COMPLIANCE WITH BURNS TREATMENT PROTOCOL BY NURSES AT KABWE CENTRAL HOSPITAL, KABWE, ZAMBIA.

BY

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CERTIFICATE OF APPROVAL

The University of Zambia approves this dissertation of Bwalya Munjili entitled Compliance with Burns Treatment Protocol by Nurses at Kabwe Central Hospital in Partial fulfillment of the requirements of the award of the Degree of Masters of Science in Clinical Nursing

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ABSTRACT

Annually, burns result in more than 7.1 million injuries and more than 250,000 deaths worldwide, with the vast majority being in low and middle income countries. In Zambia, at Kabwe Central Hospital, burn trauma is one of the commonest causes of trauma admissions in surgical wards. To mitigate the trend, MoH in 2016 distributed infection prevention and control guidelines and burns Treatment Protocols and emphasized on the need to manage all patients with burns in accordance with national guidelines. Despite availability of guidelines, the institution is still recording unacceptably high burns (54%) infection rates.

The main objective of this study was to assess the level of Compliance with Burns Treatment Protocol by nurses in Burns units at Kabwe Central Hospital.

A descriptive analytical cross sectional study design was used in the study. A self-administered questionnaire was used to obtain data from 60 nurses while 55 nurses were observed using an observational checklist. Convenient sampling was used to recruit nurses for the study. SPSS version 23.0 was used for data analysis. Fisher's exact test was used for analysis to determine the association between study variables. Level of significance was set at 5%.

Findings showed that observed compliance to burns treatment protocol was very low and stood at 51%. This was despite high knowledge (100%), good management support (81.7%) and positive attitudes (100%) expressed by the majority nurses. This can be attributed to rare availability of most medical surgical supplies as reported by 78.3% of the respondents at the institution.

Based on the findings the study recommend the need for the hospital to improve on the supply of resources to the burns units as most nurses reported resource inadequacy in the management of burns. There is also need of an ideal burns unit.

Key words: *Compliance, burn treatment protocol, nurse, knowledge, practices, resources.*

DEDICATION

This work is dedicated to my family; my wife Delphine Mwila and my Sons; Savior and twins (Pace and Peace) whose patience and support gave me the impetus to move on with my studies. My late Dad and surviving Mum, Mr. Damson Bwalya Munjili and Mrs. Dorotilah Kapoma Bwalya respectively. My sisters Chewe, Mulewa, Kaluba, Chanda, Kachele and Kunda, and My only Brother Chisanga for their encouragement.

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LIST OF ABBREVIATIONS

ABA……...American Burn Association

BBA…….British Burns association

BWI…….……Burn Wound Infection

DALY……..……Disability Adjusted Life Years

CNS……Clinical Nurse Specialist

ICN……..International Council of Nurses

IP……...……..Infection Prevention

KCH……...…….Kabwe Central Hospital

MSRSA…….Methicillin Resistance Staphylococcus Aureus

SPSS…….…….…….Statistical Package for the Social Sciences

TBSA……..Total Body Surface Area

TRA…….Theory Of Reasoned Action

UNZABREC……...……University of Zambia Biomedical Research Ethics Committee

WHO……World Health Organization

MOH……....Ministry of Health

ANZBA……Australian & New Zealand Burn Association

ICM…….……..Infection Control Measures

NACNS……National Association of Clinical Nurse Specialists

CHAPTER ONE

INTRODUCTION

1.0 INTRODUCTION

According to Dayane (2017), Burn victims deserve special attention, not only because of their physical and psychological weakness and distress but also due to their great potential of acquiring nosocomial infections, since in addition to the lesion itself they present favorable conditions for bacterial proliferation. Infections on burns sites occur due to disruption in the skin integrity which acts as a barrier from any invading micro organisms. Considering the undue suffering that these patients with burns undergo, it is imperative that nurses adhere to burns treatment guidelines at all levels of health care systems.

1.1 BACKGROUND INFORMATION

The World Health Organization (WHO, 2012) broadly defines a burn as an injury caused by heat (hot objects, gases, or flames), chemicals, electricity and lightning, friction, or radiation. Burns are classified according to their depth, extension of the compromised area, region or part of the body affected, and its extension. Annually, burns result in more than 7.1 million injuries, the loss of almost 18 million disability adjusted life years (DALYs) and more than 250,000 deaths worldwide (WHO,2012). The three WHO regions with the greatest burden of injury are the Eastern Mediterranean Region, the South East Asian Region, and the African Region with a bearing of nearly two thirds of the total burden. Fire related injuries account for 265 000 deaths per year, the vast majority being in low and middle income countries (WHO, 2014). Observably, the burden of Burns is experienced mostly in developing countries where access to health care and resources are limited (Andrews, 2015).

The WHO, 2007 states that a Burns patient has the same priorities as all other trauma patients. According to the WHO burns treatment protocol, the focus on treatment should be on speedy healing and prevention of infection as burns are considered sterile in the initial stage. speedy healing in these patients is realized when all measures of infection prevention and control are well implemented. Tetanus Prophylaxis should be administered in all cases except in very small burns. The protocol states that wounds from Burn should be cleaned using mild water –based antiseptics such as 0.25% Chlorhexidine solution or 0.1% cetrimide solution in order to prevent infection.

In line with WHO standards, the Zambian Ministry of Health (MOH) developed the National Burn Treatment Protocol in 2017 whose main goal is to manage all patients with burns according to prescribed national guidelines using aseptic technique at all times to enhance speedy healing and prevent complications. The Burns Treatment Protocol must always be Complied to as it provides a guide on how the patients with burns can be managed and this calls for effective implementation in health facilities that manage these patients. It is, therefore, important that nurses comply with the burns treatment protocol especially that they spend 24 hours nursing the patients in order to prevent nosocomial infections.

BURNS TREATMENT PROTOCOL

Burns patients with burns must be managed according to prescribed national guidelines using aseptic techniques at all times to enhance healing and prevention of complications (MOH, 2017).

Burns Severity Determination

Determination of severity of Burn wounds is very cardinal as the morbidity and mortality rises with increased burn surface area as well as chances of contracting infections becomes high. The First degree burns (Superficial Partial Thickness) usually appear red, dry and painful. (Does not count in percentage Total Body Surface Area calculation). Then the second degrees (Partial Thickness) appear red with blisters, weepy, swollen and are usually painful. Lastly the third degree (Full Thickness) appear whitish, brown, charred with no pain prick sensation in burned area. The protocol allows the use of the Rule of Nines to estimate % TBSA for adults and Paediatric patients (WHO, 2015).

Prevention of Infection

All patients in the Burns Unit must be placed in reverse isolation and family members and other visitors including health staff must adhere to reverse isolation precautions. The protocol further states that any patient with ≥30% TBSA of open wounds will be placed in isolation. Reverse isolation precautions will remain with the patient throughout the hospital stay until their wounds are <30% open (WHO, 2015).

Precautions for Wound Care

Infection prevention measures need to be followed by any person providing wound care to a burn patient with ≥30% TBSA.The measures to put in place is by ensuring putting on a gown, gloves, mask, and hair cover for the entirety of the wound care.

Wound Care

Debridement and application of topical antimicrobials is usually unnecessary if daily cleaning of the wound is indicated using wet gauge and normal saline. The patient must be covered with a dry sheet or blanket to keeping the patient warm. Adequate pain management should be ensured with provision of high protein diet to the burn patient.

Burn infection prolongs patient hospitalization, leading to increased usage of pharmaceutical services, more laboratory investigations and other services thereby, creating an economic burden on the health care system in Zambia bearing in mind that resources are scarce in this sector (Pumulo, 2014). The cost of providing these health services to patients that have been hospitalized longer than expected results in an unforeseen cost that result in economic burden that deprive the health sector of the much needed resources that can be utilized to provide health services for the hard-to-reach populations (Almås et al., 2011). Therefore, it is important for nurses to use appropriate practices and technical skills related to burn injuries such as aseptic techniques and other infection prevention practices. One of the first thing to be considered is to make sure that the environment around the wounds is aseptic, that the nurses are observant for early signs of infections and that the wound dressings are being conducted aseptically (Almås et al., 2011).

According to Church et al, (2006), Burns wound infection (BWI) is the most frequent nosocomial infection in Burn Units. Patients with severe burns may die due to complications such as septicaemia. Therefore, a reverse barrier nursing should be provided to all burns patients as they are susceptible to infection. Use of reverse barrier nursing entails that there must be a limited number of staff entering the burns Unit and promotion of health hygienic measures such as aseptic techniques ranging from simple hand washing before and after attending to the patient (The Australian & New Zealand Burn Association, 2005**).** Any staff member that enters the room must decontaminate their hands (i.e. via hand washing with antibacterial soap and water or via the use of alcohol hand gel). Gloves must be changed and hands washed before attending to the next patient. Non-compliance to aseptic techniques results in acquisition of infection thereby increasing the length of stay in hospital, prolonged therapy and increase cost of burn wound management at individual and national level (McRobert and Stiles, 2014). Considering the

economical impact of hospital acquired infection e.g. Burn infections, it becomes clear that prevention and control measures such as adhering to the recommended infection prevention (IP) practices are cost effective and should be adhered to by nurses (Katowa ,2010).

This study was conducted at Kabwe Central Hospital. In the current health care system, nurses are considered to be the key players in infection control practices (Smith et al., 2009). The main aim in Burns management is to ensure speedy healing which can be achieved when burns treatment protocol is well complied. This study therefore assessed the level of compliance to burns treatment protocol by nurses at Kabwe Central Hospital. Most burn injuries outcome is greatly influenced by the quality of care that patients receive, resources available and skills of health care providers among others (Burn Injury Model, 2009).

1.2 STATEMENT OF THE PROBLEM

Compliance to Burn Treatment Protocol has not been well established at Kabwe Central Hospital (KCH).The Ministry of Health (MOH) Burns Treatment Protocol emphasize on the need to manage all patients with Burns in accordance with national guidelines of aseptic technique at all times to enhance healing and prevent complications(Nursing and Midwifery protocols, 2017). Burn wound infections have been slowly increasing at KCH (Table 1).

Table 1: **BURNS INFECTION RATES AT KABWE CENTRAL HOSPITAL**

YEAR	**TOTAL BURN ADMISSIONS**	**INFECTED BURNS**	**DEATHS**
2015	149	55 (40%)	15 (10%)
2016	158	49(31%)	18 (11%)
2017	78	36(46%)	14 (18%)
2018	110	60(54%)	12 (11%)

Source: Health Management Information System- Kabwe Central Hospital, 2015 -2018.

Worldwide, acceptable level for Burns infection rate is estimated at 10% (Norbury, 2016). KCH burn infection rate currently stands at 54% which is unacceptably high. Furthermore, the audit

reports from the department of surgery at Kabwe Central Hospital revealed that infections due to Burns contribute significantly to morbidity and mortality rates in the department (HIMS, 2018).

According to Azimi (2011), patients with Burns are at high risk of developing nosocomial infections because of the destroyed skin barrier and suppressed immune system, compounded by prolonged hospitalization and invasive therapeutics. Burns infection can lead to devastating effects such as prolonged patient hospitalization, leading to increased usage of pharmaceutical services, more laboratory investigations and other services thereby, creating an economic burden on the health care system with limited available resources in the health sector (Almås et al., 2011). Therefore, this study assessed compliance with Burns Treatment Protocol by nurse at Kabwe Central Hospital.

1.3 STUDY JUSTIFICATION

Findings of the study identified the gaps in implementation of Burns Treatment Protocol. It is also hoped that the study will improve burns management and care for patients with burns through enhanced compliance with Burns Treatment Protocol by nurses. It is further hoped that the information will be used as a basis for in-service training to enhance burns treatment. The study has also added to the body of knowledge on Burns Treatment.

1.4 CONCEPTUAL FRAMEWORK: THEORY OF REASONED ACTION MODEL (TRA)

The Theory of Reasoned Action (TRA) is a model for the prediction of behaviour intention, spanning predictions of attitude and predictions of behaviour. The subsequent separation of behaviour intention from behaviour will allow for explanation of limiting factors on attitudinal influence (Ajzen, 1980) (Figure 3). The TRA was developed by Martin Fisbein and Icek Alzen (1975, 1980).

Fishbein and Icek Ajzen (1975, 1980), derived from previous research that started out as the theory of attitude, which led to the study of attitude and behaviour. The theory was born largely out of frustration with traditional attitude-behaviour research, much of which found weak correlation between attitude measures and performance of voluntary behaviours.

The components of TRA are three general constructs; Behavioural Intention (BI), Attitude (A) and Subjective Norms (SN). TRA suggests that a person's behaviour intention depends on the person's attitude about the behaviour and subjective norms. If a person intents to follow behaviour, then it is likely that the person will do it.

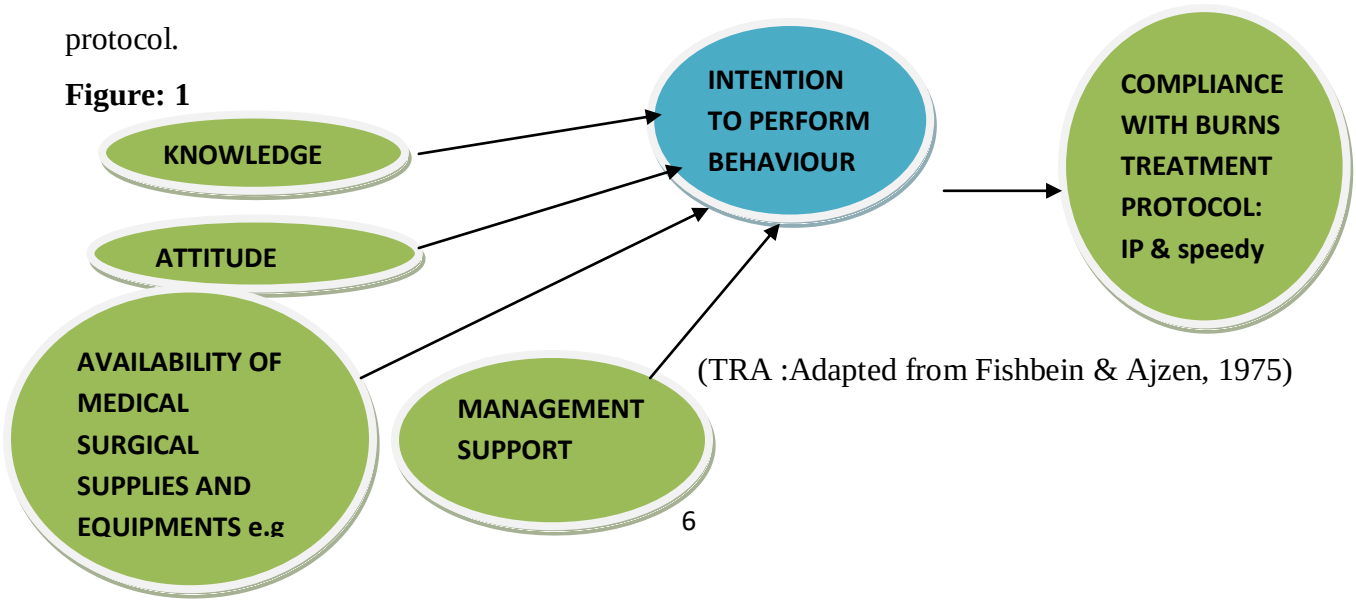
1.4.1 CONCEPTUAL FRAMEWORK

In an attempt to understand compliance with burns treatment protocol by nurses at Kabwe General Hospital, the Theory of Reasoned Action guided the study.

1.4.2 PREDICTED RELATIONSHIP

The key application of the theory of reasoned action is prediction of behavioural intentions, spanning predictions of attitude and prediction of behaviour among nurses. This theory will provide some empirical understanding on some of the potential influencing factors on certain behaviours such as knowledge and how they can influence compliance with burns treatment protocol.

Figure: 1



(TRA :Adapted from Fishbein & Ajzen, 1975)

1.5 RESEARCH OBJECTIVES

1.5.1 GENERAL OBJECTIVE

To assess the level of compliance with Burns treatment protocol in Burns Units by nurses

1.5.2 SPECIFIC OBJECTIVE

1. To determine self reported and observed compliance with Burns Treatment Protocol by nurses
2. To identify factors associated with compliance with burns treatment protocol

1.6 NULL HYPOTHESIS

There is no association between compliance with Burns treatment protocol and

1. Knowledge on burns treatment protocol by Nurses
2. Nurses attitudes towards Burns treatment protocol
3. Availability of medical surgical equipment and supplies for Burns management and
4. Management support

1.7 DEFINITION OF TERMS

1.7.1 CONCEPTUAL DEFINITION OF TERMS

Burn: A burn is an injury to the skin or other organic tissue primarily caused by thermal or other acute trauma. (American Burn Association, 2009).

Compliance: This is a state of being in accordance with established guidelines Specifications or legislations or the process of becoming so" (Margaret, 2010).

Infection prevention practices: These are actions taken or aimed at stopping spread if infection among humans (Hornby, 2010).

Burns unit: A burns unit is an organized medical system for the total care of the burned patient (British Burn Association, 2002).

Attitude: It is a feeling or opinion about something or someone (Oxford English Dictionary, 2014).

Aseptic technique: These are procedures used to exclude pathogenic micro- organisms from an environment (Medical Dictionary, 2003).

Knowledge: This is information, understanding and skills that one gains through formal education or experience" (Hornby, 2006).

Management: This refers to specific treatment of a disease or a condition (Oxford English Dictionary,2014).

Protocol: a system of rules that explain the correct conduct and procedures to be followed in formal situations (Hornsby, 2006).

1.8 OPERATIONAL DEFINITION OF TERMS

1.8.1 Compliance

Compliance is the ability of the participants to follow the cardinal steps of burns treatment protocol outlined on the check list. In this study compliance with burns treatment protocol was measured by observing participants demonstrating aseptic technique and infection prevention practices when managing burns patients using an observation checklist. The checklist comprised of a series of steps that a respondent will be expected to do.

1.8.2 Aseptic technique

Aseptic technique involves applying the strictest rules and utilizing what was known about infection prevention to minimize the risks that one will experience an infection.

1.8.3 Burns unit

A burns unit is an organized medical system for the total care of the burned patient.

1.8.3 Knowledge

In this study knowledge was defined as the information the nurses have and know on treatment protocol for burns and ability to follow them correctly**.** Knowledge on burns management was ascertained by the use of the self-administered questionnaire which comprised of questions that focused on the knowledge of nurses on treatment protocol of burns. The observation checklist was also helpful in measuring practice when managing burns patients. The knowledge was assessed using a scale of high knowledge, medium knowledge and low knowledge.

1.8.4 Attitude

Attitude is defined as the way the nurses perceive the burns treatment protocol. Attitude of nurses towards burns treatment protocol was measured by using a Likert scale to rate the individual's attitude towards burns management.

1.8.5 Availability of Medical Surgical Supplies and Equipments

Availability of burns medical surgical supplies and equipment was defined as having about seventy-five (75%) percent of the medical surgical supplies and equipment. This was measured by using an observation checklist. The number of medical surgical supplies and equipment that where present in the clinical area was ticked on the checklist. The total score from the checklist where add up to 100%.Non availability was indicated by the score of less than seventy five (75%) percent. Furthermore the interview schedule also had questions to assess the availability of equipment.

1.9 VARIABLES, CUT OFF POINTS AND INDICATORS

DEPENDENT VARIABLES

Compliance with burns treatment protocol

INDEPENDENT VARIABLES

a. Knowledge on burns treatment protocols
b. Nurses attitudes towards burns treatment protocol
c. Availability of medical surgical equipments /supplies for burns management and
d. Management support in implementation of burns treatment protocol

TABLE 2: VARIABLES INDICATORS AND CUT OFF POINTS

VARIABLE	INDICATOR	CUT OFF POINT	QUESTIONS NUMBERS
DEPENDENT VARIABLE			
Compliance with burns treatment protocol	Good or High	Respondents who knows what entails to Comply to Burns treatment protocol and are able to score 5-7 correct responses	32 - 39
	Poor or low Compliance	Respondents who scores below 5 correct responses to compliance questions	
INDEPENDENT VARIABLE			
Knowledge on burns treatment protocol	High level of Knowledge	If the respondent is able to score 5-6 correct responses	6-16
	Low or poor level of knowledge	If the respondent scores below 5 correct responses on Knowledge on Burns treatment protocol	
Nurses attitudes towards burns treatment protocol	Positive attitude	If the respondent is able to score 2-3 correct responses on attitude	28-30

	Negative attitude	If the respondent scores below 2 questions correctly	
Availability of medical surgical equipments /supplies for burns management	Always availability of equipments	If the respondent answers always available to all the 3 questions on availability of medical surgical supplies	40-42
	Rare availability of equipments	If the respondent answers always available to only two questions on availability of medical surgical supplies	
	Non availability of equipments	If the respondent answers only one (1) questions on availability of medical surgical supplies	
Management support in implementation of burns treatment protocol	Good	If the respondent answers a Yes to 4-5 questions on management support	42-46
	Poor	If the respondent answers a Not to less than 4 questions on management support section	

CHAPTER TWO
LITERATURE REVIEW

2.0 INTRODUCTION

2.1 OVERVIEW

Smeltzer and Bare (2010) mentioned that although sophisticated technology is an integral part of medical care, there is an emphasis on bedside clinical care which remains a key component of Burns care. The major part of nurses' role during Burns care is detecting and preventing infection.

Burns management in the first few days (emergent phase) post-burn is very crucial. The severity of the injury sustained by the patient should be determined on admission by the nurses as it provides guidance on how the patients need to be managed. The initial care starts right from the point of burn and the type of first aid given (Tobelem et al. 2013).

2.2 COMPLIANCE TO BURNS TREATMENT PROTOCOL

Compliance with Burn Treatment Protocols been shown to reduce infection transmission to both the health care workers and the patients (Parkin, 2012). However, some studies showed that Compliance with Burn Treatment protocols among nurses is still sub-optimal and inconsistent (Efstathiou et al 2011; Gebresilassie et al , 2014; Punia, Nair & Shetty, 2014; Bakar et al , 2015).

A study done by Katowa (2010) on health-care worker's compliance with the IP guidelines and factors that influence compliance showed that levels of compliance differed among the health care workers. However, from Katowa's study it was clear that Burn wound infection may be impacted by knowledge levels of nurses on infection prevention practices.

Additionally, Didier et al. (1999) did an observational study on compliance with IP guideline on hand washing in a Teaching Hospital in Geneva, Switzerland. It was established that compliance was moderate with an average compliance of 48%. Compliance varied across types of health care workers with the highest level of noncompliance being among physicians with an Odds Ratio (OR) of 2.8, Nurse Assistant OR of 1.3 and other health workers OR 2.1. These findings suggested that targeted education programmes may be useful in tackling the problem of non-compliance with IP guidelines. Didier et al. further added that although observation data cannot

prove causality the association between non compliance and the intensity of patient care suggests that understaffing decreases compliance and consequently compromises quality of care.

A study done by Heba et al (2018) in Egypt showed non satisfactory among nurses on compliance with infection control standard guidelines. This was in agreement with another study done in Myanmar China which showed that most of the nurses had high knowledge and positive attitude, but compliance with Universal Precaution / Standard Precaution was inconsistent (Shwe, 2007).

In contrast a study done in china by Thu (2012) regarding overall compliance with Standard Precautions, the study revealed that almost three-quarters (73.5%) of nurses had good compliance.

2.3 KNOWLEDGE ON BURN TREATMENT PROTOCOL

Nurses play a pivotal role in creating a culture of patient safety among Burn patients by use of Burn Treatment Protocol and application of their infection control training (Stone, 2013). According to Stone (2013), nurses are the front liners and can take the leading role in infection control procedures on the patients. Positive patient outcomes are dependent on the composition of the burn care team and close collaboration among its members. At the center of this team is the Burn nurse, the coordinator of all patient care activities. The complexity and multisystem involvement of the burn patient demand that the Burn nurse possesses a broad-based knowledge on Burn Treatment Protocol, quick identification of multisystem organ failure, critical care techniques, diagnostic studies and rehabilitative and psychosocial skills (Greenfield, 2010).

According to Greenfield (2010), the nurse oversees the total care of the patient and is also a specialist in wound care. As a burn wound heals, either spontaneously or through excision and grafting, the nurse is responsible for wound care by preventing infection and noting subtle changes that require immediate attention and pain management.

Research and demonstration tasks have shown that the Clinical Nurse Specialist's (CNS) role is distinctively suited to lead the execution of evidence-based quality development actions that also lessen cost throughout the health care system. The CNS has an important part to play in care, organization and transitions of care to burns patients that result in reduced hospital length of stay, fewer hospital readmissions and fewer nosocomial conditions (NACNS, 2013). Burn patients are

at risk of many complications if immediate optimal nursing care is not provided, (Pham, 2008). Nurses' competences and skills attained through training are the best solution in their working performance. The ability to recognize physiological abnormalities is a key factor in the prevention of an impending adverse event in burns patients and, in turn, prevents infection.

Lack of knowledge among nurses on Burns Treatment Protocol can increase the rate of the hospital-acquired infections. Supported by a study that was conducted in Zimbabwe, (Tirivanhu, Ancia and Petronella ,2014:73), determined the barriers of infection prevention and control practices among nurses at the Bindura Provincial Hospital. The study revealed that the majority of nurses' lack knowledge of infection control principles as only 14 (28%) of 50 nurses had excellent knowledge on infection control principles. In similar manner, another study done by (Eskanderl, Morsy and Elfeky, 2013), the study assessed critical care nurse's knowledge and evaluated their practice regarding infection control standard precautions. The study revealed that two-thirds (63.6%) of the studied sample had unsatisfactory Knowledge level. Hence recommendations were made of updating knowledge and performance of critical care nurses through continuing in-service educational programs.

In a study conducted by Jain et al. (2012) to assess the knowledge and practice of 400 health care personnel regarding hospital infection control practices in New Delhi, India. The findings revealed that 55.3% of the respondents' had knowledge regarding standard precautions and 31.8% had knowledge on risks associated with needle stick injuries. The lack of knowledge and Practices regarding basic infection control protocols revealed in this study should be improved by way of educational intervention, in the form of formal training of doctors and nurses on IP practices and reinforcement of the same.

In another study conducted by Eldeen (2016), the findings were that nurses' knowledge of infection control in burn units was low at the pre-intervention phase of the study. This was an extremely alarming finding that could be attributed to the low level of nursing qualification in the majority of the sample. In agreement with these findings, a study done in Iran by Azimi (2011) demonstrated that the health care providers' knowledge of healthcare-associated infections was deficient. In similar study conducted by Teshager, Engeda and Worku (2015)

indicated that over 50% of nurses who participated in the survey lacked knowledge about surgical site infection prevention and practiced inappropriately.

In contrast to most studies done Ibrahim and Said (2011) in their study pointed out that the majority of their studied group, had enough information about infection and prevention precaution. Also a study by Mussa and Abass, (2014) emphasized that training programmes on infection control measures to all members of staff leads to the understanding of the infection control policy and procedure as well as motivating them to adhere to it.

Based on the above literature, we can conclusively state that the quality of nursing care depends to a large extent on the knowledge, skills, attitude and activities of the practicing nursing staff.

2.4 INFECTION PREVENTION /CONTROL PRACTICES

Infection control practices are aimed at reducing the incidence of nosocomial infections (Ojulong et al, 2013). Using their infection control training, nurses play a vital role in creating a culture of patient safety as they are front liners and can take the lead to explain infection control procedures to the patients (Stone, 2013). According to NACNS (2013), research and demonstration tasks have shown that the clinical nurse specialist's (CNS) role is distinctively suited to lead the execution of evidence-based quality development actions that also lessen cost throughout the health care system. The CNS has an important part to play in care organization and transitions of care that result in reduced hospital length of stay, fewer hospital readmissions and fewer nosocomial conditions (NACNS, 2013). The nurse is a member of a health-care team who leads the rest of the group in performing prevention approaches to keep the patient from infection (Benson et al., 2011)

Any laxity in the application of infection control practices in the burns patients can result in significant negative consequences (Eldeen et al, 2016). Nurses are at the center of patient care and are the healthcare professionals most likely to intercept errors and prevent harm to patients. They can directly prevent infections by performing, monitoring, and ensuring compliance with aseptic work practices; providing knowledgeable collaborative oversight on environmental decontamination; serve as the primary resource to identify and refer visitors or staff who are

unwell; to reduce the risk for infection and colonization using evidence-based aseptic work practices.

Lack of knowledge among nurses can increase the rate of Burn infection. This is supported by a study that was conducted in Zimbabwe by Tirivanhu, Ancia and Petronella (2014:73) who determined the barriers of infection prevention and control practices among nurses at the Bindura provincial hospital. The study revealed that the majority of nurses' lack knowledge on infection control principles as only n= 14 (28%) of n= 50 (100%) nurses had excellent knowledge on infection control principles. In similar manner, another study done by Hayeh and Esena (2013) assessed the infection prevention and control (IPC) practices among health workers at Ridge Regional Hospital in Accra (Ghana). The study showed that knowledge in IPC practices among health care workers was moderate 51% (n= 204).

Sessa et al. (2011) assessed the level of knowledge, attitudes and practices regarding disinfection procedures among nurses in Italian hospitals. The survey found that the level of knowledge, particularly of the most common hospital-acquired infections, was not satisfactory and a small percentage of nurses reported that they appropriately performed the disinfection in their practical activity. Moreover, the study also revealed an extremely positive attitude towards the utility of guidelines and protocols for disinfections. Sessa et al. (2011) recommended HAIs control education and training programmes to address these shortfalls and to improve knowledge and adherence to procedures and HAI prophylaxis and management as essential strategies for patient safety and reduction of HAIs.

2.5 AVAILABILITY OF MEDICAL EQUIPMENTS AND SUPPLIES

According to Nyakanda (2012), 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.

With adequate medical equipments and supplies, literature has indicated that compliance with treatment protocols leads to improvement in quality of care rendered to patients (JHPIEGO, 2006). In this way the safety of health care workers and patients is guaranteed as they are protected from nosocomial infections.Cosequently the quality of health care is improved.

The availability, reliability and consistency in equipments and supplies between areas have been shown to contribute to the acuteness of care to patients, (Wood, Douglas and Priest, 2008).

Literature has also shown that the shortage of equipments and other medical supplies is also a major contributor to poor compliance in the sense that despite the knowledge health workers may possess and their desire to comply to guidelines, it becomes impossible to do so (Didier et al, 1999). This was in line with the study done in KCMC by Ekvall (2009) on nursing care for patients with Burns which showed that nurses encounter problems of providing optimal care to the patients due to lack of surgical supplies and equipments.

A study done by Najeeb & Taneepanichsakul, (2008) revealed that nursing practice is not only influenced by knowledge, but also having sufficient supplies that help to achieve the goal of infection prevention. These factors influence negatively in the compliance with infection prevention practices. Therefore, the management needs to provide adequate support by ensuring that the required equipments and IP supplies are provided adequately to health staff to enhance motivation and intern promotes compliance to infection prevention practices.

2.6 ENVIRONMENTAL CONTROL

According to Garret (2015) a clean and sanitary patient environment is being measured as a component of infection and control process. In addition, outcome measures such as patient satisfaction and cleanliness of the environment are common metrics in this era of continual health care reform (Garret 2015) Garrets further indicates that patient's visitors and health care providers routinely contaminates health care environment through daily activities. This can increase the risk of infection transmission. According to Weber (2013), the contaminated surfaces in the environment in hospitals play an important role in transmission of pathogens like Methicillin-Resistance Staphylococcus Aureus (MRSA) and Clostridium Difficile. Weber et al. (2013), further indicates that admission to a room previously occupied by a patient with MRSA and C.difficile increases the risk for the subsequent patient admitted to the room to acquire the pathogen. Therefore, improved surface cleaning and disinfection of room surfaces decreases the risk of health-care associated infections (Weber et al., 2013).This is in agreement with Berman and Snyder (2012) who stressed that universal infection precaution are a set of practices that can be used with all patients mainly compromised one such as those who have skin impairments i.e. patients with severe Burns or dermatitis, thus to prevent spread of infection. These results

pointed out that the nurse is responsible for providing a clean and safe environment, and for closely scrutinizing the Burns wounds to detect early signs of infection.

Maintaining a clean and safe environment is an important component of infection prevention and control (Vang, 2014). According to Parryford (2015), some clients are at greater risk of developing more severe diseases and complications. These susceptible clients patients with Burns, Diabetes Mellitus, immunosuppression, pregnant mothers and children under five years old as well as people aged 65 years and older. Lemass et al (2013) indicates that patients should be cared for in an environment that is safe and clean, and where the risk of them acquiring an infection is kept as low as possible.

The Zambian Public Health Act, Cap 295, stipulates that the health care institution should provide a safe environment for the patients in their care. Hospital nurses form the backbone of Infection Prevention and Control, therefore possibly, will either contribute to infection transmission or prevent and control infections. According to Damani (2012), the environment in which a patient is nursed must be planned to reduce the risk of transmission of infection. Infection Prevention and Control measures aim to protect the vulnerable people like Burn patients from acquiring an infection while receiving health care (Damani, 2012).

In a report conducted by Chanda (1995,un published) entitled Nosocomial infections amongst Burns patients at the University Teaching Hospital ,Lusaka, Zambia indicated that mortality rate secondary to burns infection was lowest in wards that were situated on the top floor probably due to minimal movements and good ventilation. This report emphasized the importance of regulating traffic flow and activity patterns a component of infection prevention. Controlling of traffic and activity patterns in a ward helps in minimizing the number of microorganisms present in the environment, as the number of microorganisms in a designated area tends to be related to the number of people present and their activity

In a study conducted by Zeinab et al, 2015, the findings of the study indicates that very low percentage of Nurses maintain a safe environment; as well as low percentage provide initial wound care. However, it is worth noting that nurses have a key role in ensuring that a safe environment is provided to patients by observing infection prevention and control practices when nursing burns patients.

2.7 ATTITUDE OF NURSES TOWARDS BURN TREATMENT PROTOCOL

Attitude of staff is critical in delivering quality health services to patients. The attitude of seniors in the ward such as the nurse in charge and senior nurses determines to a greater extent whether other nurses will comply with infection prevention practices in Burns units. These acts as role models and determines compliance levels of nurses in various units and departments. The type of learning that nurses acquire is known as observational learning or learning by example. It occurs when a person acquires new forms of behaviour, attitudes or thought simply by observing the actions of others. It can occur whether or not the observed person intends to transmit the information (Bandura, 1997). One of the cardinal steps in infection prevention practice is the practice of Hand hygiene. Hand Hygiene (HH) practices of health workers has a significant role in either decreasing the spread of micro organisms or in the spread of health-care related pathogens (Lemass et al., 2013).

Shinde and Mohite, (2014) did a study of which the results revealed that the majority of students had poor attitudes with regard to hand hygiene. Nursing students had significantly ($P < 0.05$) better attitudes (52%) compared to nursing staff (12%). Student nurses had better five moments of hand hygiene practices than the staff nurses. This was in agreement with the study done by Sarani et al. (2015) assessed the knowledge, attitude and practices of nurses about Standard Precautions for Hospital-Acquired Infections in Teaching Hospitals. The results showed that 43% of nurses had a poor attitude, 37% had an average attitude and 33% had a good attitude towards standard precautions. Implementation of Standard precautions is vital in the prevention of transmission of infection to Burns patients and staff.

MacGaw et al. (2012) also investigated HCWs attitudes and compliance with infection control practices in the operating department of a Jamaican Teaching Hospital, with the objective of obtaining data to design evidence-based interventions. The study concluded that HCWs had sub-optimal levels of compliance with standard infection control guidelines as only 17% of all participants were compliant with all seven infection control policies.

In contrast a study conducted by Ocran and Togoe (2014) where they assessed knowledge and attitude of health-care workers (HCWs) and patients on health care associated infections (HAIs)

in the Central Regional Hospital in Ghana, the study indicated that attitudinal change is the best means of prevention. The study showed an increase in the number of subjects in each category scoring good and excellent in the post-education questionnaire. This was in agreement with a study done by Sessa et al (2011).The study assessed the level of knowledge, attitudes and practices regarding disinfection procedures among nurses in Italian hospitals. The study revealed an extremely positive attitude towards the utility of guidelines and protocols for disinfection procedures.

2.8 MANAGEMENT SUPPORT TOWARDS IMPLEMENTATION OF BURN TREATMENT PROTOCOL

Where the management supports the implementation of the protocol and makes it as a priority, the compliance level becomes high. The support can be in form of management getting involved in orientation of new staff on the protocol as a way of imparting a sense of ownership as well as providing support in form of performance assessment and feedback (Katowa, 2010). In addition, if the management provide rewards to staff who comply with the Burn treatment protocol, compliance was likely to be high. This was in agreement with a study conducted by Zimakoff et al (2007), that showed that health care workers perceived factors that deter them from practising infection prevention practices was lack of role models and lack of rewards from the supervisors.
In another study done by Nyakanda (2012) showed that hospital management gave a priority to burns unit especially medical surgical supplies such as gloves, Vaseline gauze, povidone iodine and bandages. The study revealed that availability of medical surgical supplies and working equipments made the environment conducive for providing care to the patients.

In contrast, another study done by Kretzer and Larson in 1993, where they revisited the major behavioural theories and their applications with regard to the Health care worker in an attempt to better understanding how one might plan more successful intervention. It was reported that top management involved in increasing organization culture of hand hygiene had a significant response from the staff by compliance to hand hygiene, eventually which may tend to reduce infection rates in Burns units.

2.9 CONCLUSION ON THE LITERATURE REVIEW

Most studies conducted on Burns have been focusing on risks factors on Burns, and epidemiology of burns. However, few studies have been done on Burn Treatment Protocol using WHO and Zambia's Ministry of Health guidelines. And most studies conducted were done in western countries whose setting is totally different from African setting and Zambia in particular. In Africa and Zambia in particular, no study has been done on Burns Treatment Protocol. It is worth noting that nurses have a professional and moral obligation to protect the health of their patients and share the responsibility to sustain and protect the natural environment. Based on the reviewed literature, it has been established that Compliance to Burn Treatment Protocol has been generally low globally.

Therefore, the researcher seeks to investigate the compliance with burns treatment protocol by nurses at Kabwe Central Hospital in Central Province of Zambia. The findings will be used o make recommendations to the relevant authorities on how Compliance level can be improved upon, thereby improving the quality of care to Burns patients.

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CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION

The study determined the level of compliance with burns treatment protocol by nurses at Kabwe Central Hospital.

3.1 STUDY DESIGN

A descriptive analytical cross sectional design was used to describe the level of compliance by nurses and factors associated with compliance to burns treatment protocol.

3.2 STUDY SETTING

The study was conducted at Kabwe Central Hospital in Kabwe, Central province. The site was chosen as it was the only Hospital which admits all referred patients including burns patients in Central. Secondly, the Hospital was within reach for the researcher. Above all, the site was chosen because it had been recording high infection rates among burns patients.

3.3 STUDY POPULATION

The study population comprised of nurses and Midwives who had worked in surgical wards at Kabwe Central Hospital who had meet the criteria and were willing to participate in the research study.

3.4 TARGET POPULATION

The target population comprised all nurses working at Kabwe Central hospital and had worked before in any surgical department and was available during the period of data collection.

3.5 SAMPLING METHOD

Convenient sampling method was used to select the respondents. This method involved the use of available respondents at the site. This method of sampling respondents was chosen because the population was limited. However, the researcher was mindful of the fact that the method had the demerit of having an unrepresentative sample. The nurses who met the criteria were included in the study.

3.6 SAMPLE SIZE

The sample size was too small. Therefore I did Census in this study. The total respondents (sample size) were 60.

3.7 INCLUSION AND ECLUSION CRITERIA

3.7.1 INCLUSION CRITERIA

Nurses working in surgical ward willing to participate in study and sign the consent form

3.7.2 EXCLUSION CRITERIA

1. Nurses who had worked for less than one month in surgical ward at Kabwe Central Hospital

2. Nurses who were on leave e.g. Vacation leave

3.8 DATA COLLECTION TOOLS

A self administered questionnaire with both open and closed ended questions was used to collect data from the respondents. The tool was chosen because all respondents were literate.

A checklist was also used to observe the routine practices of nurses as they manage the burns patients. The study participants were aware that they were being observed. The nurse's behaviour was observed, recorded and analyzed to establish their practices. The advantage of the method was that it permitted collection of accurate information on behaviors of the individual nurses which cannot be obtained through a questionnaire and helped to test the reliability of the responses in the questionnaire. The only disadvantage of this tool was that the observational data was subject to observer bias and people who knew that they were being observed fail to behave normally. However, the researcher minimized this bias by allowing adequate time for participants to get used to being observed by being with them in the ward prior to commencing data collection. This helped in reducing the Hawthorne effect.

3.9 DATA COLLECTION TECHNIQUES

Two techniques were used, administration of questionnaire and an observational method. A questionnaire was used to collect responses from participants while an observational involved watching and recording participants' behaviours using a checklist.

3.9.1 Self administered questionnaire

Self- administered questionnaires were delivered by hand to all selected participants and collected later on after a period of 5 to 7 days. The distribution of self- administered questionnaire was conducted during working hours.

3.9.2 Observing using checklist

Participant observation was conducted where the researcher observed the selected candidates as they managed burns patients and require compliance to burns treatment protocol. All candidates who answered the interview schedule and were found managing burns patients were observed.

3.10 DATA MANAGEMENT AND STORAGE

The researcher was responsible for ensuring that the data collected were well managed and stored. The data collected were stored under lock and key, as well as using various technological resources such as the computer, flush disc and online storage. Identifiable data was anonymoused or pseudonymised where possible as soon as collection was done. Personal data was also kept in confidence and only the researcher had access to it. The data was also kept using password protected computer.

3.11 VALIDITY AND RELIABILITY

Validity and reliability has two components as state below;

3.11.1 VALIDITY

To ensure validity, extensive literature review was conducted on recent literature on burns treatment protocol according to the MOH and WHO guidelines. To maximize validity, representative questions on knowledge, attitude and practices of nurses regarding burns treatment were designed and evaluated according to the MoH and WHO recommended burns treatment protocol. The contents of the instrument included best practices from the Zambian

(2015) Infection Control Guidelines, CDC guidelines (2016) as well as WHO's guidelines in the prevention of HAIs (2015). In addition, Experts at the Hospital in burns treatment and research supervisors examined the questions to determine whether they would elicit desired information on the variables under study. These measures ensured validity of the study findings.

3.11.2 RELIABILITY

To ensure reliability in this study, the data collecting instruments were standardized and pre tested before the main study. Consistency in timing and administration of data collection tools was maintained throughout the main study to enhance reliability of findings. Furthermore, reliability tests of the study instrument using SPSS software on knowledge, attitude and practice variables showed Cronbach alphas of 0.7, 0.9 and 0.8 respectively. This further strengthens the reliability of the study instruments.

3.11.3 PILOT STUDY

According to Basavanthappa (2009) a pilot study is a mini study conducted before the major study in order to make revisions and find flaws in the methodology. The pilot study was done to refine the data collection tools (the questionnaire and the observation checklist) and made necessary adjustments such as logical sequencing, further instructions and clarity of the language before embarking on the actual study. This enhanced validity and reliability in data collecting instruments.

The pilot study was conducted at Kabwe Mine Hospital within Kabwe district. The Hospital was chosen for conducting the pilot study because it had similar characteristics with the study population. It was also a second (2^{nd}) level hospital providing similar services just like Kabwe Central hospital within the province. The pilot study sample comprised of 8 respondents representing 10% of the required sample size. The study respondents for the pilot study were conveniently selected.

3.12. ETHICAL CONSIDERATION

Ethical clearance was obtained from the University of Zambia Biomedical Research Ethics Committee and approval from National Health Research was also obtained. A written permission to conduct the study was also obtained from the Medical Superintendent of Kabwe Central Hospital.

The purpose, procedure, the risks and benefits of the study was explained to the study participants. Those who decline to participate were reassured that no privileges were going to be taken from them as employees of Kabwe Central Hospital. Those who agreed to participate in the study were requested to sign in an informed consent form.

Respondents in the study were assured of anonymity and confidentiality as no names were written on questionnaires. In addition, no other person apart from the researcher was allowed access to the research data.

Respondents were not subjected to any physical harm, as the research was not involving procedures. Respondents were protected from psychological harm by answering the self-administered questionnaire in privacy and at their own time. Observations also took place in their own setting which was their own working environment. Furthermore, the observers conducted open unconcealed participant observation to avoid ethical issues concerning privacy.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.0. Introduction

This chapter presents information on how data was analysed. It also presents findings which are in form of bar charts and frequency tables. The presentation is organized in order of personal characteristics of the participants, knowledge on Burn Treatment Protocol, infection prevention and control practices, attitudes and management support in implementation of burns protocols.

4.1. Data Processing and Analysis

Following data collection, information was screened for consistence, completeness, legibility and accuracy. After data collection, responses were assigned numerical codes for categorization, easy entry and analysis. The codes were then entered and analysed using SPSS version 23.0 software. Cross tabulations among the dependent and independent variables were done to establish association using the Fisher's exact test on SPSS software. The level of statistical significance was set at 5%. Therefore, only p values of 0.05 or less were considered statistically significant.

Section A: demographic data

4.2. Section A: Respondents' Demographic Characteristics

This section provides personal information of respondents involved in the study, focusing on age, gender, professional qualification and length of service.

Table 3: Respondents Demographic Characteristics (n=60).

Characteristic	**Frequency**	**Percentage**
Age		
20-29 years	25	41.7
30-39 years	30	50.0
40-49 years	5	8.3
Total	**60**	**100**
Professional qualification		
Certificate	14	23.3
Diploma	42	70.0
Degree	4	6.7
Total	**60**	**100**
Length of service		
Less than 2 years	39	65.0
2-5 years	15	25.0
Over 5 years	6	10.0
Total	**60**	**100**

Table 3 shows that half, 50% (30) of the respondents were aged 30-39 years and most, 75% (45) were female. Most respondents, 70% (42) attained diploma level qualification and 65% (39) had less than 2 years' work experience.

Section B: Respondents' Knowledge on Burns Treatment Protocol.

This section presents information on what respondents knew about burns treatment protocol.

Table 4.1: Respondents' Knowledge on burns treatment protocol (n=60).

Knowledge characteristic	**Frequency**	**Percentage**
Definition of Burns		
Correct	57	95.0
Not correct	3	5.0
Total	**60**	**100**
Aware of Burns Treatment Protocols		
Yes	59	98.3
No	1	1.7
Total	**60**	**100**
Able to Mention Components of Burn Treatment		
Atleast 3	57	95.0
Up to 3	3	5.0
Total	**60**	**100**
Able to give examples of Administration of Protocol		
Able to mention two	60	100
Total	**60**	**100**
Commonest method in calculating total burnt surface area		
Rule of nine	55	91.7
Others	5	8.3
Total	**60**	**100**

According to Table 4.1, the majority, 95% (57) of respondents gave a correct definition of Burns and almost all 98.3% (59) were aware of the Burn treatment protocol. Majority 95% (57) of respondents were able to mention correctly the components of the Burn Treatment Protocol. And all 100% (60) respondents gave examples of how the protocol is administered. The majority, 91.7% (55) of the respondents were aware of the common method for determining total burnt surface area.

Table 4.2: Respondents' Knowledge on burns treatment protocol (n=60).

Knowledge characteristic	Frequency	Percentage
Awareness of WHO 5 moments of hand hygiene		
Yes	51	85.0
No	9	15.0
Total	**60**	**100**
Patients with communicable disease may be admitted with Burns patients		
Yes	3	5.0
No	57	95.0
Total	**60**	**100**
Micro-organisms on the burn site are destroyed by using clean water		
Yes	2	3.3
No	58	96.7
Total	**60**	**100**
Standard precautions apply to all patients regardless of their diagnosis		
Yes	58	96.7
No	2	3.3
Total	**60**	**100**
All staff and patient should be considered potentially infectious		
Yes	60	100
Total	**60**	**100**
Handling of burns patient's body fluids with bare hands		
No	60	100
Total	**60**	**100**
Causes of burns		
Able to mention	60	100
Total	**60**	**100**

Table 4.2 above shows that, 85% (51) of the respondents knew the WHO's 5 moments of hand hygiene and 95% (57) indicated that patients with communicable disease should not be admitted with Burns patients. About 96.7% (58) of the respondents knew that micro-organisms on the burn site cannot be destroyed by using clean water and that standard precaution guidelines should apply to all patients regardless of the diagnosis. All the respondents, 100% (60), were aware that all patients and staff should be considered potentially infectious and that body fluids from patients with burns should never be handled with bare hands.

Table 5: Respondents' overall Knowledge on burns treatment protocol (n=60).

Overall Knowledge on burns treatment protocol	**Frequency**	**Percentage**
High level knowledge	60	100
Total	**60**	**100**

Table 5, shows that overall, all the respondents, 100% (60) expressed high level knowledge on Burns treatment protocol.

Section C: Respondents' Infection Prevention and Control Practices

This section presents information on the practices of respondents regarding infection prevention and control (IPC).

Table 6.1: Infection Prevention and Control Practices Reported by the respondents (n=60).

IPC characteristic	**Frequency**	**Percentage**
Training in IPC		
Yes	45	75.0
No	15	25.0
Total	**60**	**100**
Display of burns management protocols in the wards		
Yes	59	98.3
No	1	1.7
Total	**60**	**100**

Table 6.1 shows that a quarter, 75% (45) of the respondents had been trained in IPC and almost all 98.3% (59) study respondents stated that IPC protocols were displayed in the wards.

Table 6.2: Infection prevention and control practices reported by the respondents (n=60).

IPC characteristic	Frequency	Percentage
Time of dressing burn wounds		
Anytime	2	3.3
After dump dusting and cleaning	58	96.7
Total	**60**	**100**
Washing of hands before and after dressing wounds		
Always	59	98.3
Sometimes	1	1.7
Total	**60**	**100**
Use of aseptic techniques in wound dressing		
Yes	60	100
Total	**60**	**100**
Educating patients and families on care of the burn wounds		
Yes	60	100
Total	**60**	**100**
Allowing nurses with URTIs to attend to burns' patients		
Yes	48	80.0
No	12	20.0
Total	**60**	**100**

Table 6.2 shows that the majority, 96.7% (58) of the respondents indicated that wound dressing was done after damp dusting, almost all 98.3% (59) respondents always washed their hands before and after dressing wounds and all 60 (100%) used aseptic techniques in wound dressing. Less than a quarter, 20% (12) were allowed to attend to burns' patients even when they were infected with URTIs.

Table 6.3: Infection prevention and control practices reported by the respondents (n=60).

Supervision of students during wound dressing		
Yes	60	100
Total	**60**	**100**
Classified employees participation in wound dressing		
No	60	100
Total	**60**	**100**
Adequacy of medical and surgical equipment in burn management		
Yes	12	20.0
No	48	80.0
Total	**60**	**100**
Annual attendance of IPC workshops		
Yes	5	8.3
No	55	91.7
Total	**60**	**100**
Accessibility of personal protective equipment (PPE)		
Yes	17	28.3
No	43	71.7
Total	**60**	**100**
Duration of decontaminating instruments		
5 minutes	1	1.7
10 minutes	58	96.7
30 minutes	1	1.7
Total	**60**	**100**

According to table 6.3, all 100% (60) the respondents supervised students in wound dressing and educated patients and families on management of burns. More than three quarters, 80% (48) of the respondents indicated inadequacy of resources for burns management and most, 71.7% (43) had no access to personal protective equipment. About 91.7% (55) never attended annual IPC training workshops. The majority, 96.7% (58) of the respondents decontaminated instruments for 10 minutes in chlorine before reuse.

Table 7: Respondents overall practices regarding infection prevention and control (n=60).

Good infection prevention and control		
Yes	59	98.3%
No	1	1.7%
Total	**60**	**100%**

According to Table 7 Almost all, 98.3% the respondents reported good infection prevention and control practices.

4.5. Section D: Respondents' attitudes towards burns treatment protocol

This section presents information on the attitudes of respondents towards burns treatment protocols.

Table 8.1: Respondents' attitudes towards burns treatment protocol (n=60).

Attitude characteristic	**Frequency**	**Percentage**
I believe that reverse barrier nursing in burns patients is very important		
Strongly agree	55	91.7
Not sure	3	5.0
Disagree	2	3.3
Total	**60**	**100**
I feel not to attach importance to wash hands if I used gloves		
Strongly disagree	1	1.7
Disagree	59	98.3
Total	**60**	**100**

From table 8.1 above, the majority, 91.7% (55) of respondents strongly agreed that reverse barrier nursing was important in nursing burns patients, and 98.3% (59) disagreed that one did not need to wash hands upon using gloves.

Table 8.2: Respondents' attitudes towards burns treatment protocol (n=60).

Attitude characteristic	Frequency	Percentage
I believe that there is need for adherence to policies and procedures for infection control all the time		
Strongly agree	59	98.3
Agree	1	1.7
Total	**60**	**100**
I feel that there is the need to attend in-service training on Burns treatment protocol regularly.		
Strongly agree	27	61.7
Agree	23	38.3
Total	**60**	**100**
I believe that heavy workload affects ability to apply IPC guidelines		
Strongly agree	35	58.3
Not sure	3	5.0
Disagree	22	36.7
Total	**60**	**100**
I feel that IPC is very cardinal when nursing Burns patients		
Strongly agree	41	68.3
Agree	19	31.7
Total	**60**	**100**
I believe that restriction of traffic in burns unit is vital		
Strongly agree	40	66.7
Agree	20	33.3
Total	**60**	**100**
Overall attitude		
Positive	60	100
Total	**60**	**100**

Table 8.2 above shows that a larger proportion 98.3% (49) of respondents strongly agreed that there was need to adhere to policies and guidelines for infection prevention and control all the time. More than half, 61.7% (27) strongly agreed that there was need for regular in-service training/workshop on IPC and over half, 58.3% (35) strongly agreed that workload affected their ability to apply IPC guidelines. More than half, 68.3% (41) of the respondents strongly agreed that IPC was very cardinal when nursing burns patients and 66.7% (40) strongly agreed that restriction of traffic in burns unit was vital. Overall, all 100% (60) the respondents expressed positive attitudes towards burns treatment protocol.

4.6. Section E: Respondents' compliance to burns treatment protocol

This section presents information on self-reported and observed compliance of respondents to burns treatment protocol.

Table 9.1: Respondents self-reported compliance to burns treatment protocol (n=60).

Compliance characteristic	**Frequency**	**Percentage**
Calculation of total burnt surface area		
Yes	60	100
Total	**60**	**100**
Administration of tetanus toxoid on all burns patients		
Yes	55	91.7
No	5	8.3
Total	**60**	**100**
Administration of antibiotics to all burns patients		
Yes	58	96.7
No	2	3.3
Total	**60**	**100**
Nursing of burns patients in separate units		
Yes	52	86.7
No	8	13.3
Total	**60**	**100**

Table 9.1 shows that, all the nurses 100% (60) calculated the total burnt surface area, the majority, 91.7% (55) administered tetanus injections to burns patients, 96.7% (58) administered antibiotics to all burns patients and, 86.7% (52) nursed burns patients in separate units from the general wards.

Table 9.2: Respondents self-reported compliance to burns treatment protocol (n=60).

Allocation of specific nurses to burns unit		
Yes	1	1.7
No	59	98.3
Total	**60**	**100**
Restriction of personnel into burns unit		
Yes	48	80.0
No	12	20.0
Total	**60**	**100**
Frequency of fumigating burns unit		
Quarterly	4	6.7
Yearly	11	18.3
Whenever necessary	38	63.3
Not usually done	7	11.7
Total	**60**	**100**
Use of linen for burns patients		
Yes	11	18.3
No	49	81.7
Total	**60**	**100**
Presence of burns treatment guidelines in surgical wards		
Yes	52	86.7
No	8	13.3
Total	**60**	**100**

Table 9.2 shows that, almost all respondents, 98.3% (59) reported that there was no separate staff allocated to the burns unit, less than a quarter 20% (12) indicated that there was no restriction of personnel into the burns unit and more than half, 63.3% (38) indicated that fumigation of the

burns unit was done whenever necessary. More than three quarters 86.7% (52) reported that linen for burns patients was never sterilized and majority 87% (48) reported that burns treatment guidelines were present in the wards.

OBSERVATION METHOD

Table 10.1: Observed compliance to burns treatment protocol among respondents (n=55).

Compliance characteristic	Frequency	Percentage
Washing of hands before and after every procedure.		
Yes	55	100
Total	**55**	**100**
Washing of hands with soap under running water		
Yes	55	100
Total	**55**	**100**
Hand washing carried out above the elbow.		
Yes	55	100
Total	**55**	**100**
Washing hands before and after invasive procedure.		
Yes	55	100
Total	**55**	**100**
Presence of hand washing sink in the burns unit		
Yes	55	100
Total	**55**	**100**
Change of attire (uniform) for staff entering the burns unit		
No	55	100
Total	**55**	**100**
Presence of water proof mattresses for easy disinfection and wiping		
Yes	55	100
Total	**55**	**100**
Visitors allowed to enter burns unit without personal protective equipment (PPE)		
Yes	55	100
Total	**55**	**100**

Table 10.1 shows that of the 55 nurses observed, all 100% (55) washed hands with soap under running water up to above the elbow before and after every routine or invasive procedure. Every 100% (55) burns unit had hand washing sinks and water proof mattresses for easy disinfection and wiping. All 100% (55) burns units lacked provision for change of attire for staff entering the

burns unit and visitors were allowed to enter burns unit without personal protective equipment (PPE).

Table 10.2: Observed compliance to burns treatment protocol among respondents (n=55).

Compliance characteristic	Frequency	Percentage
Availability of medical surgical supplies		
Rare	55	100
Total	**55**	**100**
Availability of instruments / Medical equipment		
Yes	55	100
Total	**55**	**100**

Table 10.2 shows that availability of instruments and medical equipment was reported by all 100% (55) nurses, while the availability of medical surgical supplies was reported to be rare.

Table 11: Overall observed compliance to burns management protocol among respondents (n=60).

Observed compliance to Burns management protocol		
High	31	51.7%
Low	29	48.3
Total	**60**	**100%**

Table 11 shows that, slightly over half, 51.7% (31) of the respondents had high compliance to burns management protocol while 48.3% (29) had low compliance.

4.7. Section F: Availability of resources and management support

This section presents information on the availability of resources and management support in the treatment of burns.

Table 12: Self Reporting on Availability of resources and management support (n=60).

Characteristic	Frequency	Percentage
Availability of medical surgical supplies in the ward		
Always available	13	21.7
Rarely available	47	78.3
Total	**60**	**100**
Availability of personal protective equipment in the ward		
Always available	7	11.7
Rarely available	42	70.0
Not available	11	18.3
Total	**60**	**100**
Management prioritization of procurement of medical surgical supplies		
Yes	45	75.0
No	15	25.0
Total	**60**	**100**
Carrying out of random checks on IPC practices by management		
Yes	56	93.3
No	4	6.7
Total	**60**	**100**
Management prioritization of purchase of nutritional supplements for burns patients		
Yes	30	50.0
No	30	50.0
Total	**60**	**100**
Presence of Infection Prevention Committee		
Yes	52	86.7
No	8	13.3
Total	**60**	**100**
Orientation of staff on infection prevention by management		
Yes	49	81.7
No	11	18.3
Total	**60**	**100**

According to table 12, more than three quarters, 78.3% (47) of the respondents indicated that medical and surgical supplies were rarely available on the wards, about 70% (42) indicated that personal protective equipment were rarely available in the wards and a quarter, 25% (15) stated that management never prioritized the procurement of medical and surgical supplies. The majority, 93.3% (56) of respondents stated that management carried out supportive supervision on adherence to IPC among staff, half, 50% (30) reported that management did not prioritize the purchase of nutritional supplements for burns patients and the majority, 81.7% (49) were oriented by management on infection prevention.

Table 13: Overall management support on Burns Treatment Protocol (n=60).

Management support in implementation of burns treatment protocol		
Good	49	81.7%
Bad	11	18.3%
Total	**60**	**100%**

Table 13 shows that on average, the majority, 81.7% (49) of the respondents indicated good management support in implementation of Burns Treatment Protocol, while 18.3% (11) indicated poor management support.

4.7. Section G: Association between variables

Data in this section presents information on the associations between the study variables. To establish the associations, compliance with burns treatment protocol was only cross tabulated with management support in implementation of burns protocols and availability of medical-surgical supplies, since all other independent variable considered in the study gave a hundred positive responses.

Table 14: Association between compliance with burns treatment protocol demographic characteristics

Variables		Compliance with burns treatment protocol		Total	p-value
		High	**Low**		
Age	20-29 years	12 (48%)	13 (52%)	25 (100%)	**0.930**
	30-39 years	16 (53.3%)	14 (46.7%)	30 (100%)	
	40-49 years	3 (60%)	2 (40%)	5 (100%)	
Total		**31 (51.7%)**	**29 (48.3%)**	**60 (100%)**	
Gender	Female	26 (57.8%)	19 (42.2%)	45 (100%)	**0.139**
	Male	5 (33.3%)	10 (66.7%)	15 (100%)	
Total		**31 (51.7%)**	**29 (48.3%)**	**60 (100%)**	
Lengthy of service	< 3 years	25 (51%)	24 (49%)	49 (100%)	**0.427**
	3-4 years	3 (60%)	2 (40%)	5 (100%)	
	≥ 5 years	3 (50%)	3 (50%)	6 (100%)	
Total		**31 (51.7%)**	**29 (48.3%)**	**60 (100%)**	
Professional qualification	Certificate	7 (50%)	7 (50%)	14 (100%)	**0.472**
	Diploma	23 (54.8%)	19 (45.2%)	42 (100%)	
	Degree	1 (25%)	3 (75%)	4 (100%)	
Total		**31 (51.7%)**	**29 (48.3%)**	**60 (100%)**	
IPC practices	Good	31 (52.5%)	28 (47.5%)	59 (100%)	**0.483**
	Poor	0 (0%)	1 (100%)	1 (100%)	
Total		**31 (51.7%)**	**29 (48.3%)**	**60 (100%)**	

Table 14 shows that age (p-value=0.930), gender (p-value=0.139), lengthy of service (p-value=0.427), profession qualification (p-value=0.472) and IPC practices (p-value=0.483) showed no significance association with Compliance with Burns Treatment Protocol.

Table 15: Association between compliance with burns treatment protocol and management support in implementation of burns protocols.

Management Support in Implementation of Burns Protocols.	**Compliance with burns treatment protocol**			**p-value**
	High	**Low**	**Total**	
Good	25 (51%)	24 (49%)	**49 (100%)**	**1.000**
Poor	6 (54.4%)	5 (45.5%)	**11 (100%)**	
Total	**31 (51.7%)**	**29 (48.3%)**	**60 (100%)**	

From Table 14, only 51% (25) of respondents who expressed that there was good management support in implementation of burns protocols had high compliance to burns treatment protocol while 49% (24) had poor compliance. Consequently, the relationship between compliance with burns treatment protocol and management support in implementation of burns protocols, was not statistically significant (p-value=1.000).

Table 16: Association between compliance with burns treatment protocol and availability of medical-surgical supplies.

Availability of medical-surgical supplies.	**Compliance with burns treatment protocol**			**p-value**
	High	**Low**	**Total**	
Always available	7 (53.8%)	6 (46.2%)	**13 (100%)**	**1.000**
Rarely available	24 (51.1%)	23 (48.9%)	**47 (100%)**	
Total	**31 (51.7%)**	**29 (48.3%)**	**60 (100%)**	

Table 15 shows that more that more than half, 53.8% (7) of the respondents who indicated availability of medical-surgical supplies and 51.1% (24) who indicated rare availability of medical-surgical supplies had high compliance with burns treatment protocol. The relationship between compliance with burns treatment protocol and availability of medical-surgical supplies was not statistically significant (p-value=1.000).

CHAPTER FIVE
DISCUSSION OF THE FINDINGS

5.0. INTRODUCTION

This chapter presents the findings of the study. The chapter is structured using the same subheading as in Chapter four (4). The study aimed at determining the Compliance levels with Burns treatment protocol by Nurses at Kabwe Central Hospital. Complying with Burns treatment protocol by nurses can reduce mortality and other complications in patients with Burns (Faiza, 2011). Non compliance to the guidelines result in short term mobility and long term disabilities in burns patients. The participants in the study were 60 Nurses of different categories who were working at Kabwe Central Hospital as illustrated in table 3. Compliance was determined through the use of the self-administered questionnaire and the observation checklist. The findings of the study revealed almost half of the study respondents (47.3%) did not comply with the burns treatment protocol (Table 11). Furthermore, the observation checklist revealed that all 100% of the study respondents in the Burns Units lacked provision for change of attire for staff entering the Burns Unit and visitors were allowed to enter burns unit without personal protective equipment (PPE). The availability of medical surgical supplies was reported to be rare by all (100%) respondents.

5.1. SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

The socio-demographic characteristics of the study population are shown in table 4.1. The findings showed less than half 41.7% (n= 60) of the respondents were within the age group of 20–29 years while half of the total respondents 50% fell within the age group 30 – 39 years and only 8.3% of the respondents were within the age group between 40-49 years. This finding is contrary to Faiza's (2011) findings in Khartoum where majority of the nurses (70%) were aged over 40 years. This could be attributed to the fact that most nurses working especially in government health institutions are young because older nurses either opted for voluntary separation or are retired. The limited number of those within the age group of 40-49 years could be attributed to brain drain that has attracted most of the experienced nurses in that age group.

This finding is congruent with Katowa (2010)'s study conducted in Mufulira district where the majority (61%) respondents were young.

The study sample was predominantly female (75%). This could be attributed to the fact that the General Nursing Council of Zambia recruitment guideline ratio is three (3) females to one (1) male (GNC, 2010). Therefore, there are more females than males in nursing. The other reason could be that traditionally nursing has been regarded as a female profession. However, a growing number of nursing scholars and organizations are advocating for greater gender diversity in nursing (O'Lynn and Chard, 2004; American Association of Colleges of Nursing, 2001).

The study sample (unit analysis) of 60 respondents comprised of Nurses working in Surgical Wards who had nursed burns patients at the time of the study. The population was targeted because they were in contact with burns patients and was expected to be knowledgeable about nursing care of Burns patients. The present study revealed that 65 % of the respondents had experience ranging from 0-2 years (Table 3). The findings are in line with Gebreegziabher (2014) in North Ethiopia where the periods of experience for the participants were < 3 year. The findings were also similar to a study done by Katowa (2010) on Compliance with infection prevention guidelines by Health care workers at Ronald Ross Hospital in Mufulira District where (49.5%) had worked for only 0-5 years.

The study population were nurses having different qualifications with the majority (70%) being Registered Nurses. This may be attributed to the fact that, currently in Zambia most nursing colleges have been upgraded to train registered nursing programmes from enrolled nursing. This came as a policy by the Ministry of Health to ensure that Enrolled nursing is phased out and that all enrolled nurses must be able to become Registered nurse by the year 2022 (MOH,2016).

5.2. NURSES' KNOWLEDGE ON BURNS TREATMENT PROTOCOL

Knowledge is one of the crucial aspects of health systems requirement by nurses to comply with burns treatment protocol in order to prevent complications and mortality cases at hospital based level (Faiza, 2011). Knowledge encompasses the skills, experiences and insights of practising that health care providers apply to maintain or improve their practice (Prince et al., 2009). The findings revealed that (95%) of the respondents gave a correct definition of burns (Table 4.2) and all respondents were able to mention the causes of Burns correctly. This is probably due to the

fact that 'Burns wounds' is one of the topics covered in surgery and surgical nursing in the nursing curriculum during nursing training. The findings were not in line with a study conducted in Egypt by Ibrahim et'al (2011) who found that Nurses knowledge regarding Burns (definition and causes) and nosocomial infection in burn unit was low. The current study showed that knowledge level was quite high.

Cleaning, disinfecting and re-processing re-usable equipment appropriately before use on another patient is one of the infection control standard precautions in health care. It is therefore, imperative that nurses should have basic knowledge of solutions used to disinfect instruments. The findings showed that almost all (98.3%) of the respondents mentioned correctly the solutions used in cleaning burn wounds and (95%) also stated correctly that Sodium hypochlorite solution was commonly used in decontamination of instruments (Table 4.2). The study is in agreement with the findings by Katowa (2010) who found that sodium hypochlorite was the most commonly used decontaminant. Furthermore, it is a national policy for all health institutions in Zambia to use Sodium hypochlorite solution for decontaminating instruments used in surgical procedures (MoH, 2015). These findings could be attributed to many in house sensitizations that have been carried out among health care workers on infection prevention in burn wounds.

According to this study, all respondents 100 % were able to state the risk factors for nosocomial wound infection. This can be attributed to the fact that these nurses have experience in handling a lot of burns patients who later developed nosocomial wound infection while being managed at the institution.

The majority 91.7% of the respondents were aware of the common method of determining total body surface area. This is because nurses being the front liners are taught in their curriculum on how to calculate total body surface area as this helps in estimating fluid requirements to be administered to the patient. This does not correlate with the finding of a study done by Ibrahim et'al (2011) which found that nurse's knowledge regarding calculation of total burn surface area was low. This could be attributed to the fact that Doctors were the ones assigned in doing the calculations of total Burn surface area.

Hand hygiene is the first initial step towards successful infection control in any healthcare setup (Chanda, 2004). The results of this study showed that 85% of respondents knew and practised the WHO's 5 moments of hand hygiene while 15% reported that they do not always wash hands before and after direct contact with the patient probably due to work overload and lack of time. This finding was congruent to a study done by Chitimwango (2017) which stated that 80% of participants always observed WHO's 5 moments of hand hygiene before and after direct contact with the patients while 20 % reported that they do not always wash hands before and after direct contact with the patient. In this regard, Tirivanhu et al. (2014) indicated that among the factors impending infection control practices were a lack of time and resources.

Overall, the study findings showed that all the respondents (100 %) had high knowledge on burn treatment protocol (Table 5). Despite high knowledge and attitude existing among nurses at Kabwe Central Hospital inadequacy in the supply of resources in the Burns Units which helps in achieving the goal of infection prevention as well as non availability of an ideal Burns Unit might have contributed to the recording of high burns infections at the institution. This finding is in line with the findings by Mussa and Abass (2014) who reported adequate knowledge levels among nurses in their study but recorded high nosocomial infections in patients with burns.

5.3. INFECTION PREVENTION AND CONTROL PRACTICES

Infection prevention and control practices aim at reducing the incidence of nosocomial infections (Ojulong et al., 2013). Using their infection control training, nurses play a vital role in creating a culture of patient safety as they are front liners and can take the lead to explain infection control procedures to the patients (Stone, 2013). Any laxity in the application of infection control practices in burns patients can result in significant negative consequences (Eldeen et al., 2016). For this reason, General Nursing Council of Zambia regulation (GNCZ, 2014) requires that all nurses trained in Zambia need to undergo the training in infection prevention before they qualify as nurses.

As shown in Table 6.1, three quarters (75%) of respondents were trained in IPC and the majority (91.7%) had never attended any annual IPC training workshops. This was in agreement with a study done by Zeinab (2015) where he also had similar findings. A study by Carlo et al., (2009)

conducted in a developing country (Zambia) revealed that after training, knowledge improved significantly from 43-71% to 68–92%; skills improved the most from 22–64% to 79–97; self-efficacy scores improved from 60 - 88% to 80%-100%. With regard to display of IPC protocols, majority (98.3%) of respondents agreed to have the protocols displayed in the wards as shown in Table 4.5. Protocols serve as guide to nurses on what is expected of them when dealing with issues of infection prevention. This finding is in line with a requirement by the Ministry of Health performance requirement for all health institution in the country to have protocols displayed (MoH, 2017).

Historically, Nurses working in surgical wards have played a critical role in providing a clean environment for patients in the surgical wards. Therefore, they are expected to understand the procedures that are supposed to be done first before the others so as to prevent the spread of infections. Table 4.6 depicts the time of the day when burn wound dressing is done in the wards. Almost all the study respondents (96.7%) indicated that wound dressing was done after damp dusting. This finding is in line with GNC procedure manual (2014) where the nursing staff attending to patients with wounds should do so after damp dusting.

Hand hygiene is a major component of standard precautions and one of the most effective methods to prevent transmission of pathogens associated with health care. The findings showed that almost all (98.3%) respondents reported that they washed their hands regularly before and after wound dressing as shown (Table 6.3). This figure is higher compared to a study done by Katowa (2010) where only 61% of the respondents reported to have washed their hands regularly.

Wound dressing is a sterile procedure and therefore nurses are expected to observe sterility throughout the procedure. Table 4.6 indicates that 100% of the respondents used aseptic technique when dressing wounds. This could be attributed to the knowledge they acquired in training on the importance of observing sterility. This does not correlate with the finding of a study done by Stott et al. (2012) which found that only 51.4% of the respondents reported using aseptic technique when dressing patient's wounds. Almost all (96.7%) respondents reported having decontaminated the instruments for 10 minutes in chlorine before reuse (Table 6.3). This

may be attributed to the in house orientations which take place at the institution on the use of various decontaminants. This result is in line with the finding by Katowa (2010) where 88% of the participants complied with the use of Sodium hypochloride solution for decontamination of used instruments.

This study finding showed that all (100%) respondents mentioned that they always provide health education to patients and their families on Burns wound care (Table 6.2). This finding illustrates that nurses are aware that Burn wound infection can be as a result of patient and relative touching the wound site and that educating them is important in the prevention of infection. This is in line with GNC guidelines (2010) on wound care that information, education and communication be given to patients after wound dressing.

In this study, one fifth (20%) of the study respondents were allowed to attend to patients even when they were infected with URTIs. This may be attributed to the fact that in most instances, there was shortage of staffing in the surgical ward. On average; there were only two to three nurses on duty to attend to all surgical patients in the entire surgical ward making it impossible to have separate staffing to attend to Burn patients. This situation poses a greater risk for Burns patients to acquire nosocomial infections. Most studies have shown that policies on staff attending to Burns patients are available but not followed due to inadequate nursing staff in some health institutions in the country (Hamomba, 2006; Libetwa, 1997 and Katowa, 2010). Improvement on the human resource will help in implementing Burns Treatment Protocols that are available in all health institutions. In this regards, Rasslan (2011) decided that in order to have qualified professionals to take over infection prevention and control activities it would be important to have a more comprehensive training programme in infection prevention and control.

The study findings further showed that, majority (80%) of the respondents indicated that medical surgical equipment for burns management were inadequate (Table 10.2). This result is in agreement with the findings by Kumar et al. (2002) who found that lack of necessary equipment to use was a major reason why nurses did not adhere to infection prevention practices. However, more (71.7%) of the respondents in this study said that they had easy access to personal protective equipment (PPE) (Table 6.3). This result is still in agreement with Kumar et al. (2002)

findings as above. Overall, Table 7 showed that almost all (98.3%) of the respondents reported good infection prevention and control practices in the Burns Unit.

5.4. ATTITUDES OF NURSES TOWARDS BURNS TREATMENT PROTOCOL

The attitude of nurses in the ward determines to a greater extent whether they can comply with Burns Treatment Protocol in Burns Units. The type of learning that nurses acquire is known as observational learning or learning by example. The study findings showed that majority (91.7%) of respondents strongly agreed that reverse barrier nursing was important in patients with Burns (Table 8.1). The study was in agreement with the MoH infection prevention protocol that states that highly susceptible patients to infections must be isolated or nursed in a separate room (MoH, 2017).

One of the cardinal steps in infection prevention practice is the practice of Hand hygiene. Hand Hygiene (HH) practices by health workers has a significant role in either decreasing the spread of microorganisms or in the spread of health-care related pathogens (Lemass et al., 2013). According to Lemass (2013), who strongly agreed that there was need to adhere to policies and guidelines for infection prevention and control all the time.Lemass study findings were in agreement with the study conducted by Sessa et al (2011) in Italy where the study revealed an extremely positive attitude towards the utility of guidelines and protocols for disinfection procedures. On the contrary, a study done by Sarani et al (2015) in Iran who assessed the knowledge, attitude and practices of nurses about Standard Precautions for Hospital-Acquired Infections in Teaching Hospitals. The results showed that (43%) of nurses had a poor attitude, 37% had an average attitude and only 33% had a good attitude towards standard precautions. Similarly, a study conducted by MacGaw et al. (2012) to investigate the attitude of Health care workers towards standard infection control guidelines, results showed that only (17%) of all participants were compliant with all seven infection control policies. Overall, all in this current study (100%) respondents expressed positive attitudes towards burns treatment protocol. This may be attributed to continuous sensitizations and orientations of nurses on burns treatment protocol.

5.5. SELF REPORTED COMPLIANCE WITH BURNS TREATMENT PROTOCOL

Compliance to burns treatment protocol has been shown to reduce infection transmission to both the health care workers and the patients (Parkin, 2012). Most studies done showed that

compliance with infection prevention guidelines among nurses is still sub-optimal and inconsistent (Efstathiou et al., 2011; Gebresilassie et al., 2014; Punia, et al., 2014; Bakar et al., 2015). The percentage of total burned surface area (TBSA) is a significant risk factor for burn wound infections. Therefore, calculation of TBSA among Burn patients is very crucial in determining the amount of intravenous fluids that need to be administered to the patient especially in the first 24 hours of admission. In this study, all (100%) respondents stated that they calculated the total burnt surface area on every patient admitted at the institution. This could be attributed to importance that nurses attach to knowing TBSA as it is used in calculating the TBSA which is a foundation to specific treatment option. The findings were slightly lower in a study that was done by Zeinab (2015) where the findings showed that a little more than half (55%) of study respondents were Compliant and able to estimate TBSA on all admitted burns patients.

This study reveals that majority (96.7%) of the respondents administered antibiotics to all burns patients. This is in agreement to several studies that have been conducted that all burn patients are at risk of developing sepsis because of the lack of the skin which acts as a barrier to microbial host invasion should be covered with antibiotics (Gebreselassie et al., 2014; Hala Ahmed et al., 2016). When asked whether they had specific nurses and staff allocated to attend to burns patients, almost all (98.3%) of respondents stated that they had no separate staff allocated to the Burns Unit due to staff shortage (table 9.2). Studies have shown that most policies on staff attending to post-operative patients are available but not followed due to inadequate nursing staff in some health institutions in the country (Libetwa, 1997; Hamomba, 2006; Katowa, 2010. Improvement on the human resource will help in implementing IP guidelines that are available in all health institutions.

Furthermore, this study showed that less than a quarter (20%) indicated that there was no restriction of personnel into the Burns Unit. This was not in agreement with a report done by Damani (2012) who emphasized the importance of regulating traffic flow and activity patterns as being an important component in infection prevention. The control of traffic and activity patterns in a ward helps in minimizing the number of microorganisms present in the environment, as the number of microorganisms in a designated area tends to be related to the number of people present and their activity.

5.5.1. OBSERVED COMPLIANCE TO IPC GUIDELINES

All (100%) respondents observed washed hands with soap under running water up to above elbow before and after every routine procedure. And all (100%) mattresses in the burns unit had water proof mattresses for easy disinfection and wiping. However, there was completely no provision for change of attire (PPE) for both the staff and visitors entering the Burns Unit. This may have given a conducive environment for infection to Harbor in the Burns Units and making patients susceptible to developing infection on burn wounds.

The presence of medical surgical supplies was also found to be rare by use of observation checklist. This made work difficult to nursing staff as most required items such as sterile gauze, bandages, disinfectants and Vaseline gauze were rarely available in the institution. These findings were consistent with a study done by Otiende (2013) where he found that the hospital had inadequate medical surgical supplies and equipment and the respondents were dissatisfied with the health and safety regulations offered by the institution. The findings are strongly associated with Okechuku et al. (2012) study where it was found that the majority of the healthcare workers complained of inadequate resources to comply with standard precaution guidelines.

5.6. AVAILABILITY OF RESOURCES AND MANAGEMENT SUPPORT

Availability of resources to be used by nurses at the institution is the core duty of the hospital management to ensure that they are readily available at all times as they influence the nurses in regard to compliance with burns treatment protocol. In this study, a quarter (25%) of respondents stated that management never prioritized the procurement of medical surgical supplies. This result is in agreement with the findings by Kumar et al. (2002) who found that lack of necessary equipment to use was a major reason why nurses did not adhere to infection prevention practices. Furthermore, more than three quarters 78.3% of the respondents in this study stated that medical surgical supplies were rarely found in burns units and the wards as a whole (Table 12). This result is still in agreement with Kumar et al. (2002) findings as above.

Figure 13 shows that overall management support on average was, the majority (81.7%) of the respondents indicated good management support in implementation of burns protocol, while (18%) indicated poor management support.

5.7. ASSOCIATION BETWEEN COMPLIANCE WITH BURNS TREATMENT PROTOCOL AND MANAGEMENT SUPPORT IN IMPLEMENTATION OF BURNS TREATMENT PROTOCOL

From Table 14, almost half (51%) of respondents who expressed that there was good management support in implementation of burns protocols had high compliance to burns treatment protocol. Similarly, about half (54.4%) who indicted poor management support had high compliance. Consequently, the relationship between compliance with burns treatment protocol and management support in implementation of burns protocols, was not statistically significant (p-value=1.000). These findings were not in agreement with the study done by Mukwato (2008), in which the study showed that (97.4%) of the respondents indicated that management poorly supported IP activities. The results further showed that (88.9%) of the respondents who highly complied with the guidelines had poor management support (P value 0.065).

Table 4.13 shows that, (53.8%) of the respondents who indicated availability of medical-surgical supplies and (51.1%) who indicated rare availability of medical-surgical supplies had high compliance with burns treatment protocol. In this study, we fail to reject the null hypothesis that management support and availability of medical surgical supplies is not associated with compliance. (P-value=1.000).

The results of the study further showed non support of the application of Theory of Reasoned Action (TRA) in which the theoretical variables (availability of medical surgical supplies and management support) did not predict intentions for the nurses to comply with burns treatment protocol.

5.8. NURSING IMPLICATIONS

The findings of this study has implications on all the four (4) domains of nursing

5.8.1. Nursing Practice

The results of this study based on observation showed that almost half (47.3%) of the respondents never complied with the burns treatment protocol. It is worth noting that nurses are a largest human resource within the health care system. As a result, nearly every Burn patient who visits or is admitted in a health institution will come in contact with a nurse. This implies that if

nurses do not comply with burns treatment protocol, then the patients will be at risk prolonging their hospital stay, developing nosocomial infections which can lead to morbidity and mortality rates. Therefore, the nurses need to comply to the recommended burns protocol if the problem of burn wound infection is to be prevented.

5.8.2. Nursing Education

The study showed that all (100%) respondents expressed high levels of knowledge on burns treatment protocol. Surprisingly there were still high levels of burns infections and mortality rates. This may be attributed to delay in referral system of patients as most admitted patients at Kabwe Central Hospital were being referred from within and outside districts within the province. In normal circmstances, patients with Burn need to be admitted within 24 hours of the accident. In a 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 significantly to the development of infections and the mortality. Also Chalya, Mabula, Dass, Giiti, Chandika, et. al., (2011) study in Bugando Hospital, reported that most patients presented late to the hospital. Late presentation in that study was 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 and consultation with traditional healers. Delayed presentation following Burn injury increases the likelihood of death as well as prolonged hospital stay as the patients may only be brought to hospital once they develop complications. Therefore, there is need of dissemination of information on the effective utilization of burns treatment protocol by other health institutions that refers burns patients to prevent development complications such as Burn wound infections. In addition, there is need to encouraging technical support by bigger institution such as Central and General Hospitals on management of burn patients before embarking on referring them.

Lastly but not the list, the Burns Treatment Protocol must be emphasized during delivery in the nursing curriculum.

5.8.3. Nursing Research

The literature review prior and during the course of the study showed that limited research studies have been done in the area of burns especially in Zambia. Nurse researchers, therefore, need to explore and investigate more on different aspects in the area of management of burns patients and make recommendations on how to improve the practices in our Health institutions in the country.

5.8.4. Nursing Administration

The analysis of findings showed that (78.3%) of the respondents in this study stated that medical surgical supplies were rarely found in Burns Units and the wards as a whole. Therefore, Nurse Managers should ensure provision of necessary resources such as medical surgical and nursing supplies are made available for nurses at all times in order for them to discharge their duty effectively. Availability of medical surgical and nursing supplies influence the nurses in regard to compliance with burns treatment protocol as they are necessary tools for effective implementation of the burn Treatment Protocol.

5.9. CONCLUSION

Nurses working in the Burns specialized wards have a major key role in the implementation of Burn treatment protocol and must be competent at all times while managing Burns patients. Overall finding showed that most nurses had adequate knowledge and were compliant with Burn Treatment Protocol. The hindrance was that medical surgical supplies to be used on burns patients were rarely available at Kabwe Central Hospital. Therefore, adequate medical surgical supplies and provision of hand washing facilities in burns units will probably help in prevention of burn wound infections and thereby reduce mortality and morbidity rate among the Burn patients at Kabwe Central Hospital.

5.10. RECOMMENDATIONS

Based on the study findings, the following recommendations were made to

The Government

1. The Government through the Ministry of Health needs to strengthen the implementation of burns treatment protocol by providing refresher trainings on burns treatment protocol thereby promoting quality care of patients with burns.
2. The Government through the Ministry of Health to provide adequate funding to Health Institutions to enable them procure necessary medical surgical supplies and equipments to enhance quality care of burns patients.
3. The government through the Ministry of Health to provide adequate personal protective equipments to all staff and relatives attending to burns patients to promote infection prevention practices.

4. The Government through Ministry of Health to sensitize members of the community on preventive measures of burn accidents and first aid measures to prevent complications to the victims.

The Management of Kabwe Central Hospital

1. The management needs to strengthen the implementation of burns treatment protocol by providing refresher trainings on burns treatment protocol to all nurses and other members of staff thereby promoting quality care of patients with burns.
2. The management should priotise procuring of necessary medical surgical supplies and equipments to enhance quality care of burns patients at the institution.
3. The management should also ensure provision of adequate personal protective equipments to all staff and relatives attending to burns patients to promote infection prevention practices.
4. The management should ensure that Infection Prevention Committee is always active in monitoring compliance with burns treatment protocol.
5. The management needs to ensure that in-service training/continuing education is stressed and provided for nurses working in burns units.

5.11 Limitation of the study

- Limited sample size may cause results not to be generalized to other settings
- Only 55 out of 60 interviewed respondents were observed on their infection prevention practices. This can result in biased results since some of the participants who were not observed could have had some peculiar IP practice.

For further research

There is need to replicate the study in a different setting with a large sample size to warrant generalization of the results.

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8.0 APPENDIXES

APPENDIX I

PARTICIPANT INFORMATION SHEET

STUDY TITTLE

Compliance with Burns Treatment Protocol by Nurses at Kabwe Central Hospital in Central Province, Zambia.

INTRODUCTION

I, Bwalya Munjili, a student of Masters of Science in Nursing in the School of Nursing Science at the University of Zambia is kindly requesting for your participation in the above mentioned research study because it is important to assess compliance with Burns treatment protocol.

Before you decide whether or not to participate in this study, I would like to explain to you the purpose of the study, any risks to you and what is expected for you.

PURPOSE OF THE STUDY

The study will assist to obtain more information on compliance with Burns treatment Protocol by Nurses working at Kabwe Central Hospital. The data from this study will assist the management to find ways and means of improving compliance with Burns treatment protocol thereby reducing infection, morbidity, disability and mortality in Burns injured patients.

PROCEDURE

As participant in the study you will be expected to fill in a questionnaire which will take about 30 to 35 minutes to complete. You will be expected to tick or give short answers to some of the questions in the questionnaire. All questionnaires will have a code attached during the study to ensure confidentiality. To confirm your acceptance to participate, you will be given a consent form to sign. No names or any form of identifying information will be obtained on both the questionnaire and observation checklist.

RISKS AND DISCOMFORT

No risks or discomforts are involved apart from the use of your time in answering questions and the presence of the observer. Answering questions will take approximately 35 minutes.

VOLUNTARINESS

Your participation in this study is entirely voluntary. You are under no obligation to participate; you may choose to participate or not to participate. If you decline to participate, no privileges will be taken away from you as an employee of Kabwe Central Hospital. If you agree to participate, you will be asked to sign this informed consent form in front of someone.

BENEFITS

By taking part in this study, you will be able to provide information that will help relevant authorities and policy makers to come up with strategies and policies that will help to improve compliance with Burns treatment protocol by Nurses. This will in turn reduce infection rates occurring at the institution. No monetary favors will be given in exchange for information obtained, but the information on recommended best practices will be give on any aspect of Burns treatment protocol.

GUARANTEE OF CONFIDENTIALITY

Your research records and any information you will give will be confidential to the extent permitted by law. You will be identified by code and personal information will not be released without your written permission, except when required by law.

COMPENSATION/REIMBURSEMENT

It should be noted that neither compensation nor reimbursement will be given to all participants in this study.

PARTICIPATION

Your participation in this study is personal and voluntary. You are not under obligation to participate. You are at liberty to refuse participation and are free to withdraw. If you decline to participate, no privileges will be taken away from you. If you agree to participate, you will be asked to sign a consent form in the presence of a witness. Any complaints will be treated in confidence and fully investigated. The participant will be informed of the outcome. Thank you

for taking time to read the information sheet. Your willingness to participate in this study is greatly appreciated.

PLAN FOR DISSEMINATION OF THE FINDINGS

The results of the study will be presented at the postgraduate seminar week .The researcher also intends to disseminate the findings by making copies of the document and send to Ministry of Health who are the policy makers, Provincial Health Office-Kabwe, Kabwe General Hospital and Kabwe Mine Hospital (a site of pilot study). The results will be published in any recognized journal such as the Zambian Medical Journal. In addition, bound copies of the study will be submitted to the Department of Nursing Sciences, UNZA -Medical Library to be used as reference material by students and health care professionals.

Furthermore, the researcher will also present this report during clinical meetings at any given forum to inform the nurses and other health care providers at Kabwe General Hospital in Kabwe District.

PERSONS TO CONTACT FOR PROBLEMS OR QUESTIONS

The Head,
University of Zambia,
Department of Basic and Clinical Nursing Sciences,
P.O. Box 50110,
Lusaka.
Telephone No. 211252453

The Chairperson,
University of Zambia Biomedical Research Ethics Committee,
School of Medicine,
P.O. Box 50110,
Lusaka.
Telephone No. 256067

APPENDIX II

CONSENT FORM

I have been fully informed of the purpose of the study. The benefits, discomforts, risks and confidentiality and I agree to participate willingly. I further understand that, if I take part in this study, I can withdraw at any time without having to give an explanation and taking part in this study is purely voluntary.

I ……..Names)

Agree to take part in the answering the questionnaire and in the observation.

Signed/thumb …… Date…….. (Participant)

Signed/thumb ……Date…… (Witness)

PERSONS TO CONTACT FOR PROBLEMS OR QUESTIONS

The Dean

University of Zambia

School of Nursing Sciences,

P.O. Box 50110,

Lusaka.

Telephone No. 211252453

The Chairperson,

Biomedical Research Ethics Committee,

School of Medicine,

P.O. Box 50110,

Lusaka

Telephone No. 211256067

APPENDIX III

SCHOOL OF NURSING SCIENCES

DEPARTMENT OF BASIC AND CLINICAL NURSING SCIENCES

SELF ADMINISTERED QUESTIONNAIRE

COMPLIANCE WITH BURNS TREATMENT PROTOCOL BY NURSES AT KABWE CENTRAL HOSPITAL IN CENTRAL PROVINCE, ZAMBIA.

DATE OF INTERVIEW : ……

PLACE OF INTERVIEW: ……

QUESTIONAIRE NUMBER: …….

INSTRUCTIONS TO THE RESPONDENTS

1. Do not write your name on this questionnaire
2. Tick the most appropriate response to the question or fill in the answers
   On provided space
3. All information obtained will be kept in strict confidence

SECTION A: DEMOGRAPHIC DATA

1. How old were you on your last birthday?

……

2. What is your sex?

1. Female
2. Male

3. How long did you work / have you worked in the surgical wards?

1. Less than 1 year
2. 1 year to 2 years

3. 2 to 3 years

4. 3 to 4 years

5. above 5 years

4. What is your highest professional qualification?

1. Certificate

2. Diploma

3. Degree

4. Masters

5. PhD

SECTION B: KNOWLEDGE ON BURN TREATMENT PROTOCOL

5. Define Burns?

.....

…….

6. List any four (4) causes of burns?

……

……

……..

……..

7. List the solutions / fluids that are used in cleaning the burns wounds?

……

8. List at least two (2) solutions used for decontamination of instruments?

……

9. List at least two (2) things that can lead to infection in burns patients in hospital?

……

……

10. Mention is the commonest method used in the calculation of the total burnt surface area on the patient?

……

11. I know the World Health Organization's '5 moments of hand hygiene.

1) Yes

2) No

12. If there is limited beds available, patients with communicable disease may be admitted in the same ward with Burns patients

1) Yes

2) No

13. Micro-organisms on the burn site are destroyed by using clean water

1) Yes

2) No

14. Standard precautions apply to all patients regardless of their diagnosis.

1) Yes

2) No

15. All staff and patient should be considered potentially infectious

1) Yes

2) No

16. You can handle body fluids of patient with burns with bare hands if gloves are not available

1) Yes

2) No

SECTION C: INFECTION PREVENTION AND CONTROL PRACTICES

17. Are you trained in infection prevention?

1) Yes

2) No

18. Are Burns treatment protocols displayed in the surgical wards?

1) Yes

2) No

19. What time of the day do you carry out the dressing of the burns wound in the ward?

1) Any time of the day

2) Before dump dusting and cleaning

3) After dump dusting and cleaning

4) After Doctor's round

20. Do you always wash hands before and after cleaning and dressing the burns wounds?

1) Always

2) Sometimes

3) None

21. Do you use aseptic technique when cleaning and dressing the burns wounds?

1) Yes

2) No

22. How long do you soak instrument in jik or chlorine solution?

1) 5 minutes

2) 10 minutes

3) 30 minutes

23. Hand hygiene can reduce burn wound infection?

1) Yes

2) No

24. Hand washing should be done with antiseptic soap under running water?

1) Yes

2) No

25. Do you educate patient and family on burns wound care?

1) Yes

2) No

26. Are you allowed to attend to the patients when you have infection such as upper respiratory tract infection?

1) Yes

2) No

27. Are students on the ward supervised when doing dressing procedures?

1) Yes

2) No

28. Do the ward classified employees (CEs) allowed to conduct burns wound dressing on the wards when Nurses are busy?

1) Yes

2) No

29. Do you have adequate medical surgical equipments to use on the burn wounds?

1) Yes

2) No

30. I attend in-service training/workshop related to infection prevention and control yearly.

1) Yes

2) No

31. Personal protective equipments are always accessible

1) Yes

2) No

SECTION D: ATTITUDE OF NURSES TOWARDS BURN TREATMENT PROTOCOL

32. Reverse barrier nursing in burns patients is very important.

1) Strongly agree

3) Not sure

4) Disagree

33. I do not have to wash hand if I used gloves

1) Strongly agree

3) Not sure

4) Disagree

34. Policies and procedures for infection control should be adhered to at all times

1) Strongly agree

3) Not sure

4) Disagree

35. I should attend in-service training/workshop related to infection prevention and control regularly.

1) Strongly agree

3) Not sure

4) Disagree

36. The workload affects my ability to apply infection prevention guidelines.

1) Strongly agree

2) Agree

3) Not sure

4) Disagree

37. It is not my responsibility to comply with the hospital acquired infection guidelines.

1) Strongly agree

2) Agree

3) Not sure

4) Disagree

38. Infection prevention practices are very cardinal when nursing burns patients

1) Strongly agree

2) Agree

3) Not sure

4) Disagree

39. Restriction of traffic in burns unit is vital.

1) Strongly agree

2) Agree

3) Not sure

4) Disagree

SECTION E: COMPLIANCE WITH BURNS TREATMENT PROTOCOL

40. Do you always calculate the Total burnt surface area for burns patients on admission?

1) Yes

2) No

41. Do you administer tetanus toxoid on all admitted burns patients?

1) Yes

2) No

42. Do you administer antibiotics to all burns patients?

1) Yes

2) No

43. Are the burns patients nursed in the separate unit (reverse barrier nursed)?

1) Yes

2) No

44. Do you have separate staff (Nurses) to nurse burns patients?

1) Yes

2) No

45. Is there restriction of personnel into the burns unit?

1) Yes

2) No

46. How often do you fumigate the burns unit?

1) Monthly

2) Quarterly

3) Yearly

4) PRN

5) Not usually done

6) None of the above

47. Do you sterilize linen for burns patients?

1) Yes

2) No

48. Do you have burns treatment guidelines displayed on all surgical wards?

1) Yes

2) No

SECTION F: AVAILABILITY OF MEDICAL SURGICAL SUPPLIES/ EQUIPMENTS

49. Kindly score the availability of medical surgical supplies in your ward/ department.

1 Always available

2. Rarely available

3. Not available

50. How available are the personal protective equipments in your wards/ departments?

1 Always available

3. Rarely available

3. Not available

SECTION G: MANAGEMENT SUPPORT

51. Does the management put the procurement of medical surgical supplies as a priority?

1. Yes

2. No

52. Does management carry out random checks on infection prevention practices in the wards?

1. Yes

2. No

53. Does management priotise purchase of nutritional supplements to burns patients?

1. Yes

2. No

54. Does the institution have infection prevention committee in place?

1. Yes
2. No

55. Does management organize any orientation on infection prevention practices?

1. Yes
2. No

END OF THE QUESTIONAIRE

THANKYOU VERY MUCH FOR YOUR TIME

APPENDIX IV

MARKING KEY FOR STUDY VARIABLES

SECTION B : KNOWLEDGE ON BURN TREATMENT PROTOCOL			
QUESTION NUMBER	**QUESTION**	**CORRECT ANSWER**	**MAXIMUM SCORE**
6.	What is the definition of Burns?	A burn is damage to a body tissue caused by Heat, chemicals, electricity, sunlight or radiation characterized by swelling, blisters, pain.	5
7.	Mention any four (4) causes of burns?	1. Heat 2. Chemicals 3. Electricity 4. Radiation 5. Sunlight	4
8.	8. Able to mention components of Burn Treatment Protocol	Yes/No	1
9.	9. Mention at least two (2) solutions used for decontamination of instruments?	1. Jik/ Chlorine 2. Cidex	2
10.	10. Mention at least two (2) things that can lead to infection in burns patients in hospital?	1.Not following aseptic technique 2. Not using IP practices	2
11.	11. What is the commonest method used in the calculation of the total burnt surface area on the patient?	Rule of nine	4

SECTION C : INFECTION PREVENTION PRACTICES IN BURNS UNIT			
12	I know the World Health Organization's '5 moments of hand hygiene.	Yes	1
13	If there is limited beds available, patients with communicable disease may be admitted in the same ward with Burns patients	No	1
14	Micro-organisms on the burn site are destroyed by using clean water	No	1
15	Standard precautions apply to all patients regardless of their diagnosis.	Yes	1
16	All staff and patient should be considered potentially infectious	Yes	1
17	You can handle body fluids of patient with burns with bare hands if gloves are not available	No	1
18	Are you trained in infection prevention?	Yes	1
19.	Are protocols of infection prevention guidelines displayed in the ward or department?	Yes	1
20.	Do you always comply with infection prevention guidelines?	Yes	1
21.	What time of the day do you do burns wounds in the wards?	After dump dusting and cleaning	4
22.	Do you always wash hands before and after cleaning and dressing the burns wounds?	Always	2
23.	Do you use aseptic technique when cleaning and dressing the burns wounds?	Yes	1
24.	How long do you soak instruments in jik/ chlorine solution?	10 minutes	1
25.	Hand hygiene can reduce burn wound infections?	Yes	1

26.	Hand washing should be done with antiseptic soap under running water.	Yes	1
27.	Do you educate patient's family on burns wound care?	Yes	1
28.	Are you allowed to attend to patients when you have infections such as upper respiratory infection?	No.	1
29.	Are students on the ward supervised when doing burn wound dressing procedures?	Yes	1
30.	Do ward classified employees allowed to do burn wound dressing when nurses are busy?	No	1
31.	Do you have adequate medical surgical supplies?	Yes	1
32.	Do you have adequate staffing in your ward?	Yes	1
33.	I attend in-service training/workshop related to infection prevention and control yearly.	Yes	1
34.	Personal protective equipments are always accessible	Yes	1
SECTION D : ATTITUDES OF NURSES TOWARDS BURNS TREATMENT PROTOCOL			
35	Reverse barrier nursing in burns patients is very important.	Strongly agree	4
36	I do not have to wash hand if I used gloves	Strongly disagree	
37.	Policies and procedures for infection control should be adhered to at all times	Strongly agree	4
38.	I should attend in-service training/workshop related to infection prevention and control regularly.	Strongly agree	4

39.	The workload affects my ability to apply infection prevention guidelines.	Strongly agree	4
40	It is not my responsibility to comply with the hospital acquired infection guidelines.	Strongly agree	4
41.	IP practices are very cardinal when nursing burns patients	Strongly agree	5
42.	Restriction of traffic in burns unit is very vital	Strongly agree	5
43.	Do you always calculate the TBSA on admission to all burns patients?	Yes	1
44.	Do you always administer Anti tetanus toxoid to all burns patients?	Yes	1
45.	Do you administer antibiotics to all admitted burns patients?	Yes	1
46.	Are the burns patients nursed in burns unit separate from general wards?	Yes	1
47.	Do you have separate nurses to nurse burns patients?	Yes	1
48.	Is there restriction of personnel into the burns unit?	Yes	1
49.	How often do you fumigate burns unit?	PRN	1
50.	Do you sterilize linen for burns patients?	Yes	1
51.	Do you have burns treatment guidelines displayed on the ward / department?	Yes	1
SECTION F: AVAILABILITY OF MEDICAL SURGICAL SUPPLIES / EQUIPMENTS			
52.	Availability of medical surgical supplies in the ward / department	Always available	4
53.	Availability of PPE in the ward / department	Always available	4
SECTION G: MANAGEMENT SUPPORT			
54.	Does management put procurement of medical surgical supplies as a priority?	Yes	1

55.	Does management carry out random checks on infection prevention practices in the wards and departments?	Yes	1
56.	Does management priotise purchase of nutritional supplements to burns patients?	Yes	1
57.	Does the institution have IP committee in place?	Yes	1
58.	Does management organize some orientations on infection prevention practices?	Yes	1

8.5 APPENDIX V

SCHOOL OF NURSING SCIENCES

DEPARTMENT OF BASIC AND CLINICAL NURSING SCIENCES

OBSERVATION CHECKLIST

COMPLIANCE WITH BURNS TREATMENT PROTOCOL BY NURSES AT KABWE CENTRAL HOSPITAL IN CENTRAL PROVINCE, ZAMBIA.

DATE :…….

SERIAL NUMBER: ……

S/N	STATEMENT	YES	NO	TOTAL
1.	Washing of hands before and after every procedure.			
2.	Washing of hands with soap under running water			
3.	Hand washing carried out above the elbow.			
4.	Washing hands before and after invasive procedure.			
5.	Presence of hand washing sink in the burns unit			
6.	Presence of changing attire (uniform) for staff entering the burns unit			

7.	Presence of burns unit having water proof mattresses for easy disinfection and wiping			
8.	Visitors allowed to enter burns unit without personal protective equipments (PPE)			
9.	Availability of medical surgical supplies Examples : 1. Gloves 2. Soap for disinfecting hands 3. Disinfectants like jik/ chlorine 4. Sterilize gauze swabs			
10.	Availability of instruments / Medical equipments Examples: 1. Forceps/kidney dishes/gallipots 2. Heaters 3. Bed cradles			

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THE UNIVERSITY OF ZAMBIA
SCHOOL OF NURSING SCIENCES

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School of Nursing Sciences Building
University Teaching Hospitals
P.O Box 50110
Lusaka, Zambia

7th June, 2018.

The Medical Superintendent,
Kabwe General Hospital,
Kabwe.

26 JUN 2018
KABWE GENERAL HOSPITAL
P.O. BOX 80917 KABWE

Hie Fy input
SMA FMA 25/06/18

Dear Sir/Madam,

RE: REQUEST FOR PERMISSION TO COLLECT INFORMATION REQUIRED FOR RESEARCH PROPOSAL DEVELOPMENT – [redacted] (2017013577)

Mr. Bwalya Munjila is currently a student pursuing a Master of Science in Clinical Nursing programme at the University of Zambia, School of Nursing Sciences. He is required to carry out a research study in partial fulfilment of the programme. His research title is **"Adherence to Burns Treatment Protocols by Nurses at Kabwe General Hospital"** The student is currently at the level of proposal development.

The purpose of writing this letter is to request your office to allow the student to collect the information required for the development of her research proposal.

Your support is highly appreciated.

Yours faithfully,

No objection
HCC
26/06/18

Dr. Patricia Katowa Mukwato (*PhD*)
LECTURER/RESEARCH SUPERVISOR

Cc: Dean, School of Nursing Sciences
Assistant Dean (PG), School of Nursing Sciences
File

REPUBLIC OF ZAMBIA
MINISTRY OF HEALTH
KABWE CENTRAL HOSPITAL

All correspondence to be addressed to the Medical Superintendent and not to individuals

Our Ref:

Your Ref:

P.O. Box 80917 Kabwe

Tel Fax 260-215-223049
Cell No. 0976-776001
Email: kabwegeneral@gmail.com

MH/CP/KGH/101/15/3

27th June, 2018

The Lecture/Research Supervisor
University of Zambia
School of Nursing Sciences
University Teaching Hospitals
P.O Box 50110
Lusaka

RE: REQUEST FOR PERMISSION TO COLLECT INFORMATION REQUIRED FOR RESEARCH PROPOSAL DEVELOPMENT

This is in response to your letter dated 7th June, 2018 in which you requested for Mr. Bwaliya Munjili, Student No (2017013577) pursuing a Master of Science in Clinical Nursing programme to carry out a research on compliance to burns treatment protocol by Nurses at Kabwe General Hospital .

Management has no objection to your request. Kindly inform him to pass through the Office of the Head Clinical Care for guidance.

Dr. Victor kusweje
Medical Superintendent

REPUBLIC OF ZAMBIA MINISTRY OF HEALTH MEDICAL SUPERINTENDENT 27 JUN 2018 KABWE GENERAL HOSPITAL P.O. BOX 80917 KABWE

UNIVERSITY OF ZAMBIA
BIOMEDICAL RESEARCH ETHICS COMMITTEE

Telephone: 260-1-256067
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Ridgeway Campus
P.O. Box 50110
Lusaka, Zambia
E-mail: unzarec@unza.zm
IRB00001131 of IORG0000774

30th July, 2019.

REF. No. 089-2019

Mr. Bwalya Munjili,
University of Zambia,
Department of Nursing Sciences,
P.O Box 50110,
Lusaka.

Dear Mr. Munjili,

RE: "COMPLIANCE WITH BURNS TREATMENT; A PROTOCOL BY NURSES AT KABWE CENTRAL HOSPITAL" (Ref. No. 089-2019)

The above-mentioned research proposal was presented to the Biomedical Research Ethics Committee on 29th July, 2019. The proposal is **approved**. The approval is based on the following documents that were submitted for review:

a) Study proposal
b) Questionnaires
c) Participant Consent Form

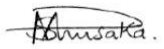
APPROVAL NUMBER : REF. 089-2019

This number should be used on all correspondence, consent forms and documents as appropriate.

- **APPROVAL DATE : 29th July 2019**
- **TYPE OF APPROVAL : Standard**
- **EXPIRATION DATE OF APPROVAL : 28th July 2020**
  After this date, this project may only continue upon renewal. For purposes of renewal, a progress report on a standard form obtainable from the UNZABREC Offices should be submitted one month before the expiration date for continuing review.
- **SERIOUS ADVERSE EVENT REPORTING**: All SAEs and any other serious challenges/problems having to do with participant welfare, participant safety and study integrity must be reported to UNZABREC within 3 working days using standard forms obtainable from UNZABREC.
- **MODIFICATIONS**: Prior UNZABREC approval using standard forms obtainable from the UNZABREC Offices is required before implementing any changes in the Protocol (including changes in the consent documents).
- **TERMINATION OF STUDY**: On termination of a study, a report has to be submitted to the UNZABREC using standard forms obtainable from the UNZABREC Offices.
- **NHRA:** Where appropriate, apply in writing to the National Heath Research Authority for permission before you embark on the study.

- **QUESTIONS**: Please contact the UNZABREC on Telephone No.256067 or by e-mail on unzarec@unza.zm.
- **OTHER**: Please be reminded to send in copies of your research findings/results for our records. You're also required to submit electronic copies of your publications in peer-reviewed journals that may emanate from this study. Use the online portal: unza.rhinno.net for further submissions.

Yours sincerely,



Sody Mweetwa Munsaka, BSc., MSc., PhD
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NATIONAL HEALTH RESEARCH AUTHORITY
Paediatric Centre of Excellence, University Teaching Hospital, P.O. Box 30075, LUSAKA
Tell: +260211 250309 | Email: znhrasec@gmail.com | www.nhra.org.zm

Ref No:…… **Date: 26th August, 2019**

The Principal Investigator
Mr. Bwalya Munjili
University of Zambia
Department of Nursing Sciences
PO Box 50110,
LUSAKA

Dear Mr. Munjili,

Re: Request for Authority to Conduct Research

The National Health Research Authority is in receipt of your request for authority to conduct research titled **"Compliance with Burns Treatment: A Protocol by Nurses at Kabwe Central Hospital.."** I wish to inform you that following submission of your request to the Authority, our review of the same and in view of the ethical clearance, this study has been **approved** on condition that:

1. The relevant Provincial and District Medical Officers where the study is being conducted are fully appraised;
2. Progress updates are provided to NHRA quarterly from the date of commencement of the study;
3. The final study report is cleared by the NHRA before any publication or dissemination within or outside the country;
4. After clearance for publication or dissemination by the NHRA, the final study report is shared with all relevant Provincial and District Directors of Health where the study was being conducted, University leadership, and all key respondents.

Yours sincerely,

Dr. Godfrey Biemba
Director/CEO
National Health Research Authority

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All Correspondence should be addressed to:
The Medical Superintendent
Telephone: (05) 222564
Telefax: (05) 222259

REPUBLIC OF ZAMBIA
MINISTRY OF HEALTH

KABWE WOMEN, NEWBORN AND CHILDREN'S HOSPITAL
P.O. Box 80445
KABWE

16th September, 2019

Mr. Bwalya Mwila
University of Zambia
Department of Nursing Sciences
P.O Box 50110
LUSAKA

Dear Mr. Mungili,

RE: REQUEST FOR PERMISSION TO CONDUCT A PILOT STUDY, BWALYA MUNJILI (2017013577) UNZABREC. REF: 089-2019

Reference to the above captioned matter.

I wish to inform you that Management doesn't find any objection for you to conduct a pilot research at our facility.

You are therefore, allowed to go ahead and wishing you the best.

Yours Sincerely,

Dr. C.K Balonda
Head Clinical Care
For/Medical Superintendent
KABWE WOMEN, NEWBORN AND CHILDREN'S HOSPITAL