Teaching themselves P1,P4 On job training P2,P3,P4 Lack of guidelines	Lack of standard skills
Adequate dressing materialsP1,P2,P4,P5	Adequate equipments
Poor patient nutrition status P1,P4,P5 Delayed to visit hospital P2,P3 Complication of burn injuryP2	Poor social economical status.
Effective wound careP2,P5 Good distribution of workP2 Technique of reducing infections P3,P2,P5 Good team workP3,P5	Coordinated management of burn care.

Good governanceP5	
Heavy workload P3,P4 Patient workload P4,P5 Hardness of work P5 Physical and emotional exhaustionP5,P1,P3	Patients' workload
Feeling of rewarding Gratification of care	Job satisfaction
Involve family caregivers P1,P2,P3,P5	Involve family caregivers

subcategories	Categories
Coordinated management of burn care Involve family caregivers Job satisfaction, Adequate equipments	Motivating factors in burn care
Lack of standard skills Patients' overload, Poor social economical status. Lack of motivation Limited resources	Barriers in provision of burn care.

Appendix v

Ethical Clearance

MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
DIRECTORATE OF POSTGRADUATE STUDIES

P.O. Box 65001
DAR ES SALAAM
TANZANIA
Telefax: 255-022-2150465
Telegrams: UNIVMED

E-MAIL: dpgs@muhas.ac.tz
TEL: (255-022)-2150302-6 Ext. 207
Direct line: 2151378

Ref. No. MU/PGS/SAEC/Vol. VI/

20th April, 2012

Marwa P. Nyakanda,
MSc.Mental Health Nursing.
MUHAS.

RE: APPROVAL OF ETHICAL CLEARANCE FOR A STUDY TITLED "EXPLORING FACTORS INFLUENCING PROVISION OF CARE TO HOSPITALIZED PAEIDATRICS BURN PATIENTS: A QUALITATIVE STUDY AMONG NURSES IN MUHIMBILI NATIONAL HOSPITAL, DAR ES SALAAM"

Reference is made to the above heading.

I am pleased to inform you that, the Chairman has on behalf of the Senate approved ethical clearance for the above-mentioned study.

Thus ethical clearance is granted and you may proceed with the planned study.

Please liaise with bursar's office to get your research fund.

Prof. Z. Premji
DIRECTOR, POSTGRADUATE STUDIES

/emm
c.c. Vice Chancellor, MUHAS
c.c. Deputy Vice Chancellor – ARC, MUHAS
c.c. Dean, School of Nursing - MUHAS

Appendix vi

Permission letter

MUHIMBILI NATIONAL HOSPITAL

Cables: "MUHIMBILI"
Telephones: 255 22-2151367-9
FAX: 255-22-2150234
Web: www.mnh.or.tz

Postal Address:
P.O. Box 65000
DAR ES SALAAM
Tanzania

In reply please quote:
Ref:

2nd may 2012

TO WHOM IT MAY CONCERN
MUHIMBILI NATIONAL HOSPITAL

RE: RESEARCH CLEARANCE NO 185 2012/2013

Name of Researcher	**MARWA P NYAKANDA**
Research Title	EXPLORING FACTORS INFLUENCING PROVISION OF CARE TO HOSPITALIZED PAEDIATRIC BURN PATIENTS: A QUALITATIVE STUDY AMONG NURSES IN MUHIMBILI NATIONAL HOSPITAL
Type of Research	A DESCRIPTIVE QUALITATIVE STUDY WHICH WILL BE CONDUCTED AT PAEDIATRIC BURN UNIT AT MNH
Valid Between	**MAY TO JULY 2012**

The above named has been allowed to conduct the stated research.

Please accord him/her and his/her assistants the necessary assistance/cooperation.

Sincerely,

Dr. H.F. Swai
DIRECTOR OF MEDICAL SERVICES

P. O. Box 65000
DAR ES SALAAM