

THE UNIVERSITY OF ZAMBIA  
SCHOOL OF MEDICINE  
DEPARTMENT OF NURSING SCIENCES

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2014

MANAGEMENT OF POSTOPERATIVE PAIN BY NURSES AT  
THE UNIVERSITY TEACHING HOSPITAL, KITWE CENTRAL  
HOSPITAL, LEVY MWANAWASA AND CHIPATA GENERAL  
HOSPITALS

BY

CHIRWA MEDAYI  
MWALE REBECCA

MWEWA KAUNDA  
MUDENDA CHRISWELL

A RESEARCH SUBMITTED IN PARTIAL FULFILMENT OF BACHELOR OF  
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**DECLARATION**

We hereby declare that the work presented in this study for the Bachelor of Science Degree in Nursing has not been presented either wholly or in part for any degree and not being currently submitted for any other degree.

Signed by:

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Date *24/09/14*...

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**CANDIDATES**

APPROVED BY: *A. Mwa*.....

DATE *24/9/2014*.....

**SUPERVISOR**

**STATEMENT**

We hereby certify that this study is entirely the result of our own independent investigations. The various sources to which we are indebted are clearly indicated in the text and references

Signed:

Date: 24./09/14....

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## **DEDICATION**

This research is dedicated to the nurses in Zambia and the region who are striving to manage postoperative pain for the primary benefit of the patient and the nation at large so as to help mitigate the burden that accompany under-management of post-operative pain. We also dedicate this study to our Mom (lecturer) and supervisor Mrs. P.K. Mukwato for her tireless guidance in putting up this study.

## ABSTRACT

Post-operative pain management is of great importance to the patients' outcome. The better the management the more the benefit to the patient and the hospital. Benefits such as patient satisfaction, low hospital costs, reduced hospital stay and decreased complications. Effective pain management also ensures good healing process and decreases the morbidity from nosocomial infections.

The main objective of this study was to explore nurses management of post-operative pain related to major surgery pain at The University Teaching Hospital, Levy Mwanawasa General, Chipata General and Kitwe Central Hospitals in Zambia.

In this study, it was hypothesized that there was an association between post-operative pain management and nurses' knowledge and attitude.

A quantitative non-interventional descriptive design was used. The study was conducted at University Teaching Hospital (UTH), Levy Mwanawasa General Hospital, Chipata General Hospital and Kitwe Central Hospital in Zambia. The study population comprised Enrolled, Registered and Bachelor of Science Nurses working in Obstetric and Surgical Wards. A non-probability purposive homogeneous sampling was used. The sample size for the whole study was 200 respondent's however, only 174 agreed to participate. For data collection, a self-administered questionnaire was used. The data was analysed electronically using SPSS Version 16.0., and to determine associations between variables Chi square test of association was performed.

In this study not all the independent variables were significantly associated with post-operative pain management. It was found that there was no association between attitude and post-operative pain management (p-value 0.58). However, there was an association between knowledge and post-operative pain management (p-value 0.00). Majority 77 (88.7%) of the respondent's who showed that they had a positive attitude 92 (52.9%) did not manage post-operative pain adequately. Of those who had a negative attitude only 16 (19.5%) managed post-operative pain adequately. Therefore, having a positive or negative attitude was not a factor in managing post-operative pain adequately.

Out of a total of 174 respondent's only 44 (25.3%) representing less than quarter had high knowledge on post-operative pain management and 45 (25.9%) had medium knowledge. The Majority 85 (48.9%) accounting for almost half of the total respondent's had low knowledge. In all the knowledge levels the majority did not adequately manage post-operative pain, accounting for 29 (65.9%), 34 (75.6%), 80 (94.1%) of those with high, medium and low knowledge on post-operative pain management respectively.

In conclusion the researchers found that there is under-management of post-operative pain in health institutions, which is due to nurses not having adequate knowledge on the subject. In order to adequately manage post-operative pain nurses knowledge with regards to post-operative pain management should be improved.

Based on our study findings, main recommendations made to the Ministry of Health and Ministry of Community Development Mother and Child Health, General Nursing Council of Zambia and the hospitals were to facilitate learning of the nurses' involved in caring for post-operative patients, formulate policies which will facilitate effective and efficient delivery of post-operative care to patients and they should also make medical and surgical supplies necessary for the management of post-operative pain readily available.

## **CHAPTER 1**

### **1.0 BACKGROUND INFORMATION**

Pain is described as a complex experience encompassing sensory, emotional, cognitive and behavioral components (Melzack & wall, 1988 cited in Bruce et al, 2007). Interaction between these components is influenced by physiological, psychological and social cultural factors (Bruce et al, 2007). The International Association for the Study of Pain (IASP) describe pain as an unpleasant sensory and emotional experience associated with actual or potential damage (Yabro et al, 2000).

Pain is a unique feeling which can only be explained by the individual feeling it. Thus, this makes it difficult to assess it. Therefore, it is of no use to compare patients with one another as each person will rate the severity of pain differently. Pain prompts people to seek health care more often than any other problem. In addition, pain is one of the most common problems faced by nurses when they are dealing with patients (Phipps' et al, 1999). This is because it signifies some actual or potential damage to tissue and it is felt first before the actual problem is identified in most conditions.

Pain can be classified into two main types, acute and chronic (Phipps et al, 1999). Pain is said to be acute if its onset is sudden and most of the times the parts affected can be identified. This sudden onset of the pain has the ability to activate the autonomic nervous system. Acute pain is usually of recent onset and commonly associated with a specific injury, it indicates that damage or injury has occurred (Suzanne et'al 2010).

The other type is chronic, which persist beyond the usual time for healing and may last for more than six months. Chronic pain may initially start as acute then advance to chronic or it may have a slow and subtle onset that becomes hard for an individual to state when it started (Rooyen et'al, 2009). Furthermore, according to Phipps' et al (1999) pain can be sub classified into several categories as indicted;

#### **Somatic pain**

This is a superficial type of pain but may affect the muscles and bones causing deep somatic pain and is sharp or dull and aching in nature, localization is poor and there is no referred pain.

Provoking stimuli are incisions, abrasions, cutting, excessive heat, cold and chemicals. Based on these, autonomic reactions and reflex muscle contractions are not present.

### Visceral pain

This is pain affecting internal body organs, it is characterized by symptoms which include; sharp or dull, aching and cramping in nature, the localization is usually poor and pain is usually referred. Provoking stimuli are distension, ischemia, spasms and chemical irritation. There are also autonomic reactions and reflex muscle contractions.

### Referred pain

This is pain at a distant location from that of primary stimulus (Rooyen, 2009). Referred pain occurs most often with damage or injury to the visceral organs and the pain is referred to cutaneous surface.

### Psychogenic pain

This is pain which is psychological and has no known pathological cause or pain which has a psychological basis than a physical one.

### Neuropathic pain

Neuropathic pain is pain resultant from injury to the nervous system and it can occur in different forms. Sharp, spasm-like pain can occur along the course of one or more nerves, such as the trigeminal nerves in the face and the sciatic nerve in the lower trunk (Phipps et'al, 1999).

Pain is an obvious manifestation following surgery owing to stimulation of pain receptor as a result of incisions or injury to body tissues. Postoperative pain is defined as an acute or chronic pain that is experienced after operation or surgical procedure (Badowski, 2008). It often involves sensations and soreness around the surgical site or sites. The most common symptoms of postoperative pain are burning, throbbing, itching, swelling, tenderness, bruising and general discomfort at or around the surgical site (Badowski, 2008).

Postoperative pain is generally acute as it is of sudden onset resulting from damage to body tissues during surgery. This damage may be due to the use of blades when making incisions or other surgical manipulations. It mainly occurs due to major surgery.

Major surgery is usually a kind of surgery which requires use of anesthesia or respiratory assistance and often both when incisions or other surgical manipulations are being done. It is defined as a surgery that is difficult or hazardous (Dorlands Illustrated Medical Dictionary, 2003). It involves lengthy procedures and team of doctors, nurses and anaesthetist. It is usually performed in hospital and causes pain, and stress to vital organs.

According to a study conducted by Carr and Thomas, it was found that over three quarters of the patients experienced pain post operatively which he described as severe (tearing, hash and excruciating were the terms people used to describe the severity of pain) (Bruce et al, 2007) .

Similarly Bond and Simpson (2006), asserted that fifty percent of postoperative patients will suffer from severe and/or intolerable pain. This pain is usually of sudden onset and mostly lasting for about six weeks. The pain reduction should be directly proportional to the healing process. Any prolonged pain than that lasting six weeks is chronic and may cause educational, relationship and/or emotional problems (Rooyen et'al, 2009).

Owing to the fact pain is subjective, most people experiencing pain where under managed because health care providers could only assume the amount of pain an individual felt. This prompted the development of pain assessment scales which enables the client to express their level of pain by rating it according the parameter on the scale used. Several scales are available to assess pain intensity and these include; Visual Analogue Scale, Numeric Rating Scale, Verbal Rating Scale, Face–Legs–Activity–Cry–Consolability and the Cries Pain Scale (Harkness and Dincher, 1996).

Visual Analogue Scale (VAS) is usually a ten centimeter line with the words “no pain at all” at one end and a phrase such as “agonizing pain” or “worst pain possible” at the other end. The line is usually horizontal but can be vertical. The patient is asked to mark this line at whatever point s/he feels corresponds to the degree of pain he is experiencing at that moment. The assessor then measures in centimeters from the left hand side of the pain scale to the mark in order to obtain degree of pain (Bruce et'al, 2007).

The numeric rating scale is like the visual analogue scale but is calibrated with the numbers zero to ten. The patient is asked to make a mark at a point that indicates the intensity of his or her pain. Even with the added numerical guideline, not all patients find this scale easy to use (Bruce et'al, 2007). This is because not everyone literate when it comes to using numbers. However, Paice et'al 1997 cited in Bruce et'al 2007 demonstrated that numerical scales can be administered verbally

without jeopardizing the validity of the tool. They suggest that this can be helpful, for example when the patient is acutely ill.

The Verbal Rating Scale is a scale which provides graded categories for instance “no pain at all”, “slight pain”, “moderate pain”, “very bad pain” and “agonizing pain.” The patient marks whichever category represents his/her pain and is assigned a score from zero to four (Bruce et’al, 2007).

The Face–Legs–Activity–Cry–Consolability and the Cries Pain Scales are designed specifically for assessing pain in children. The Face–Legs–Activity–Cry–Consolability which incorporates five categories of pain behaviours: facial expression; leg movement; activity; cry; and consolability validated for scoring postoperative pain in infants and children two months to seven years (Anaesth, 2008). On the other hand, the Cries Pain Scale is validated for neonates, from thirty weeks of gestational age to six months. Each of the five categories is scored from zero to two: crying requires oxygen for saturation below ninety five percent; increased vital signs (arterial pressure and heart rate); expression (facial and sleepless expressions) (Anaesth, 2008).

In assessing pain, the nurse should be consistent with the scale used throughout the patients’ hospitalization unless there is a change in condition, this ensures that the patient pain management is kept at optimum as there will be no gaps in trying to meet the needs of the patient with regards to pain. Assessment of pain is done at rest and with activity as part of a thorough post-operative assessment. With regards to managing pain, nurses therefore, are in an excellent position to work with the client in pain and to help that client overcome the pain especially that they have more contact time with the client throughout their hospital stay as the nurses provide 24 hours care to the patient. Due to this fact nurses should gain more knowledge about pain and its management. The nurse therefore, has the responsibility to understand the experience of pain and to initiate measures that provide relief or help the client learn to cope.

It is recommended that the management of pain after surgery begins preoperatively after the available options are discussed with the patient (Rooyen et’al 2009). This is because the patient is more likely to cooperate when they fully understand the available options explained to them such as pharmacological and non-pharmacological options.

Even if, pain is expected by the patients, it should be within the tolerance scale. Most patients have more than tolerable pain intensity which is attributed to insufficient pain medication. Not only should the pain post operatively be perceived as originating from the incision, it may also be from

dehydration, a full bladder or the after effects of being on the operating table (Rooyen, 2009). Nurses and other health care providers for such clients should thus assess and document the findings using the pain assessment chart in order to be consistent with the findings and grading of the levels of pain.

According to Potter and Perry, (2005) pain management is achieved by applying effective methods of analgesic control. Opioids are the mainstay for moderate to severe pain. The three most common are; morphine, hydrophone and fentanyl. However, in Zambia the commonly used are morphine and Pethidine. The variance is in the onset, peak and duration. The best medication for the situation should be chosen, for example, if a patient has extreme pain upon arrival to the recovery room, fentanyl would be the best choice because of its quick onset. Morphine has an immediate onset of 10 minutes and often reaches the peak at 15 minutes. Doses given frequently have shown over sedation and or respiratory distress, which should be avoided. The best way to administer Morphine is intravenously then later start oral and intramuscular Morphine (Potter and Perry, 2005). In managing pain, it is recommended that the physician and the nurse should involve the patient in personal care and treatment goals (Potter and Perry, 2005). This will ensure patient compliance as they will accept a regime they understand and accept that they can tolerate.

Other drugs are ibuprofen for mild pain while reserving opioids for the initial phases when pain is intense. It is worth noting however, that the need for postoperative pain medication is reduced when the anesthesiologist visits patients preoperatively and provides detailed explanations of postoperative events, including the occurrence of pain (Rooyen, 2009).

Stellenberg et'al (2007) states that "nurses have a very significant role to play in pain management. They are responsible for assessing, delivering and monitoring the effectiveness of any treatment prescribed". For most patients who have undergone surgery, they may not express themselves as being in pain and would not ask the nurse about the available pain relief. They may at times feel that pain is an integral part of the surgery and no need of informing the nurse about their feeling of pain. This entails that it is the duty of the nurse to assess and manage pain in patients after they have undergone major surgery.

Inadequate assessment, individual variability in the experience and exhibition of pain, poor communication among members of the health care team and their patients, negative attitudes toward the use of opioids, and misconceptions about pain are the most frequently cited factors accounting

for unsatisfactory treatment (Drayer et al., 1999). This is due to the fear of causing lethal effects such as central nervous system and respiratory depression.

Studies have shown that many factors influence the incidence and severity of postoperative pain (Robert and Ronald, 1989). These include patients' past experiences, culture and attitude. In addition, pain perception is subjective because of differences in neurochemical physiology, past experiences, emotional make up and cultural differences, which contribute to the variability in the experience of pain. This variability implies that management of pain should not be standardized and it should be delivered to individual patients via individualized based type of management taking into account medical, psychological and physical condition such as age, level of fear and anxiety, surgical procedure and personal preference (Robert and Ronald, 1989). For example Bruce et al, 2007 indicated that, infants who experience pain early in life respond to pain differently because of their past exposure. Culture is another factor that may affect the management of pain. In Africa men are expected to respond to pain with dignity and composure whereas a woman can wail and cry. Nurses may stereotype pain and ignore the client's subjective view of their pain (Potter and Perry, 2006). McCaffery et al (2000) established that nurse's personal opinion affected assessment and titration of opioid doses. When a patient shows that their pain is greater, the nurse will feel the patient is exaggerating their pain, hence the nurses need to be aware of their own biases.

In addition, nurses allow misconceptions about pain to affect their willingness to intervene. Many nurses even avoid acknowledging a client's pain because of their own fear and denial, they let personal experiences become a factor in their intervention. Nurses may not believe a client's report of pain if they do not look like they are in pain. Nurses are entitled to their personal beliefs, however, they must accept the client's report of pain and act according to professional guidelines, standards, position statements, policies and procedures and, evidence based research findings (Potter and Perry, 2006).

There has been an increased number of new methods and drug formulations which may be effectively used in assessing and managing pain in patients respectively. Possible reasons for the lack of adequate pain management have been suggested. These include; knowledge deficits, inadequate pain assessment, lack of communication between staff and patients, divergent attitudes and absence of systematic recording (Paice et al., 1995; Sjöström et al., 1997; Klopfenstein et al., 2000).

## 1.1 PROBLEM STATEMENT

It has been observed that it is common for patients to get inadequate pain treatment and this results in many different complications and have a prolonged stay in institutions of care (Hanna and Ludendo, 2010). Inadequate treatment has been linked to health care workers' poor training in assessing pain and failure to intervene appropriately.

Studies that have been conducted in other countries reveals that there is need for effective post operation pain management such as the use of patient controlled analgesia (PCAs). (Bader et al, 2010). PCAs allows the patient to control the administration of small boluses of intravenous narcotics (Bruce, 2007).

In Zambia there are no studies that have been conducted on postoperative management of pain related to major surgery.

The findings of this study therefore, would help the management of the University Teaching Hospital, Levy Mwanawasa General Hospital, Chipata General Hospital and Kitwe Central Hospital and possibly the Ministry of Health (MoH), and other stakeholders in reviewing current management strategies to improve management of pain post operatively.

## **1.2 JUSTIFICATION**

Post-operative pain management is of great importance to the patients' outcome. The better the management the more the benefit to the patient and the hospital. Benefits such as patient satisfaction, low hospital costs, reduced hospital stay and decreased complications. Effective pain management also ensures good healing process and decreases the morbidity from nosocomial infections.

Wells (2012) states that "postoperative pain is the most undesired consequence of surgery, and if not managed adequately, can lead to delayed recovery and increased hospital stay. Surveys continue to reveal that postoperative pain is insufficiently managed in the first world or developed countries where there is good health care infrastructure and advanced medical equipment which are used to manage patients and, also, the presence of an abundance of medication for managing pain in these countries (Hanna and Ludendo, 2010). It is therefore, assumed that there may be insufficiency pain management in developing countries like Zambia which lack advanced medical equipment and are characterized by poor health care infrastructures. In addition Wells (2012), further asserted that, an American survey conducted in over 20 years showed that only one in four patients had adequate relief of postoperative pain.

Consequences of those affected include respiratory complications such as shallow breathing, cardiovascular complications such as myocardial ischemia, thromboembolic complications such as deep vein thrombosis and gastrointestinal such as gastric stasis. Others include; increased hospital stay, impaired quality of life and Development of chronic pain.

Hence the need to explore nurses management of postoperative pain, at the University Teaching Hospital (UTH), Levy Mwanawasa General Hospital, Chipata General Hospital and Kitwe Central Hospital.

## **1.3 AIM/MAIN OBJECTIVE**

To explore nurses management of post-operative pain related to major surgery

### **1.3.1 SPECIFIC OBJECTIVES**

- 1) To determine nurses knowledge regarding post-operative pain management

- 2) To determine how nurses' assess post-operative pain
- 3) To determine nurses' interventions in managing post-operative pain
- 4) To determine nurses' attitude towards postoperative pain management

## 1.4 RESEARCH QUESTION

How do nurses manage post-operative pain at The University Teaching Hospital, Kitwe Central, Chipata and Levy Mwanawasa General Hospitals?

## 1.5 VARIABLES

Something that varies or any quality of a person, group or situations that takes on different values (P'olit and Hungler, 1989). A variable can also be said to be a quantitative expression of a constant (Gall et al, 2003). In addition, Wehmeier, 2010 defines variables as a situation, number or quantity that can vary or be varied.

There are many types of variables, two of which include independent variables and dependent variables (WHO, 2003).

I. **Dependent variable** –This is a variable that is used to describe or measure the problem (core problem) under study. In this study Post-operative pain management is the dependent variable.

II. **Independent variable (s):** This is a variable that is assumed to cause or at least influences the problem.

The following are the independent variables that will be used in this study

- Knowledge of Nurses- This variable will be measured using questions based on post-operative pain management.
- Attitude of Nurses - This variable will be measured using the likert scale.

## 1.6 CONCEPTUAL DEFINITIONS

A conceptual definition (connotative meaning) is more comprehensive than a denotative definition, including associated meanings the word may have (Burns & Groves, 2005).

**1.6.1 Attitude:** This is the way an individual thinks and feels about somebody or something; the way that you behave towards somebody or something that shows how you think and feel (Wehmeir et al, 2010).

**1.6.2 Assessment:** An assessment is the deliberate and systematic collection of data to determine a client's current and past health status and functional status and to determine the clients' present and past coping patterns (Capenito, 2000).

**1.6.3 Knowledge:** This is the information, understanding and skill that one gains through education or experience (Wehmeier et al, 2010).

**1.6.3 Interventions:** This is the act or fact or method of interfering with outcome or course especially of a condition or process as to prevent harm or improve function (Mirriam Webster).

**1.6.4 Postoperative:** This is pertaining to the period of time after surgery (Anderson, 1995).

**1.6.5 Postoperative Care:** This is the care received following a surgical procedure (Pietrangelo and Krucik, 2013).

**1.6.6 Postoperative Care:** This is care given after surgery until the patient is discharged from the hospital (Webster, 2012).

**1.6.7 Management:** This is the act or skill of dealing with people or situations in a successful way. (Wehmeir et al, 2010).

**1.6.8 Obstetrics:** This is a branch of medicine and surgery dealing with pregnancy and labour and the puerperium.

## 1.7 OPERATIONAL DEFINITION

In this research the following definitions have been defined operationally:

**1.7.1 Attitude:** These are negative or positive views and/or feeling that a nurse has at a particular time towards postoperative pain.

**1.7.2 Management:** This is the act of controlling post-operative pain.

**1.7.3 Assessment:** This is the ability to observe and identify problems and needs which require attention after major surgery as a result of pain experience.

**1.7.4 Knowledge:** This is having information about post-operative pain and its management.

**1.7.5 Interventions:** These are actions taken to prevent or treat potential and actual pain after major surgery respectively.

**1.7.6 Postoperative:** This is the period lasting two weeks after major surgery.

**1.7.7 Postoperative Care:** This is the care given to the patient who has undergone major surgery.

**1.7.8 Obstetrics:** This is a branch of medicine from which surgical interventions are conducted during and after pregnancy

**1.7.9 Adequacy of post-operative pain management:** This is the management that meets the set standard of management such as giving information at the right time, medication at the right time, right dose, right route to the right patient with the a certain level of pain intensity as assessed by the nurse.

## **1.8 HYPOTHESES**

- Post-operative pain management improves with increased knowledge of postoperative pain management.
- There is no relationship between post-operative pain management and nurses' attitude.

## **1.9 THEORETICAL FRAME WORK**

A Framework is an abstract, logical structure of meaning that guides the development of the study and enables the researcher to link the findings to nursing's body of knowledge (Burns and Groove, 2005). Based on literature that was reviewed, there was no model that describes postoperative pain management. However, there are theories that describe the physiology and control of pain. (Rooyen, 2009). Therefore, the following theory was identified to guide this study:

### **1.9.1 THE GATE CONTROL THEORY**

The gate control theory of pain developed by Melzack (1965) combined pertinent aspect of older theories with an account of what happens in clinical practice. According to this theory the transmission of information from a potentially painful stimulus can be modified by gating mechanisms situated in the substantial gelatinosa in the dorsal horn of the spinal code. This mechanism may increase or decrease the flow of nerve impulses from the periphery to the central nervous system. If the gate is open impulses pass through; if partially open some pass through; and if shut, no impulses get through and pain is not experienced when it is closed. Melzack and Wall (1965) argued that whether the gate is closed or opened is determined by; Activity in small diameter fibres (A- $\delta$  delta and C fibres which transmit pain), activity in large diameter fibres (A- $\beta$  beta fibres which transmit touch) and descending influences from high centres, including those concerned with motivational and cognitive processes.

The substantial gelatinosa is activated by large A- $\beta$  fibres (shut the gate). Events that may shut the gate include analgesic remedies, being in a good mood and concentrating on things other than the injury such as distraction and/or imagery techniques and conversely, inhibited by A- $\delta$  and C fibres (open the gate). The gate is opened by physical factors such as bodily injury, emotional factors such as anxiety, depression and behavioural factors such as attending to the injury and concentrating on the pain. This activity then influences the information sent to the brain, which in turn initiates descending inhibitory controls depending on the information from other areas such as the cortex.

Based on this theory there are many clinical implications. However, the inherent fundamental principles have been used for a long time and influenced pain management. Clinically the gate control theory has been applied to nursing care by McCaffrey and Beebe (1994, 2000), who

advocate that it provides a framework for understanding pain and on which various pain relief measures may be developed.

Closing the gate at the brain stem level can sometimes be achieved by ensuring sufficient pain sensory input such as using distractions and imagery techniques or reducing anxiety by providing the patient with correct information about the cause, likely course and relief of pain, therefore increasing the patient's confidence and sense of control.

If nurses understand the mechanism of pain transmission and modulation, they can use the non-pharmacological methods depending on the level of pain to shut the gate and reduce pain instead of solely depending on drugs.

**1.9.2 KEY TO THE FRAMEWORK DIAGRAM**

❖ **Open gate**

Relates to increasing stimulation/ increase in impulse flow to and fro the area affected area to and fro the brain via the spinal cord.

❖ **Shuts gate**

Relates to decreasing stimulation/ decrease in impulse flow to and fro the area affected area to and fro the brain via the spinal cord.

❖ **PNS**

Peripheral Nervous System (the sensory component stimulated at the point of incision)

❖ **CNS**

Central Nervous System (acts as the pathway for impulses from the site of incision, and comprise of the brain point at which the translation occurs)

**NB.**

Gate regulation disrupts the flow impulse in the Peripheral Nervous System and Central Nervous System.

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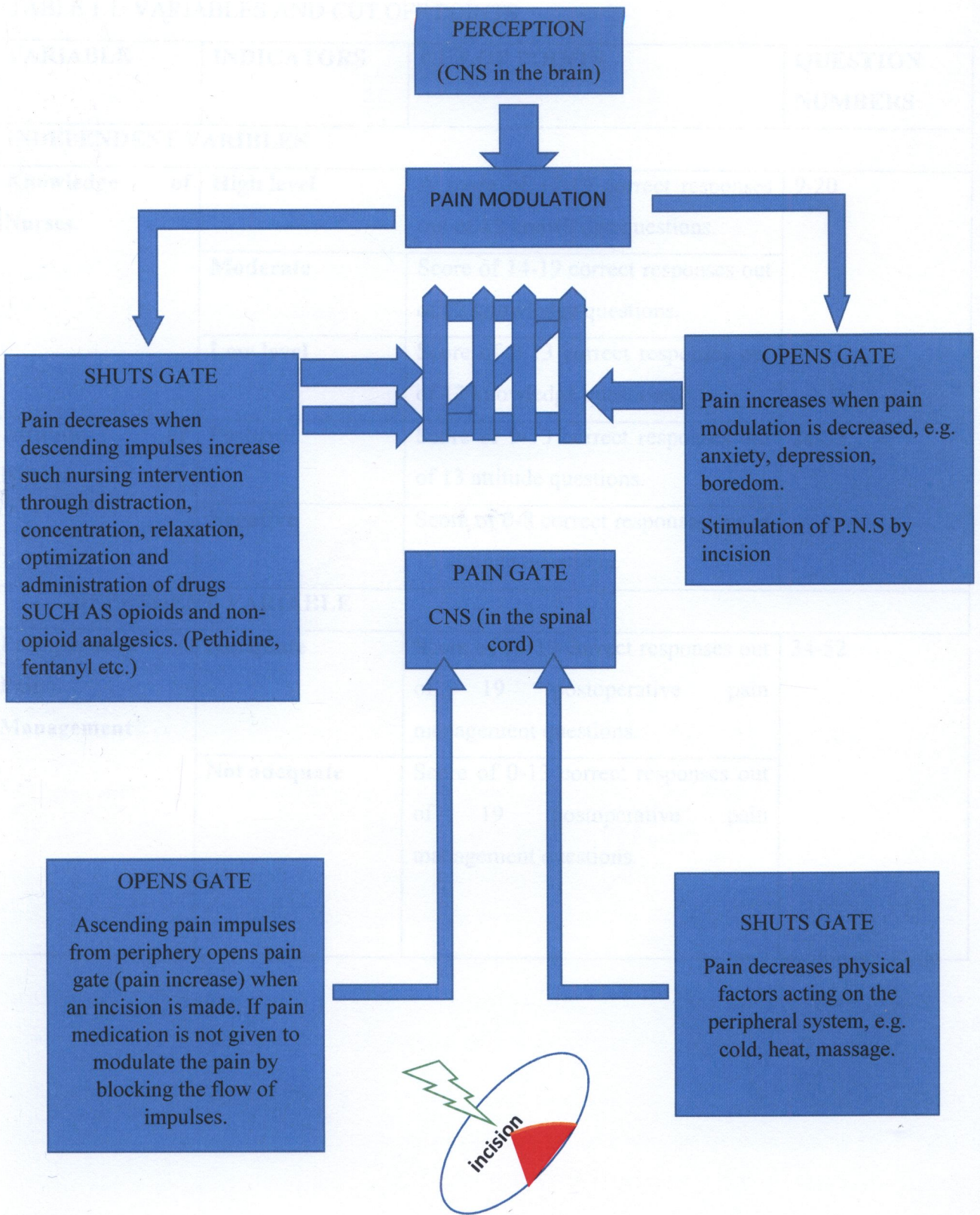


Figure 1: The Gate Control theory of Pain Management: adapted from Rooyen 2009, page 627.

TABLE 1.1: VARIABLES AND CUT OFF POINTS

VARIABLE	INDICATORS	CUT OF POINTS	QUESTION NUMBERS
<b>INDEPENDENT VARIABLES</b>			
<b>Knowledge of Nurses</b>	<b>High level</b>	A score of 17-19 correct responses out of 12 knowledge questions.	9-20
	<b>Moderate</b>	Score of 14-19 correct responses out of 12 knowledge questions.	
	<b>Low level</b>	Score of 0-13 correct responses out of 12 knowledge questions.	
<b>Attitude of Nurses</b>	<b>Positive</b>	Score of 9-13 correct responses out of 13 attitude questions.	21-33
	<b>Negative</b>	Score of 0-8 correct responses out of 13 attitude questions.	
<b>DEPENDENT VARIABLE</b>			
<b>Postoperative Pain Management</b>	<b>Adequate</b>	Score of 14-19 correct responses out of 19 postoperative pain management questions.	34-52
	<b>Not adequate</b>	Score of 0-13 correct responses out of 19 postoperative pain management questions.	

## **CHAPTER TWO**

### **2.0 LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Literature Review refers to an organized critique of the important scholarly literature that supports a study, and a key step in the research process (Haber and LoBiondo-Wood, 2006).

Various researchers have carried out studies on postoperative pain management in different parts of the world especially in Western and Asian countries. In African countries such as Kenya, Malawi and South Africa literature reveals that similar studies have been done. In Zambia, based on the literature review conducted, the researchers come across a research by Kalolo (2010) who studied pain management in orthopedics surgical settings. Kalolo came to a conclusion that staff and patient misconceptions, inadequate sources of learning and professional traditions continue to affect the quality of acute pain management (Kalolo, 2010).

#### **2.2 OVERVIEW OF MANAGEMENT OF POST OPERATIVE PAIN BY NURSES**

Pain management is a complex and multi-faceted problem for the patient, caregiver, and the institution (Mann and Redwood, 2000). Newer pain management guidelines by the Joint Commission Accreditation of Hospitals and patient rights to pain relief continue to put across more challenge. This is so because of the nature of the problem and the fact that it is hard to understand in totality how best postoperative pain can be managed as there cannot be one set of postoperative pain management guidelines because pain is experienced differently. Clearly, multiple factors need to be considered in a pain management improvement process (Mann and Redwood, 2000).

When judging the effectiveness of a pain management program, the Agency for Health Care Policy and Research (AHCPR) states that self-reporting should be the mainstay for determining the level of an individual's pain (Mann and Redwood, 2000). Thus, it is important to review patients' opinions on pain management for two reasons:

- (i) it is unethical to allow a patient to suffer pain without giving effective pain relief treatment; and
- (ii) pain slows recovery and may cause complications attributed to the pain itself, not the disease (Mann and Redwood, 2000).

### **2.3 POSTOPERATIVE PAIN MANAGEMENT BY NURSES**

Many authors have attributed nurses unsatisfactory professional practices in pain management as being consequences of a lack of knowledge and inadequate attitudes relating to pain and its management (Rejeh et al. 2009; Gordon et al 2008; Twycross 2007; Jastrzab et al. 2003; Aslan, Badir and Selimen 2003; Howell et al. 2000). In order to be competent in the provision of high-quality pain management, nurses must be knowledgeable in all facets of pain management and the evidence-based strategies underpinning these practices. Adequate pain management is reliant on the knowledge, attitudes and subsequent skills of healthcare professionals (Lewthwaite et al. 2011). Plaisance and Logan (2006) asserts that knowledgeable and proficient health care professionals are the key to optimal patient outcomes. Given the central role nurses play in the management of pain, extensive research has been undertaken to identify nurses' knowledge base and attitudes pertaining to pain management.

Numerous studies have shown that nurses' knowledge deficits and negative attitudes related to post-operative pain management can significantly contribute to an inaccurate pain assessment and ineffective pain management (McCaffery & Ferrell, 1997).

Hawthorn and Redmond (1999) suggest that inadequate pain relief may be lack of knowledge, due to myths and misconceptions regarding pain and opioid treatment and problems concerning the health care system in general. One common factor to inadequate pain relief according to Hawthorn and Redmond (1999) is the absence of an acceptable pain analysis and the absence of documentation.

Howell et al. (2000) in their research sought to examine the effects of an education intervention on nurses' knowledge, attitudes, and practice in pain management and assessment. In this study, nursing practice behaviors, case situations, chart audits tools were also used to measure nursing knowledge and attitudes. Nurses were subjected to a study which involved the use of several tools to assess the nurses' knowledge base on pain and pain management. A 46 Nurses' Knowledge and Attitude Scale (NKAS) was used to measure the knowledge and attitude variables of the nurses

involved in the study. Reliability for the NKAS was based on Cronbach's alpha for internal consistency and found to be greater than 0.70 for knowledge and attitudes. Test/Re-test reliability was noted to be greater than 0.80. Content validity of the tool was established by experts in pain management but the details were not fully explained.

After three months from the time this study was conducted, the nurses' application of the knowledge and attitudes in pain management declined. Having looked at the phenomena, they came to a conclusion that nurses' lack, knowledge, personal attitudes on pain, and organizational accountability, hence the reasons for ongoing post-operative pain management problems. The results of this study show that education has an effect on nurse's knowledge and attitude towards postoperative pain management. Therefore, nurses need continuous education to ensure adequate postoperative pain management.

Recently, a study indicated that nurses still underestimated patients' pain and did not use proper pain scale even when available (Sjorstrom et al, 2008). Nurses administered the analgesics as needed rather than fixed order and gave less analgesic than prescribed (Manias, Bucknall, & Botti, 2005).

Studies have shown that developing countries suffer from lack of analgesia. According to the study by Size et al, (2007) in Nigeria, a high percentage of postoperative patients suffered from inadequate pain relief; one third of the patients complained of moderate to unbearable pain up to one day after surgery. Size et al. (2007) further states that pain relief in developing countries have a low priority compared to other aspects of health care, therefore, a large number of patients do not get effective pain treatment. Size et al (2007) showed that opioid analgesia is unavailable postoperatively in many places. In Uganda for example only 45 percent of the anesthetic officers had access to opioids and 21 percent never had those drugs available at all (Size et al., 2007).

According to this study by Howell et al (2000) they suggested need for continued evaluation and education concerning knowledge, attitudes and the decline in the implementation of the pain management strategies which suggest that there still continues to be inadequate pain management generally as well as postoperatively.

According to the research conducted by Land (2010), it was found that in order to improve and sustain pain management in whatever capacity either general or postoperative there is need for continued learning and evaluation of the nurse's knowledge and attitudes on pain and pain management.

It is well recognized that current treatments for acute pain are less than adequate. Among the various forms of acute pain, the management of postoperative pain has been a concern for many decades (McKintosh & Bowles, 2000). Inadequate assessment, individual variability in the experience and exhibition of pain, poor communication among members of the health care team and their patients, negative attitudes toward the use of opioids, and misconceptions about pain are the most frequently cited factors accounting for unsatisfactory treatment (Drayer et al., 1999).

The best way to understand whether a patient's pain management is adequate is to solicit his/her opinion. This view is supported by the Agency for Health Care Policy and Research (AHCPR), an international organization in the United States of America that promotes and validates guidelines for pain management (AHCPR, 2002).

De Rond et al. (2001) identified that inadequate pain management is thought to be related to lack of nursing and physician knowledge about pain and also from the lack of nursing daily pain assessments. The purpose of their study was to examine the effects of a nursing pain monitoring program in daily clinical practice and examine nursing and physician pain knowledge and attitudes before and after program implementation. 277 nurses and 115 physicians in 5 general hospitals were involved in the study. 244 nurses (88.1%, N = 277) participated in a 3 hour program focusing on knowledge, attitudes, and current trends in pain management. Physicians did not participate in the education program. From this research (15.4%) the nursing attitude that very few physicians valued use of the daily pain score assessment versus physician perception (47%) that the tool was very effective may suggest the reason for decline in daily pain assessment score after seven months. The attitude of nurses viewing other health care providers as not using appropriate assessment tools may greatly influence how they themselves get to assess and manage postoperative pain. Due to such attitudes of viewing others as not using pain assessment tools appropriately it accounts for the decline in daily pain assessment scores after seven months of the study.

Mann and Redwood (2000) identified several barriers to patients' pain management, which included: lack of nursing knowledge and education, attitudes and misconceptions about pain relief, and time delays in pain medication administration. They identified these barriers as invisible organizational barriers which influence pain management. The researchers noted that these barriers must be identified and addressed to improve pain management.

## 2.4 NURSES KNOWLEDGE ON PAIN MANAGEMENT

Inadequacies in the pain management process may not be tied to myths and biases originating from general attitudes and beliefs, but reflect inadequate pain knowledge (Borm et'al, 2005). A pain knowledge survey of 20 true/false statements was used to measure the knowledge base of two groups of nurses. One group consisted of general nurses and the other specialist nurse (oncology nurses). This was incorporated in a self-administered questionnaire that also addressed lifestyle factors of patients in pain, inferences of physical pain, general attitudes and beliefs about pain management (Borm et'al, 2005).

In the study, one hundred questionnaires were distributed; 86 nurses returned the questionnaire giving a response rate of 86%. Following selection of the sample, 72 nurses participated in the study: 35 hospice/oncology nurses (specialist) and 37 district nurses (general) (Borm et'al, 2005). The specialist nurses had a more comprehensive knowledge base than the general nurses; however, their knowledge scores did not appear to be related to their experience in terms of years within the nursing profession (Borm et'al, 2005).

This study concluded that, whilst educational programmes contribute to an increase in knowledge, it would appear that the working environment has an influence on the development and use of this knowledge. It is suggested that the clinical environment in which the specialist nurses works can induce feelings of reduced self-efficacy and low personal control. To ease tension, strategies may be used by nurses which may result in failure to endorse their knowledge on postoperative pain management leading to increased patients' pain (Borm et'al, 2005). This implies that the environment in which one works in may influence their utilization of the acquired knowledge to manage pain.

A study was conducted by Bostrom et'al (2004) to identify gaps and potential barriers in nurses' knowledge and attitudes regarding pain management. The study, also measured nurse's knowledge and attitude regarding postoperative pain management. The study findings suggested that a knowledge deficit does exist. This is consistent with previous research findings (Idvall et al. 2002; De Rond et al. 2000). In this study, 58 respondents (69%) scored moderate level of knowledge towards postoperative pain management. This is higher than that reported by Cason et al. (1999) in which the same questions were answered correctly by 63.64% of the respondents. Cason et al. (1999) also found that the nurses in their sample answered general questions about medications for pain better than specific pharmacologic questions about pain management. The findings in this

study were in accordance with earlier findings by Watt-Watson et al. (2000), which showed that many nurses had an inaccurate knowledge base about common pharmacologic agents used in pain control. This inadequate knowledge base accounted for the possibility of under treatment of patients' post-operative pain (Bostrom et'al, 2004). The lack of knowledge on specific pharmacological agents may be attributed to lack of emphasis on the pharmacological agents used in pain management during training.

In Kenya, a study was conducted by Kituyi et al (2011) at Moi Teaching and Referral Hospital to assess the level of knowledge among clinicians concerning post-operative pain knowledge, practices on assessments and measurements. The study involved 236 participants. Among the 236 health care professionals who were included in the study, 38 (16%) were doctors, 170 (72%) nurses and 28 (12%) clinical officers. On average the duration of time since they were engaged as healthcare providers was 9.3 years. Almost all (96%) confirmed that they routinely managed post-operative pain. Out of the 236 participants, 135 (57%) indicated that they had inadequate knowledge regarding the tools that may be employed for pain assessment and measurement. Those who had never had any formal teaching in relation to pain evaluation and management constituted 50 (21%) of all the participants. The duration of service among all the health care providers in the post-operative care units did not influence the respondents' knowledge and confidence in the evaluation and management of pain.

Clinicians who indicated that they had knowledge on how to assess and manage post-operative pain constituted 88%. Among doctors, 54% felt that they had sufficient knowledge to recognize and manage post-operative pain while the proportions of nurses and clinical officers were 41% and 43% respectively. Overall, a significant proportion of clinicians indicated an inadequacy of knowledge regarding objective evaluation and management of post-operative pain. Regarding availability of protocols, 59 % of the health care professionals reported that there were no protocols and guidelines on post-operative pain management at their work stations. Knowing about protocols and guidelines help nurses remember and apply good management guideline and retain the knowledge learnt on post-operative pain management.

The International Association for the Study of Pain states that since pain management was recognized as a specialty in the 1980s, patients continue to be undertreated with only one in four patients reporting their pain is under control. Lack of knowledge with pain management persists and continues to be a global public health concern. Patients have the right to expect healthcare

professionals to be knowledgeable, up to date, and deliver the highest quality of care when managing their pain (McCaffery, 2013).

Vickers, 2011 conducted a study on nurses' knowledge and attitude survey about pain in three teaching hospitals in Dublin. The results of a study revealed that the mean percentage score overall was 65.7%. Only 3.2% of nurse participants obtained a passing score of 80% or greater. Widespread knowledge deficits and poor attitudes were noted in this study, particularly in the domain of pharmacological management of pain. Positive correlations were observed between the respondents' score and nursing grade and level of education. Further analysis revealed respondents had an inaccurate self-evaluation of their pain management knowledge. With these findings it is only rational to conclude that there is still knowledge deficit in postoperative pain management among nurses'.

## **2.5 NURSES' ATTITUDES TOWARDS PAIN MANAGEMENT**

A study conducted by Dihle et al. (2005) examined nursing attitudes to pain and pain management and whether these attitudes influenced postoperative pain management. Study limitations included a very small sample size of nurses. Semi structured interviews and qualitative in-depth interview guides were used for the study. The interviews were transcribed verbatim and videotaped by the researchers for analysis. These study instruments were developed based on a theory of pain and postoperative pain management, prior research, and clinical experience.

During the study each nurse was observed over a period of five shifts, day and night, and then interviewed after the final observation. Once the researchers reached a point of saturation between the interviews and the observations, the results were compiled. Four themes emerged from the data analysis: preoperative information, assessment, treatment, and evaluation of pain management. Nurses stated that they give information about pain management in the preoperative period but the study results show that nurses typically use this time to gather patient information or give information per patient request. Postoperatively, nurses stated that they assess pain by communicating, assessing, and observing patients. On actual study observations, nurses communicated very differently from their perceived perceptions on patient assessment and had varying levels of attentiveness to the patients' pain. Nurses stated that they treated postoperative pain "by the book" however study observations showed that pain management was often insufficient and unsystematic. The same observations were made by the researchers for evaluation

of postoperative pain (Land, 2010). It can be concluded nurses did not practice what they reported but falsely gave an impression that they knew how to manage post-operative pain and they showed an attitude by the way they communicated to patients and their varying levels of attention to patients.

There were several implications from the Dihle et al. (2005) study. Nurses do not always do what they say they do in postoperative pain management practice. Pain management programs for nurses need to promote empathy and nursing communication to facilitate better pain management practices (Dihle et al, 2005). Nurses need to take an active approach to pain management in order to enhance patients' pain relief (Land, 2010). When nurses assume a constructivist approach to learning about pain management on their own they will have the drive to do what is needed and hence their attitude towards management will be good as they will always want to do what is right for the good of the patient.

According to Basak et'al (2010) numerous studies revealed that the prevalence of pain remains high in post-operative patients. Little is known about the knowledge and attitudes of Bangladeshi nurses and their practices in post-operative pain management. This study aimed to examine the level of knowledge and attitudes of nurses and their practices regarding post-operative pain management. The findings indicated that nurses had very low level of knowledge and negative attitudes regarding post-operative pain management whereas the level of practice was moderate. Therefore, it is necessary to improve the knowledge and attitudes of nurses and their practices regarding post-operative pain management.

Many studies have been conducted which determine nurses' knowledge, attitudes and beliefs with regard to opioid analgesics. Exaggerated fears on the likelihood of the development of untoward effects associated with opioid use have been cited consistently in the literature. Both traditional and contemporary research has indicated widespread misperceptions in these areas. In an earlier study, McCaffery and Ferrell (1995) established that the question relating to the likelihood of addiction resulting as a consequence of opioid use was the item that received the lowest percentage of correct responses in the five countries where this research study was carried out. They affirmed that the erroneous beliefs nurses had regarding the likelihood of addiction could lead to unnecessary suffering of patients as a consequence of nurses' fears of and reluctance to administer opioid analgesics (McCaffery and Ferrell 1995).

## **2.6 RELATIONSHIP AMONG NURSES KNOWLEDGE, ATTITUDE AND POSTOPERATIVE PAIN MANAGEMENT**

A survey of Nurses' Knowledge and attitude Regarding Postoperative Pain Management was conducted at a teaching hospital in Malaysia by Hossain et'al (2009) in which the objective was to determine nurses' knowledge and attitude towards postoperative pain management. Twenty eight item questionnaire whose domains were knowledge and attitude towards postoperative pain management was used. Eighty four respondents successfully responded to the study. Twenty respondents (25%) possessed high level, 58 respondents (69%) possessed moderate level and 5 respondents (6%) had low knowledge level of postoperative pain management. Positive attitude towards postoperative pain management was reported by 66 respondents (78.5%). There was a significant relationship between nurses' academic qualifications and attitude towards postoperative pain management. As a result of knowledge acquisition nurses will know what is expected of them and hence enhance management. Results of this study show the need to enforce continuing nursing education in pain management amongst these nurses in enhancing the quality of postoperative care.

The literature demonstrates consistently that registered nurses lack knowledge regarding pain assessment and management. However, with educational intervention there is an increase in knowledge leading to an increasingly thorough pain assessment technique. The literature also demonstrates that patient satisfaction levels with pain management increases when the nurses have increased knowledge despite the constant level of pain that is verbalized (Watt-Watson, 2001). There is an ongoing need for research related to patient pain outcomes, the administration of analgesics and nurses' pain knowledge (Watt-Watson, 2001).

Other studies which have been studied show no relation between pain knowledge and attitudes towards pain management. The study revealed that nurses' knowledge and attitudes in pain management was at the moderate level and the pain management practice was also at the moderate level. No relationship was observed between nurses' knowledge and attitudes, and their pain management practices. The findings highlight the need to improve nurses' knowledge and attitudes and their practice in certain areas of pain assessment, pharmacological and no pharmacological pain management. Initiatives are recommended, such as including the pain content in nursing curriculum, and arranging in-service-education and training in pain management nurses.

In a study conducted by Niamh Vickers (2011) on Knowledge and Attitudes Regarding Pain among Surgical Nurses in three Teaching Hospitals in Ireland, she concluded that, Nurses play a crucial

role in pain management and must be highly knowledgeable to ensure their practices in the management of pain are of a high quality standard. She further adds educational and quality improvement initiatives in pain management could enhance nurses' knowledge base in the area of pain and possibly improve practices.

In her study findings, she concluded that there is need for nurses to be highly knowledgeable indicates that knowledge and post-operative pain management are related in that the more knowledgeable one is the better their ability to manage pain.

In another study conducted by Kalolo (2010) at The University Teaching Hospital (UTH) and Cancer Diseases Hospital (CDH) to analyze the links between levels of acute pain management knowledge, perceptions of clinical skills and the acute pain management education history of doctors and nurses working in orthopedics and general surgery in an acute hospital. Questionnaires were sent to 101 doctors and nurses. Eighty two were returned. Questions were derived from an abridged version of McCaffery and Ferrell's (2002) Nurses' Knowledge and Attitudes Survey Regarding Pain, acute pain literature and the trust's clinical standards and protocols. The results identified the most useful sources of acute pain management education and who accessed these; barriers to good acute pain management, other than a lack of education; differences between doctors and nurses in standards of education, levels of perceived competence and knowledge in assessment, pharmacology and analgesic delivery systems. Staff and patient misconceptions, inadequate sources of learning and professional traditions continue to affect the quality of acute pain management (Coulling 2005 cited in Kalolo, 2010). Based on this study, it is rational to conclude that there is a relation among the knowledge levels, attitudes as well as traditions of nurses and other health professionals and management of post-operative pain.

## **2.7 CONCLUSION**

From the literature review it can be concluded that there is generally inadequate knowledge on postoperative pain, and negative attitudes among nurses concerning pain assessment and management in postoperative patients'. Most studies carried out globally and in the region have shown that nurses lack the necessary knowledge required to manage postoperative pain and are not adequately assessing and managing postoperative pain. It should also be noted that all the reviewed studies were conducted in different parts of the world including Europe, Asia and Africa and America. In Africa the countries

include the region including Kenya, Malawi, South Africa and Tanzania, and no study was found on Zambia concerning post-operative pain management except for the study by Kalolo. It is not clear as to the levels of knowledge nurses possess on postoperative pain assessment and management and whether they are able to assess and manage pain effectively. Similarly, their levels of attitude are not known. The proposed study is therefore designed to determine the knowledge, attitude of nurses towards managing postoperative pain in patients after major surgery.

## **CHAPTER THREE**

### **3.0 METHODOLOGY**

#### **3.1 INRODUCTION**

The study was aimed at determining how nurses manage postoperative pain at The University Teaching Hospital, Kitwe Central, Chipata and Levy Mwanawasa General Hospitals.

This chapter outlines the research methodology that guided the study. According to Polit, Beck and Hungler (2008), research methodology refers to the ladder, measures and strategies for meeting and analysing the data in research investigations. This chapter present the research design, research settings, study population, sample selection and sample size. The chapter also discuss in detail the data collection tools and techniques used to collect data and a rationalisation of a pilot study which was conducted to ascertain the validity and reliability of the research instruments. The chapter further describes the ethical considerations that were followed and present the plans for data analysis and dissemination of findings.

#### **3.2 RESEARCH DESIGN**

A research design is a blue print for conducting the study that maximizes control over factors that could hinder the validity of the answer (Burns and Groove, 2005

In this study, a quantitative non-interventional descriptive study design was used. A quantitative study is an assignment of numerical values to respondents and proceedings/situations (Burns and Groove, 2005). This study was non-interventional because there was no manipulation of any variable and no form of intervention before, during and after the research. A descriptive study design assists the researchers to describe and document aspects of data as it is obtained. Descriptive research design was used in this research study because it is less expensive and does not require a lot of time to complete the survey. This study design enabled the researchers to obtain new knowledge by describing the relationships among variables which included knowledge and attitude in relation to post-operative pain management by nurses.

### 3.3 RESEARCH SETTINGS

Research setting is a physical place or circumstance in which data gathering takes place in a study (Polit, Beck and Hungler, 2008). The study was conducted at the University Teaching Hospital (UTH), Levy Mwanawasa General Hospital, Chipata General Hospital and Kitwe Central Hospital. The actual sites that were used for the study in the selected hospitals were, surgical and obstetrics wards including operating theatres.

The University teaching hospital is located in Lusaka the capital city of Zambia. The hospital is located along Nationalist road. It is a third level hospital and acting as a referral for first and second level hospitals. The hospital has a bed capacity of approximately 1655 beds and 250 baby cots. Levy Mwanawasa General Hospital is found in Lusaka province. It is a second level and referral hospital with a bed capacity of about 150. Kitwe Central Hospital is located on the Copperbelt province of Zambia, It has a bed capacity of 630. Chipata General Hospital is in the Eastern Province of Zambia and acts as a referral hospital in the area and has the bed capacity of approximately 458 beds and 56 baby cots. All the four hospitals offer Medical, Surgical, Gynecological/Obstetrics, Pediatrics, laboratory, radiological, ultra sound, orthopedics, physiotherapy and dental services.

The reason for choosing the above mentioned hospitals was arrived at after reviewing literature both global and regional sources on post-operative pain which showed that it has been undermanaged and continues being undermanaged in countries which have the capacity in terms of infrastructure and equipment, how much more so with Zambian hospitals. A research conducted by Kalolo (2010) in Zambia stated that pain remains a factor in the management of patients post-operatively. Based on the literature reviewed it is most likely that post-operative pain is undermanaged at the highest level hospital in Zambia- The University Teaching. This can be attributed to the lack of advanced medical equipment's and treatment regimens such as Patient Controlled Analgesia-PCAs. It was assumed that Levy Mwanawasa General and Kitwe Central Hospital were likely to have challenges in pain management. This research provided an opportunity to collect information that will aid in creation of a body of knowledge on which the improvement of post-operative pain management will be based.

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### **3.4 STUDY POPULATION**

Study population refers to a total number of persons or objects that meet the criterion for study recognized by the researcher (Basavanthappa, 2010). The study population included Nurses from the The University Teaching Hospital, Chipata and Levy Mwanawasa General Hospitals.

### **3.5 TARGET POPULATION**

The target population is the entire aggregation of respondents that meet the designated set of criteria (Burns and Groove, 1997). The target population in this study constituted all nurses working in Obstetric, Surgical and Theatre wards who had worked in the respective wards from a duration of four weeks and above

### **3.6 ACCESSIBLE POPULATION**

The accessible population is the population of people available for a particular study often a non-random subject of the total population (polit and hunger, 2001). In this study the accessible population were, Nurses available and working in Obstetric, Surgical and Theatre wards.

### **3.5 INCLUSION CRITERIA**

Inclusion criteria are those characteristics that subject or element must poses to be part of the population (Burns and Groove, 2005) in this study the inclusion criteria were Enrolled, Registered and Bachelor of Science Nurses working in obstetric, surgical wards and theatre included.

### **3.6 EXCLUSION CRITERIA**

Exclusion criteria are those characteristics that can cause a person to be excluded from the target population (Burns and Groove, 2005). Nurses not working in obstetric, surgical wards and theatre were excluded.

### 3.7 SAMPLE SELECTION

Sampling is the process of selecting a number of individuals from the delineated target population in such a way that individuals in the sample represent as nearly as possible the characteristics of the entire target population (Polit and Beck, 2008). The type of sample selection the researchers used in this study was non-probability purposive homogeneous sampling, meaning that the sample had the same characteristics.

According to Polit and Hungler (2008) purposive sampling is a method in which the researcher selects the units for the study on the basis of personal judgment about which one will be most representative. Therefore the four hospitals were selected by design, by choice and not by chance. The researchers also used purposive sampling to select nurses, because the nurses working in the surgical and obstetric wards possessed the required characteristics and needed experience best suited for post-operative pain management as the study sample needed to contribute appropriate data, both in terms of relevance and depth. These were nurses who are qualified as enrolled and registered with the General Nursing Council of Zambia and were working in the surgical and obstetrics wards as well as the operating theatres.

The nurses who were selected from these settings had been exposed to postoperative patient(s) and had applied their knowledge of post-operative pain management and expressed some attitude towards post-operative pain management. The work time duration for respondents ranged from four weeks to sixty years which was thought to be ideal because the nurses are in a position to describe the interventions and identify factors that may have helped or hindered them from implementing the knowledge and expressing their attitude in a certain manner. The sample selection was captured by identifying the nurses working in the three afore mentioned departments by the help of the Medical Superintendent, Chief Nursing Officer, and the Ward in-Charge. Then the nurses were tracked by shifts in their respective wards by making use of the duty rotas provided with the help of the Ward in-Charge.

On the other hand, the nurse who is registered or enrolled by the General Nursing Council of Zambia but not working in the obstetrics and surgical wards did not qualify for this study. Any nurse less than four weeks working time did not qualify also. The focus of this study was to capture information from the nurses who are directly involved with postoperative patients. Having information on postoperative pain management did not make the nurse qualify when working in a ward different from those stated above.

### **3.8 SAMPLE SIZE**

A sample is a set of elements that make up the population; an element is the most basic unit about which information is collected (Wood and Haber, 2006). The criterion that was used to come to a decision on the representation of the population took into consideration the availability of resources in terms of time, manpower, and available funds for transport and other logistics. The sample size for the whole study was 200, as each of the four researchers had fifty (50) respondents to administer questionnaires to. However, the researchers did not manage to collect all the questionnaires, only 174 were returned representing 82.9% of the total questionnaires distributed.

### **3.9 DATA COLLECTION TOOL**

Data collection is a specific, orderly gathering of information suitable to the research purpose or the definite objectives, questions or hypothesis of a study. It may take the form of a questionnaire, an interview schedule or various other kinds of tools designed for eliciting information (Burns and Groove, 2005).

A self-administered questionnaire was used to collect data. The questionnaire contained four sections namely A, B, C, D. Section A contained questions on biographic data, and section B had questions on knowledge of nurses relating to post-operative pain management. Section C contained questions on nurse's attitudes towards post-operative pain management and Section D comprised questions on post-operative pain management. The questionnaire had both open and closed ended questions. The respondents in this study answered the questionnaire which were collected by the researcher upon completion. The questionnaire comprised questions which had been formulated by the researchers and some that had been used by other researchers. The reason was to make a tool that would be friendly so as to collect the information for which it was intended.

A self-administered questionnaire was chosen due to its various advantages which include;

- 1) Relatively simple method of obtaining data
- 2) Rapid & efficient method of gathering information
- 3) Inexpensive to distribute
- 4) Data from close-ended items relatively easy to tabulate

- 5) Respondents remain anonymous even to the researcher
- 6) Subject can contemplate response to each question
- 7) Measurement enhanced – all respond to same questions
- 8) Analysis & interpretation of data easily accomplished

### **3.10 VALIDITY**

Validity refers to whether a measurement instrument precisely measures what it is expected to measure. When an instrument is valid it truly reflects the concept it is supposed to measure (Basavanthappa, 2006). In this study validity was guaranteed as the data collection tool was analysed by the specialised supervisor and was approved by the ethics committee of the University of Zambia, School of Medicine. The questions were made simple, and clear to be understood by the respondents, and a pilot study was conducted to test the instrument (questionnaire) if it measured what it intended to. Relevant adjustments were made to the tool before it was finally administered.

### **3.11 RELIABILITY**

Reliability is the consistence of measures obtained in the use of a particular instrument. If the same measurement scale is administered to the same individuals at two or more different times, the measurement is reliable if the individuals' responses to the items remain the same (Burns and Groove, 2005). In this study the researchers ensured reliability by testing the research tool prior to the main study in an environment with similar characteristics as the environment in which the main study was conducted. This helped to determine the stability of the data collection tool.

### **3.12 DATA COLLECTION TECHNIQUE**

Data Collection Technique is the gathering of information using specific tools in a given method in order to address a research problem (Polit and Hungler, 2001; Bassavanthappa, 2010). It allows for systematic collection of information from respondents.

In this study, the researchers used a self-administered questionnaire to collect information from the respondents. This was done following ethical approval.

To get the needed information from the study respondents, the researcher first got approval from the Department of Nursing Sciences and the Undergraduate Research Ethics Committee at the School of Medicine. The researchers got permission from the Medical Superintendents, Chief Nursing Officers and Ward in-Charges at the four hospitals. Then, the researcher introduced her/himself to the nurses explaining to them the details of the study. A written consent was obtained from each respondent and the questionnaire was administered. The researchers collected the questionnaires, then inspected them for completeness after the respondents answered the questionnaires.

### **3.13 PILOT STUDY**

A pilot study is defined as a smaller version of a proposed study to refine the methodology (Van Ort, 1981 cited in Burns and Grove, 2005). The pilot study was not different from the actual research in that the same kinds of parameters in terms of characteristics of respondents were maintained so as to mimic the actual research. Data collection and analysis techniques were the same. The researchers conducting this research, used the pilot study to determine the feasibility of the research, identify problems with the design, determine the reliability and validity of research instruments and give the researcher experience with the respondents. A pilot study was conducted at Kafue District Hospital (KDH) which is a government hospital. The hospital has similar settings with the proposed study settings. Respondents were selected by purposive sampling and a questionnaire was handed to them after which the necessary adjustments were made. For the questions that had a stem and sub questions requiring two or more responses were changed to individual questions so as to facilitate easy entry into SPSS.

### **3.14 ETHICAL CONSIDERATIONS**

A good research project conforms to moral, ethical and legal standards of scientific enquiry. A research should have deep concern for human interests and sensitivity for the civil rights of research respondents. Any research that may be harmful violates the ethical code of nursing and may be illegal (Bassavanthappa, 2010).

In this study, ethical issues were addressed by obtaining approval from the Department of Nursing Sciences, University of Zambia Biomedical Research Ethics Committee (Undergraduate) and

Management in selected hospitals in which the study was conducted. A written personal consent was obtained from the study respondents. The respondents were briefed about the purpose of the study which is to explore nurses' management of post-operative pain so as to ascertain how patients would be better managed in order to reduce complications and stay in hospital; and costs on both the patients and hospitals. The respondents were assured of confidentiality of personal information shared with the researcher in that only codes on the questionnaires were used instead of names and none of the information collected from the respondent would be used against them in any way. They were informed that they had the right to participate or withdraw during the course of the study and that their names would not appear on the questionnaires. Therefore, the information that they were to give would not be attached to any name. The complete questionnaires would be kept under strict security conditions in a steel trunk case with lock and key by the researchers so as to ensure confidentiality.

## **CHAPTER FOUR**

### **4.0 DATA ANALYSIS AND PRESENTATION OF FINDINGS**

#### **4.1. INTRODUCTION**

Data analysis is the systematic organization and synthesis of research data and testing of research hypothesis using those data (Polit, Beck and Hungler, 2001). The purpose of this study was to explore nurses' management of postoperative pain.

Data was collected from respondents using a self-administered questionnaire. A total 210 questionnaires were distributed. However, 174 were returned representing response rate of 82.9% of the total questionnaires distributed. Analysis of findings is based on data collected from a sample of 174 respondents who were nurses working in Surgical and Obstetrics wards, and Operating Theatres from four hospitals namely, The University Teaching Hospital (UTH), Kitwe Central Hospital, Levy Mwanawasa and Chipata General Hospitals.

#### **4.2. DATA ANALYSIS**

Data analysis is the method of categorizing, scrutinizing and cross checking the research data and testing for research hypothesis using the data (Polit, Beck and Hungler, 2001). In other words the analysis will show strategies which were used in this study so as to understand and interpret the data collected.

After data collection, the questionnaires were organised according to codes then checked for completeness so as to ensure that mistakes are corrected. Open ended question responses were categorized and later coded before entering of the data and the closed ended question responses were entered directly using Statistical Product and Service Solutions (SPSS). SPSS helped the researchers to compare and contrast between variables with ease by making use of the Pearson Chi square test which seeks to develop a statistical expression that predict a behaviour of a dependant variable on the basis of knowledge of one or more independent variables (Jekel, 2007). SPSS also helped the researcher to come up with frequency tables, pie charts, and cross tabulations which helped in determining the relationships among variables. The researchers found this to be of much assistance in the understanding of the data collected.

### 4.3. PRESENTATION OF FINDINGS

In this study data has been presented into four sections: section A-demographic data, section B-knowledge on postoperative pain, section C-attitude of nurses towards postoperative pain management and section D –Postoperative pain management.

#### 4.3.1 DEMOGRAPHIC DATA

**Table 4.1: Sex/Gender of respondents (n=174)**

<b>Sex</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Male	38	21.8
Female	136	78.2
<b>Total</b>	<b>174</b>	<b>100.0</b>

The majority 136 (78.2%) of the respondents were females while 38 (21.8%) were males.

**Table 4.2: Respondents' Age Distribution (n=174)**

Age Ranges	Frequency	Percentage (%)
20-30	91	52.3
31-40	56	32.2
41-50	16	9.2
51-60	9	5.2
60-70	2	1.1
<b>Total</b>	<b>174</b>	<b>100.0</b>

The majority 91 (52.3%) of the respondents were in the age group of 20-30 years, 56 (32.2%) respondents were aged 31-40. Those who were in the range 41-50 were 16 (9.2%). In the age range of 51-60 only accounted for 9 (5.2%) while only 2 (1.1%) were in the age group of 60-70 years.

**Table 4.3: Marital status (n=174)**

Marital status	Frequency	Percentage (%)
Single (Not married and not living with a partner)	81	46.6
Married (monogamous)	79	45.4
Married (polygamous)	4	2.3
Separated (currently not living together with spouse but not divorced)	1	0.6
Divorced	4	2.3
Widowed/ widower	4	2.3
Co-habiting (not married but lives with a partner)	1	0.6
<b>Total</b>	<b>174</b>	<b>100.0</b>

Most of the respondents 81 (46.6%) were single, 79 (45.4%) were in a monogamous marriage and 4 (2.3%) were in a polygamous marriage. Those Separated (currently not living together with spouse but not divorced) and those Co-habiting (not married but lives with a partner) accounted for only 1 (0.6%) in each category. Those widowed and those divorced accounted for 4 (2.3%) in each category.

**Table 4.4: Respondents Professional Qualification (n=174)**

Qualification	Frequency	Percentage (%)
Registered Nurse	62	35.6
Registered Midwife	34	19.5
Registered Theatre Nurse	6	3.4
Enrolled Nurse	36	20.7
Enrolled Midwife	21	12.1
Certified Midwife	13	7.5
Others (Specify)	2	1.1
<b>Total</b>	<b>174</b>	<b>100.0</b>

The majority 62 (35.6%) of the respondents were registered nurses. Registered Midwives accounted for 34 (19.5), 6 (3.4) represented Registered Theater Nurses', 36 (20.7%) were Enrolled Nurses, while 21 (12.1%) of the sample represented Certified Midwives 13 (7.5%) and only 2 (1.1%) of the respondents were critical care nurses.

**Table 4.5: Respondents Response on Duration in Service (n=174)**

Duration [year(s)]	Frequency	Percentage (%)
Less than 2 years	33	19.0
2-10years	94	54.0
11-20years	32	18.4
21-30years	12	6.9
31-40years	1	0.6

41-50years	2	1.1
<b>Total</b>	<b>174</b>	<b>100.0</b>

The majority 94 (54%) of the respondents had a work a duration of 2-10years, 33 (19%) had worked for less than two years, 32 (18.2%) had worked for 11-20 years, while 12 (6.9%) had worked for 21-30 years and 2 (1.1%) of the respondents had a work duration of 41-50 years. the only 1 (0.6%) had worked for 31-40 years.

**Table 4.6: Respondents Response on Duration of Working in Surgical, Obstetric Wards and Operating Theatre (n=174)**

<b>Duration</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Less than 2 years	56	32.2
2- 10years	100	57.5
11-20years	12	6.9
21- 30years	4	2.3
31-40years	2	1.1
<b>Total</b>	<b>174</b>	<b>100.0</b>

The majority 100 (57.5%) of the respondents had worked in the surgical, obstetric wards and operating theatre for 2-10 years, 56 (32.2%) had worked less than two years, 12 (6.9%) had worked for 11-20 years. Others, 4 (2.3%) had worked for 21-30 years while only 2 (1.1%) had just worked for 31-40 years in the respective place of work.

#### 4.4 NURSES KNOWLEDGE ON POSTOPERATIVE PAIN MANAGEMENT

**Table 4.7: Respondents' Response on Definition of Post-Operative Pain Management (n=174)**

<b>Definition</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Management given to patients who have undergone surgery	137	78.7
Others (definitions other than management given to patients after surgery)	37	21.3
<b>Total</b>	<b>174</b>	<b>100.0</b>

The majority 137 (78.7%) of the respondents correctly defined postoperative pain management while 37 (21.3%) of the respondents failed to define postoperative pain management

**Table 4.8: Respondents' Response on When Postoperative Pain Management Begins (n=174)**

<b>When postoperative management begins</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Before surgery	64	36.8
During surgery	11	6.3
After surgery	99	56.9
<b>Total</b>	<b>174</b>	<b>100.0</b>

The majority 99 accounting for 56.9% of the respondents indicated that they begin postoperative pain management after surgery, 11 (6.3%) during surgery and 64 (36.8%) before surgery.

**Table 4.9: Respondents' Response on who Provides the Most Accurate Rating of Pain Intensity (n=174)**

<b>Response</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Physician	14	8.0
Nurses	69	39.7
Patients	88	50.6
Relatives	3	1.7
<b>Total</b>	<b>174</b>	<b>100.0</b>

The majority 88 (50.6%) of the respondents responded that the patient provides the most accurate rating of pain intensity, 69 (39.7%), 14 (8.0%) and 3 (1.7%) responded that the nurse, physician and the relatives provides the most accurate rating of pain intensity respectively.

**Table 4.10: Respondents' Response on Having Received Education on Physiology of Pain and Pain Assessment as a Nursing Student (n=174)**

<b>Response</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	159	91.4
No	15	8.6
<b>Total</b>	<b>174</b>	<b>100.0</b>

The majority 159 (91.4 %) of the respondents received education on the physiology of pain and pain assessment while 15 (8.6%) did not receive education.

**Table 4.11: Respondents' Response on Having Received Education on Pain Assessment Method and Tools as a Nursing Student (n =174)**

<b>Response</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	141	81.0
NO	33	19.0
<b>Total</b>	<b>174</b>	<b>100.0</b>

The table shows that the majority 141 (81.0%) of the respondents received education on pain assessment method and tools while 33 (19.0%) did not.

**Table 4.12: Respondents' Response on Having Received Education on Psychological Consequences of Unrelieved Pain as a Nursing Student (n=174)**

<b>Response</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	146	83.9
No	28	16.1
<b>Total</b>	<b>174</b>	<b>100.0</b>

The results from the table shows that the majority 146 (83.9 %) of the respondents received education on psychological consequences of unrelieved pain while 28 (16.1 %) did not.

**Table 4.13: Respondents' Response on Having Received Education on Pharmacological Pain Management Principles /strategies as a Nursing Student (n=174)**

<b>Response</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	167	96.0
No	7	4.0
<b>Total</b>	<b>174</b>	<b>100.0</b>

The majority 167 (96.0 %) of the respondents received education on pharmacological pain management principles/ strategies while 7 (4.0%) of the respondents did not.

**Table 4.14: Respondents' Response on Having Received Education Non-Pharmacological Pain Management Principles/ Strategies as a Nursing Student (n-174)**

<b>Response</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	153	87.9
No	21	12.1
<b>Total</b>	<b>174</b>	<b>100.0</b>

The table shows that the majority 153 (87.9%) of the respondents received education on non-pharmacological pain management principles/ strategies meanwhile 21 (12.1%) of the respondents did not.

**Table 4.15: Respondents' Response on Having Received Education on Physiology of Pain Transmission as a Nurse (n-174)**

<b>Response</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	118	67.8
No	56	32.2
<b>Total</b>	<b>174</b>	<b>100.0</b>

The results from the table shows that the majority 118 (67.8%) of the respondents received education on physiology of pain transmission as a nurse while 56 (32.2%) of the respondents did not.

**Table 4.16: Respondents' Response on Having Received Education on Pain Assessment Method and Tools as a Nurse (n=174)**

Response	Frequency	Percentage (%)
Yes	108	62.1
No	66	38.9
<b>Total</b>	<b>174</b>	<b>100.0</b>

The majority 108 (62.1%) of the respondents received education on pain assessment method and tools while 66 (38.9%) of the respondents did not.

**Table 4.17: Respondents' Response on Having Received Education on Psychological Consequences of Unrelieved Pain as a Nurse (n=174)**

Response	Frequency	Percentage (%)
Yes	117	67.2
No	57	32.8
<b>Total</b>	<b>174</b>	<b>100.0</b>

The table shows that the majority 117 (67.2%) of the respondents received education on psychological consequences of unrelieved pain while 57 (32.8%) of the respondents did not.

**Table 4.18: Respondents' Response on Having Received Education on Pharmacological Pain Management Principles/ Strategies as a Nurse (n=174)**

Response	Frequency	Percentage (%)
Yes	125	71.8
No	49	28.2
<b>Total</b>	<b>174</b>	<b>100.0</b>

The results from the table indicates that the majority 125 (71.8%) of the respondents received education on pharmacological pain management principles/ strategies while 49 (28.2%) of the respondents did not.

**Table 4.19: Respondents' Response on Having Received Education on Non-Pharmacological pain Management Principles/ Strategies as a Nurse (n=174)**

Response	Frequency	Percentage (%)
Yes	116	66.7
No	58	33.3
<b>Total</b>	<b>174</b>	<b>100.0</b>

The results from the table shows that the majority 116 (66.7%) of the respondents received education on non-pharmacological pain management principles/ strategies while 58 (33.3%) of the respondents did not.

**Table 4.20: Respondents' Response on the Importance of Pain Assessment Tools (n=174)**

Response	Frequency	Percentage (%)
Not important	5	2.9
Minimally important	7	4.0
Moderately important	30	17.2
Extremely important	132	75.9
<b>TOTAL</b>	<b>174</b>	<b>100.0</b>

The majority 132 (75.9%) of the respondents indicated that pain assessment tools are extremely important, 30 (17.2%), 7 (4.0%) and 5 (2.9%) of the respondents indicated that pain assessment tools are moderately important, minimally important and not important respectively.

**Table 4.21: Respondents' Response on Importance of Frequent Assessment and Documentation of Pain in Patients Able to Communicate (n=174)**

Response	Frequency	Percentage (%)
Not important	5	2.9
Minimally important	7	4.0
Moderately important	30	17.2
Extremely important	132	75.9
<b>TOTAL</b>	<b>174</b>	<b>100.0</b>

The majority 132 (75.9%) of the respondents indicated that frequent assessment and documentation of pain in patients able to communicate are extremely important, 30 (17.2%), 7 (4.0%) and 5 (2.9%) of the respondents indicated that pain assessment tools are moderately important, minimally important and not important respectively.

**Table 4.22: Respondents' Response on the Consequences of Unrelieved Pain (n=174)**

Response	Frequency	Percentage (%)
Physiological, Neurological and Psychological	108	62.1
Others (other than Physiological, Neurological and Psychological)	66	37.9
<b>TOTAL</b>	<b>174</b>	<b>100.0</b>

The table shows that most 108 (62.1%) of the respondents had knowledge on the consequences of unrelieved pain while 66 (37.9%) of the respondents had not.

**Table 4.23: Respondents' Response on Their Feeling of Adequacy with Knowledge on Pain Assessment (n=174)**

Response	Frequency	Percentage (%)
Yes	125	71.8
No	49	28.2
<b>Total</b>	<b>174</b>	<b>100</b>

The majority 125 (71.8%) of the respondents felt that their knowledge on pain assessment was adequate while 49 (28.2%) of the respondents felt that it was not adequate.

**Table 4.24: Respondents' Response on having Read any Guidelines on Pain Assessment and Management (n=174)**

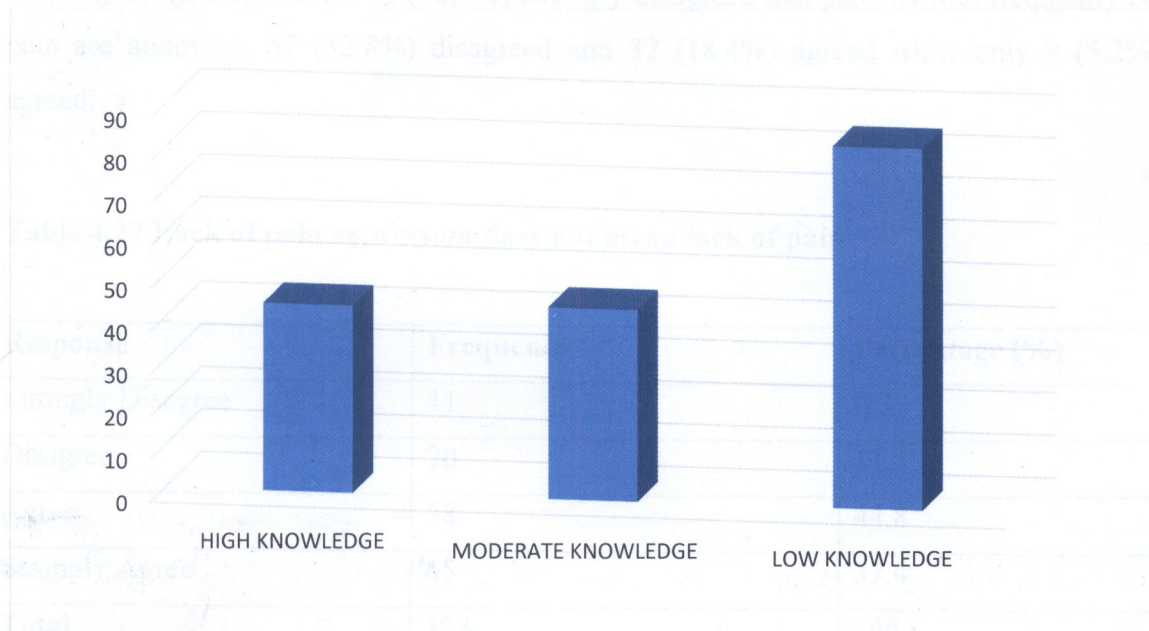
Response	Frequency	Percentage (%)
Yes	64	36.8
No	110	63.2
Total	174	99.4

The table shows that the majority 110 (63.2%) of the respondents had not read any guidelines on pain assessment and management while 64 (36.8%) had read.

**Table 4.25: Respondents' Response on Availability of Pain Assessment and Management Guidelines on the Ward (n=174)**

Response	Frequency	Percentage (%)
Yes	64	36.8
No	110	63.2
<b>Total</b>	<b>174</b>	<b>100.0</b>

The table shows that the majority 110 (63.2%) of the respondents indicated that there were no pain assessment and management guidelines on the ward while 64 (36.8%) indicated that they had read.



**Figure 4.1: Total Scores of Knowledge on Postoperative Pain Management (n=174)**

Only 44 (25.3%) respondents had high knowledge, 45 accounting for 25.6% of the total responses had moderate knowledge while the majority 85 (48.9%) had low knowledge on postoperative pain management.

Response	Frequency	Percentage (%)
Strongly Disagree	10	5.8
Disagree	23	13.2
Agree	41	23.6
Strongly Agree	50	28.7
Total	174	100

About half 91 (52.3%) of respondents agreed to the statement that distraction by use of music or relaxation can decrease pain perception of the patient. 50 (28.7%) strongly agreed, 23 (13.2%) disagreed and only 10 (5.8%) strongly disagreed.

Majority of the respondents 76 (43.7%) strongly disagreed that patients who frequently complain of pain are annoying, 57 (32.8%) disagreed and 32 (18.4%) agreed while only 9 (5.2%) strongly agreed.

**Table 4.27 Lack of pain expression does not mean lack of pain**

<b>Response</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Strongly Disagree	11	6.3
Disagree	20	11.5
Agree	78	44.8
Strongly Agree	65	37.4
<b>Total</b>	<b>174</b>	<b>100</b>

Majority of the respondents 78 (44.8%) agreed, 65 (37.4%) strongly agreed, 20 representing 11.5% disagreed and the minority 11 (6.3%) strongly disagreed to the statement that lack of pain expressions does not mean lack of pain.

**Table 4.28 Distraction for example by the use of music or relaxation, can decrease the perception of pain**

<b>Responses</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Strongly Disagree	10	5.8
Disagree	23	13.2
Agree	91	52.3
Strongly Agree	50	28.7
<b>Total</b>	<b>174</b>	<b>100</b>

About half 91 (52.3%) of respondents agreed to the statement that distraction by use of music or relaxation can decrease pain perception of the patient, 50 (28.7%) strongly disagreed, 23 (13.2%) disagreed and only 10 (5.8%) strongly disagreed.

**Table 4.29: Estimation of pain by a doctor or nurse is as valid a measure of pain as a patient self-report**

Response	Frequency	Percentage (%)
Strongly Disagree	24	13.8
Disagree	65	37.4
Agree	72	41.4
Strongly Agree	13	7.5
<b>Total</b>	<b>174</b>	<b>100</b>

Majority of the respondents 72 (41.4%) agreed that estimation of pain by a doctor or nurse is as valid a measure of pain as a patient self-report, 65(37.4%) disagreed and 24 (13.8%) strongly disagreed while only 13 (7.5%) strongly agreed.

**Table 4.30 Patients having severe chronic pain often need higher doses of pain medication than patients with acute pain**

Response	Frequency	Percentage (%)
Strongly Disagree	32	18.4
Disagree	78	44.8
Agree	50	28.7
Strongly Agree	14	8.1
<b>Total</b>	<b>174</b>	<b>100</b>

Majority of the respondents 78 (44.8%) disagreed, 50 (28.7%) agreed, 32 (18.4%) strongly disagreed and 14 (8.1%) strongly agreed to the statement that patients having severe chronic pain often need higher doses of pain medication than patients with acute pain.

**Table 4.31 A patient should experience discomfort prior to giving the next dose of pain medication**

Response	Frequency	Percentage (%)
Strongly Disagree	28	16.1
Disagree	90	51.7
Agree	44	25.3
Strongly Agree	12	6.9
<b>Total</b>	<b>174</b>	<b>100</b>

Majority of the respondents 90 (51.7%) disagreed to a statement that a patient should experience discomfort prior to giving the next dose of pain medication. On the other hand 44 (25.3%) agreed, 28 (16.1%) strongly dis agreed and only 12 (6.9%) strongly agreed to the some statement.

**Table 4.32: when a patient requests increasing amounts of analgesics to control pain this usually indicates that the patient is psychologically dependent**

Response	Frequency	Percentage (%)
Strongly Disagree	13	7.4
Disagree	52	29.9
Agree	77	44.3
Strongly Agree	32	18.4
<b>Total</b>	<b>174</b>	<b>100</b>

Most of the respondents 77 (44.3%) agreed to the statement that when a patient requests increasing amounts of analgesics to control pain is usually an indication that the patient is psychologically dependent. Then 52 (29.9%) disagreed, 32 (18.4%) strongly agreed and 13 (7.4%) strongly disagreed to the some statement.



**Table 4.33 The most accurate judge of the intensity of the patient's pain is the patient**

Response	Frequency	Percentage (%)
Strongly Disagree	8	4.6
Disagree	20	11.5
- Agree	81	46.6
Strongly Agree	65	37.4
<b>Total</b>	<b>174</b>	<b>100</b>

Majority of the respondents 81(46.6%) agreed to the statement that the most accurate judge of the intensity of the patient's pain is the patient. Then 65(37.4%) strongly agreed, 20(11.5%) disagreed while only 8(4.6%) strongly disagreed to the statement.

**Table 4.34 It may often be useful give a placebo to a patient in pain to assess if he/she's in pain**

Response	Frequency	Percentage (%)
strongly disagree	9	5.2
Disagree	33	19
Agree	107	61.5
strongly agree	25	14.4
<b>Total</b>	<b>174</b>	<b>100</b>

Most of the respondents 107(61.5%) agreed to the statement that it may often be useful give a placebo to a patient in pain to assess if he/she's in pain. On the other hand 33(19%) disagreed and 25(14.4%) strongly agreed while a few 9(5.2%) strongly disagreed.

**Table 4.35: When a patient in pain is receiving analgesic medication on a "prn" basis it is appropriate for the patient to request pain medication before the pain returns**

Response	Frequency	Percentage
strongly disagree	33	19
Disagree	75	43.1

Agree	56	32.2
strongly agree	10	5.7
<b>Total</b>	<b>174</b>	<b>100</b>

Majority of the respondents 75 (43.1%) disagreed to the statement when a patient in pain is receiving analgesic medication on a “prn” basis it is appropriate for the patient to request pain medication before the pain returns, 56 (32.2%) agreed and 33 (19%) strongly disagreed while a few 10 (5.7) strongly agreed.

**Table 4.36 Staff can Always Pick up Cues from Children that Indicate that they are in Pain**

Response	Frequency	Percentage (%)
strongly disagree	8	4.6
Disagree	17	9.8
Agree	106	60.9
strongly agree	43	24.7
<b>Total</b>	<b>174</b>	<b>100</b>

Majority of the respondents 106 (60.9%) agreed to the statement that staff can always pick up cues from children that indicate that they are in pain, 43 (24.7%) strongly agreed and 17 (9.8%) disagreed while 8 (4.6%) strongly disagreed.

**Table 4.37 Children Cry All the Time, Therefore Diversional Activities are Indicated Rather than Actual Pain Medications**

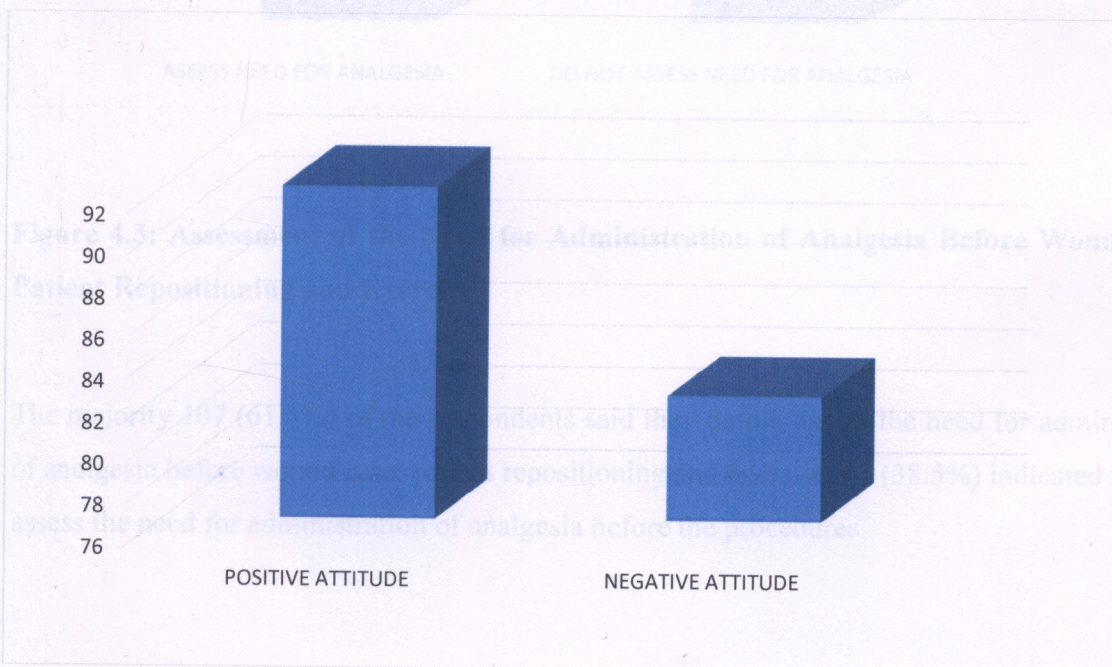
Response	Frequency	Percentage (%)
strongly disagree	9	5.2
Disagree	44	25.3
Agree	92	52.9
strongly agree	29	16.7
<b>Total</b>	<b>174</b>	<b>100</b>

Majority of the respondents 92 (52.9%) agreed to the statement that children cry all the time, therefore diversional activities are indicated rather than actual pain medications, 44 (25.3%) disagreed and 29 (16.7%) strongly agreed while only 9 (5.2%) strongly disagreed.

**Table 4.38 Apart from Assessment, Nurses' Belief about Pain Determines the Frequency of Medication**

Response	Frequency	Percentage (%)
strongly disagree	35	20.1
Disagree	52	29.9
Agree	62	35.6
strongly agree	25	14.4
<b>Total</b>	<b>174</b>	<b>100</b>

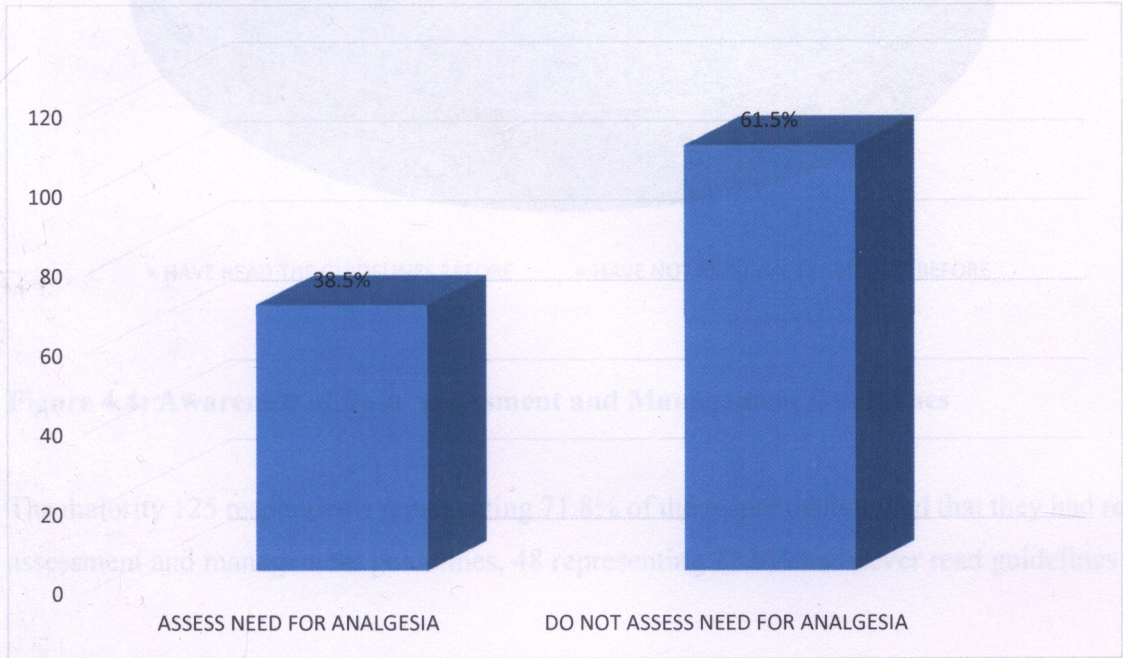
Majority of the respondents 62 (35.6%) agreed to the statement that apart from assessment, nurses' belief about pain determines the frequency of Medication, 52 (29.9%) disagreed and 35 (20.1%) strongly disagreed while only 25 (14.4%) strongly agreed.



**Figure 4.2: Respondents Level of Attitude. (n=174)**

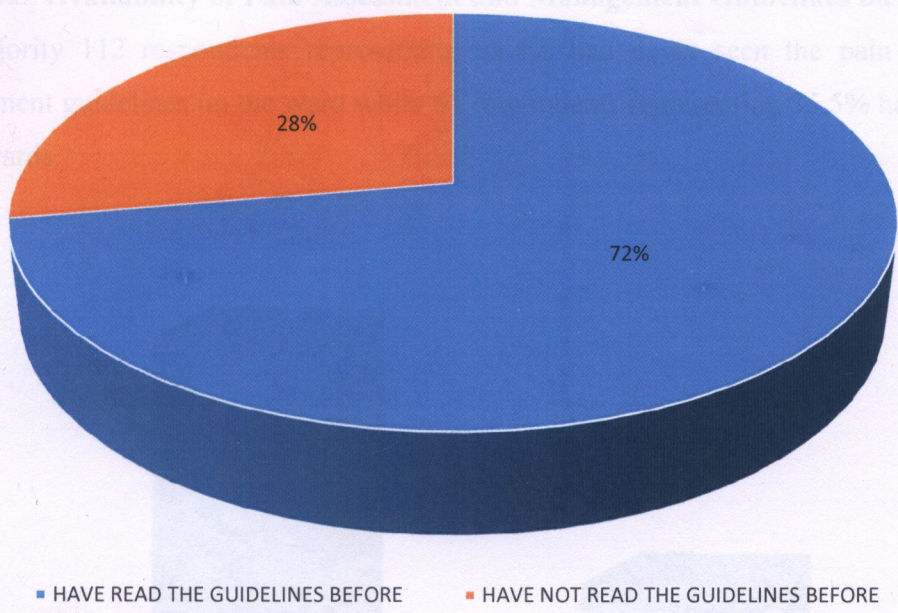
The majority 92 (55.9%) of the respondents had positive attitude while 82 (47.1%) had negative attitude towards postoperative pain management.

#### 4.6 POSTOPERATIVE PAIN MANAGEMENT



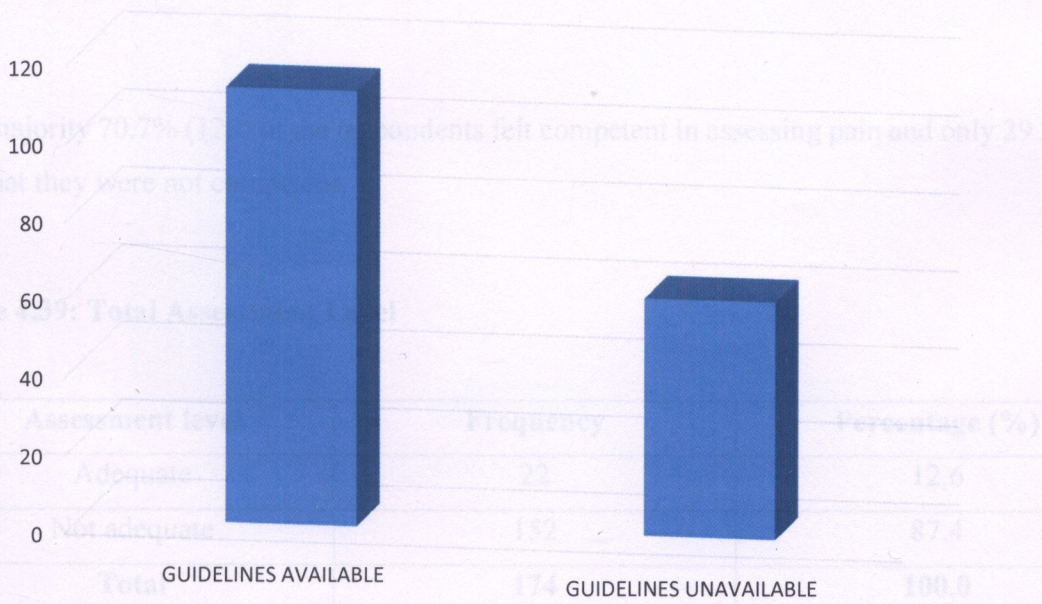
**Figure 4.3: Assessment of the Need for Administration of Analgesia Before Wound Care, Patient Repositioning and Exercise**

The majority 107 (61.5%) of the respondents said they do not assess the need for administration of analgesia before wound care, patient repositioning and exercise, 67 (38.5%) indicated that they assess the need for administration of analgesia before the procedures.



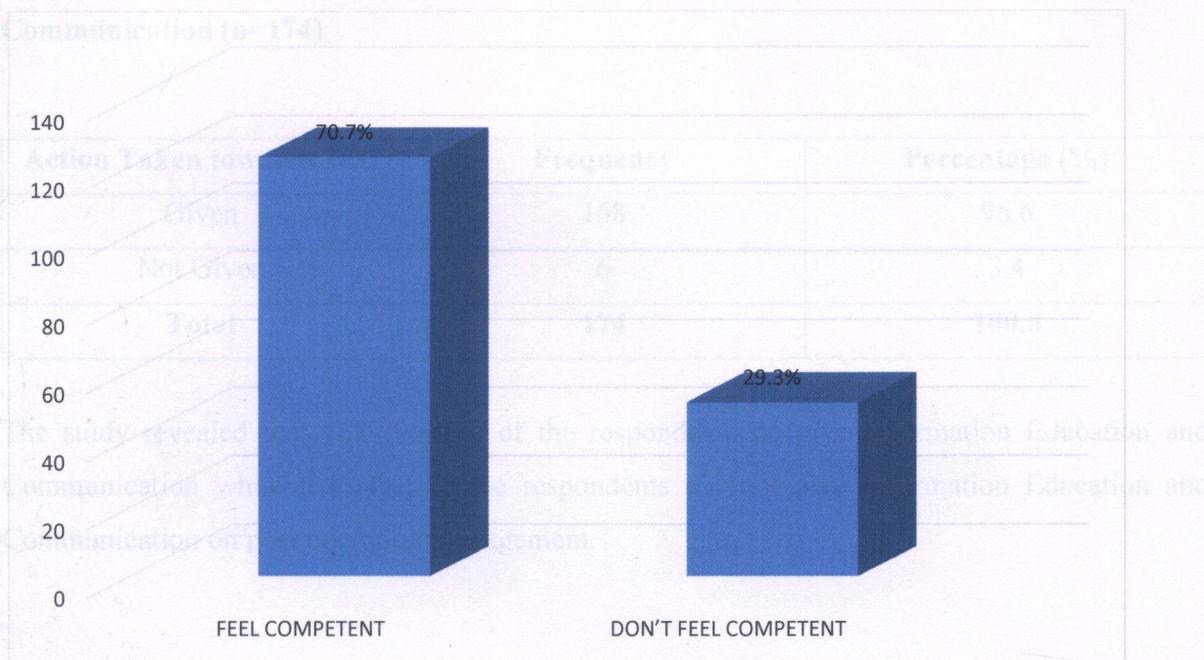
**Figure 4.4: Awareness of Pain Assessment and Management Guidelines**

The majority 125 respondents representing 71.8% of the respondents stated that they had read pain assessment and management guidelines, 48 representing 27.6% had never read guidelines before.



**Figure 4.5: Availability of Pain Assessment and Management Guidelines on the Ward.**

The majority 112 respondents representing 64.4% had never seen the pain assessment and management guidelines on the ward while 61 respondents representing 35.5% had the guidelines on the wards.



**Figure 4.6: Respondents Feeling of Competency in Assessing Pain**

The majority 70.7% (123) of the respondents felt competent in assessing pain and only 29.3% (51) felt that they were not competent.

**Table 4.39: Total Assessment Level**

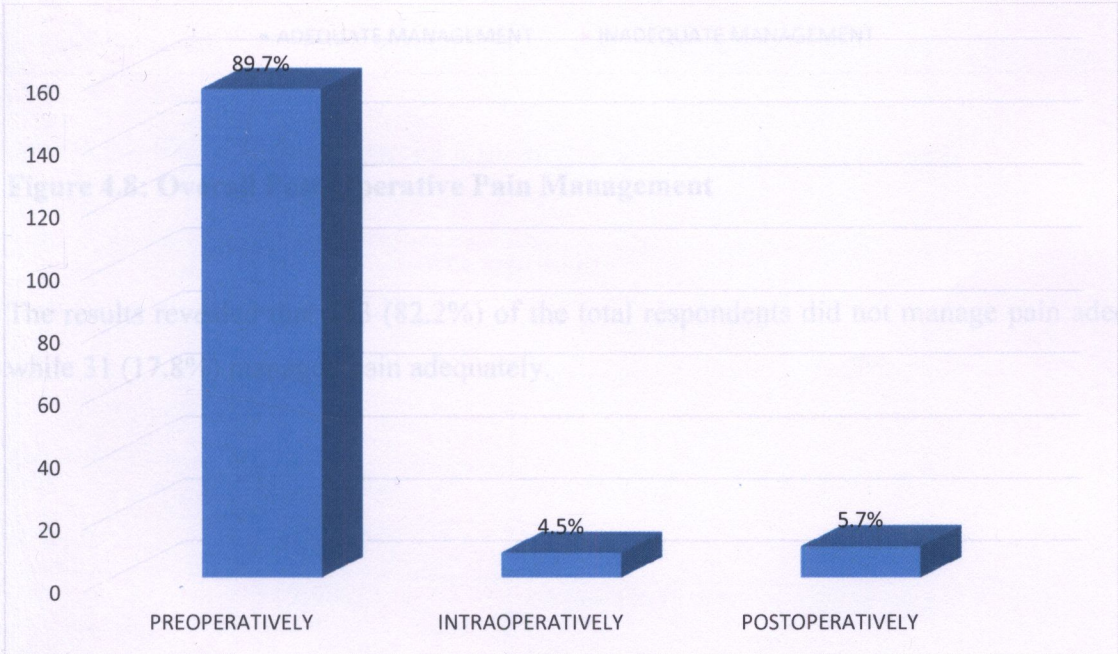
Assessment level	Frequency	Percentage (%)
Adequate	22	12.6
Not adequate	152	87.4
<b>Total</b>	<b>174</b>	<b>100.0</b>

Table 4.39 shows that the majority of the respondents accounting for 152 (87.4%) did not adequately assess post-operative pain, only 22 (12.6%) adequately assessed pain post-operatively.

**Table 4.40: Respondents Total Responses to Questions on Information Education and Communication (n=174)**

Action Taken towards IEC	Frequency	Percentage (%)
Given	168	96.6
Not Given	6	3.4
<b>Total</b>	<b>174</b>	<b>100.0</b>

The study revealed that 168 (96.6%) of the respondents do give Information Education and Communication while 6 (3.4%) of the respondents did not give Information Education and Communication on post operation management.



**Figure 4.7 Respondents Response to When IEC Should be Given (n=174)**

## RELATIONSHIPS BETWEEN VARIABLES

The study shows that the majority 156 (89.7%) of the respondents gave Information, Education and Communication preoperatively. Amongst the respondents 8 (4.5%) and 10 (5.7%) gave Information, Education and Communication intraoperatively and postoperatively respectively.

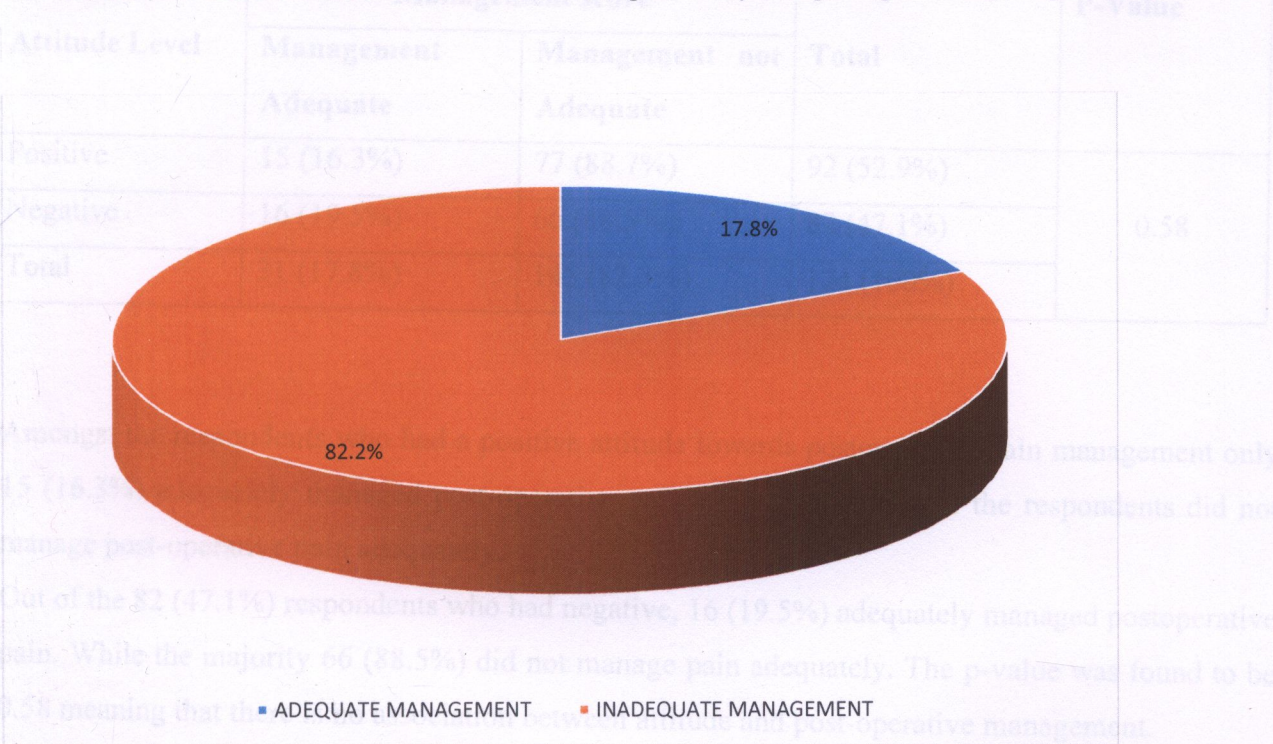


Table 4.42: Relationship between Knowledge and Management (n=174)  
**Figure 4.8: Overall Post-Operative Pain Management**

	Management Adequate	Management not Adequate	Total	P-value
High	15 (34.1%)	29 (65.9%)	44 (25.3%)	0.00
Medium	11 (24.4%)	34 (75.6%)	45 (25.9%)	
Low	5 (5.9%)	80 (94.1%)	85 (48.9%)	
Total	31 (17.8%)	143 (82.2%)	174 (100%)	

The results revealed that 143 (82.2%) of the total respondents did not manage pain adequately, while 31 (17.8%) managed pain adequately.

## RELATIONSHIPS BETWEEN VARIABLES

**Table 4.41: Relationship between Attitude and Management (n=174)**

Attitude Level	Management score		Total	P-Value
	Management Adequate	Management not Adequate		
Positive	15 (16.3%)	77 (88.7%)	92 (52.9%)	0.58
Negative	16 (19.5%)	66 (88.5%)	82 (47.1%)	
Total	31 (17.8%)	143 (82.3%)	174 (100%)	

Amongst the respondents who had a positive attitude towards postoperative pain management only 15 (16.3%) adequately managed post-operative pain while 77 (88.7%) of the respondents did not manage post-operative pain adequately.

Out of the 82 (47.1%) respondents who had negative, 16 (19.5%) adequately managed postoperative pain. While the majority 66 (88.5%) did not manage pain adequately. The p-value was found to be 0.58 meaning that there is no association between attitude and post-operative management.

**Table 4.42: Relationship between Knowledge and Management (n=174)**

Knowledge Level	Management		Total	P-value
	Management Adequate	Management not Adequate		
High	15 (34.1%)	29 (65.9%)	44 (25.3%)	0.00
Medium	11 (24.4%)	34 (75.6%)	45 (25.9%)	
Low	5 (5.9%)	80 (94.1%)	85 (48.9%)	
Total	31 (17.8%)	143 (82.2%)	174 (100%)	

The study revealed that out of the 44 (25.3%) respondents who had high knowledge 15 (34.1%) managed post-operative pain adequately while 29 (65.9%) did not manage postoperative pain adequately.

The majority 34 (75.6%) of those who had medium knowledge on post-operative pain management did not manage pain adequately and only 11 (24.4%) managed the pain adequately after surgery.

Among the respondents who had low knowledge in relation to their post-operative pain management, only 5 (5.9%) managed post-operative pain adequately and the majority 80 (94.1%) did not manage postoperative pain adequately. The p-value was found to be 0.00 meaning that there is an association between knowledge and post-operative pain management.

## **CHAPTER FIVE**

### **5.0 DISCUSSION OF FINDINGS**

#### **5.1 INTRODUCTION**

This discussion of findings is based on data collected from a sample of 174 respondents who were nurses working in Surgical and Obstetrics wards, and Operating Theatres from four hospitals namely, The University Teaching Hospital (UTH), Kitwe Central Hospital, Levy Mwanawasa and Chipata General Hospitals. The purpose of the study was to explore nurses management of postoperative pain related to major surgery. The discussion is centered on Demographic data, and three variables namely; Nurses knowledge, attitude, and management of postoperative pain.

#### **5.2 DEMOGRAPHIC DATA**

Section A of the questionnaire obtained information on the demographic characteristics of the respondents. Most 91(52.3%) of the respondents were aged 20-30 (Table 4.2). The high number of respondents in this age group could be attributed to the fact that nursing schools in Zambia select candidates for training who are at least 18 years (GNC, 2010), and the majority of the respondents fall in the range because by the time they qualify after training for two to three years, they would be above 20 years.

Female respondents were 136 out of the total 174. This represents 78.2% of the total sample leaving 21.8% as males (Table 4.1). The wider margin is due to the fact that General Council of Zambia (GNC) has a selection criterion of three female to one male ratio. Besides, traditionally nursing is thought to be a feminine career, thus females outnumber males both in school and once in the workforce evidenced by the statistics collected in the research and tabulated in the table 4.1.

In this study apart from gender and age, the other demographic characteristics that were important were qualification, years in service and the duration in the clinical area were the nurse, and midwife was working at the time of study.

Amongst the respondents the majority accounting for 62 (35.6%) were Registered Nurses and only 2 (1.1%) were Critical care Nurses (Table 4.4) because there are more Nursing Schools training registered nurses as compared to enrolled nurses or it could be due to the fact that most enrolled nurses convert to registered nurses.

The majority 94 (54%) of the respondents had only worked for 2-10 years and only a few had worked for 31-40 years and accounted for 1 (0.6%). The others had worked for less than 2 years, 11-20 years, 21-30 years, 41-50 years and account for 33(19.0%), 32 (18.4%), 12 (6.9%) and 2 (1.1%) respectively. (Table 4.5). The fact that majority had worked for 2-10 years could be attributed to the fact that many of the nurses after they gain experience they move to greener pastures such as the private institutions of health, outside the country, thus leaving only those who had worked less than 10 years.

The majority 100 (57.5%) of the respondents with regards to duration of the time in the clinical setting they were working at the time of the study had worked for 2-10 years and only 2 (1.1%) had worked for 31-40 years in the respective wards. The others had spent 0-1 year, 11-20 years, 21-30 years and these account for 56 (32.2%), 12 (6.9%) and 4 (2.3%) respectively. (Table 4.6)

### **5.3 NURSES KNOWLEDGE ON POST-OPERATIVE PAIN MANAGEMENT**

Knowledge is information and skills acquired through experience and education. (Concise English Dictionary, 2010). In order for the researchers to obtain information on the knowledge that nurses had on postoperatively pain and its management. The respondents were asked a number of questions such as those requiring them to define, commencement of management.

#### **5.3.1 Definition of Postoperative Pain Management**

The study revealed that 137 (78.7%) of the respondents defined post-operative pain management as being management given to patients who have undergone surgery while 37 (21.3%) of the respondents failed to define post-operative pain management. This shows that more than three quarters of the respondents knew the correct the definition of post-operative pain management (Table 4.7).

### **5.3.2 Commencement of Postoperative Pain Management**

Regarding the commencement of post-operative pain management, the study revealed that 99 (56.9%) of the respondents commenced postoperative pain management after surgery while only 11 (6.3%) commenced during surgery and 64 (36.8%) before surgery (Table 4.8). This shows that slightly above one third of the respondents knew when post-operative pain management should begin which is in line with Rooyern et'al (2009), who states that post-operative pain management should begin preoperatively after the available options are discussed with the patient. About two thirds of the respondents were unable to state the right time when post-operative pain management should begin, and these accounted for 110 (63.2%) of the respondents this could be attributed to their level of knowledge acquired from school or during personal professional growth. This is evidence that almost two thirds of the nurses start managing post-operative pain either during surgery or when the patient comes out of theater. According to Rooyern (2009) post-operative pain management begins preoperatively, the patient is informed of available modalities of pain management and hence you give them the latitude to choose among the different options after they are acquainted to how they work. This will in turn comfort the patient and hence gain their cooperation during management of their pain after surgery

### **5.3.3 Level of Knowledge**

The study indicated that 85 (48.9%) of the respondents had low knowledge with regards to postoperative management of pain, 45 (25.9%) had moderate knowledge, and only 44 (25.3%) had high knowledge. These statistics show that almost half of the respondents did not have adequate knowledge concerning postoperative pain management (Figure 4.1). This is in line with a study by Boston et'al (2004) which was conducted to identify gaps and potential barriers in Nurses knowledge regarding post-operative pain management which revealed that knowledge deficit does exist. This could be attributed to the fact that the clinical environment in which the nurse works can make one not use the knowledge they have and later forget it as a result of underutilization (Borm et'al, 2005). Respondent not having adequate knowledge leads to management of post-operative pain not being adequate.

The tables 4.7 - 4.27 tabulate the data which was obtained from the respondents in relation to their knowledge levels. Most respondents did not know when postoperative pain management begins

(Table 4.10). On the other hand some of the respondents knew the most reliable rater of pain as being the patients themselves (Table 4.11). this is because even though the respondents acknowledged having received education on postoperative pain management on a number of subjects essential for post-operative pain management, those who had high knowledge 44(25.3%) where almost half of those respondents who had low knowledge 85(48.9%). This was when rated at 80-100% as being high 60-79% being moderate 0-59% being low knowledge.

## **5.4 NURSES ATTITUDE**

### **5.4.1 Attitude of Nurses' Towards Post-Operative Pain Management**

Attitude is another factor contributing to under management of postoperative pain, (Basak et'al, 2010). Findings of this study revealed that 92 (55.9%) respondents had positive attitude and 82 (47.1%) had negative attitude towards postoperative pain management (Figure 4.2). The reason could be that the respondents answered what they knew to be right academically and not what they practiced in their respective work environment. This finding is in line with findings of a study conducted by Dihle et'al (2005) where researchers concluded that nurses do not always do what they say they do in postoperative pain management practice. On the contrary, a study conducted by Basak et'al (2010), indicated that majority of the nurses had a negative attitude regarding postoperative pain management which is not in line with the findings of this study.

The tables 4.28-4.40 reveals that the majority of the respondents as an overall had a positive attitude as their responses to the questions asked.

## **5.5 POSTOPERATIVE PAIN MANAGEMENT BY NURSES**

### **5.5.1 Assessment of Need for Administration of Analgesia before Wound Care, Patient Repositioning and Exercise**

Regarding the need for administration of analgesia before wound care, patient repositioning and exercise, the study revealed that the majority of respondents 107 (61.5%) did not assess for need to administer analgesia before procedures were done. The other 67 (38.5%) indicated that they assessed the need for administration of analgesia before wound care, patient repositioning and exercise (Figure 4.3). Watt-Watson et'al (2000) conducted a research which revealed that many nurses had an inaccurate knowledge base about common pharmacological agents used in pain control. Those results do justify the findings of this study that the majority did not assess need for administration of analgesia before wound care, patient repositioning and exercise because they felt it would be inappropriate to assess and do nothing afterwards.

### **5.5.2 Reading Guidelines for Pain Assessment and Management**

The study revealed that majority 126 (72%) of respondents had read about pain assessment and management guidelines and 48 (28%) never read guidelines before (Figure 4.4). Reason for nurses who never read the guidelines, could be attributed to the fact that the guidelines are not made available on the ward by management at the respective hospitals making it hard for nurses to read about them. This in turn affects the management of post-operative pain. The respondents who responded that they had read about pain assessment and management guidelines would have read them during their training, workshops or personal research via print media and/or internet.

### **5.5.3 Availability of Pain Assessment and Management Guidelines on the ward**

The research revealed that 64 (36.8%) of the respondents had pain assessment and management guidelines on wards and 110 (63.2%) did not have the guidelines on the wards. This could contribute to the under management of postoperative pain as the majority of nurses showed that they did not have any guidelines on the ward which makes it difficult to make reference when needed on how the patients should be managed before, during and after surgery with regards to pain management (Figure 4.5)

This finding is in conformity with findings of a study conducted in Kenya by Kituyi et'al (2011) at Moi Teaching and Referral Hospital in which they found that 59% of health care professionals amongst which were 170 nurses accounting for 72% reported that there were no protocols and guidelines on postoperative pain management at their work stations.

The research revealed that only 22 (12.6%) of the respondents assessed pain adequately while 154 (87.4%) did not assess pain adequately. This could be attributed to the fact that majority of the respondents had no pain assessment and management guidelines on the wards (Table 4.41). The findings of this study are in line with Kituyi et'al (2011) findings which revealed that Nurses did not have adequate knowledge regarding the tools that may be used for pain assessment and measurement.

### **5.5.5 Information, Education and Communication (IEC)**

The study revealed that 168 (96.6%) of the respondents give Information, Education and Communication while 6 (3.3%) of the respondents do not give Information, Education and Communication to patients on post-operative pain management. This can be attributed to the fact that the majority 156 (89.7%) of the respondents knew when to give IEC which was pre-operatively (Figure 4.7). Nonetheless, in a study by Dihle et'al (2005) nurses stated that they give information on pain management in the preoperative period but the results revealed that this time is used to gather or give information per patient's request.

Total scores for management were calculated from selected questions that obtained information about management of post-operative pain. Amongst these were questions on assessment, information education and communication and the drugs used in postoperative pain management. The findings revealed that 143 (82.2%) of the respondent did not adequately manage post-operative

pain. Only 31 (17.8%) managed pain adequately. These findings could be attributed to the level of knowledge which was low in most (48.9%) of the respondents and/or not being adequate in assessing for post-operative pain which was evident in majority (87.4%) of respondents (Figure 4.8).

## **5.6 RELATIONSHIP BETWEEN VARIABLES**

### **5.6.1 Nurses' Attitude and Management of Post-Operative Pain**

The findings of this research study regarding the attitude of nurses and management of post-operative pain showed that there was no association between the two variables as the p-value was found to be 0.58 which is above 0.05. This means that there is no relationship between the nurse's attitude and the management of post-operative pain. Most of the respondents (88.7%) even though they had good attitude towards post-operative pain management still did not manage post-operative pain adequately as only 16.3% of those who had positive attitude adequately managed post-operative pain. Amongst those having a negative attitude, 19.5% of the respondents showed that they adequately managed post-operative pain and 88.5% of these did not manage post-operative pain adequately. Therefore having a negative or positive attitude did not affect the respondents' management of post-operative pain in patients after surgery (Table 4.43)

### **5.6.2 Nurses' Knowledge and Management of Postoperative Pain**

The study revealed that out of the 31 respondents who managed post-operative pain adequately most 15 (34.1%) had high knowledge. On the other hand, out of the 143 respondents who did not manage post-operative pain adequately close to 100% (80, 94.1%) had low levels of knowledge (Table 4.42).

From the findings the researcher found that there is a relationship between nurses' knowledge level and management. The data shows that the lower the knowledge on post-operative pain management the more inadequate the post-operative pain management will be. However, from those respondents who had high knowledge, the data shows that 29 (65.9%) did not manage post-operative pain adequately, when it was cross tabulated with knowledge (Table 4.42). The reasons could be attributed to limited availability of the assessment tools, guidelines on the wards and the environment which could not allow them to fully use their knowledge adequately. Based on this

evidence, it can conclude that there is a relationship between nurses' knowledge and post-operative management.

## **5.7 IMPLICATIONS TO THE HEALTH CARE SYSTEM**

### **5.7.1 Nursing Practice**

Findings revealed that majority of the respondents had low knowledge with a score of 48.9%, followed by 25.9% who had medium knowledge and only 25.3% had high knowledge regarding postoperative pain management.

Regarding postoperative pain management, the study revealed that 82.2% of the respondents did not manage pain adequately and only 17.8% showed that they managed pain adequately. Therefore the inadequacy in postoperative pain management was attributed to the low knowledge shown on postoperative pain management. The low knowledge could be due to lack of refresher courses for professional development, shortage of pain management guidelines and pain assessment tools. Additionally, inadequacy in pain management could be due to the clinical environment that induces the feelings of low self-efficacy and low personal control for example nurses which make them fail to apply their knowledge because there are shortages of equipment/tools and drugs needed in the assessment and management of postoperative pain.

Furthermore, despite the attitude towards postoperative pain management being positive, the management was still inadequate because most respondents responded according to what they thought was right and not what they practice.

Therefore, there is need for in-service training for working staff in order to keep staff updated about pain assessment and management guidelines as change is continuous. There is also need for clinical nurse managers to ensure availability of guidelines for pain management in the clinical setting.

### **5.7.2 Nursing Education**

The study findings show that majority 85(48.9%) of the nurses had low knowledge on postoperative pain management. Additionally, those who indicated that they assess pain did not know the common pain assessment and management tools and how they are used. They also did not know how important pain assessment tools are, as well as the importance of frequent assessment and documentation of pain. This implies that a lot has to be done in order to have nurses with adequate knowledge in the management of postoperative pain.

If nurses who make up the majority of the personnel in health institutions are knowledgeable, they will manage pain adequately and reduce on the long hospital stay and in turn reduce hospital cost. This implies that nurse educators should address the issue of pain assessment and management in the curriculum and ensure that the concept of pain is adequately covered during training.

### **5.7.3 Nursing Administration**

The findings revealed that the majority 110 (63.2%) of the respondents indicated that there were no pain assessment and management guidelines on the wards, while 64 (36.8%) indicated that they had.

For postoperative pain management guidelines to be implemented, there is need for support from management in terms of resource provision and policy implementation. Management should have a policy on staff training and a plan should be in place to ensure that nurses are oriented and updated on postoperative pain management guidelines.

Nurse administrators should also ensure that pain assessment and management guidelines, equipment and medication used in management of postoperative pain are available on the wards to improve pain assessment and management and further improve the quality of care given to patients in terms of post-operative pain management.

### **5.7.4 Nursing Research**

The study findings indicate that the majority of the respondents had low knowledge with a score of 85 (48.9%), followed by 45 (25.9%) who had medium knowledge and only 44 (25.2%) had high knowledge regarding postoperative pain management. Furthermore, it indicates that majority of the respondents 92 (55.9%) had positive attitude, and 82 (47.1%) had negative attitude towards postoperative pain management.

Regarding postoperative pain management, the study revealed that 143 (82.2%) of the respondents did not manage pain adequately and only 31 (17.8%) managed pain adequately. This signifies that problems in management of postoperative pain continues to exist, therefore, nurse researchers need to explore more on other factors that could lead to the inadequacy in postoperative pain management.

## **5.8 CONCLUSION**

This study was conducted to explore nurses' management of postoperative pain at The University Teaching Hospital, Kitwe Central Hospital, Levy Mwanawasa and Chipata General Hospitals. The study findings revealed that respondents had low level of knowledge, although more than half had positive attitude in assessment and management of postoperative pain. With regard to pain management, most respondents did not adequately manage pain.

Although the respondents had a positive attitude towards postoperative pain management, gaps still exist in the level of knowledge and thus the practice. There is therefore, need to address knowledge of nurses with regard to pain management especially in the area of pain assessment because most respondents did not know the tools used in assessment of postoperative pain and their importance.

## **5.9 RECOMMENDATIONS**

Based on the findings of this study, the under listed recommendations will be given to the following stake holders; University Teaching Hospital (UTH), Kitwe Central, Chipata General and Levy Mwanawasa General Hospitals. The University of Zambia Department Of Nursing Sciences Medical Library and Ministry of Health.

### **5.9.1 Ministry Of Health and Ministry of Community Development Mother and Child Health**

- The Ministry of Health and Ministry of Community Development Mother and Child Health should increase grants to the hospitals to procure enough medication for post-operative pain management as they are the major financiers when it comes to health care service funding.
- The Ministry of Health and Ministry of Community Development Mother and Child Health should ensure that they make available post-operative pain management guidelines so that the hospitals can make use of them
- The Ministry of Health and Ministry of Community Development Mother and Child Health should facilitate learning of the nurses' involved in caring for patients post-operatively. This should be done by use of in service training, workshops, appraisals and decentralizing practices into smaller specialties such as the current critical care nursing programme.

- The Ministry of Health and Ministry of Community Development Mother and Child Health should formulate policies on postoperative pain management which may further improve and/or facilitate its improvement.
- The Ministry of Health in collaboration Ministry of Community Development Mother and Child Health should formulate policies that will help nurses who are working in surgical and obstetric wards and operating theatres to have access to pain medication such as pethidine which they can prescribe when they assess need for it in the patients.

### **5.9.2 General Nursing Council of Zambia**

The researchers recommend that to improve on post-operative pain management the council should ensure that they inspect nursing schools level of implementation of the actual curriculum as regards post-operative pain management. The nursing schools should add emphasis on subjects to do with; physiology of pain, pain assessment, consequences of pain and pain management by use of pharmacological and none pharmacological means.

### **5.9.3 Hospitals**

The researchers also recommend that the respective hospitals should work on improving knowledge of the nurses for them to properly manage post-operative patients effectively through refresher courses, in-service training, workshops and identifying the strengths and weakness of the nurses so that s/he can be sponsored for further studies and kept updated with the new trends in the management of post-operative pain in patients.

## **5.10 DISSEMINATION OF FINDINGS**

A report will be written after analysing the data in order to communicate the findings to the public. This study was conducted to obtain information that will be used by stakeholders in reviewing current post-operative pain management strategies so as to improve the management of pain post-operatively. Copies of the research findings will be made and a copy will be given to The University Teaching Hospital, Kitwe Central, Chipata and Levy Mwanawasa General Hospitals. The University Of Zambia- Department Of Nursing Sciences, University of Zambia – Medical Library

and Ministry of health will each be given a copy as stakeholders. The researchers will also post the research findings on the University of Zambia website and peer reviewed journals such as the Zambia Union Nurses Organisation (ZUNO). The researcher would also use seminars and workshops to disseminate the research findings.

#### **5.10 LIMITATION OF THE STUDY**

- i. At the time this study was conducted most of the nurses working in the sites where the research was conducted were laid down. This made it difficult for the researchers to have respondents for the research study.
- ii. The attitude of the nurses towards the research made it very difficult for the researchers to collect information by the use of questionnaire. Some nurses had just negative attitude and did turn back most of the questionnaires. Most of those who agreed to participate wanted money to answer the questionnaires'. This made the researcher collect only (83%) of the questionnaires' distributed.
- iii. It was not possible to conduct the study on a large scale with a large sample size due to limited resources and time in which the study was to be completed and submitted to the University of Zambia, School of Medicine.
- iv. Lack of published literature nationally, limited the researchers as they had limited literature on post-operative pain from the local context. Most of the researches revealed were from the sub-region or global perspective.

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## APPENDICES

### APPENDIX I: BUDGET

ITEM	UNIT COST	QUANTITY	TOTALS
<b>1. Stationary</b>			
Ream of paper	35.00	4 Reams	140.00
Ball pens	20.00	1 packet	20.00
Pencils	0.50	5	2.50
Tippex	30.00	1 Packet	30.00
Note books	5.00	2	10.00
Flash disk (USB)	180.00	1	180.00
Stapler	20.00	1	20.00
Staples	15.00	1 Box	15.00
Scientific calculator	80.00	1	80.00
Perforator	40.00	1	40.00
Spiral binders	20.00	1	20.00
Front and back hard covers	12.00	2	24.00
<b>Subtotal</b>			<b>581.50</b>
<b>2. Typing Services</b>			
Research proposal	1.00/page	74 pages	74.00
Photocopying(Questionnaire)	0.250/page	200 x 7 pages	400.00
Typing draft report	3.00/page	90 pages	270.00
Typing final report.	3.00/page	90 pages	180.00
Photocopying report	0.250/page	90 pages 4 copies	22.50
Binding the report	100.00/report	4 copies	200.00
<b>Subtotal</b>			<b>1,146.5</b>
<b>3. Personnel</b>			
Lunch allowance Researcher	20.00 x 1	4x20 days	1600.00
Transport allowance Researcher	20.00 x 1	4x20 days	1600.00
<b>Subtotal</b>			<b>3,200.00</b>
<b>Total</b>			<b>4928.00</b>
<b>10% contingency</b>			<b>492.80</b>
<b>GRAND TOTAL</b>			<b>5420.80</b>

## **APPENDIX II: BUDGET JUSTIFICATION**

In order for the research to be carried out successfully, stationery and secretarial services was needed. This budget catered for the research requirement for the all sites

### **Stationary**

The reams of paper was used for drafting the research proposal, interview schedule and research report. The scientific calculator was used during the data analysis. The other accessories was required for the routine collection of data. The researchers needed pens for writing and pencils for coding and writing on the questionnaire by the respondents. A rubber was used to erase when making some changes.

### **Secretarial Services**

Secretarial services were used for typing, printing and photocopying the research proposal and the research report with the appendices. Binding of the research proposal and research report was also be done.

### APPENDIX III: WORK PLAN

TASK TO BE PERFORMED	DATES	RESPONSIBLE PERSON	TIME REQUIRED
Finalize and hand in Proposal	02 <sup>nd</sup> October-18 <sup>th</sup> December, 2013	Investigators and research supervisor	10 weeks
Literature Review	Continuous	Investigators and research supervisor	Continuous
Obtaining permission to conduct testing of tools/Pilot Study.	23 <sup>rd</sup> January-7 <sup>th</sup> February, 2014	Investigators and research supervisor	3 weeks
Obtaining permission to conduct a Study	10 <sup>th</sup> -21 <sup>st</sup> February, 2014	Investigators	2 weeks
Data collection	17 <sup>th</sup> March -- 4 <sup>th</sup> April, 2014	Investigators	3 weeks
Data analysis	7 <sup>th</sup> April- 25 <sup>th</sup> May, 2014	Investigators	3 weeks
Report writing and submission	28 <sup>th</sup> April-9 <sup>th</sup> May, 2014.	Investigators and research supervisor	2 weeks
Submission of draft	12 <sup>th</sup> May-16 May, 2014.	Investigators	1 week
Dissemination of Findings	19 <sup>th</sup> May-13 <sup>th</sup> June, 2014.	Investigators and research supervisor	4 weeks
Monitoring and Evaluation	Continuous	Investigators and research supervisor	Throughout

APPENDIX IV: GANTT CHART

TASK PERFORMED	RESPONSIBLE PERSON	SEP 2013	OCT 2013	NOV 2013	DEC 2013	JAN 2014	FEB 2014	MAR 2014	APR 2014	MAY 2014	JUN 2014	
Finalize research proposal	Investigators	→										
Literature review	Investigators	→										
Pilot study	Investigators					→						
Obtaining permission to conduct a study	Investigators						→					
Data collection	Investigators							→				
Data analysis	Investigators								→			
Report writing	Investigators								→			
Submission of draft report	Investigators									→		
Dissemination of results	Investigators										→	
Monitoring and evaluation	Investigators	←→										

## APPENDIX V: INFORMATION SHEET

Dear respondent,

My name is Mwewa Kaunda; I am a student from the University of Zambia in the School of Medicine, pursuing a Bachelor of Science in Nursing Programme in the Department of Nursing Sciences.

In partial fulfillment of the Bachelor of Science in Nursing degree, I am required to undertake a research project. My study topic is **Management of post-operative pain by nurses at Kitwe Central Hospitals**

You have been purposively selected to participate in this study and I wish to inform you that participation in this study is voluntary and you are free to withdraw at any stage of the study if you so wish. You will be asked some questions about post-operative pain management. Any information you give will be kept confidential and no name will be written on the interview schedule.

You will not receive direct benefits from the study or monetary gain. However, the information you give will help Nurses better manage pain and make sure that the patient receive postoperative pain management of high standard, reducing the complication and hospital costs both to the patients and the institution.

If you have any queries, please contact the Head of Department, The Department of Nursing Sciences in The School of Medicine at the University of Zambia Ridgeway Campus on Telephone Numbers-0977754368 or 0977767008, and/or the Chairperson for the Undergraduate Research Ethics Committee University of Zambia School of Medicine or myself 0963255358.

**INFORMED CONSENT**

Signature/ thumb print of respondent.....

Day....., date.....month.....year.....

Signature of witness.....

Signature of Researcher.....

## INFORMATION SHEET

Dear respondent,

My name is Rebecca Mwale; I am a student from the University of Zambia in the School of Medicine, pursuing a Bachelor of Science in Nursing Programme in the Department of Nursing Sciences.

In partial fulfillment of the Bachelor of Science in Nursing degree, I am required to undertake a research project. My study topic is **Management of post-operative pain by nurses at Chipata General Hospital**. You have been purposively selected to participate in this study and I wish to inform you that participation in this study is voluntary and you are free to withdraw at any stage of the study if you so wish. You will be asked some questions about post-operative pain management. Any information you give will be kept confidential and no name will be written on the interview schedule.

You will not receive direct benefits from the study or monetary gain. However, the information you give will help Nurses better manage pain and make sure that the patient receive postoperative pain management of high standard, reducing the complication and hospital costs both to the patients and the institution.

If you have any queries, please contact the Head of Department, The Department of Nursing Sciences in The School of Medicine at the University of Zambia Ridgeway Campus on Telephone Numbers-0977754368 or 0977767008, and/or the Chairperson for the Undergraduate Research Ethics Committee University of Zambia School of Medicine or myself on 0979884750.

**INFORMED CONSENT**

Signature/ thumb print of respondent.....

Day....., date.....month.....year.....

Signature of witness.....

Signature of Researcher.....

## INFORMATION SHEET

Dear respondent,

My name is Mudenda Chriswell; I am a student from the University of Zambia in the School of Medicine, pursuing a Bachelor of Science in Nursing Programme in the Department of Nursing Sciences.

In partial fulfillment of the Bachelor of Science in Nursing degree, I am required to undertake a research project. My study topic is **Post-operative pain management at Levy Mwanawasa General Hospital**.

You have been purposively selected to participate in this study and I wish to inform you that participation in this study is voluntary and you are free to withdraw at any stage of the study if you so wish. You will be asked some questions about post-operative pain management. Any information you give will be kept confidential and no name will be written on the interview schedule.

You will not receive direct benefits from the study or monetary gain. However, the information you give will help Nurses better manage pain and make sure that the patient receive postoperative pain management of high standard, reducing the complication and hospital costs both to the patients and the institution.

If you have any queries, please contact the Head of Department, The Department of Nursing Sciences in The School of Medicine at the University of Zambia Ridgeway Campus on Telephone Numbers-0977754368 or 0977767008, and/or the Chairperson for the Undergraduate Research Ethics Committee University of Zambia School of Medicine or myself on 0955130649.

**INFORMED CONSENT**

Signature/ thumb print of respondent.....

Day....., date.....month.....year.....

Signature of witness.....

Signature of Researcher.....

## INFORMATION SHEET

Dear respondent,

My name is Chirwa Medayi; I am a student from the University of Zambia in the School of Medicine, pursuing a Bachelor of Science in Nursing Programme in the Department of Nursing Sciences.

In partial fulfillment of the Bachelor of Science in Nursing degree, I am required to undertake a research project. My study topic is **Post-operative pain management at The University Teaching Hospital.**

You have been purposively selected to participate in this study and I wish to inform you that participation in this study is voluntary and you are free to withdraw at any stage of the study if you so wish. You will be asked some questions about post-operative pain management. Any information you give will be kept confidential and no name will be written on the interview schedule.

You will not receive direct benefits from the study or monetary gain. However, the information you give will help Nurses better manage pain and make sure that the patient receive postoperative pain management of high standard reducing the complication and hospital costs both to the patients and the institution.

If you have any queries, please contact the Head of Department, The Department of Nursing Sciences in The School of Medicine at the University of Zambia Ridgeway Campus on Telephone Numbers-0977754368 or 0977767008, and/or the Chairperson for the Undergraduate Research Ethics Committee University of Zambia School of Medicine or myself on 0976155118.

**INFORMED CONSENT**

Signature/ thumb print of respondent.....

Day....., date.....month.....year.....

Signature of witness.....

Signature of Researcher.....

**APPENDIX VI: QUESTIONNAIRE**

**THE UNIVERSITY OF ZAMBIA**

**SCHOOL OF MEDICINE**

**DEPARTMENT OF NURSING SCIENCES**

**TOPIC**

**MANAGEMENT OF POST-OPERATIVE PAIN BY NURSES AT THE UNIVERSITY TEACHING HOSPITAL; KITWE CENTRAL, LEVY MWANAWASA, AND CHIPATA GENERAL HOSPITALS IN ZAMBIA.**

**DATA COLLECTION TOOL (STRUCTURED QUESTIONNAIRE)**

**QUESTIONNAIRE NUMBER .....**

**DATE OF INTERVIEW.....**

**INSTRUCTIONS TO THE RESPONDENT**

1. Do not write the name your name on the questionnaire.
2. Write/tick the chosen responses in the spaces provided
3. Follow the instruction in each section and answer appropriately
4. Do not omit any questions unless there is need to do so
5. Write all responses clearly.

**TICK/WRITE IN THE SPACE PROVIDED**

**SECTION A: DEMOGRAPHIC DATA**

**For Official**

Use

1. Sex/ Gender of respondent

(a) Male

(b) Female

2. How old were you on your last birthday? .....

3. What is your current marital status?

a. Single (Not married and not living with a partner)

b. Married (monogamous)

c. Married (polygamous)

d. Separated (currently not living together with spouse but not divorced)

e. Divorced

f. Widowed/ widower

g. Co-habiting (not married but lives with a partner)

4. Do you belong to any Religious group?

a. yes

b. No

5. If yes, to question 4, what is your Religion?

c. Christian

d. Moslem

e. Hindu

f. None

g. Others (specify).....

6. What is your professional qualification?

- a. Registered nurse
- b. Registered midwife
- c. Registered theatre Nurse
- d. Enrolled nurse
- e. Enrolled midwife
- f. Certified midwife
- g. Others (specify).....

7. How long have you been in service? .....

8. How long have you been in surgical or obstetrics ward? .....

**SECTION B:**

**KNOWLEDGE OF NURSES RELATING TO  
POST-OPERATIVE PAIN MANAGEMENT**

9. How would you define postoperative pain management?

.....  
.....  
.....  
.....

10. When does postoperative pain management begin?

- a. Before surgery
- b. During surgery
- c. After surgery

11. In your opinion, who provides the most accurate rating of pain intensity?

(Please select only one response)

- a. Physicians
- b. Nurses
- c. Patients
- d. Relatives

12. Give a reason for your answer in (Q.11)

.....

.....

.....

13. Did you receive any education on the following topics during your Training as a nurse?

a. Physiology of pain transmission

Yes            No

b. Pain assessment method and tools

Yes            No

c. Psychological consequences of unrelieved pain

Yes            No

d. Pharmacological pain management principles/strategies

Yes            No

e. Non-pharmacological pain management principles/strategies

Yes            No

14. Have you received education on the following topics during your professional development as a nurse?

f. Physiology of pain transmission

Yes            No

g. Pain assessment method and tools

Yes            No

h. Psychological consequences of unrelieved pain

Yes            No

i. Pharmacological pain management principles/strategies

Yes            No

j. Non-pharmacological pain management principles/strategies

Yes            No

15. In your opinion, how **important** is a pain assessment **TOOL**?

- a. Not at all important
- b. Minimally important
- c. Moderately important
- d. Extremely important

16. In your opinion, how **important** are frequent assessment and documentation of pain in patients **able** to communicate?

- a. Not important
- b. Minimally important
- c. Moderately important
- d. Extremely important

17. To your knowledge, what are the consequences of unrelieved pain?

.....

.....

.....

.....

.....

18. Do you feel your current knowledge about pain assessment is adequate?

- a. Yes
- b. No

19. Have you read any Guidelines for pain assessment & management?

- a. Yes
- b. No

20. Do you have pain assessment & management guidelines on the ward?

- a. Yes
- b. No

**SECTION C:**

**NURSES' ATTITUDES TOWARDS POST-OPERATIVE  
PAIN MANAGEMENT**

**Please indicate your opinion using the rate scale below each statement:**

**[tick(√) choice]**

21. Patients who frequently complain of pain are annoying

**4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree**

22. Lack of pain expression does not mean lack of pain

**4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree**

23. Distraction for example by the use of music or relaxation,  
can decrease the perception of pain

**4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree**

24. Estimation of pain by a doctor or nurse is as valid a measure of pain as a patient self-report  
4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree
25. Patients having severe chronic pain often need higher doses of pain medication than patients with acute pain  
4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree
26. A patient should experience discomfort prior to giving the next dose of pain medication  
4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree
27. When a patient requests increasing amounts of analgesics to control pain this usually indicates that the patient is psychologically dependent  
4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree
28. The most accurate judge of the intensity of the patients pain is the patient  
4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree
29. It may often be useful give a placebo to a patient in pain to assess if he/she is in pain  
4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree
30. When a patient in pain is receiving analgesic medication on a "prn" basis it is appropriate for the patient to request pain medication before the pain returns  
4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree

31. Staff can always pick up cues from children that indicate that they are in pain

4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree

32. Children cry all the time, therefore diversional activities are indicated rather than actual pain medications

4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree

33. Apart from assessment, nurses' belief about pain determines the frequency of Medication

4- Strongly Agree      3- Agree      2-Disagree      1-Strongly Disagree

**SECTION D:**

**POST-OPERATIVE PAIN MANAGEMENT**

34. when do you assess for pain in patient-

i. When they are able communicate pain.

a. Yes

b. No

ii. When they are not able communicate pain

c. Yes

d. No

35. If yes, do you use a pain assessment tool?

a. Yes

b. No

36. If yes, how frequently do you use a pain assessment tool for patients?

a. Seldom (1-25%)

b. Sometimes (26-50%)



- b. Patient repositioning            yes            no
- c. Exercise                            yes            no

42. Are pain scores and management discussed during nurse-to-nurse report?

- a. Yes
- b. No

43. Are pain scores and management discussed during ward rounds?

- a. Yes
- b. No

44. Do you feel competent in effectively assessing patients for having pain

- a. Yes
- b. No

45. Do you always agree with patients' statements about their pain?

- a. Yes
- b. No

46. Do you give Information Education and Communication to postoperative patients?

- a. Yes
- b. No

47. If yes, when do you start giving Information Education and Communication?

- a. Preoperatively
- b. Intraoperatively
- c. postoperatively

48. When do you think is the right time to give Information Education and Communication?

- a. Preoperatively
- b. Intraoperatively
- c. Postoperatively

49. When prescribing the pain medication is the nursing assessment considered?

- a. Yes
- b. No

50. If your answer to 49 above is NO what do you think is the reason?

Explain.....

.....

.....

.....

.....

51. What are the common analgesics used? **Circle all that apply**

- a. Opioids
- b. Non opioids
- c. Non-Steroidal Anti-Inflammatory Drugs[NSAIDs]

52. Name the drugs used in each of the categories you have selected in 51 above.

- a. ....
- b. ....
- c. ....

END OF QUESTIONNAIRE THANK YOU FOR PARTICIPATING



**THE UNIVERSITY OF ZAMBIA  
BIOMEDICAL RESEARCH ETHICS COMMITTEE**

Telephone: 256067  
Telegrams: UNZA, LUSAKA  
Telex: UNZALU ZA 44370  
Fax: + 260-1-250753  
E-mail: unzarec@zamtel.zm

Ridgeway Campus  
P.O. Box 50110  
Lusaka, Zambia

Assurance No. FWA00000338  
**IRB00001131 of IOR G0000774**

---

7<sup>th</sup> April, 2014

Mwewa Kaunda, Mwale Rebecca, Chirwa Medayi, Mudenda Chriswell  
Department of Nursing Sciences  
School of Medicine  
University of Zambia

Dear Mwewa

**SUBJECT: PROPOSAL ENTITLED "POST – OPERATIVE PAIN MANAGEMENT BY NURSES AT THE UNVIERSITY TEACHING HOSPITAL, KITWE CENTRAL HOSPITAL, CHIPATA AND LEVY MWANAWASA GENERAL HOSPITALS ."**

The above revised proposal was presented to the University of Zambia Undergraduate Research and Ethics Committee on 1<sup>st</sup> April 2014.

**We are satisfied with the corrections. This proposal is now approved and you may proceed to conduct your study.**

**The approval is only for this proposal and if you need to change methodology or study you will need to get approval of UNZASOMUREC. Remember to share the findings of this study with this committee.**

Dr Bellington Vwalika  
**CHAIRPERSON- UNZASOMUREC**

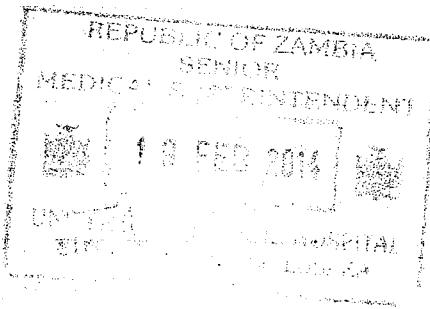


The University of Zambia  
School of medicine,  
Department of Nursing Sciences  
P.O. Box 50110,  
LUSAKA.

23<sup>rd</sup> December, 2013.

The Medical Superintendent  
The University Teaching Hospital  
LUSAKA

U F S: The Head of Department,  
University of Zambia,  
School of Medicine,  
P.O. Box 50110,  
LUSAKA.



*Handwritten note:*  
29/1/2014

*Handwritten notes:*  
① Show the methodology  
② Seen it no objection  
[Signature]

Dear Sir/Madam,

**RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY AT THE UNIVERSITY TEACHING HOSPITAL**

Reference is made to the above subject.

We are fifth (5<sup>th</sup>) year students pursuing a Bachelor of Science in Nursing in the Department of Nursing Sciences, School of Medicine at the University of Zambia.

In partial fulfillment of the programme, we are required to conduct a research. The topic is "Post-operative pain management at The University Teaching Hospital." The participants of the study will be nurses (100 in number) working in surgical and obstetrics wards. Data will be collected from 6th January- 31<sup>st</sup> January, 2014.

Your positive response will be highly appreciated.

Yours faithfully,

*Chirwa Medayi*  
Chirwa Medayi

17th Feb 2014  
SITAMU + PNU - (Acad. File)  
No objections  
Chikuba

The University of Zambia  
School of medicine,  
Department of Nursing Sciences  
P.O. Box 50110.  
LUSAKA.  
23<sup>rd</sup> December, 2013.

The Medical Superintendent  
Levy Mwanawasa General Hospital  
LUSAKA  
U F S: The Head of Department,  
University of Zambia,  
School of Medicine,  
P.O. Box 50110,  
LUSAKA.

Stamp: LEVY MWANAWASA GENERAL HOSPITAL  
Signature: P. Swewe  
Date: 29/1/2014

18/02/14  
Noted  
P  
PND

Dear Sir/Madam,

**RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY AT LEVY MWANAWASA GENERAL HOSPITAL**

Reference is made to the above subject.

I am a fifth (5<sup>th</sup>) year student pursuing a Bachelor of Science in Nursing in the Department of Nursing Sciences, School of Medicine at the University of Zambia.

In partial fulfillment of the programme, I am required to conduct a research study. The topic is "Post-operative pain management by nurses." The participants of the study will be nurses (50 in number) working in surgical and obstetrics wards. Data will be collected from 6th January-31<sup>st</sup> January, 2014.

Your positive response will be highly appreciated.

Yours faithfully,

*mda*

Mudenda Chriswell

Stamp: LEVY MWANAWASA GENERAL HOSPITAL  
17 FEB 2014  
RECEIVED

Let card be  
see the

0977121123

~~Forwarded~~

*Handwritten signature*

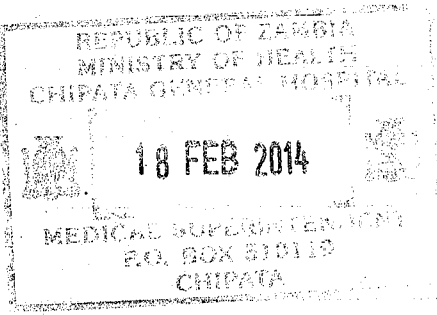
The University of Zambia  
School of medicine,  
Department of Nursing Sciences  
P.O. Box 50110,  
LUSAKA.

23rd December, 2013.

The Medical Superintendent  
Chipata General Hospital.

U F S: The Head of Department,  
University of Zambia,  
School of Medicine,  
P.O. Box 50110,  
LUSAKA.

*Handwritten note:*  
F. Swales  
29/1/2014



Dear Sir/Madam,

**RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY AT  
CHIPATA GENERAL HOSPITAL**

Reference is made to the above subject.

I am a fifth (5th) year student pursuing a Bachelor of Science in Nursing in the Department of Nursing Sciences, School of Medicine at the University of Zambia.

In partial fulfillment of the programme, I am required to conduct a research study. The topic is "Post-operative pain management by nurses." The participants of the study will be nurses (50 in number) working in surgical and obstetrics wards. Data will be collected from 6th January- 31st January, 2014.

Your positive response will be highly appreciated.

Yours faithfully,

*Handwritten signature: Mwale*

Mwale Rebecca

\*Property of UNZA Library



3 3729 00516 4582

permission granted

Kindly assist the student to collect information needed

HRSDO

The University of Zambia  
School of medicine,  
Department of Nursing Sciences

P.O. Box 50110,  
LUSAKA.

23<sup>rd</sup> December, 2013.

2) Dear APND

② PND

Advise if you can take on this student for purposes of research  
Mwema  
APND  
21/02/2014

The Medical Superintendent

Kitwe Central Hospital

KITWE.

U F S: The Head of Department,

University of Zambia,

School of Medicine,

P.O. Box 50110,

LUSAKA.

Dear Sir/Madam,

**RE: REQUEST FOR PERMISSION TO CONDUCT A RESEARCH STUDY AT KITWE CENTRAL HOSPITAL**


Reference is made to the above subject.

I am a fifth (5th) year student pursuing a Bachelor of Science in Nursing in the Department of Nursing Sciences, School of Medicine at the University of Zambia.

In partial fulfillment of the programme, I am required to conduct a research study. The topic is "Post-operative pain management by nurses." The participants of the study will be nurses (50 in number) working in surgical and obstetrics wards. Data will be collected from 6th January-31st January, 2014.

Your positive response will be highly appreciated.

Yours faithfully,

  
Mwewa Kaunda



① Stemo  
Attend  
M  
21/2/14  
Gg.

③ HRSDO  
Kindly process  
Mwema  
APND  
21/02/2014