



DISSERTATION

**PATIENTS' EXPERIENCE ON POSTOPERATIVE PAIN MANAGEMENT IN A  
RWANDAN HOSPITAL SURGICAL WARD**

by

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## DECLARATION

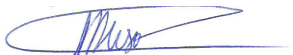
I, **Esperance MUHAWENAYO**, hereby declare that this research project entitled” **Patients' experience of postoperative pain management in a Rwandan hospital surgical wards**” Submitted for partial fulfillment of the requirement for **the Degree of Master Sciences in medical, surgical Nursing**, is my original work and never been submitted to any other University or for any other degree award. I also declare that a complete list of references is provided indicating all sources of information quoted or cited.

**Esperance MUHAWENAYO**

*June, 2017*



**Supervisor: Mme Priscille MUSABIREMA**



## **DEDICATION**

To the Ministry of health and HRH Faculty for the provision of the scholarship.

To the Centre Hospitalier Universitaire de Kigali (CHUK), for recommending me and release me to study.

To my supervisor for their helpfully and invaluable assistance.

To classmates for their contribution and encouragements.

I dedicate this project to my family for their physical, psychological and morale support.

To my colleagues at work who remained responsible and kept the willingness on my absence.

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## **ABSTRACT**

**Introduction:** Pain is one of the sources of discomfort among admitted patients, especially those that have had surgery. Effective management of patients' pain has been linked to significant post operative outcomes and overall perception of the quality of care received. Patients are expected to experience pain within reasonable limits and should be able to receive and appreciate care provided towards pain release. Despite of this understanding, available literature continues to indicate that post-operative pain management is still unsatisfactory. The phenomena of pain management are new in our setting. There is limited knowledge of the experience of patients of postoperative pain management in Rwanda. This study assessed patients' experience of postoperative pain management

**Methods and Findings:** The study was quantitative, descriptive and cross-sectional. It was carried out on 172 postoperative patients admitted in surgical wards of a referral Hospital in Rwanda. At 5% type I error ( $p < 0.05$ ) a systematic random sampling was used to get sample and data was collected using adapted American Pain Society –Patient Outcome Questionnaire Revised (APS-POQ) to which a validity test was made and a reliability of 0.764 (Cronbach's  $\alpha$  coefficient) founded. Using descriptive statistics data was analyzed in SPSS version 20, interpretation and correlation among variable were performed. The results indicated that majority (96.3%) participants experienced pain postoperatively. Of those who experienced postoperative pain the category falls from moderate to severe respectively 36.1% and 30.2% ( $3.2 \pm 0.62$ ). A big number of 98 (57.0%) experienced pain relief within 24hrs postoperatively, with however 104 (60.5%) ( $1.4 \pm 0.49$ ) rating overall pain management as inadequate and 105 (61.0%) dissatisfied with pain management.

**Conclusion:** The patients experience reflects the occurrences and events that happen across continuum of care. The results indicate that most postoperative patients experienced moderate to severe pain and are dissatisfied with pain management rendered. These findings are a signal to the gaps in meeting patients postoperative care needs. The findings provide a practical implication for improved quality of care both at individual healthcare provider and system levels. This calls for further research into organizational readiness and the level of knowledge and skills for effective postoperative pain management.

**Keywords:** Pain, Postoperative pain, pain management and Experience.

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## **LIST OF SYMBOL, ACRONYMS AND ABBREVIATIONS**

**APS-POQR:** American Pain Society –Patient Outcome Questionnaire Revised

**CHUK:** Centre Hospitalier Universitaire de Kigali

**CMHS:** College of Medicine and Health Sciences

**ENT:** Eyes, Nose Throat

**HRH:** Human Resource for Health

**IASP:** International Association for the Study of Pain)

**JCAHO:** Joint Commission on Accreditation of Healthcare Organizations

**MOH:** Ministry Of Health

**PMI:** Pain Management index

**RHAS:** Rwanda Hospital Accreditation Standards

**SPSS:** Statistical Package for the Social Science

**UTHK:** University teaching hospital of Kigali

**UR:** University of Rwanda

**USA:** United States of America

**%:** Percent

**±:** symbol used to design standard deviation

# CHAPTER ONE

## 1.1. Introduction

This chapter describes the overview or background of the concept under study and how researcher considers that concept. The motivation and objective of the study are shown in this chapter

Patients' experience in a hospital setting is shaped by several factors including pain. Pain is one of the sources of discomfort among admitted patients, especially those that have had surgery (Rafati *et al.*, 2016, p. 36; Gupta *et al.*, 2014, p. 370). Effective management of patients' pain could therefore influence not only their post-operative moments but will also impact on their perception of the quality of care received (Gupta *et al.*, 2014, p.374). This study, therefore expect to assess postoperative patients' experience of the pain management. The introduction part is covered by different study done regarding pain management, patient 'experience in postoperative moment and their perception on its management in term of satisfaction as background of the study, the aim of the study, research questions, significance of the study, terms definition and structure of the research was also highlighted in this first chapter.

## 1.2. Definition of Concepts

The concepts involve in patients' experience of postoperative pain management are: Pain, postoperative pain, pain management and patient 'experience.

### **Pain**

The International Association for the Study of Pain (IASP) defines Pain as "an unpleasant sensory and emotional/affective and cognitive experience that is associated with actual or potential tissue damage or is described in terms of such damage" (IASP, 1994, p. 249), (IASP, 1986, p. 217) McCaffery defined pain as "what the patient says it is, and exists whenever the patient says it does" (McCaffery, 1977, p. 11). For purpose of this study pain indicated a feeling of discomfort from tissue injury following a surgical operation expressed by a patient in form of pain intensity (sensory) and mood affection or emotional.

### **Post –operative pain**

Postoperative pain has been defined as Acute pain, resulting from surgery, surgical procedures or Trauma it can be physiological or pathological cause and involve inflammatory reactions (Herbert G. Masigati and Kondo S.Chilonga, 2014; Esmat and Kassim, 2016). For the purpose of this study,

postoperative pain was mean any discomfort experienced by the patient resulting from surgery or surgical procedures from day one up to three days of admission in surgical wards.

### **Pain management**

Pain management is the relief of pain using different interventions or approaches by health team. These include Pharmacological approaches using agents like analgesics and Non-pharmacological approaches like distraction, reassurance, massage, etc (Anesthesiologists, 2012, p. 254; Rafati *et al.*, 2016 ; Gupta A. *et al.*, 2010, p. 14). In this study pain management was mean any intervention (medical and nursing) that is offered to postoperative patients with intention to relieve pain.

### **Patient's experience**

Patient experience has been defined as how a patient feels about what happens in his or her environment (internal or external). It is individualized measurement of services to meet patient's expectation Experience (Wolf, 2014, p. 7).

For the purpose of this study patient' experience was considered as patient' descriptions of what have made his or her postoperative moment in term of, pain intensity faced during that period , pain management received and their appreciation in form of satisfaction.

### **1.3. Background**

Currently a strong consideration has been given to acute post-operative pain and a significant developments or progression have been made (Wu and Raja, 2011, p. 2222; Abdalrahim, Majali, & Bergbom, 2010). Regardless of these achievements, available literature continue to indicate that post-operative pain is still a challenge and frequently inappropriately treated, with consequential effect of patient quality of life and dissatisfaction (Institute of medicine, 2011, pp. 19–23) Uncontrolled pain affects negatively patient care outcome, increased stress , contributing to long stay in the hospital and affect quality care (Masigati H. G. and Chilonga K. S., 2014, p. 1) Moreover according to Oliveira *et al.*, (2012, p.1062). The negative effects of inadequate pain management alter the quality of life, physiological function, patient recovery and may lead to the risk of complication post-surgery and persistent pain.

Reduced post operative pain enhances sleep, lack of which may augment postoperative fatigue and other associated complications (Vadivelu, M. and Narayan, 2010). Contrast when pain is well managed postoperatively helps physiological functions, prevent complications ,decrease hospital

cost and patient perception become satisfactory as they have got great comfort (Sarin *et al.*, 2016, p. 1). Apart from individual factors, it is actually widely accepted that reduced postoperative pain, improves patient experience as well as early mobilization and discharge, resulting into a gross reduction of hospital overcrowding (Czarnecki *et al.*, 2011). Unfortunately inappropriate pain management remains a critical problem in hospitalized patients (Oliveira *et al.*, 2012, p. 1508). Pain as expected symptom in postoperative sometimes is ignored by health care providers during surgical care like wound dressing, physiotherapy and mostly assessment and reassessment is not all time remembered by nurse.

Any care is ought to be defined as of high quality by any measure only if the beneficiary perceives it as satisfying. The expectation of patients is to receive the best possible care from a competent professional which facilitates their recovery, comfort and safety (Fero, Laura J., Catherine M. Witsberger, 2009, p. 1). Pain has been defined as “an unpleasant physical, sensory and emotional experience associated with actual or potential tissue damage”(IASP, 1994, p. 209). From that definition none could distrust or underestimate patient ‘s pain report in order to manage it adequately.

Studies have evidenced the existence of pain and how inadequately it has been managed. According to Gan, Miller and Apfelbaum, (2014, p. 149), in US around 86% of patients who underwent surgery experienced pain postoperatively and 75% of them demonstrate severe or extreme experience . A study conducted in Chinese hospital has stated that current systems in place to manage postoperative alleviate the pain within good effect expected (Lei and Jing, 2013, p. 1160) however 82.8% of participants complain the delay in their postoperative pain relieve and 91.4% experience moderate to severe pain. Investigation of pain management’s quality in 2,252 postoperative patients from 25 German hospitals; show that 29.5% of surgical patients reported moderate to severe pain experience and 55% of them were dissatisfied with it (Maier *et al.*, 2010, p. 607).

In region of sub- Saharan Africa, the patients pain experience postoperatively is not disagree from what have been reported above for example in an Ethiopian Hospital Woldehaimanot, Eshetie and Kerie (2014, p. 6&8), noted that patients undergoing surgery experienced inadequate pain management. In Egypt, only 54.8% of patients studied were adequately contented to their pain management (Elshamy and Ramzy, 2011, p. 383).

The rate of pain management experience and perception varies from different settings and populations studied; depend on the way patients experience their postoperative period. Similar

findings have been found by Herbert g. Masigati and Kondo s. Chilonga ( 2014, p. 1) in their Tanzania based study where postoperative pain management was noted to be a challenge with more than half of the patients studied experienced pain within first 48 hours; Indeed another study by Pole Pole D & Mwafongo V( 2011) report 40% pain complications postoperatively at Muhimbili National Hospital in Tanzania.

In Kenya, postoperatively patients' experience of pain was 60% study from Kenyatta national hospital on postoperative pain management after major abdominal and thoracic surgery (Ocitti & Adwok, 2000).

A study conducted in Rwanda, show that the modalities treatments of pain are frequently not carried out due to limited resources, deficit in knowledge and cultural attitude and less patients involvement in pain management (Johnson *et al.*, 2015, pp. 255–256). Worldwide, the perception relates to pain management postoperatively is determined by patient's experience during that moment and are both predict patient's satisfaction of pain care. The consequences of mismanagement of postoperative pain are direct to patients and can lead to patient's dissatisfaction of quality of care received.

Despite multiple organizations at national level, counting the Joint Commission on Accreditation of Healthcare Organizations ( JCAHO) strong efforts for progress in perceptive of pain and the its quality management, pain management leftovers not at the excellent (Gupta *et al.*, 2009, p. 158). To be able to meet patients' pain needs, a range of dimensions that include sensory, physiological, socio-cultural, and psychological components that are individually from each patient should be well thought-out (Institute of medecine, 2011, p. 3). The most critical goal of any surgical care is the successful approach used in pain management postoperatively. Patient' perception reflects the quality of hospital services and can be affected by patient's experience with pain management within postoperative period. The most recognized and acknowledged obstacle to successful pain management is to ignore the individual experiences and or patients' subjectivity surrounding the pain management area.

Therefore, assessment of patient's pain demands the healthcare providers to become well acquainted with patient's perception, level of understanding, previous experience and other socio-cultural associations with pain (Wells N, Pasero C, & McCaffery M, 2005). For that the researcher is intend to identify patient's experience of postoperative pain management in Rwandan hospital.

#### 1.4. Problem statement

Uncontrolled Postoperative pain affects patient outcome (Herbert G.Masigati and Kondo S.Chilonga, 2014, p.1). It is associated with increased patient stress ,contributes to long hospital stay (Oliveira *et al.*, 2012, p.1062) and increased risk of post-surgical complications. like deep vein thrombosis, shallow breathing and lung infection or atelectasis ,(Ahmed, Naveed and Robyna, 2013, p. 472; Chaturvedi and Chaturvedi, 2007; Vadivelu N, 2010).

Even though postoperative pain management has improved currently, research demonstrates that the way pain is managed is unsatisfactory(Maier *et al.*, 2010).Since 2013, working in surgical department witnessing patients with frustrated face and sometime crying and when trying to advocate for pain killer administration the response received from nurses was “patient already received her or his dose of analgesia”. Available research continues to show that postoperative patients experience extreme pain; for example, in one US study about patients’ experience of postoperative pain, 86% of patients who underwent surgical procedures experienced acute postoperative pain, and about 75% of these demonstrated severe or extreme experience ( Gan, Miller and Apfelbaum, 2014).

A similar study done in China indicated that hospitals with appropriate systems in place to manage postoperative pain registered positive outcome among participants (Lei and Jing, 2013, p.1160).The authors further noted that 82.8% of participants experienced a delay in their postoperative pain relief. Investigation of the quality of pain management for 2,252 postoperative patients in 25 German hospitals; Maier *et al.*, (2010, p.607) revealed that 29.5% of surgical patients reported moderate to severe pain, and 55% were dissatisfied. These evidences underscore the current trends in postoperative pain management. Studies in sub- Saharan Africa are not exception to that above literature as released in different studies according to Woldehaimanot, Eshetie and Kerie, (2014, p 6&8); Herbert G.Masigati and Kondo S.Chilonga,(2014, p.1) and Johnson *et al.*, (2015, p. 255–256).

Multiple organizations, counting Joint Commission on Accreditation of Healthcare Organizations ( JCAHO) have made strong efforts to advance the perception of pain and the need to improve its quality management (Gupta *et al.*, 2009, p.158). In Rwanda, generally care of patients has improved through several mechanisms including availability of materials to use, access to medications, training of health professionals in range of skills and initiatives to ensure that health facilities are accredited (Rwanda Hospital Accreditation Standards,2014).



This accreditation in particular, is intended to ensure that patient receive the highest expected quality care. Postoperative patients are not exception to this. For example surgical units are provided with policies ,protocols, guidelines and staff trainings including those on pain management ((Johnson *et al.*, 2015, p.258).With these initiatives in place patient’s experience with care and pain management in particular is expected to be good. However, there is limited information of the experience of patients of postoperative pain management in our setting. This study, therefore intends to assess patients' experience on postoperative pain management in surgical wards at CHUK.

### **1.5. The aim of the study**

To assess the patient’s experience of postoperative pain management in surgical wards at CHUK

### **1.6. Research objectives**

1. To assess the postoperative pain intensity experienced in surgical wards patients at CHUK.
2. To identify management of postoperative pain in surgical wards patients at CHUK
3. To assess the level of satisfaction of pain management in surgical wards patients at CHUK.

### **1.7. Research questions**

1. What is the pain intensity experienced in surgical wards patients at CHUK?
2. How is the management of postoperative pain in surgical wards patients at CHUK?
3. What is the level of satisfaction to pain management in surgical wards patients at CHUK?

### **1.8. Significance and purpose of the study**

It has for long been accepted as a common understanding that pain is the key underlying reason for many people to look for health care. While substantial advancements have been made in pain management, available research continues to indicate that many postoperative patients experience high levels of pain. When postoperative pain is not relieved can greatly impact negatively on patient’s outcome and expectation; this kind of information justifies the need for intensive postoperative pain management analysis, to underline the gaps that need more expansive investigations so that patient outcome and expectation postoperatively will improved in surgical wards at CHUK. Results from this study will provide an understanding of pain management in the Rwandan context. As a result, this will provide a foundation on which apposite educational

initiatives and strategies will be based to address gaps in knowledge and practice regarding pain management in Rwandan health facilities. As well, since the results of the study will be based on patients perspectives, the results will help not only to understand the needs of postoperative patients with regards to pain management, but will also throw light on issues of quality as perceived by the patient. In addition the findings of this study will be valuable in furthering future research initiatives that are geared to improvements in postoperative pain management.

### **1.9. Structure/Organization of the study**

The study is divided into six main chapters: chapter one Introduction which comprise an overview of concepts under study (postoperative pain management experience) as background and how the researcher consider that concepts in this current study as term of reference and also the motivation of the study with research questions to answer and its significant; then chapter two draws on clinical research as literature review that has investigated to postoperative pain management as well as the framework used for this research. The methodology and methods describing how the journey undertaken to do this research and get results .The findings are presented in chapter four and chapter five is discussing on results and chapter 6 include recommendation and conclusion. Finally the limitations of the study with references were shown and appendix or annex used.

### **1.10. Conclusion**

There is a global concern with regards to how postoperative pain is managed. Based on understanding that patient experience of pain has a profound impact on their level of satisfaction with the quality of care, and the available information about how pain influences the overall outcome of care this study was relevant and critical.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1. Introduction**

This chapter examines evidences relevant to this study. In particular it endeavours to provide an understanding of what postoperative pain management entails as well as the best practices as evidences by different studies. There has been a challenge to define the concept of pain. However a number of studies carried out have been able to offer understanding on this concept. For example there is huge information about pain that explains the complex nature of the phenomena and how this impacts on its definitions (Melzack and Wall, 2008). Despite, the complex nature of pain and the challenge to offer a definitive definition, a collectively accepted and acknowledged definition of pain has been proposed as:

"An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage (International Association for the Study of Pain 1979 p.247)". This definition, constitute two aspects whereby pain is viewed in a much more subjective manner when it is described in term of emotional experience and objective when it is examined using the sensory perspective.

### **2.2. Empirical literature**

Traditionally pain was explained based on biomedical model of illness that was later refuted as only way to explain pain (Gatchel *et al.*, 2007). For example the work of Charlton (2005) provided more light on the recognition of pain as bio psychosocial experience with affective, behavioural, sensory, and cognitive as important constituents.

Pain has been categorized into two broad categories: Acute and chronic pain. The two categories demonstrate significant differences, however both categories have been acknowledged to represent a continuum of experience rather than separate and divergent entities (Macintyre *et al.*, 2010). Postoperative pain is normally related to tissue trauma/injury (Swarm, Karan kolas and Kalauokalani, 2001). This kind of pain is usually acute and its serves an important duty to alert the body of potential or actual tissue injury and inflammatory responses that is a critical function for survival (Swarm, Karanukolas and Kalauokalani 2001). The extent to which a person experience pain depends on several factors including the related to patients like anxiety and its associations and prevent the patient to express his or her feeling what mostly interpreted as culture barriers , It could also come from health care providers insufficient knowledge related to pain assessment and management, or inadequacy of pain management system in place (Carr, 2008, p. 59).

Post operative pain has attracted attention from organizations and individuals involved in care of patients that have had surgery(Wu and Raja, 2011, p. 2222;Czarnecki ML.*et al.*,2011;Abdalahim, Majali, & Bergbom, 2010).Available literature continue to indicate challenges experienced in pain management and how it affects patient experience of care and the overall rating of the quality of care from the patient perspective(institute of medicine, 2011, pp. 19–23).This is because uncontrolled pain has been noted to negatively affect patient care outcomes, including long hospital stay and overall experiences of services received(Herbert g. Masigati and Kondo s. Chilonga, 2014, p. 1).

### **2.2.1. Pain perception & experience**

The way people perceive pain is different from one person to another and could be influenced by others factors like previous occurrence, type of disease or surgical interventions, conditions , medications modality used, culture, and psychological issues (Khan et al., 2011; Twycross, 2007; Manias et al., 2002). Patients are accurate to be recognized as experts of their pain experience and to be trusted with their pain in the order to choose an effective type of pain relief. They also need their pain relieve to be considered as reasonable goal of surgical treatment by the health care providers (Vadivelu N, 2010).

Successful pain management requires treatment of the total patient's pain: physically, psychologically, socio-cultural and spiritually during all process of their management. Postoperative pain can be attributed to different factors which could be socio demographic, psychological and clinical or physiological factors (Hailemariam, 2015). In order to fully understand a person's perception and response to pain and illness, the interrelationship among biological changes, psychological status, and the socio-cultural sensitive require to be considered. The emotion and cognition are both interact with psychosocial factors. Emotion which is more direct reaction to nociception and is more midbrain based and the cognitions join the connotation to the emotional experience and can then trigger additional emotional reactions and thereby increasing the experience of pain, as results perpetuate various circle of pain effect, like distress, restlessness, disability(Gatchel *et al.*, 2007, p. 582).

The patient's perception or experience of pain may be influenced by a numerous interrelated factors, including the patient's arousal and psychological state, previous pain experience, level of understanding of the procedure (Marsac & Funk, 2008).

Studies have shown the individual pain response is influenced by age, gender, and culture; For example the study on patients undergoing wound care, younger patients had more pain before and

after the procedure than older patients (Stotts et al., 2004). Study results differ regarding the effect of gender on procedural pain perception. In one study they report that women had higher pain scores before, during, and after procedures than men while assessing the incidence of pain during invasive procedures (Rawe *et al.*, 2009) In contrast, Stotts *et al.*, (2004) reported no difference in pain intensity between men and women having wound care.

Cultural influences pain experience in behavior manner as reported that individuals from different cultures express their pain in various ways and the variety also is seen in the pain scale reported (Walsh, Davidovitch, & Egol, 2010). However, of cultural influences on pain experience could be considered only if the individually characteristics studied groups are excluded to pass up stereotype people according to their cultural (Brown & Bennett, 2010). Even the purpose of this study is out of factors influencing pain experience the information's are helpfully for understanding and interpreting the research findings on pain management experience in postoperative period.

Uncontrolled postoperative pain can cause harmful effects to patients in immediate and long-term manner and these complications could happen to any age, gender, race, ethnicity, or socioeconomic status (Damien J. LaPar, MD *et al.*, 2012, p. 5). These include variety of physical, emotional, behavioral, cognitive, and psychological manifestations, including fear, anxiety, anger, aggressive behavior, inability to focus, fear next procedure which can lead to refusal of treatment, and distrust of the health care team, and more consequences are on economical, social, and spiritual well-being and can lead to dissatisfaction on quality of care (Brennan, Carr, & Cousins, 2007; Ferrell, 2005; Gordon et al., 2005; Mertin, Sawatzky, Diehl-Jones, & Lee, 2007).

The immediate physical effects of pain are related to the stress response which can affect functionality of body systems, like cardiopulmonary function, metabolic, inflammatory response (e.g., coagulation, hyperglycemia), and immune competence, including wound healing and tumor growth (Czarnecki et al., 2013; Mertin et al., 2007; Solowiej, Mason, & Upton, 2009). Psychosocial factors, like fear and anxiety are recognized induce these stress response (Mertin et al., 2007), and fear and anxiety are more sensitive when the occurrence of the painful experience is unpredictable. If the patient received pain management education, adaptive responses will help to attenuate the degree of fear and anxiety experienced (Oka et al., 2010).

### **2.2.2. Quality of Pain Management and patient satisfaction**

Pain management is not only the analgesics administration, it involve all mechanism could help pain relief. In postoperative pain manage should start by assessment and come up with pharmacological

and non-pharmacological usage methods to get good outcome and patient satisfaction. This has been evidenced by researchers and who said that High-quality pain management could be defined as having several features (Gordon *et al.*, 2005). These include appropriate ongoing pain assessment (example:., identifying the presence of pain, where pain is present, quality of pain and patient responses to treatment) that could involve interdisciplinary, collaborative care planning which includes patient participation and utilizing the appropriate treatment which is beneficial and safety to patients. The American Pain Society considers pain as the fifth vital sign along with temperature, heart rate, blood pressure, and respiratory rate (American Pain Society, 2012). If pain is assessed with the same as the other vital signs, it would have a better chance of being treated appropriately.

In reality the complexity of quality pain management could be understood in all process of surgical care and must be evidenced by good staff behavior, and patient experiences as feedback of quality pain management (Gordon *et al.*, 2010, p. 13). As postoperative pain Management relieve suffering it gives comfort to patient and get to earlier mobilization which leads to shortly discharge, hospital stay and costs of care are reduced consequently patient satisfaction raise. Postoperative management is told to be effective if it is customized to the needs of the individual patient holistically (e.g. physiological, psychological and spiritual) postoperative patients need that all parameters to given attention such as age; level of fear or anxiety; surgical procedure; personal preference; and response to therapeutic agents given (Gupta *et al.*, 2010, p. 97).

The plan of pain management could be a multimodal pharmacologic and non-pharmacologic approach (Czarnecki *et al.*, 2011, p. 100). Both non pharmacologic and pharmacologic methods help to manage post operative pain. The non pharmacologic methods are all non drugs used to relive pain they can be educational care provided in terms of health care information, bed exercise, breathing and coughing touching and assistance of psycho-social (Power, 2005).

Pharmacological treatment of pain includes non-steroidal anti-inflammatory medicines (NSAI), Opioids which are classified in strong moderate and weak and anesthetic procedures according to World Health Organization (WHO) Ladder in 2012 and others authors (Vadivelu, Mitra and Narayan, 2010, pp. 14–16; Chou *et al.*, 2016, pp. 136–138; WHO, 2012). It has been reported by Boström Barbro, (2003) that the higher the intensity of pain the less satisfied the postoperative patients with their pain treatment. Continuity of care and the patient education increase feeling of security, as well as improved their perception to pain control. Pain management consists of: assessment of pain, planning and treatment of pain and Evaluation and reassessment of pain (Woldehaimanot, Eshetie and Kerie, 2014, p. 6).

### 2.3. Theoretical framework

Available studies have indicated pain as a challenge (Melzack and Wall, 2008). However, the study of pain has evolved considerably of recent to an extent that an understanding of the notion of pain can easily be explained in different patient's situations (Vaajoki, 2013). For example, pain was only seen from the sensory component perspective whereby it was assumed to comprise entirely of a solitary sensory component that only changes in intensity (Melzack and Wall, 2008). However, this narrow view has been well expanded and the current perspective of pain is that of a physiological manifestation that is considerably influenced by several factors like psychological aspects among others.

There were so many theories explaining pain like Descartes' model of pain, 1664 where pain has been considered as a linear transmission of input from the periphery through the spinal cord to the brain. Gate Control Theory: Pain involves the spinal cord and other parts of the nervous system as a gating mechanism to inhibit or facilitate a noxious stimulus. Pain occurs when the number of nociceptive impulses arriving at neural levels exceed a critical level. Descending/Ascending control, Neuromatrix, Central sensitization, Peripheral sensitization. All of these are biological models explaining the complex changes in periphery, spinal cord, brain, ascending information, descending modulation to clarify how pain occurs and goes. This current study chooses to use Neuman's systems Model as this one reflects Bio-psychosocial aspect.

This study was guided by Neuman's systems Model. However, the study will utilize only two relevant concepts (client and environment) to explain the interaction of variables. Betty Neuman's Systems Model (1995) is the philosophic of system that takes a person in wholism, a wellness orientation, client perception and motivation, and a dynamic systems perspective of energy and variable interaction with the environment to mitigate possible harm from internal and external stressors, it calls to that caregivers and clients are forming a partnership -relation to set desired outcome goals for optimal health retention, restoration, and maintenance (Neuman, 1995).

Considering a patient as a system made up of five variables: Physiologic, psychologic, developmental, sociocultural and spiritual and keeping in mind that all of these variables interact and relate to each other in very specific ways to each individual. Neuman defines them as follows: (1) Physiologic: Refers to bodily structure and function. (2) Psychological: Refers to mental processes and relationships. (3) Sociocultural: Refers to combined social and cultural functions. (4) Developmental: Refers to life developmental processes. (5) Spiritual: Refers to spiritual beliefs and influence. The third and fifth variables were not considered in this study. Surrounding the

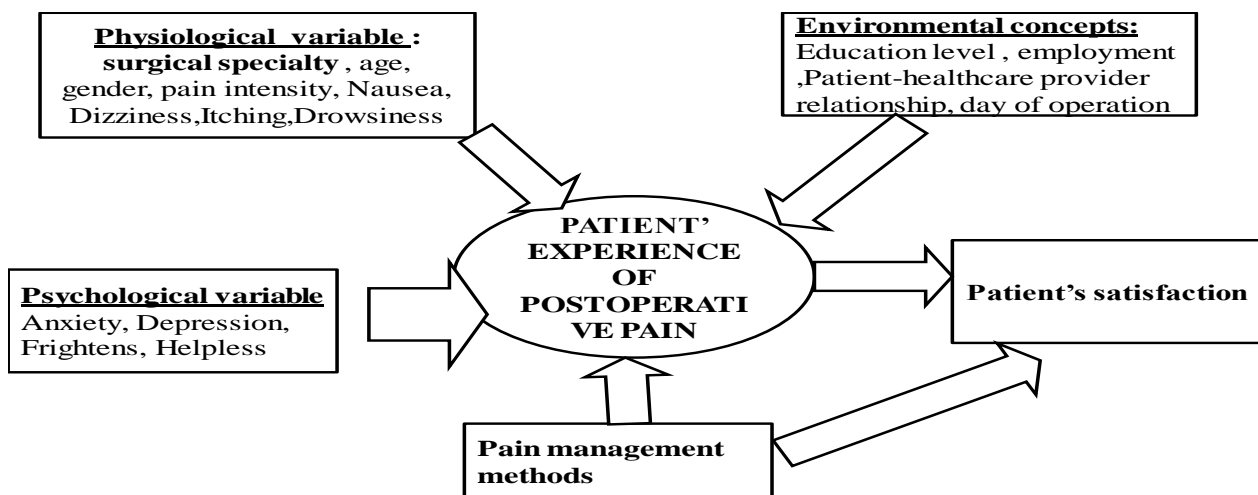
patient system, there are three lines of defense which stand for a protective buffer system to help prevent stressor invasion of the client system and protect the normal line of defense. This flexible line was considered as pain management methods used to relieve patient pain (2) Normal line of defense which is a line representing what the client has become over time, or the usual state of wellness. This interaction allows the maintenance of balance in the wellness of client and shapes how the patient experiences pain. (3) Lines of resistance (When the normal line of defense is penetrated by environmental stressors, a degree of reaction, or signs and/or symptoms, will occur. This line supports the client's basic structure and the normal line of defense, resulting in protection of system integrity. For the purpose of this study this line will greatly influence how the patient will experience pain postoperatively.

A second concept of Neuman's model considers environment. This defines all internal and external factors or influences surrounding the system or client. They may include the relationships and resources of family, friends, or caregivers (Interpersonal factors.) Education, finances, employment, and other resources (Extra personal factors).



## 2.4. Conceptual Framework

In this study, the aspect of client and environment were used to explain these factors that may influence how the patient experience pain. The client and environment may be positively or negatively affected by each other. There is a tendency within any system to maintain a stable or balance among the various disruptive forces operating within or upon it. Neuman has identified these forces as stressors, and suggests that possible reactions and actual reactions with identifiable signs or symptoms may be mitigated through appropriate early intervention (Parker and Marlaine C. Smith, 2010, p. 182). This relationship has been explained in the diagram below.



**Figure1: Adopted Neuman's Model's Concepts 1995**  
 Only two concepts (client with three variables and environment) have been considered in this study.

**Figure2. 1. Conceptual frame work of the present study**

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1. Introduction**

Conducting research implies following a systematic process to discover, interpret and revise theories and/or facts “so that those data become meaningful in the total process of discovering new insights into unsolved problems and revealing new meanings” (Leedy, 1985).

The methods to be used in carrying out this proposed study have been described here. The research setting, Research approach, study design, population, sampling methods, data collection, management and analysis are explained. As well, ethical considerations and limitations for this study are detailed.

### **3.2. Study design**

The study design is expected to outline the critical approaches that the researcher intends to apply to answer the research question at hand (Polit & Beck, 2010). Across-sectional descriptive design, as described by LoBiondo-Wood & Haber (2006) was used in this study. A cross sectional study refers to data collection by surveying many subjects at the same point of time, or without regard to differences in time.

### **3.3. Research approach**

The quantitative research methods emanate from the principle that variables in human behavior and human phenomena can be studied objectively (Parahoo, 2006). It is to this effect that quantitative approach has been selected as the most apposite research method for this particular study. Quantitative research approaches use a controlled design that organizes the research question first and detail the method of data collection and analysis to be employed (Robson, 2007).

### **3.4. Research settings**

The study was conducted in Rwanda at the Kigali University Hospital Center (CHUK). The hospital is located in Nyarugenge district about 1km from city center. It is one of the 5 national referral hospitals, and the biggest. It was built in 1918, from when it served as a health center and became a district hospital in 1965, current as Referral Hospital. CHUK serves the whole country receiving patients from all district hospitals and offers care in all specialties, with both in and Out-patients. It has a capacity of 586 beds the setting has been selected because of its patient population mixture, as

it receives patients all over the country. Indeed it has also the teaching mission and its surgical department is the biggest in Rwanda referral hospital.

### **3.5. Study population**

A population, according to Parahoo (2006) is “the total number of units from which data can potentially be collected”. The population for this study was patients who were admitted in surgical wards at CHUK in Rwanda. Delimitation of the population to a homogenous level group was achieved through inclusion and exclusion criteria. From the records obtained in statistics office at CHUK; 12, 332 postoperative patients were admitted in surgical wards from interventions done by different surgical speciality: urology, orthopaedics, general surgery, Neurosurgery, plastic, ENT, Stomatology and ophthalmology in three consecutive years since July 2013. Based on the above number the researcher assumed that 4,111 patients are admitted in the surgical wards yearly from July 2013 to June 2016. Considering the exclusion criteria the neurosurgical unity was excluded resulting in 3631 admitted patients in surgical wards yearly and 303 patients by months.

#### **3.5.1. Inclusion criteria**

Post-operative patients admitted in surgical wards from day one to three days.

18years old and above post-operative patients.

Consenting patients to participate.

#### **3.5.2. Exclusion criteria**

This study excluded patient who were unable to talk or write, and patient who were not stable.

### **3.6. Sampling**

#### **3.6.1. Sampling strategy**

Sampling is basically a process by which the researcher chooses a fraction of the target population, as the representative study population. Working with samples rather than with large populations offers a more cost-effective and practical strategy in research (Polit & Beck, 2010).

Patients that were meeting the criteria were selected using a systematic random sampling method to get the target population. The researcher questioned the every 3<sup>rd</sup> patients who attended the surgical wards and has had undergone a surgery, the starting point was randomly chosen between (1, 2, 3). E.g: For the starting point is 2 the next were be 5, 8, and 11. ...

To take into account the fact that the wards do not have the same capacity of accommodating the patients, the researcher was also used probability proportional to the size of each ward to get the number of participant from each ward. Probability sampling in quantitative research is preferred over other methods because of its capacity in reducing errors and biases in the study (Proctor *et al*, 2010).

### 3.6.2. Sample size

In quantitative research it is recommended that the sample size calculation should be at the stage of study designing (Proctor *et al*, 2010). Other scholars recommend selection of such a large sample that it is representative of the target population (Polit & Beck, 2010). It's aligned with this reasoning and by considering that the surgical department receives 303 postoperative patients a month; the following simple formulae for Yamane, (1967, p.886) was used to calculate simple size:

$$n = \frac{N}{1 + N(e)^2}$$

Here, n= is the simple size, N: population size and e: Level of precision or sampling error = +/- 5%

Based on the above formulae, with the proportion of the post-operative patients admitted in surgical ward at desired precision of 5%, the sample size to be used for this study is estimated to be 172 patients

#### *Sample size: Number of participant from each ward*

No	Ward by specialties	Capacity	Sample
1	w1	24	38
2	w2	24	38
3	w7orthopedie	32	50
4	Pav.opht	21	33
5	W8	8	13
	Total	109	172

### 3.7. Data Collection

#### 3.7.1. Data Collection instruments

Quantitative data are collected for the purposes of categorizing and describing behaviors attributes, and activities of populations (Parahoo, 2006). The data, however, should be collected using systematic, objective, and repeatable methods. According Robson (2007), collection of data should be through simple mechanisms that allow answers to the research question to be obtained and without unnecessary data collected.

Being aware of these guiding principles the instrument selected for data collection for this study is a questionnaire. The American Pain Society Patient Outcome Questionnaire Revised (APS-POQ-R) was adapted and it is free to public for use. A searcher Tewodros Eyob who also utilizes this tool confirms that tool to be free use. APS-POQ-R was designed for use to assess pain management among hospitalized adult patients. The updated APS-POQ-R was used in this research to understand patient's experience of pain management in surgical wards at CHUK. It has been found to be adequate psychometrics for quality improvement (QI) with the purpose of measuring the different aspects of the patients experience with pain such as pain severity or intensity and relief; impact of pain on activity, sleep, and negative emotions; side effects of treatment; helpfulness of information about pain treatment; ability to participate in pain treatment decisions; and use of non-pharmacological strategies (Gordon *et al.*, 2010, p. 13). In this research all these aspect was looked in addition the patient's satisfaction to pain treatment.

The internal consistency reliability and initial construct validity of that tool was tested and found to be good in Medical–surgical inpatient in the United States hospitals (Gordon *et al.*, 2010). As the administered questionnaires are the best way to measure patient-centered care attributes of primary health care (Hudon and Fortin, 2011), the questionnaire was translated from English to Kinyarwanda.

The APS-POQ has 13 questions, 10 questions have been taken as there are (Q1, Q2, Q4, Q5, Q6, Q7, Q8, Q12 and Q13), 3 questions have been slightly modified (Q9, Q10 and Q11). The research added 3 questions a part from demographic data for the purpose of responding to all objectives. The formed questionnaire was composed by 16 questions 6 questions (Q1-Q6) to respond to patient experience of postoperative pain intensity, 6 questions (Q7-Q11 and Q16) to identify postoperative pain management and 4 questions (12-15) to assess patient's satisfaction to pain

management. A pilot study was conducted during one week on the beginning of February to test validity of the tools in Rwandan context.

### **3.7.2. Reliability and validity of the instruments**

#### **3.7.2.1. Validity**

Validity of a questionnaire has been defined as the extent to which the research tool measures what it is intended to measure (Polit & Beck, 2010). The instrument should address all features of the problem being studied. Two aspects validity have been continually reported in the literature. These are content validity and face validity (Parahoo, 2006).

Face validity essentially examines whether the concept being tested are being measured in the questionnaire (LoBiondo-Wood & Haber, 2010). This was achieved through having other people supervisor and colleagues to test-run the tool to check whether the questions are clear, relevant, and not ambiguous (Jones & Rattray, 2010). A content validity test on the other hand, ensures that only asked questions are relevant and enough, thus covering all study areas being studied (Parahoo, 2006). To meet this requirement, the table was drawn reflecting questions by study objectives and Framework and was been discussed with my supervisor, presented and submitted to a panel to see whether questions indeed reflect the concepts under study as well as the capacity of the questions and adequacy.

#### **3.7.2.2. Reliability**

Reliability of a research instrument refers to its ability to generate the same results when used under the same conditions. However, reliability is not easy to achieve particularly when it involves people as study subjects (Robson 2007). In quantitative research Reliability basically focuses on consistency and stability (Polit and Beck 2010). Using cronbach alpha test the reliability was founded to be good at 0.764.

#### **3.7.2.3. Pilot Study**

Piloting is an important stage in the design of the study tool. It allows evaluation of the instrument before actual data collection begins (Parahoo 2006). Using a small sample of subjects admitted within of approximately 10% of the sample size a pilot study was done to ensure the intent of measurement data is being maintained.

### **3.7.3. Data collection procedure**

A systematic Random method was used to collect data. As CHUK surgical department has five wards to accommodate postoperative patients the sample size was distributed to the wards by probability to the size the data collection period was one month. Patients were identified from day of admission in surgical wards up to 3days. Even early acute postoperative period could range up to 7days in order to avoid any loose of capturing patient experience of 24hours postoperative moment due to forgotten the time extended to 3days was limit. The researcher used self administration questionnaire and reached patients in their respective wards and explained the purpose of the study for patients' verbal and written consent. Before the patient filled out the questionnaire, more clarification on questions was provided where needed, then researcher comeback at the agreed time to pick the questionnaire; For the patients who are unable to write the caretaker or a researcher was reading the questionnaire to that patient and fill it with the patient provided responses.

### **3.8. Data Analysis**

The data entry and data analysis was done in SPSS virsion20. The data analysis was done using descriptive Statistic and correlation of dependent variable of interest using bivariate analysis. The description of the findings were provided in the frequency and percentage of the dependent variable, the mean, median and standard deviation were guiding the researcher's conclusion about dependent variable studied and tables or figures were displayed to represent findings.

### **3.9. Ethical Consideration**

Permission to carry out the study was requested from the University of Rwanda, College of Medicine and Health Sciences institutional review board (IRB).Also the researcher obtained permission from CHUK research committee to be able to access the study setting.

In addition, participants were approached, explained about the study purpose, process, benefits, risks, as well as the role they are expected to play if they consent to participate. Participants' rights, anonymity and confidentiality were guaranteed during all process of the study. Participants given enough time to understand consent form and consider their participation as possible, then the researcher provided an informed consent form to approve an agreement of participant by their Signature.Initials on consent form and surgical specialty on the questionnaire was used as identification. The specialty name was mentioned to make sure the sample size distribution. Indeed permission from the author has been verified as the tool is seen to be free of use on the web and the

confirmation from another researcher who used it before has been obtained. Participants were reminded that participation in the study is voluntary.

### **3.10. Data management**

All data are kept on password protected computers. Information from this research will be only shared between members of the research group. The researcher, panel members, and the hospital leaders and any participant who wish for.

### **3.11. Data Dissemination**

The final report will be disseminated as well as submission of a manuscript for publication in a peer-reviewed journal within the future. Study results will be shared with partners at the national and global level only for the purpose of improving postoperative management like conducting further research, guideline development and education purpose

### **3.12. Limitations and challenges**

The limitations of this study was that the time of the data collection was changed from February to March due to the surgical department outreach was conflicting with it ,no conflict of interest faced. Some confounded variables were not controlled. The Short time of data collection leads to reduced sample size and was a challenging to reduce bias.



## CHAP4: RESULTS PRESENTATION

**Table4. 1. Participant’s demographic data (n=172)**

Independent variables		Frequency	Percent	Independent Variables		Frequency	Percent
Age	18-38 ages	100	58.1	Occupation	Non job	32	18.6
	39-59 ages	47	27.3		Public employee	16	9.3
	60-80 age	25	14.5		self employee	33	19.2
Sex	Female	58	33.7		Famer	60	34.9
	Male	114	66.3		Student	18	10.5
Surgical specialty	Orthopedic surgery	63	36.6		Private employee	13	7.6
	General surgery	65	37.8	Operation day	Day one	81	47.1
	Urology	11	6.4		Day two	63	36.6
	Stomato	9	5.2		Day three	28	16.3
	Ophth	7	4.1	Frequency of Operation	Was the first operation	122	70.9
	ENT*	17	9.9		Second operation	24	14
Education level	No education level	12	7		Third or more	26	15.1
	Primary level	94	54.7				
	Secondary level	45	26.2				
	Diploma level	11	6.4				
	Degree level	10	5.8				

The **table 4.1** above shows that majority of participants were under 60years old 147(85.4%) and the male were more representative than female 114 (66.3%) vs. 58 (33.7%). Concerning the wards or specialty orthopedics unit and general surgery had more patients 63 (33.6%)/ 76 (44.2%) than others specialties or units (Ophthalmology , ENT and Stomatology) 33 (19.2%). A good number of study participants were famers 60(34.9%) and mainly interviewed patients were at their day one and two postoperatively 81 (47.1%) / 63 (36.6%) vs 28 (16.3%) at day three and 122 (70.9%) were at the first operation.

**Table 4.2. Patients experience on postoperative pain intensity (n=172)**

		Frequency	Percent	Frequency	Percent	Frequency	Percent	
<b>1. Pain intensity</b>								
The least pain experienced in first 24hrs postoperatively	No pain	2	1.2	<b>3. Mood affection due to pain</b>				
	Mild pain (1-3)	64	37.2		Anxiety	Not at all anxious (0)	98	57
	Moderate (4-6)	68	39.5			Mild anxious (1-3)	18	10.5
	Severe (7-10)	38	22.1			Moderately anxious(4-6)	32	18.6
The moderate pain experienced in first 24hrs postoperatively	No pain(0)	14	8.1		Extremely anxious(7-10)	24	14	
	Mild pain (1-3)	70	40.7	<b>Depression</b>	Not at all depressed =0	101	58.7	
	Moderate pain (4-6)	70	40.7		Mild depressed=1-3	23	13.4	
	Severe pain (7-10)	18	10.5		Moderately depressed=4-6	23	13.4	
			Extremely depressed=7-10		25	14.5		
The worst pain experienced in first 24hrs postoperatively	No pain(0)	3	1.7	<b>Frightens</b>	Not at all frightened=0	63	36.6	
	Mild pain (1-3)	21	12.2		Mild frightened=1-3	22	12.8	
	Moderate(4-6)	48	27.9		Moderate frightened=4-6	33	19.2	
	Severe(7-10)	100	58.1		Extremely frightened=7-10	54	31.4	
<b>2. Frequency time of being in severe pain</b>	Never been in severe pain (0%)	45	26.2	<b>Helpless</b>	Not at all helpless=0	66	38.4	
	Few time been in severe pain(10%-30%)	61	35.5		mild helpless=1-3	28	16.3	
	Much time been in severe pain (40%-60%)	35	20.3		moderate helpless=4-6	28	16.3	
	Always in pain (70%-100%)	31	18		extremely helpless =7-10	50	29.1	

**Table 4.2** above revealed that majority of participants experienced pain 24hrs postoperatively 96.3%. The worst pain experienced ranged from moderate 48 (27.9%) to severe 100 (58.1%) using numerical rating scale; while least pain experienced ranged from moderate 68 (39.5%) to mild 64 (37.2%) yet the severe pain was expressed with a significant number 38 (22.1%). Considering the time spent in severe pain, a significant number of participants 35 (20.3%), were in severe pain one hour and more equivalent to (40%-60%), 31(18.0%) were always in pain and 61 (35.5%) were little time in pain (10%-30%). Most number of participants did not show mood affection or pain emotion effect. Among four elements evaluated in mood affection the feeling of frightened and helpless were the most experienced at 54 (31.4%) and 50 (29.1%) respectively. From these findings the overall postoperative pain experienced were moderate to severe pain with ( $3\pm 0.583$ ) using pain management index (PMI) which classify the pain intensity as follows 0 (no pain), 1 (1–3: mild pain), 2 (4–6: moderate pain), and 3 (7–10:severe pain) (Cleeland C.S.*et al.* ,1994 ).

**Table4. 2. Pain interference with activities n= (172)**

Variable		n(%)
Setting up, turning in bed, repositioning	Does not interfered (0)	10(5.8)
	Mild interfere (1-3)	16(9.3)
	Moderately interfere (4-6)	14(8.1)
	Completely interfere(7-10)	132(76.7)
Walking, sitting in chair.	Does not interfered (0)	50(29.1)
	Mild interfere(1-3)	25(14.5)
	Moderately interfere(4-6)	34(19.8)
	completely interfere(7-10)	63(36.6)
Falling asleep.	Does not interfered (0)	50(29.1)
	Mild interfere(1-3)	25(14.5)
	Moderately interfere(4-6)	34(19.8)
	Completely interfere(7-10)	63(36.6)
Staying asleep	Does not interfered(0)	17(9.9)
	Mild interfere(1-3)	14(8.1)
	moderately interfere(4-6)	13(7.6)
	completely interfere(7-10)	128(74.4)

**The table 4.3.** demonstrate that pain impaired participant’s activities of function, where most participants had complete activity interference from pain at average 56.1%. The overall functional activities interference was 85.1%. As all five activities interviewed on responses were “completely interfered”. The Sitting up, turning in bed, repositioning occupied complete interference at 132 (76.7), Walking, sitting in chair equally to falling asleep 63 (36.6) and 50 (29.1) did not interfere activity. While staying asleep was highlighted expressed as much as doing movement (sitting, tuning or repositioning) by 128 (74.4).The mean of all activities interference were (1.69±0.895), (1.43±0.872), (1.53±1.000) and (2.64 ± 1.246).The overall pain interference of activities was completely interfered (7.28±2.726)

**Table 4. 3. The Pain management experienced postoperatively (n=172)**

<b>Variables</b>		<b>Frequency</b>	<b>Percent</b>
Receiving pain Medication after being admitted in the ward.	Yes	167	97.1
	No	5	2.9
Much pain reliefs Received in 24hrs from all combined treatment.	No relief =0%	13	7.6
	Mild relief=10%-30%	27	15.7
	Moderate relief=40%-60%	34	19.7
	Complete relief=70%-100%	98	57
Patient encouragement to use none -medicine methods	Never	114	66.3
	Sometime	39	22.7
	Always	19	11
Use of none-medicine methods to relieve pain	cold pack	2	1.2
	listen to music	6	3.5
	Prayer	21	12.2
	distraction(watching TV, reading)	3	1.7
	Walking	14	8.1
	deep breathing	3	1.7
	Relaxation	3	1.7
	Massage	6	3.6
	others(turning in bed, sitting up)	19	11.1
	None used	95	55.2

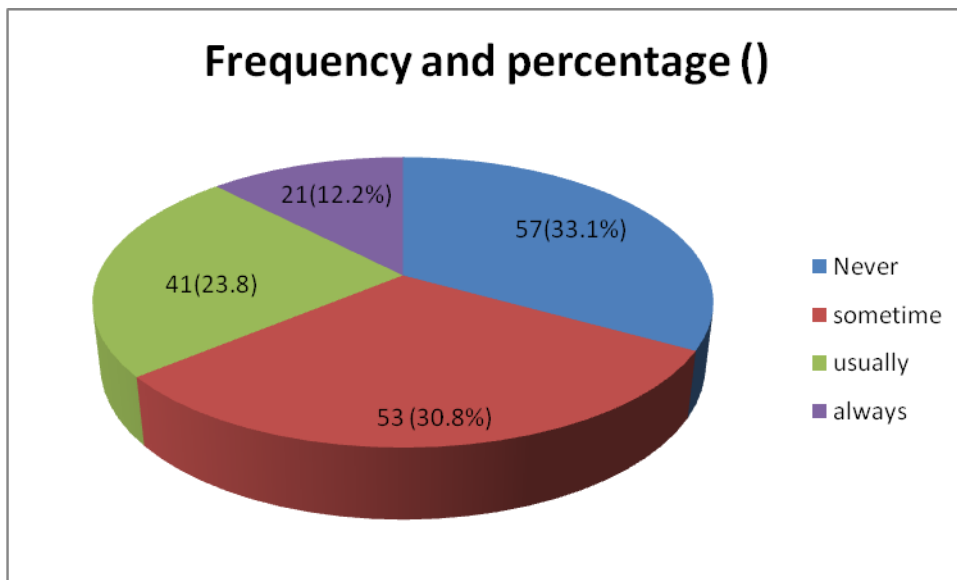
**The table 4.4.**results illustrate that 167(97.1%) received pain medications while admitted in surgical wards however the total pain relief received 24hrs postoperatively was not highly appreciated, only 98 (57.0%) state the complete pain relief (70%-100%) ;others ranged from mild relief (10%-30%) to moderate relief (40%-60%) by 27 (15.7%) and 34 (19.8%) rate respectively while 13 (7.6%) declare no relief (0%) received. As the client involvement in all aspect of care play a role in achieving patient’s expectations and quality of care; for this study, the patient’s encouragement on use of non-medicinal methods to relieve pain by healthcare provider was less practiced at 39(22.7%) and 114(66.3%) were never encouraged as a result 95 (55.2%) did not use non-medicine method in their postoperative period yet these who used were 4.9%. The overall pain management were 104(60.5) poorly managed and 68 (39.5%) adequately managed with (1.4±0.49) according to pain management index (PMI).

**Table4. 4. Pain medication side effects experienced**

<b>Pain medication side effects</b>		<b>Frequency</b>	<b>Percent</b>
Nausea	None=0	120	69.8
	Mild nausea=1-3	21	12.2
	Moderate nausea=4-6	18	10.5
	severe nausea=7-10	13	7.6
Drowsiness	None=0	107	62.2
	Mild drowsiness=1-3	21	12.2
	Moderate drowsiness=4-6	27	15.7
	Severe drowsiness=7-10	17	9.9
Itching	None itching=0	155	90.1
	Mild itching=1-3	8	4.7
	Moderate itching=4-6	6	3.5
	Severe itching =7-10	3	1.7
Dizziness	None dizziness=0	118	68.6
	Mild dizziness=1-3	30	17.4
	Moderate dizziness=4-6	16	9.3
	Severe dizziness=7-10	8	4.7

**Table 4.5.** Show that most participants did not experience side effects of pain medications at 72.6 % . In all the four elements evaluated, sides effects were experienced at 80/688 (11.6%), 67/688 (9.7%), 41/688 (5.9%) which meant mild, moderate and severe respectively. Dizziness was the most side effect experienced at mild level of 30 (17.4%) followed by drowsiness at moderate level of 27 (15.7%) and nausea 21 (12.2%). The last was itching with the percentage less than 4.8% for all levels.

**Figure4. 1. Reassessment of pain after painkiller administration.**



**Figure 4.1.** demonstrate the frequencies of pain reassessment .A big number of 57 (33.1%) were not been assessed after pain killer administration and 53 (30.8%) were reassessed sometime .Only 21 (12.2%) were always reassessed and 41(23.8%) were usually assessed .The adequate pain management started by assesement and reassessment in order to plan for care in surgical wards and patient’s reassessment was underscored.

**Table 4.6 The Overall pain management postoperatively(n=172)**

Category	Frequency	Percent
Poorly managed	104	60.5
Adequately managed	68	39.5

**The table 4.6** above shows that a big number of participant were poorly managed concerning postoperative pain care 104(60.5%) only 68 (39.5) appreciated the mangement received.

**Table4. 7. The level of participants satisfaction to pain management (n=172)**

	Dissatisfied	Satisfied
<b>Items</b>	<b>Frequency (%)</b>	
Allowed to participate in decisions making satisfaction	149(86.7)	23(13.4)
Satisfaction on information received about pain &its management	140(81.4)	32(18.6)
Satisfaction with patient-care provider relationship	1(0.6)	171(99.4)
The overall patient satisfaction to pain management	105(61.0)	67(39.0)

**The table4.7** above demonstrate a high satisfactory of participants- care provider relationship 171 (99.4%) nevertheless there is a significant dissatisfaction on participants allowed to participate in decision making about their pain management at 149 (86.7%) and 140 (81.4%) for information received about pain and its management. The overall participant’s satisfaction level to pain management was dissatisfaction 105 (61.0) only 67 (39.1%) were satisfied with their pain management suitable to mean of and standard deviation of (1.39± 0.489).

**Table4.8. Bivariate analysis for correlation between Pain management and patient satisfaction to pain management**

	Management category	Patient satisfaction to pain management
Management category	1	.226**
		.003
Patient satisfaction to pain management	.226**	1
	.003	

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Thetable4.8.** Give an idea about a correlation between pain management and patient satisfaction.

**Table4. 9. Bivariate analysis for correlation between demographic data and pain intensity**

	1	2	3	4	5	6	7	8
1. PAIN INTENSITY EXPERIENCED	1.000							
2. Age	.026	1.000						
3. Sex	-.013	.051	1.000					
4. Wards/specialty	-.092	.041	-.062	1.000				
5. Job	.126	.044	.073	.046	1.000			
6. Education level	.003	-.274**	.151*	.004	-.171*	-	1.000	
7. Days after operation	.084	.190*	.021	-.080	-.007	-.118	1.000	
8. Frequency of operation?	-.015	.019	-.050	.081	-.052	-.060	.022	1.000

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\* . Correlation is significant at the 0.01 level (2-tailed).

**Table 4.9.** Illustrated not correlation between demographic data with Pain intensity postoperatively.



## CHAPTER FIVE : DISCUSSION

In this current study, the findings illustrate the participants' category of pain experience in postoperative period, the management faced during that period and how satisfied were the patients to pain management.

### 5.1. Patients experience on postoperative pain intensity

Using numerical rating scale, the participants experienced pain from moderate to severe in first 24hrs postoperatively. The least pain experienced was ranging from mild to moderate however, there was severe pain expressed with a significant number 38(22.1%) even on that level of least pain. From these findings the researcher concluded that the overall postoperative patient's pain score was moderate to severe ( $3.2\pm 0.62$ ) using pain scale and PMI.

This was not different from other studies for example Gan, Miller and Apfelbaum, 2014 in their study expressed that postoperative patients in immediate period described pain as moderate, severe, or extreme by 75% . Likewise Lei and Jing, (2013, p. 11) ,Maier *et al.*, (2010, p. 60) confirmed in their studies 91.4% and 29.5% respectively experienced moderate to severe pain. Woldehaimanot, Eshetie and Kerie, (2014, pp. 6&8);Herbert g. Masigati and Kondo s. Chilonga (2014, p. 1) and Murthy S.,(2013,p.104) also showed that patients experienced pain postoperatively from moderate to severe; however the rate of percentage varied from this study to others possibly due to different aspects like background of participants, patients expectation and culture differences

Pain is a commonly experienced symptom after surgery, however it is a human right to prevent and /or relieve pain in postoperative patients and it is a professional responsibility (Brennan, Carr, & Cousins, 2007, p 205) so health care providers should make sure that patients feel pain within a reasonable limit. About time spent or being in severe pain the participants in this study expressed much time (40%-60%) and were always in pain. Lei and Jing, (2013) also highlighted a delay in postoperative pain relief at 82.8% of participants in Chinese on postoperative pain management study. In other study conducted in Ethiopian in 2014 found that only few patients (2.5%) reported that they received pain medication within 15 minutes of complain of pain.

The important number of participants did not show mood affection related to pain experienced. Frightens and helplessness were the most experienced at 54(31.4%) and 50(29.1%) respectively. Contradictions and similarities were highlighted in others studies like GanJ.T.et, *al.*, (2013) and

Tong G. *et al.*, (2013) where anxiety plays a big part in postoperative management. Gordon.B. *et al.*, (2010) shows that pain causes patients to feel anxious, depressed, frightened, and helpless.

Pain interferes or prevents functioning. The findings demonstrate that participant's activities were impaired by pain significantly. All five activities interviewed on such as ( sitting up, turning in bed, repositioning, walking, sitting in chair, falling asleep and staying asleep) the response was "completely interfered" at average rate of 56.1% and (7.28±2.726). According to Gordon B., (2010, p.12) pain control facilitates physical function and emotions during hospitalization but pain interference is greater seen in postoperative patients. According to Woldehaimanot. E (2014) study high interference was reported.

## **5.2. The Pain management experienced postoperatively**

Postoperative management is notified to be effective if it is customized to the needs of the individual patient holistically (Gupta *et al.*, 2010, p. 97, Hailemariam, 2015).Results from this study shows 97.1% participants have received painkillers (medications) however the total pain relief received 24hrs postoperatively was not highly appreciated, only 98 slightly half percent of participants state the complete pain relieve (70%-100% of the scale) were receive and 13(7.6%) declare no relief (0%) received others were in mild to moderate range; Tong G. *et al.*, (2013) revealed 88% received analgesic medications but continue to experience pain at 80%. As Czarnecki *et al.*, 2011, p. 100) and zarnecki *et al.*, 2011, p. 100) stated the plan of pain management could be a multimodal pharmacologic and non-pharmacologic approach. In this current study the non-pharmacological is ignore only 4.9% used non-pharmacological methods.

In pain management, the use of analgesia primarily targets the sensory dimension of pain while non-pharmacological methods, such as music, relaxation, and guided imagery, targets the emotional and psychological dimension of pain,

The discrepancy between painkiller received and total pain relief for this study were probably due to less use of non-pharmacological approach at 95(55.2%), lower patient's involvement in pain management like encouragement on use of non-medicinal methods to relieve pain which was less and or never practiced and the reassessment which was not consistently performed. Despite the recommendation<sup>1, 6</sup> made in American Pain Society guideline in Chou R., 2016 study; similar findings from Ahmad I., (2016) study revealed that 80% of participants never used non-pharmacological interventions and 80% of care providers do not believe the effectiveness of these non-pharmacological interventions even 7% believe that patients on morphine are not allowed to use

non-pharmacological approach. Vaajoki, (2013) also confirms that non-pharmacological approach was not systematically used. Many evidence-based studies provide moderate to strong support for the effects of non-pharmacological for pain alleviation (Chou MF,et al.,2006),( CaffreyR.,2008).

Contrary, the findings from Tong J.G.et al., 2014 60% of participants reported the non-pharmacological pain management strategies used. Thomas et al. (2010), WHO, (2012), MOH, 2012) guidelines recommend the non-pharmacological measures for pain management .The overall pain management were 104(60.5%) poorly managed and 68(39.5%) adequately managed with (1.4±0.49). Similar study revealed that the majority of patients were inadequately and inappropriately treated only (19.9%) received adequate pain management (Woldehaimanot T. E., *et al.*, 2014). Contrarily to the study conducted in Chinese hospital stated alleviation of the pain within good effect expected (Lei and Jing, 2013, p.1160). Despite the effort made by many organizations to pain management there is a little improvement (Ribeiro S.B, *et al*, 2012).

A big number did not experience side effect at 72.6% .Contrarily to study conducted in US in 2013 by Tong J. and colleagues where adverse effects were experienced at 80% and overall,79% of those who received pain medications at least one adverse effect was felt. The most frequently reported adverse effects were drowsiness, constipation, and nausea while in this study dizziness was the most felt at mild level followed by drowsiness and nausea at moderate level, the last was itching with the percentage less than 4.8% for all levels.

### **5.3. Level of satisfaction to pain management postoperatively.**

A sufficient number of participants were dissatisfied with their pain management this was not surprising as over all pain relief was not appreciated enough and similarity and difference were heightened in others studies. In the current study majority of patients reported 88% and (90%) of satisfaction with their postoperative pain management (Apfelbaumetal., 2003),(GanT.Jetal.,2013) respectively.LorentzenV.andHermansenIL.(2011),HelfardM,andfreeman,(2009 )also highlighted a differences in pain management satisfaction rate. Nearing to this findings study conducted in Ethiopia showed that only 50% of the patients were adequately satisfied with their pain management and the exception were on the counseling about pain before and after surgery the respondents received at 75%. In this study the lower rate of satisfaction to pain management could be attributed to many factors such less involvement of patients in pain treatment decisions and ignorance of non-pharmacological.

## **CHAPTER SIX .CONCLUSION AND RECOMMENDATION**

### **6.1. Conclusion**

The patients experience reflects the occurrences and events that happen across continuum of care. The results indicate that most postoperative patients experienced moderate to severe pain and are dissatisfied with pain management rendered. These findings are a signal to the gaps in meeting patients postoperative care needs.

The patient experience reflect the occurrences and events that happen across continuum of care .CHUK surgical Postoperative patients experienced severe pain and the pain managements was founded to be inadequate as evidenced lower patients satisfaction. Further studies are needed to ruler out the appropriateness of postoperative pain assessment and effectiveness of the treatment used.

### **6.2. Recommendation**

The recommendations for practical, education and research were made to address the gap founded. The findings provide a practical implication for improved quality of care both at individual healthcare provider and system levels. This calls for institution clinical audit to rule out the appropriateness of postoperative pain assessment and management or organizational readiness and the level of knowledge and skills for effective postoperative pain management. From the findings the research recommends further Research on assessment of pain management, factors associated with postoperative patient's pain experience. Another study to assess patient's outcome to early mobilization postoperatively is recommended and the researcher recommends also an observation study to examine the context of practice and their limitation for postoperative pain management as poor management of post-operative pain can contribute to severe complications including pneumonia, deep vein thrombosis, infection, delayed healing, as well as the development of chronic pain.

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# APPENDICES

## APPENDICE1: CONTENT VALIDITY

FRAMEWORK ASPECT	QUESTIONS
<p><b>Objective1</b></p> <p>To assess the postoperative pain experience in surgical wards patients at CHUK</p>	
<p><u>Experience variables</u></p> <p><i>(physiological, psychological factors</i></p>	<p><b>1. On this scale, please indicate the least pain you had in the first 24 hours:</b></p> <p>0 1 2 3 4 5 6 7 8 9 10</p> <p>No pain wrist pain</p> <p>Possible</p> <p><b>2.On this scale, please indicate the worst pain you had in the first 24 hours</b></p> <p>0 1 2 3 4 5 6 7 8 9 10</p> <p>no pain worst pain</p> <p>possible</p> <p><b>3. On this scale, please indicate the moderate pain you had in the first 24 hours:</b></p> <p>0 1 2 3 4 5 6 7 8 9 10</p> <p>no pain worst pain</p> <p>possible</p> <p><b>4. How often were you in severe pain in the first 24hours? Please mark your best estimate of the percentage of time you experienced severe pain</b></p>

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Never in severe pain

Always in

severe pain

**5. Circle the one number below that best describes how much pain interfered or prevented you from:**

a. Doing activities in bed such as turning, sitting up, repositioning.

0 1 2 3 4 5 6 7 8 9 10

Does not interfere

Completely interferes

b. Doing activities out of bed such as walking, sitting in a chair,

0 1 2 3 4 5 6 7 8 9 10

Does not interfere

Completely interferes

c. Falling asleep : 0 1 2 3 4 5 6 7 8 9 10

Does not interfere

Completely interferes

d. Staying asleep: : 0 1 2 3 4 5 6 7 8 9 10

Does not interfere

Completely interferes

Completely interferes

**6. Pain can affect our mood and emotions. On this scale, please circle the one number that best shows how much the pain caused you to feel)**

a. Anxious 0 1 2 3 4 5 6 7 8 9 10

Not at all

Extremely

	b. Depressed	0	1	2	3	4	5	6	7	8	9	10	Not at all	Extremely
	c. Frightened	0	1	2	3	4	5	6	7	8	9	10	Not at all	Extremely
	d. Helpless	0	1	2	3	4	5	6	7	8	9	10	Not at all	Extremely

**Objective 2:** To identify the management of postoperative pain in surgical wards patients at CHUK

<u>Experience variables</u>  <i>Pain Management variables</i>	7. Did you receive any medication for your pain after being admitted in this ward?	Yes	<input checked="" type="radio"/>	No	<input type="radio"/>									
	8. Have you had any of the following side effects? Please circle "0" if no; if yes, please circle the one number that best shows the severity of each:													
	a. Nausea	0	1	2	3	4	5	6	7	8	9	10	None	Severe
	b. Drowsiness	0	1	2	3	4	5	6	7	8	9	10	None	Severe
c. Itching	0	1	2	3	4	5	6	7	8	9	10	None	Severe	

d. Dizziness 0 1 2 3 4 5 6 7 8 9 10

None

Severe

**11. In the first 24 hours, how much pain reliefs have you received? Please circle the one percentage that best shows how much relief you have received from all of your pain treatments combined (medicine and non-medicine treatments):**

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Relief

No relief

Complete

**9. How often did a nurse or doctor encourage you to use non-medicine methods?**

Never

some time

Often

**10. Did you use any non-medicine methods to relieve your pain?**

Yes

No

a. If yes, mark all that apply:

cold pack

meditation

listen to music

deep breathing

prayer

distraction ( watching TV, reading)

heat

	<input type="radio"/> imagery or visualization <span style="float: right;">relaxation</span> <input type="radio"/> walking <span style="float: right;"><input type="radio"/> massage</span> <input type="radio"/> other (please describe)  12. After receiving pain treatment how often health care providers come back to you to ask if your pain is relieved or reduced.  Never <input type="radio"/> sometime <input type="radio"/> usually <input type="radio"/> always <input type="radio"/>  b
--	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

**Objective 3:** To assess the level of satisfaction to pain management in surgical wards patients at CHUK.

	<p><b>15. Indicate how satisfied are you with the pain management while in being this ward :</b></p> <p>Extremely <input type="radio"/> Dissatisfied <input type="radio"/> Satisfied <input type="radio"/> <input type="radio"/> Extremely          dissatisfied <span style="float: right;">satisfied</span></p> <p><b>14. How were you satisfied to be allowed to participate in decisions making about your pain treatment as much you wanted?</b></p> <p>Satisfied <input type="radio"/> Neutral <input type="radio"/> dissatisfied <input type="radio"/></p> <p><b>13. How satisfied were you with information received about pain and its management before or after operation?</b></p> <p>Dissatisfied <input type="radio"/> Neutral <input type="radio"/> Satisfied <input type="radio"/></p> <p><b>16. How are you satisfied with your relationship with health care provider in this postoperative period?</b></p> <p>Dissatisfied <input type="radio"/> Neutral <input type="radio"/> Satisfied <input type="radio"/></p>
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**APPENDICE2: QUESTIONNAIRE ENGLISH VERSION**

**Qo. Background data**

**a. Age:** 18-38  39-59  60-80  81- above

**b. Sex:** female  male

**c. Ward/ surgical Specialty:** Ortho  General  Urology  Stoma   
Ophthalmology  ENT

**c. Education level:**

Primary level  Secondary level  Diploma level  Degree Level

**e. What is your job:** No job  public employee  Private employee  Self employee   
Famer  student

**d. At which day of operation are you?** Day one  day two  day tree

**f. How frequency of operation did you had:** first one  second  third or more

**I. SPECIFIC QUESTIONS**

**A. Postoperative pain experience**

**1. On this scale, please indicate the least pain you had in the first 24 hours:**

0 1 2 3 4 5 6 7 8 9 10

no pain

worst pain

possible

**2. On this scale, please indicate the worst pain you had in the first 24 hours**

0 1 2 3 4 5 6 7 8 9 10

no pain

worst pain

possible

**3. On this scale, please indicate the moderate pain you had in the first 24 hours:**

0 1 2 3 4 5 6 7 8 9 10

no pain

worst pain

possible

**4. How often were you in severe pain in the first 24hours? Please mark your best estimate of the percentage of time you experienced severe pain**

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Never in severe pain

Always in

severe pain

**5. Circle the one number below that best describes how much pain interfered or prevented you from:**

a. Doing activities in bed such as turning, sitting up, repositioning.

0 1 2 3 4 5 6 7 8 9 10

Does not interfere

Completely interferes

b. Doing activities out of bed such as walking, sitting in a chair, standing at the sink.

0 1 2 3 4 5 6 7 8 9 10

Does not interfere

Completely interferes

c. Falling asleep : 0 1 2 3 4 5 6 7 8 9 10

Does not interfere

Completely interferes

d. Staying asleep: : 0 1 2 3 4 5 6 7 8 9 10

Does not interfere

Completely interfere

**6. Pain can affect our mood and emotions. On this scale, please circle the one number that best shows how much the pain caused you to feel)**

a. Anxious 0 1 2 3 4 5 6 7 8 9 10



Not at all Extremely  
b. Depressed 0 1 2 3 4 5 6 7 8 9 10

Not at all Extremely  
c. Frightened 0 1 2 3 4 5 6 7 8 9 10

Not at all Extremely  
d. Helpless 0 1 2 3 4 5 6 7 8 9 10

Not at all Extremely

### **B.POSTOPERATIVE PAIN MANAGEMENT**

**7. Did you receive any medication for your pain after being admitted in this ward?**

Yes  No

**8. Have you had any of the following side effects while taking painkiller? Please circle "0" if no; if yes, please circle the one number that best shows the severity of each:**

a. Nausea 0 1 2 3 4 5 6 7 8 9 10

None Severe

b. Drowsiness 0 1 2 3 4 5 6 7 8 9 10

None Severe

c. Itching 0 1 2 3 4 5 6 7 8 9 10

None Severe

d. Dizziness 0 1 2 3 4 5 6 7 8 9 10

None

Severe Fatigue

**9. How often did a nurse or doctor encourage you to use non-medicine methods?**



### **C.PATIENT 'S SATISFACTION TO PAIN MANAGEMENT**

**13. How satisfied were you with information received about pain and its management before or after operation?**

Dissatisfied  Neutral  Satisfied

**14. How were you satisfied to be allowed to participate in decisions making about your pain treatment as much you wanted?**

Satisfied  neutral  dissatisfied

**15. Indicate how satisfied are you with the pain management while in being this ward :**

Extremely  Dissatisfied  Satisfied  Extremely  
dissatisfied satisfied

**16. How are you satisfied with your relationship with health care provider in this postoperative period?**

Dissatisfied  Neutral  Satisfied

**APPENDICE3: IBIBAZO KUBUSHAKASHATSI**

**UMWIRONDORO**

a. Imyaka yawe : 18-38  39-58  59-78   above

b. Ikicyiro cy'amashuri wize:

Amashuri babanza  ayisumbuye  ikicyiro cyambere cya kaminuza   
Icyiciro cy a kabiri cya kaminuza  ikindicy'kicyiro kivuge .....

c. Izina ry'ikicyiro cy'imbagwa urwariyemo

Imbagwa z'amagupfa  Imbagwa rusange  Imiyoboro 'inkari

imbagwa z'amenyo  imbagwa z'amaso  amazuru, amatwi n'umuhogo

d. Umurimo ukora .....

e. Uri ku munsu wakangahe wanyuma yo kubagwa? Wambere wak  ri wagati

f. N inshur  gahe ubazwe: Imwe  Ebyiri  Eshatu zirenga

**I. Ibibazo byihariye bijyanye n'ubushakashatsi**

1. Kuri yingano y'imibare erekana umubare ugaragaza ububabare buke wagize ku munsu wawe wambere wa nyuma yo kubagwa .

0 1 2 3 4 5 6 7 8 9 10

Nta

Bubabare

ububabare bukabije

2. Kuri yingano y'imibare erekana umubare ugaragaza ububabare bukabije wagize ku munsu wawe wambere wa nyuma yo kubagwa

0 1 2 3 4 5 6 7 8 9 10

Nta

Bubabare

ububabare bukabije

**3. Kuri yingano y'imibare erekana umubare ugaragaza ububabare bugereranyije wagize ku munsu wawe wambere wa nyuma yo kubagwa.**

:

0 1 2 3 4 5 6 7 8 9 10

Nta

Bubabare

ububabare bukabije

**4. Ni mu igihe kinganiki wamaze mububabare bukabije ku munsu wawe wambere wa nyuma yo kubagwa? Hitamo ingano kwi jana igaragaza igihe wamaze muri ubwo bubabare bukabije.**

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Ntabwo

nabayemo

Igihe cyose

**5. Hitamo umubare umwe ugaragaza uko Ububabare bwa kubujije gukora ibi bintu bikurikira.**

a. Kugira icyo nkora muburiri nko kwicara,guhindukira,

0 1 2 3 4 5 6 7 8 9 10

Ntibwambujije

kubikora

Bwamujije kubikora cyane

b. Kugira icyo nkora mvuye muburiri nko kugendagenda,kwicara mu igare.

0 1 2 3 4 5 6 7 8 9 10

Ntibwambujije

kubikora

Bwamujije kubikora cyane

c. Gusinzira

0 1 2 3 4 5 6 7 8 9 10

Ntibwambujije

kubikora

Bwamujije kubikora cyane

d. Staying asleep

0 1 2 3 4 5 6 7 8 9 10

Ntibwambujije

kubikora

Bwamujije kubikora cyane

**6. Kubabara bishobora gukora kubyiyumviro byawe.ukoresha iyi mibare hitamo umubare umwe ugaragaza urugerowagizemo ibiyumviro bikurikira:**

a. Agahinda 0 1 2 3 4 5 6 7 8 9 10

Ntako nagize

narakagizegakabije

b. Akababarogakabije

0 1 2 3 4 5 6 7 8 9 10

Ntako nagize

narakagizegakabije

c. impungenge 0 1 2 3 4 5 6 7 8 9 10

Ntazo nagize

narazigizegakabije

d. kumva ntacyo ushoboye

0 1 2 3 4 5 6 7 8 9 10

Nabwo nabyumvise

narabyumvise cyane

**7. Waba warahawe umuti wububabare kuva wakwinjizwa muri iyinzu?**

Yego  Oya

8. Waba waragize bimwe muri ibi bimenyetso mugihe wafataga umuti wo kubara? Hitamo zeru“0” niba ntabyo niba warabigize shyira mukaziga umubare ugaragaza uko byari bikabije

a. Isesemi 0 1 2 3 4 5 6 7 8 9 10

ntayo

ikabije

b. Gucika intege /kunanirwa

0 1 2 3 4 5 6 7 8 9 10

ntako

bikabije

a) Uburyaryate bwo kwishimagura

0 1 2 3 4 5 6 7 8 9 10

ntabwo

bukabije

d. Isereri 0 1 2 3 4 5 6 7 8 9 10

ntayo

ikabije

9. Ni kuruhe rugero umuganga cya umuforomo(kazi)yagukanguriye gukoresha ubundi buryo butari imiti kugirango wivure ububabare.





Ntanarimwe



rimwe narimwe



Burigihe

**10. Waba warakoresheje uburyo bundi butari imiti mukugabanya ububabare?**

**Yego**  **Oya**

**Niba ari yego garagaza ubwo aribwo :**

cold pack

listen to music

prayer

distraction ( watching TV, reading)

heat

imagery or visualization

walking

other (please describe)



meditation



deep breathing



relaxation



massage

11. Ku muni umwe wanyuma yo kubagwa , wagabanyirijweho ububabare kuyihe ngano?hitamo ikigereranyo kwijana kigaragaza neza uko wagabanyirijwe ububabare hakoreshejwe imiti cyangwa ubundi buryo.

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

Ntabwo

nagabanyirijwe

narabugabanyirijwe

bihagijecyane

12. Nyuma yo kuguha umuti ikugabanyiriza kubabara. ni kuruhe rugero ukuvuye yagarukaga kukubaza niba ububabare bwawe bwagabanutse cyangwa bwagiye?

Ntanarimwe  rimwe narimwe  igihe kinini  burigihe

13. Garagaza uko wanyunzwe n'amakuru wahawe arebana n'uko ububabare bwawe buzavurwa mbere yo na nyuma yo kubagwa?

Sinanyuzwe  naranyunzwe  Naranyujwe cyane birenze  Naranyujwe biraho

14. Nikuruhe rugero wishimiye uko wemerewe kugira uruhare uko wabyifuje mwifatwa ry'ibyemezo kuburyo buri bukoreshwe ku mivurire y'ububabare bwawe ?

Sinabyishimiye nagato  hagati nahagati  narabyishimiye  narabyishimiye cyane

15. Garagaza uko wanyuzwe n'uko ububabare bwawe bwavuye muri iyi nzu urwariyemo.

Sinanyuzwe  naranyuzwe  Naranyujwe cyane birenze  Naranyujwe biraho

16. Ni kuruhe rugero wishimiye imibanire yawe nabakuvura ?

sinyishimiye nagake  sinyanze sinanayishimiye  Ndayishimiye

## **CONSENT TO PARTICIPATE IN A RESEARCH STUDY**

**Title of Study: PATIENTS' EXPERIENCE OF POSTOPERATIVE PAIN MANAGEMENT IN A RWANDAN HOSPITAL, SURGICAL WARDS**

**Researcher's Name:** MUHAWENAYO Esperance.

**Phone number:** +250788721918

### **INTRODUCTION**

I, MUHAWENAYO Esperance, a student at the University of Rwanda College of Medicine and Health Science in the masters program. I would like to request for Participation in this study Entitled” **patients' experience of postoperative pain management in rwandan hospital, surgical wards**” supervised by Mrs MUSABIREMA Priscille and Prof. BUSISIWE Bhengu.

This consent is addressed to postoperative patients admitted in surgical wards from 1 to 3 days postoperatively whose age above 15 years. Your agreement will be confirmed with your Signature at the end of this paper after having more explanations

### **PURPOSE OF STUDY**

The general purpose of the study is to assess the patient's experience of postoperative pain management in surgical wards at CHUK. This study has to answer these research questions :

- (1) what is the patient's experience of postoperative pain management in surgical wards at CHUK?
- (2) What is the level of patient satisfaction to pain management in surgical wards at CHUK?
- (3) What are factors associated with pain management in surgical wards at CHUK?

### **DESCRIPTION OF THE STUDY PROCEDURES**

When you agree to participate in this study, you will be given a detailed explanation about the study and asked to sign a consent form, then you will be given a questionnaire to fill within 5-10 minutes. You are allowed to read the questionnaire and ask any question for clarification and then stay with that questionnaire to fill it and you will be required to tell the researcher which time

convey at the same day to come to pick it back. A copy of consent or other needed document could be given to you if you want

### **RISKS/DISCOMFORTS OF BEING IN THIS STUDY**

There no known risks or expected to participants of this study.I assure you that your care provider's team will treat you in the same way whether or not you choose to participate in our survey.

### **BENEFITS OF BEING IN THE STUDY**

This study has the benefit to know the patient' experience of postoperative pain management as a result, being participant in this study will help in evaluation of pain management system in surgical wards and could impact more on the quality of pain care postoperatively. Indeed the educational and practical strategies related to postoperative pain management could rise from these data and provided to surgical staff to improve quality of postoperative patient 's pain care.

### **CONFIDENTIALITY**

I guarantee confidentiality of your voluntary participation and the information you provide will be made anonymous once you hand in this questionnaire. This means that your form of identification will not be included in any records presentation and your answers in this questionnaire will not be shared with your medical or nursing team except the general view of the study results.You will only asked to use your age, sex, level of education ,surgery admission specially as demographic data. After handling the questionnaire the researcher will be kept strictly confidential research records in a locked area and all electronic information will be coded and secured to her computer using a password.

### **PAYMENTS**

This study has academic purpose no any funds so there will be no payment to participate in this study

### **RIGHT TO REFUSE OR WITHDRAW**

The decision to participate in this study is completely voluntary. You may refuse to take part in the study safely, without affecting you. You have the right not to answer any question you think is disclosing your secret or dignity.

## **RIGHT TO ASK QUESTIONS AND REPORT CONCERNS**

You have the right to ask questions about this research study before, during answering or after the research. If you have any further questions about the study, at any time feel free to contact me, MUHAWENAYO Esperance at E-mail:esperancemuhawenayo@yahoo.fr or call me at 0788721918.

If you prefer, you could have copy of a results summary of the study at the end of this study. If any concern about your rights and dignity abuse any problems or concerns that occur as a result of your participation, you can report them to the MBARUSHIMANA Valens assistance researcher postgraduate officer of the College of medicine and health science University of Rwanda at **+250 788 231 816** or to the CHUK Ethical committee via Dr RUSINGIZA Emmanuel the chairperson of this committee at..... . Alternatively, concerns can be reported to the IRB /University of Rwanda, Chairperson of the CMHS IRB at **+250788 490 522** or the Deputy Chairperson at **+250783 340 040**.

## CONSENT

I,..... have been explained about the purpose of this research that has to assess **patients' experience of postoperative pain management in Rwandan hospital surgical wards** I have been understood all information provided about the researcher include my right to refuse to participate or to not answered any question disclosing my secretor dignity, and I understood that there are no known risk, no any payment any no physical benefit except to give my contribution to reveal patient's experience of postoperative pain management in order to improve pain care postoperatively. I assured to feel free to contact a researcher any time when I have concerns or to contact IRB officer if any violation of my rights.

I have been understood that the confidentiality will be taking cruel in this study where on the questionnaire will not appear my name or other particular identity; And that I have a right to refuse or to withdraw my participation in this study.

After reading, been explained and understood all the information provided above about the purpose of study and their rules. Deliberately, I decided to participate in this research my

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

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

## AMASEZERANO YO KUGIRA URUHARE MU BUSHAKASHATSI

**Izina ry'ubushakashatsi: IMIBONERE Y'ABARWAYI KUBUVUZI BW'UBUBABARE BAHABWA NYUMA YO KUBAGWA MU BYUMBA BY'IMBAGWA.**

**Izina ry'umushakashatsi: MUHAWENAYO Esperance**

**Numero za telefone: 0788721918**

## IRI BURIRO

Nitwa MUHAWENAYO Esperance nkaba ndi umunyeshuri muri Kaminuza y'urwanda muri Koreje y'ubuvuzi, ndetse n'ubumenyi bw'ubuzima rya kaminuza mu ishami ry'ubuforomo n'ububyaza. Nkaba ndi kuminuza mubijyaanye n'indwara z;umubiri no kubagwa. Nkaba ndi gukora ubushakashatsi bujyanye n'uko abarwayi babona ubuvuzi bahabwa bujyanye n ububabare cga uburibwe bagira nyuma yo kubagwa.”. Nkaba nifuzaba kufasha muri ubu bushakashatsi

muzuza urupapuro ry'ibibazo ndi bubahe nyuma yo gusobanurirwa uko ubushakashatsi buteye .Ubu bushakashatsi buhagarariwe na Madamu MUSABIREMA Priscille na Prof BUSISIWE Bhengu

### **INTEGO Y'UBUSHAKASHATSI**

Ubu bushakashatsi bugamije kureba.uko abarwayi babona ubuvuzi bahabwa bujyanye n ububabare cga uburibwe bagira nyuma yo kubagwa. Bukaba buzareba impamvu zituma abarwayi babona imivurirwe yabo kuburibwe bwanyuma yo kubagwa itandukana ndetse bukanareba urwego abarwayi banyuzweho n'ubuvuzi bahabwa bujyanye nububabare bwanyuma yo kubagwa.

### **IBIZAKORWA MURI UBUBUSHAKASHATSI**

Mu gihe wemeye kugira uruhare muri ubu bushakashatsi, bwambere usabwa kuzuza amasezerano yemera kugira uruhare mu bushakashatsi ndetse ugasobanurirwa ibibazo binyuranye bibazwa kuri ubwo bushakashatsi, unahabwe urupapuro rw'ibibazo bibazwa ku bushakashatsi ukabisoma hagati y'iminota itanu n'icumi kugira ngo ubyumve ugahabwa umwanya wo kubaza ibyo udasobanukiwe nyuma ukarwuzuzwa. Nyuma yo kurwuzuzwa ukarusubiza umushakashatsi mu gihe uraba wamwemereye kugarukira kurutora .Kopi y'urupapuro rw'amasezerano urayihabwa n'izindi kopi zakenerwa mu bushakashatsi mugihe ubwifuje.

### **INGARUKA/ KUTAGUBWANEZA ZO KUBA MURI BUSHAKASHATSI**

Nta ngaruka zizwi, nta niziteganywa muri ubu bushakashatsi.nkwijeje ko uza gumya kuvurwa uko bisanzwe haba ubu uri mubitaro n'ikindi gihe uzabigana;Kugira uruhare muri ubu bushakashatsi ntacyo bizangiza kumivurirwe yawe.

### **INYUNGU ZO KUBA MURI UBU BUSHAKASHATSI**

Ubu bushakashatsi bufite inyungu yo kuba hamenyekana uko abarwayi babona ubuvuzi bahabwa kububabare cga uburibwe bwanyuma yo kubagwa.Bukaba buzafasha mukunoza imivurire y'ububabare bwanyuma yo kubagwa hanozwa imihugurirwe y;abakozi ndetse hashyirwaho ingamba nshya.nimuri urwo rwego kugira uruhare muri ubu bushakashatsi ari umusanzu ukomeye mu kudufasha gutegura ivurirey'ububabare inoze.nta ndishyi cyangwa ikiguzi giteganyirijwe uzemera kwinjira muri ubu bushakashatsi.



## **KUGIRA IBANGA**

Amakuru yose tuzakura muri ubu bushakashatsi azaguma ari ibanga haba muri ikigihe ndetse nikizaza,ntabwo ibyo usubiza bizasangiwa abakuvura keretse ishusho rusange yibyavuye mubushakashatsi kandi nta zina rizagara ku rupapuro ruriho ibibazo n'ibisubizo. Nta makuru namwe akwerekereyeho tuzakubaza muri ubu bushakashatsi,amakuru yose azabikwa ahantu hizewe kandi nta wundi muntu usibye abari muri ubu bushakashatsi wemerewe kuyabona.

## **AGAHIMBAZAMUSYI**

Ubu bushakashatsi bufite intego kubijyanye n'amashuri nta nkunga y'amafaranga cyangwa indi ntego ifite inyungu bityo rero nta mafaranga cyangwa impano duteganya gutanga ku kwemera kugira uruhare muri ubu bushakashatsi.

## **UBURENGANZIRA BWO KWANGA CYANGWA KUVA MU BUSHAKASHATSI**

Kugira uruhare muri ubu bushakashatsi bishingiye kubushake bwawe, Ufite uburenganzira ubwo aribwo bwose bwo kutabugiramo uruhare kandi ntibigire icyo biguhungabanyaho. Ufite uburenganzira bwo kutagira ikibazo na kimwe usubiza cyangwa ikibazo waba wumva kirebena n'ubusugire cyawe.

## **UBURENGANZIRA BW'UWO WABAZA IKIBAZO NO GUTANGA RAPORO Y'IBYO WUMVA BITAMEZE NEZA**

Ufite uburenganzira bwo kubaza ibibazo bijyanye n'ubu bushakashatsi no kuba cya subizwa n'umushakashatsi mbere. haramutse hari ikibazo ushobora kwifuza kuzabaza nyuma ushobora kukibaza wisanzuye igihe icyo aricyo cyose ukampamagara umushakashatsi MUHAWENAYO Esperance kuri telephone 0788721918 cyangwa ukaba wanyandikira kuri [esperancemuhawenayo@yahoo.fr](mailto:esperancemuhawenayo@yahoo.fr) Uramutse wifuza kumenya incamake y'amakuru yavuye muri ubu bushakashatsi wazayahabwa.

Kandi Uramutse ufite ikintu cy'umwihariko cyo kubaza cyangwa uburenganzira bwawe butubahirijwe nkuwagize uruhare mu bushakashatsi kitabashije gusubizwa n'umushakashatsi wakigeza kuwitwa MBARUSHIMANA Valens kuri telephone +250 788 231 816 ukorera mu biro





**CENTRE HOSPITALIER UNIVERSITAIRE  
UNIVERSITY TEACHING HOSPITAL**

**Ethics Committee / Comité d'éthique**

February 3<sup>rd</sup>, 2017

Ref.: EC/CHUK/253/2017

Review Approval Notice

Dear Muhawenayo Esperance,

*Your research project: "Patients' Experience of Postoperative Pain Management in Rwandan Hospital Surgical wards."*

During the meeting of the Ethics Committee of University Teaching Hospital of Kigali (CHUK) that was held on 3/02/2017 to evaluate your protocol of the above mentioned research project, we are pleased to inform you that the Ethics Committee/CHUK has approved your protocol.

You are required to present the results of your study to CHUK Ethics Committee before publication.

PS: Please note that the present approval is valid for 12 months.

Yours sincerely,

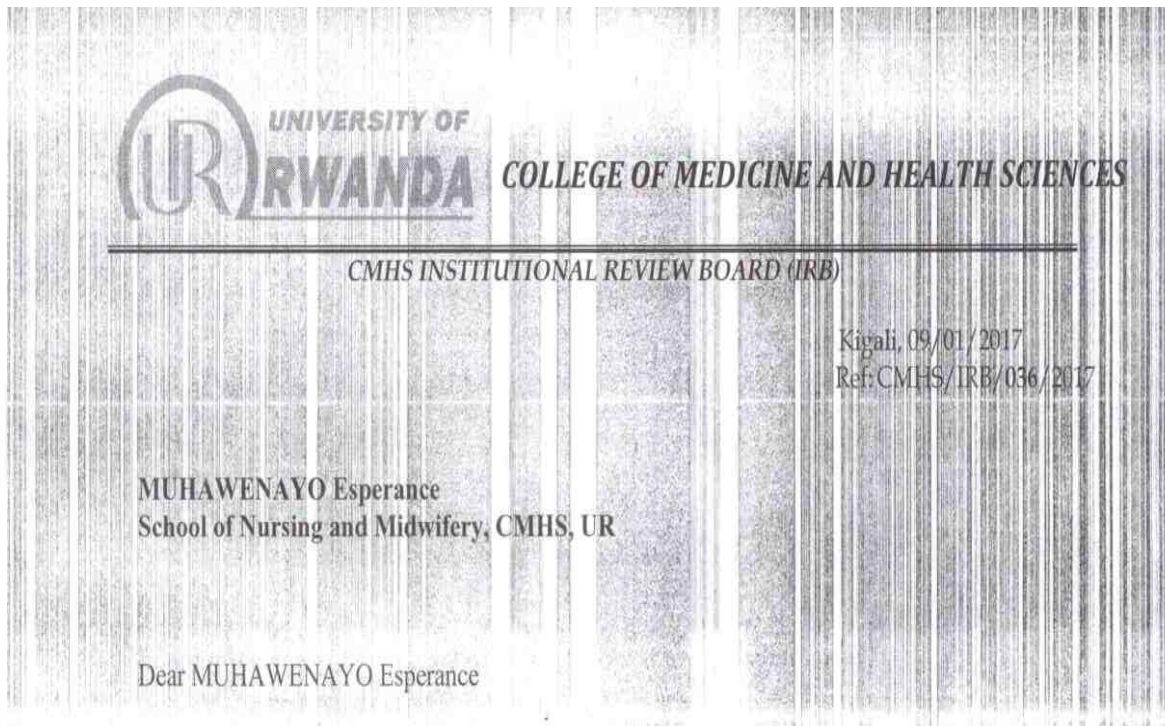


**John Nyiringira**  
The Secretary, Ethics Committee,  
University Teaching Hospital of Kigali

<<University teaching hospital of Kigali Ethics committee operates according to standard operating procedures (Sops) which are updated on an annual basis and in compliance with GCP and Ethics guidelines and regulations>>.

B.P. :655 Kigali- RWANDA [www.chk.rw](http://www.chk.rw) Tél. Fax : 00 (250) 576638 E-mail : [chuk.hospital@chukigali.rw](mailto:chuk.hospital@chukigali.rw)

# ETHICAL APPROVAL FROM UR



**RE: ETHICAL CLEARANCE**

Reference is made to your application for ethical clearance for the study entitled *"Patients' Experience Of Postoperative Pain Management In Rwandan Hospital Surgical Wards."*

Having reviewed your protocol and found it satisfying the ethical requirements, your study is hereby granted ethical clearance. The ethical clearance is valid for one year starting from the date it is issued and shall be renewed on request. You will be required to submit the progress report and any major changes made in the proposal during the implementation stage. In addition, at the end, the IRB shall need to be given the final report of your study.

We wish you success in this important study.

*fes* Professor Kato J. NJUNWA  
Chairperson Institutional Review Board,  
College of Medicine and Health Sciences, UR



*Prof. JB Gahutu*  
*IRB Vice-Chair*

Cc:

- Principal, College of Medicine and Health Sciences, UR
- University Director of Research and Postgraduate studies, UR

SCHOOL OF NURSING AND MIDWIFERY

Kigali, on 30 / 01 /2017

Ref. No: ~~2017~~/UR-CMHS/SonM/17

**TO WHOM IT MAY CONCERN**

Dear Sir/Madam,

**Re: Request to collect data**


Referring to the above subject, I am requesting for permission for **MUHAWENAYO Esperance**, a final year student in the Masters of Science in Nursing at the University of Rwanda/College of Medicine and Health Science to collect data for his/her research dissertation entitled **Patients' Experience Of Postoperative Pain Management In Rwandan Hospital Surgical Wards**.

This exercise that is going to take a period of 2 months starting from 13<sup>th</sup> February 2017 to 12<sup>th</sup> April 2017 will be done at **University Teaching Hospital, Kigali**.

We are looking forward for your usual cooperation.

Sincerely,

fs

  
Dr. Donatilla MUKAMANA, RN, PhD  
Dean, School of Nursing and Midwifery  
College of Medicine and Health Sciences