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KUMASI, GHANA**

**ASSESSMENT OF POST OPERATIVE PAIN MANAGEMENT AT AGOGO
PRESBYTARIAN HOSPITAL, ASANTE AKYEM NORTH DISTRICT**

BY

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HEALTH SERVICES PLANNING AND MANAGEMENT**

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DECLARATION

I declare that this thesis write up is entirely my own output. To the best of my knowledge it does not contain any previously published material except those for which acknowledgement has been given in the text.

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DEDICATION

I dedicate this work to the memory of my late mother, Victoria Akosua Nyamekye and Mary Baffour Awuah, my wife, for her support and encouragement throughout the time spent on this work and to Achiaa Nyamkye Ofori, my daughter whose comfort was denied to enable me devote time to further my education.



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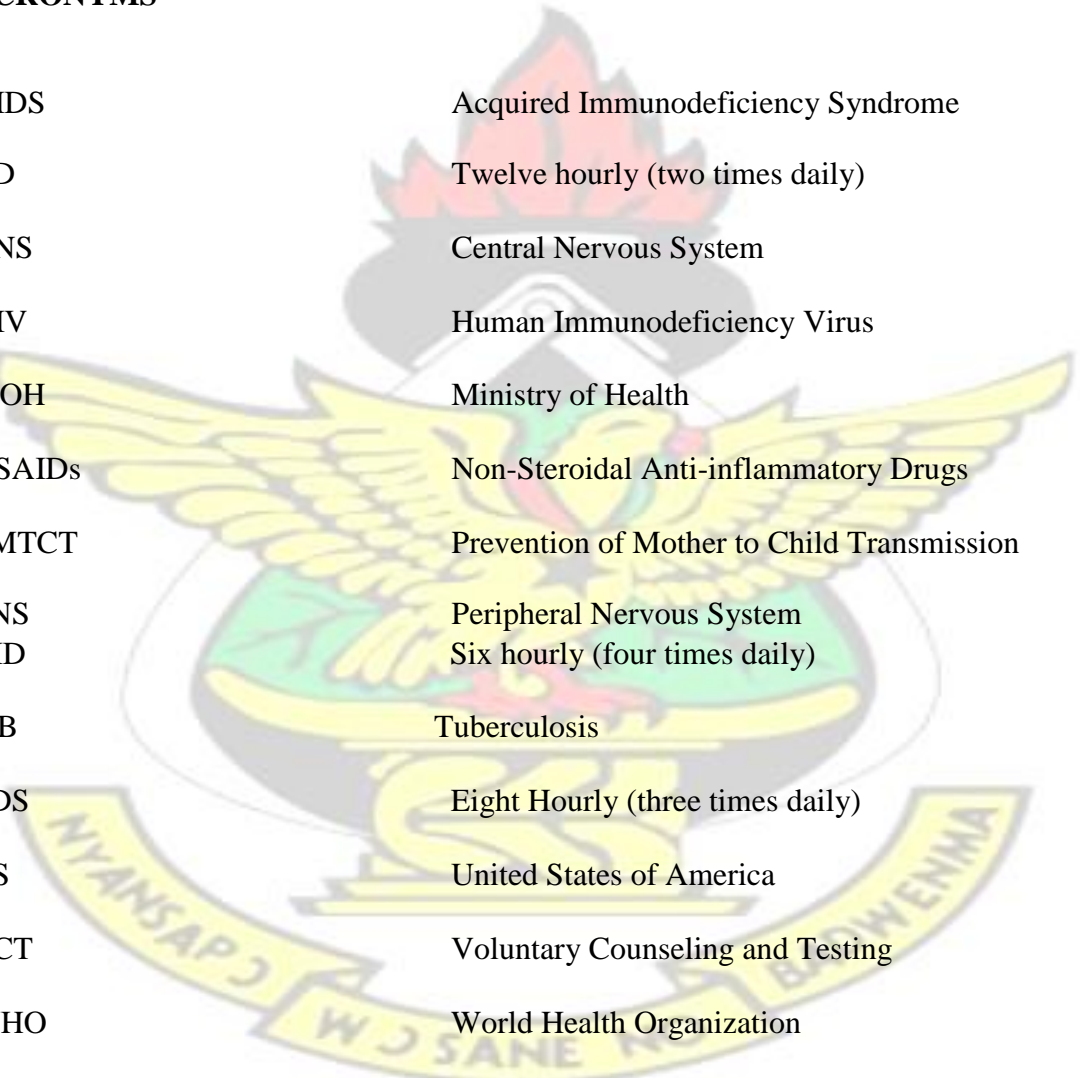
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ACRONYMS



AIDS	Acquired Immunodeficiency Syndrome
BD	Twelve hourly (two times daily)
CNS	Central Nervous System
HIV	Human Immunodeficiency Virus
MOH	Ministry of Health
NSAIDs	Non-Steroidal Anti-inflammatory Drugs
PMTCT	Prevention of Mother to Child Transmission
PNS	Peripheral Nervous System
QID	Six hourly (four times daily)
T B	Tuberculosis
TDS	Eight Hourly (three times daily)
US	United States of America
VCT	Voluntary Counseling and Testing
WHO	World Health Organization

ABSTRACT

Background: Alleviating acute pain and providing pain relief are central to caring for surgical patients as pain can lead to many adverse medical consequences.

The purpose of the study was assessing post operative pain experiences and patient's satisfaction with post operative pain management.

Method: A prospective cross sectional survey was carried out among 200 respondents who had undergone various surgeries (hernia repair, caesarean section, laporatomy, hysterectomy/myomectomy and others) and were in the surgical and maternity wards in Agogo Presbyterian hospital. Data were collected using the revised American pain Society's Patient outcome and satisfaction survey questionnaire. Data were analysed using "statistical package for social sciences" (SPSS) and results presented in the form of mean, frequencies and percentages.

Results: The study revealed that most surgical patients experienced moderate to severe pain within the first 24 hours after surgery and majority of surgical patients were over 60% satisfied with their post operative pain management while in the hospital.

Conclusion: Pain still remains an issue among surgical patients, and effective pain management and health education are needed to manage pain more effectively after surgery.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND INFORMATION

Good and effective pain management and control after surgery is an essential component of the care of the surgical patient. Poor pain management apart from being appalling can lead to an increase in mortality and morbidity (Sharrock *et al*, 1995 and Katz *et al*, 1996). Available data shows that surgical procedures have a suppressive effect on the immune system of the body and this effect is proportionate to the extent of injury or trauma (invasiveness) of the surgery (Pollack *et al*, 1991).

Postoperative pain which is acute in nature is the pain felt immediately following surgery or an injury as a consequence of the trauma to the tissue. Pain is a subjective experience because individuals have different threshold and different ways of expressing it. Although postoperative pain is one of the expected consequences of almost all surgeries, ineffective controlled postoperative pain can lead to potentially serious complications that have impact on recovery, rehabilitation and patients' quality of life. Inadequate management of pain may lead to pathophysiological complications (Griffiths and Justin, 2006), which include atelectasis, pneumonia, nausea and vomiting.

The problem of post operative pain has been discussed for a considerable period of time. Reports on unrelieved postoperative pain can be found as early as the 1950s (Papper *et al*, 1952), and similar reports have continued to appear in more recent literature. Studies conducted during the 1980s reported high pain prevalence among hospitalized patients. Effective post operative discharge pain management is important for patients who have undergone surgical procedures, because earlier discharge is becoming more common (Mementsoudis *et al*, 2009).

The percentage of people reporting post operative pain varies by study and surgical procedure. In a national (U.S.) telephone survey, Warfield and Kahn (1995) found that 77 percent of participants had experienced postoperative pain after undergoing a variety of inpatient or outpatient procedures. In a more recent study, modeled after Warfield and Kahn's (Apfelbaum *et al*, 2003), 82 percent of respondents reported postoperative pain. Both studies included participants who had undergone surgical procedures in the previous five years.

Pain in Africa has been explored especially in the area of HIV/AIDS and cancer, McCaffery *et al* (2012). Even though pain as a result of surgical intervention has a far bigger burden, a report by a human right watch indicated that it is only 10% of patients who have surgery in Africa receive good and adequate pain management. In spite of the fact that African Union summits and workshops has adopted good and effective pain management as a basic human right, most surgical patients in Africa do not receive adequate pain management due to stringent legal issues concerning morphine use and access, shortage of clinical staff and lack of knowledge on the part of patients and health workers (Vijayan R, 2011).

In a study in Ghana by Aziato and Adejumo (2012) on "the Ghanaian Surgical Nurse and Post Operative Pain Management" discovered that nurses understand and look at post-operative pain management as an individual experience, and nurses use both pharmacological (administration of analgesics) and non pharmacological measures to treat patients pain. Individual factors such as discretion, commitment, fear of addiction and organisational factors like challenge of teamwork and organisational slackness influence nurses response to patient's pain.

Adequate postoperative pain management may help improve surgical outcomes. Mobilizing after surgery is easier for individuals with better pain management. Faster

mobilization helps limit loss of muscle tissue, inability to excrete fluids, thrombosis, and respiratory complications (Rosenberg and Kehlet, 1999).

Post operative pain which is acute in nature if not managed well can lead to the development of chronic pain. In addition to the physical problems people in pain experience, severe chronic pain can lead to feelings of fear, anger, depression, and anxiety, and can put a strain on relationships with family, friends, and coworkers. People with chronic pain may come to believe that the healthcare system cannot offer them a cure or provide adequate treatment to relieve their pain.

Pain in general and especially the moderate to severe incidence of post operative pain allow pain to be classified a public health problem.

The America Institute of Medicine (IOM) has categorized chronic pain as a “significant public health problem.” In fact, the IOM emphasizes that a “cultural transformation” is necessary to better understand, treat, and prevent pain of all types. The goal of this transformation is to gain a better understanding of pain and improve the efforts to prevent, assess, and treat pain. Despite research in pain and how it can be reduced, chronic pain remains undertreated in the population as a whole, especially in certain populations that include ethnic minorities and women. As a consequence, healthcare professionals, government agencies, health policymakers, and privately funded researchers are encouraged to take the lead in this transformation that aims to reach the vast number of people with chronic pain. (Institute of Medicine, 2011)

1.2 PROBLEM STATEMENT

The highest achievable standard of health is enshrined in the 1948 Universal Declaration of Human Rights as a fundamental right of every human being (WHO, 2002). Post operative Pain relief is part of that basic human right to health (Brennan F, Causin MJ 2004)

Although postoperative pain is one of the expected consequences of almost all surgery, ineffectively controlled postoperative pain can lead to potentially serious complications that impact on recovery, rehabilitation and patients' quality of life.

Faponle *et al*, 2001 revealed that, in Nigeria two –third of surgical patients reported of pain of moderate to severe intensity 24 hours post operatively. In many places, narcotic analgesics (opiates) are not available for use intra-operatively and postoperatively. A study on the use of opiates by anaesthetic officers in Uganda revealed that 21% of them have never had pethidine or morphine available and only 45% only had either pethidine or morphine (Hudges *et al*, 2007).

Post operative patients in many countries including Ghana continue to experience moderate to severe pain after surgery (Cleggy-Lampsey and Hodasi, 2005). Unmanaged post operative pain can lead to longer or prolong patient admissions therefore hospitals are not able to admit other patients due to lack of bed-space. Also patients are not able to return to work and the family may be affected negatively. Post operative pain which is acute in nature if not managed well can develop into chronic pain chronic pain is a significant public health problem and frustrating to everyone affected by it, especially the elderly who feel that healthcare has failed them but wish to remain in their own homes, live independently, and avoid becoming a burden to others.

It appears that pain management has not received adequate attention like other aspect of healthcare in developing countries.. Adequate data with regards to the burden and management of pain are not available but it is clear that clients who visit health care still battles with pain management and control.

It is therefore important to investigate the situation further and attempt to understand why pain management is failing, in the hope that this may provide some explanation

for the continuing high levels of postoperative pain, and suggest ways of improving its management.

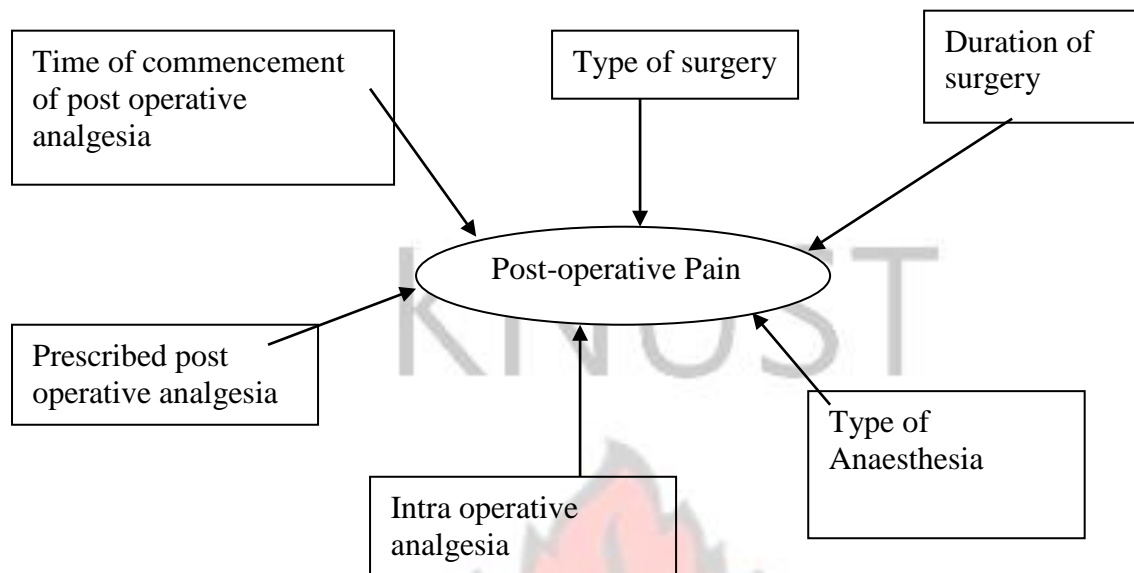
1.3 RATIONALE OF THE STUDY

Post operative pain management is one the problem that surgical clients face and because of the subjective nature of pain, its management has being a challenge over the years. Improper pain assessment and management post operatively can have a considerable effect on the patients, resulting in increase anxiety levels, disturbances in sleep pattern, difficulties in mobilization and restlessness. The rest are irritability, aggression and more especially unnecessary level of distress and suffering. Prolong admission as a result of pain irrespective of the cause have financial and psychological burden on the clients and the relatives. This also put more pressure on the health care institution especially in Ghana where bed availability in hospitals is a major challenge. The rationale of the study is therefore to assess how post operative pain is managed at the hospital and compared to the standard post operative pain management guidelines and assess clients' level of satisfaction with post operative pain management at the hospital.

1.4 CONCEPTUAL FRAMEWORK

Post operative pain which is usually an acute pain can progress to become chronic pain if not managed well. The intensity of this acute pain is largely influenced by the following; the type of surgery that the clients undergoes, duration of the surgery, type of anaesthesia given for the surgery, type of intra operative analgesia given, prescribed post operative analgesics and the time of commencement of post operative analgesics.

CONCEPTUAL FRAMEWORK



1.5 RESEARCH QUESTIONS

1. What is the pain experience of clients who undergo surgery?
2. What is the pattern of analgesics use postoperatively?
3. What is client's level of satisfaction with post operative pain management?

1.6 STUDY OBJECTIVES

1.6.1 MAIN OBJECTIVE

To assess post operative pain management among surgically treated patients

1.6.2 SPECIFIC OBJECTIVES

1. To assess pain experience of clients who undergo surgery
2. To estimate the duration of pain of patients in the first 24hrs after surgery
3. To assess the pattern of analgesics use
4. To determine the level of clients satisfaction with post operative pain management

1.7 SCOPE OF STUDY

The study focused on the post operative pain experiences of clients who had surgeries at the Agogo Presbyterian hospital and their level of satisfaction with the post operative pain management while in the hospital. This study includes clients who had general and gynaecological surgeries.

1.8 ORGANIZATION OF THE THESIS

The outline of this thesis is in the order of appearance of the title page, dedication, acknowledgement, the table of content, list of tables and figures, acronyms, definition of terms, and abstract. Chapter one begins with an introduction, a statement of the problem, the study rationale, research questions and objectives. It ends by describing the conceptual framework and the scope of the study. Chapter two gives an account of pain in a broader perspective and various studies done post operative pain assessment and management.

Chapter three begins with the description of the study type and design; it gives an account of how the study was conducted. It ends with a description of the statistical processes used to arrive at the results presented. In Chapter four, the findings of the study were presented. Chapter five is a discussion of the findings in comparison with the findings of other works presented in the literature review. The last chapter (six) details the conclusions from the study and recommendations necessary to help in the enhancement of effective post operative pain management. The references used in this study are outlined in detail after chapter six.

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CHAPTER TWO

2.0 LITERATURE REVIEW 2.1 DEFINITION OF PAIN

The International Association the Study of Pain (IASP) define pain is an unpleasant sensory and emotional experience arising from actual or potential tissue damage (IASP, 1979). McCaffery *et al*, 2012 asserted that, pain clinically is whatever the person says he or she is experiencing whenever he or she says it occurs.

Pain is usually classified along a range of duration. Acute pain which is usually common lasts for hours, days, or weeks and is associated with tissue damage, swelling, a surgical procedure, or a short disease process. Acute pain is an indication that something is wrong. Chronic pain, on the other hand, worsens and increases over a period of time and lasts for months, years, or a lifetime. Chronic pain is more common in disease conditions such as cancer, HIV/AIDS, arthritis, fibromyalgia, and diabetes.

The definition of pain by the International Association for the study of pain has remained unchanged through three updates on taxonomy in 1986, 1994 and 2011, although the accompanying notes have been expanded. These notes develop the definition adding that the inability to verbalise pain does not mean the patient does not have pain or require pain management interventions. Included in this definition are the assertions that pain is a subjective experience, and that people learn to apply meaning to the words through their life experiences. The definition says pain experienced in the absence of any pathophysiological cause, but reported in the same way as pain caused by tissue damage, should be accepted as pain, avoiding tying pain with stimulus (IASP 2011). It is asserted that pain is always a psychological state, not due to activity in the pain receptors or the pain pathways, or caused by a noxious stimulus, but felt and perceived as such by our brains (IASP 2011, Moseley 2012).

Pain postoperatively can be categorised into acute and chronic. Acute post operative pain is the pain that experienced immediately following surgery and this usually last up to seven (7) days after surgery. Pain which is associated with surgery and last for more than three (3) months is classified as chronic pain. Both acute and chronic post operative pain can come about as a result of surgical injuries to deep somatic, visceral and cutaneous structures.

Pain especially acute pain plays a significant role in warning of damage tissues and this helps in the immobilization to help in appropriate tissue healing.

2.2 TYPES OF PAIN

Nociceptive Pain

Nociceptive or acute pain is a sign or signal of actual or potential injury or irritation of the tissues. Nociceptors located in the affected area are activated and then signals are transmitted and send through the spinal cord to the brain. This activates the complex reflex action (known as withdrawal) which follows the sequence of perception, cognitive and affective response and possible voluntary action. This type of pain is usually time limited and responds well to opiates treatment.

Neuropathic Pain

Neuropathic pain is the pain experienced as result of malfunctioning or injury to the nervous system, which can occur in both the peripheral and central nervous systems. This pain may last for months or years even after the apparent healing of any damaged tissue. This type of pain is usually chronic in nature and do not respond well to treatment with opiates.

Psychogenic Pain

This type of pain is due to psychological factors that lead to histrionic presentation or exaggeration of the pain problem.

Mixed Category Pain

Mixed pain is a type of pain which is caused by a combination of neuropathic and nociceptive factors. This usually starts with an injury or dysfunction of the nervous system (central and peripheral) which is then followed by an inflammation response leading to the release of inflammatory mediators and apparent neurogenic inflammation. Myofascial and migraine headaches are examples of mixed pain. (Cousins M J, 1988)

2.3 PHYSIOLOGY OF PAIN

The spinal cord which is part of the central nervous system is responsible for signal transmission from the brain to all parts of the body. All the nerves coming from the brain and leading to other parts of the body enter and leave the spinal cord along the entire length of the cord. The spinal cord has 31 pairs of spinal nerves that leave the spinal cord via openings between the vertebrae. Nerve roots are the parts on the spinal cord where spinal nerves exit the spinal cord and they then branch into smaller nerves. These smaller nerves control the various parts of the body and this is called the peripheral nervous system. The peripheral nervous system is made up of sensory and motor nerves. The motor nerves are attached to muscles and responsible for movement and the sensory nerves are recipients of sensory stimuli.

The process by which a noxious stimulus results in the perception of pain by the brain is called nociception. The process of nociception has five components namely; transduction, transmission, modulation and perception. The hallmark feature of acute

and chronic pain is hyper responsiveness also known as increase sensitivity and this come about as a result of changes in both central and peripheral nervous system. (neuroplasticity)

Acute pain

Acute pain is defined by Duarte (1997), as pain that is temporarily related to injury and that this pain resolves after the healing of the injury. Acute pain in most cases responds well to analgesic medications and treatment of the precipitating factor.

The following are features of acute pain

1. Duration of the pain is less than three (3) months
2. Varying degree of intensity, usually severe at first but the pain reduces over as healing begins to take place.
3. The nervous system is usually not affected
4. The reason for the pain can be identified-caused by surgery, trauma, acute medical condition or physiological process
5. Responds well to analgesics like opiates and local anaesthetics
6. The intensity of the pain reduces or subsides as healing takes place
7. Psychological problems like depression are usually absent or resolves in the shortest possible time if they occur

Nociceptive pain also known as acute pain is divided into somatic and visceral pain. Although acute pain or nociceptive pain is different from chronic pain, boundaries that separate them are not clearly defined. Individuals with acute pain often experience reduction with regards to the intensity but clients with chronic pain more often do not experience any reduction in pain intensity.

Even though acute pain has a predictable end, priority should be attached to its management. This is because acute pain if not treated well and neglected can lead to chronic and persistent pain. With more patients experiencing acute pain (thus pain that follows the normal pain pathways), others may also experience neuropathic pain (thus pain as a results of damaged or severed nerve).

Dworkin *et al*, 2007 stated the under listed factors suggest the possibility of neuropathic pain;

1. Clinical procedures with the possibility or risk of injury to nerves. Example includes surgical procedures around the chest and the thoracic cavity, hernia repair or amputation.
2. Spontaneous or sudden onset of the pain. More often with no clear factors precipitating it.
3. The existence of evoked or spontaneous unpleasant abnormal sensation (dysaesthesias)
4. Abnormal responds to a normal painful stimulus (hyperalgesia)
5. Responds to stimulus that normally do not evoke pain (allodynia)
6. Numbness of the affected part or area (hypoesthesia)
7. Colour or temperatures changes, phantom phenomena and sweating at the affected area.

Chronic pain

Chronic pain is a key problem for some patients and this has a considerable effect on their quality of life. Chronic pain can be due to disruption in nociception, disease or injury. It can also be a result of past or current damage to the central nervous system (CNS), peripheral nervous system (PNS), or cannot be associated with any organic cause (Calvini and Grilo, 2006).

Pathophysiology of chronic pain

The actual process involved in the pathophysiology of chronic pain is unclear and complex. It is explained that after injury or trauma, changes which are rapid and long term occurs in parts of the central nervous system that are responsible for transmission and modulation of pain (nociception information) (Ko and Zhuo, 2004).

A mechanism known as “wind-up” mechanism in the spinal cord (also called hypersensitivity or hyperexcitability) may occur. This happens after continues or repeated and prolong noxious stimulus causes the dorsal horn neurons to produce progressively increasing numbers of painful impulses.

This wind up mechanism in the spinal cord causes the patient to feel intense pain to a stimulus which should not produce the associated pain. For example, an exaggeration of pain in responds to touch. This is called allodynia.

This unusual pain processing in the central nervous system and the peripheral nervous system may become autonomous of the original painful event. For instance, with amputation, the original injury occurs in the peripheral neuron but the mechanisms that underlie the phantom pain are generated in both the peripheral and central nervous system.

Neuropathic pain

This type of pain can be defined as pain that is caused or initiated by a dysfunction or a primary lesion in the central and peripheral nervous system. This can result from;

1. Injury/trauma. For instance chronic post-surgical pain, regional pain syndrome which is complex in nature
2. Infections and inflammation. Post hepatic neuralgia
3. Cancer

4. Ischemia. For instance diabetic neuropathy
5. Chemical irritants such as chemotherapy. (Farquhar-Smith, 2007)

Neuropathic pain can also come about as a result of changes to the peripheral nervous system. This causes pain fibers to emit pain signals repeatedly and hence increase sensitivity to stimulus. Neuroplasticity can also develop alongside and this is characterised by unusual neuronal sprouting in the peripheral and also within the dorsal horn of the spinal cord. This abnormal neuronal sprouting may also result in the generation of additional and increase transmission of pain impulses.

Features of neuropathic pain

Neuropathic pain is clearly defined and can be distinguished from acute pain and it is described as follows;

1. Dull
2. Tingling
3. Burning
4. Aching
5. Shooting
6. Like electric shock

2.4 COMPLICATIONS OF PAIN

Many recent studies have clearly stated that pain have profound impact on the human body. This affects almost every system; endocrine, cardiovascular, immune, nervous and musculo-skeletal systems.

Respiratory System

1. Rapid respiration leading to hypocapnia and respiratory alkalosis
2. Hypoventilation and diaphragmatic splinting , hypoxia, atelectasis leading to hypercapnia
3. Infection in the chest- hypostatic pneumonia

Gastro-intestinal system

1. Reduced gastric and intestinal mobility which can cause paralytic ileus
2. Delayed gastric emptying
3. Nausea and vomiting

Cardiovascular system

1. Tachycardia- increase heart rate
2. High blood pressure -hypertension
3. Reduction in the flow of blood to the skin and visceral organs leading to delayed wound healing
4. Increase demand of oxygen by the myocardium but reduced oxygen supply to the myocardium and this can lead to myocardial ischemia.
5. Increase stroke volume

Endocrine system

1. Retention of fluids
2. Reduction in the insulin production
3. Decrease testosterone level
4. Anabolic and catabolic changes
5. Raised blood sugar level

Homeostasis

1. Blood becomes more viscous

2. Immobility
3. Hypercoagulopathy and risk of developing deep vein thrombosis

Nervous system

1. Insomnia
2. Attention deficit
3. Depression
4. Cognitive decline

(Dworkin, *et al*, 2007 and Gray 2008)

2.5 MANAGEMENT OF POST OPERATIVE PAIN

The main objective in post operative pain management is to help the surgical patients to mobilize as soon as possible, enable the patient to eat and drink as appropriate and also to ensure to help the patient to be able to cough and deep breathe. All these enhance rapid wound healing and early recovery. Surgical clients who do not received good and adequate post operative pain management has an increase risk of developing chest infections, deep vein thrombosis, hypoxia, pressure sores, anxiety, depression, anorexia and high rate of wound infection.

Effective post operative pain management has emerged as a result of understanding of how a combination of analgesics drugs works to excellent pain control. The drug potentiates the effects of each other and this help to improve analgesia and at the same time reduces opiates side effects if used. This multimodal analgesia concept started over a decades ago and this allow for a reduction in the doses of individual drugs when they are combined and therefore reduced incidence of side effects.

Effective post operative pain management can be achieved if it is well planned and delivered in a consistent and evidence based manner and this must be based on client's assessment of their own pain if possible. Due to the subjective nature of pain and the many factors that cause pain, no two individuals will experience the same pain even if they had same surgery. Healthcare professionals need to be aware of this so that pain management can be tailored towards individual needs. Pain which is the fifth (5th) vital sign need robust guideline or protocol, good team work and regular and effective evaluation to underpin its management.

(Buvanendran *et al*, 2003 and White *et al*, 2007)

The world health organization in 2003, outline the following guidelines for the management of post operative pain in district hospitals;

Pain is most cases the patients presenting problem or symptom. Pain itself gives good and useful clinical information about the patients and it is the duty and responsibility of the health care provider to use the information to help the patient and reduce suffering.

1. Patient's pain should be managed wherever you see the patient; either on the ward, emergency room or in the theatre. There is the need to foresee the importance of effective pain management after surgical procedures as well as discharge.
2. It is important also not to delay pain treatment unnecessarily; for example do not send or transport patient from one place to another because the next practitioner should appreciate how much pain the patient is experiencing.

PAIN MANAGEMENT AND TECHNIQUES

1. Good and effective pain management is a critical part of post operative management
2. Injectable opiate analgesics are essential drugs for pain management and control. Diclofenac and brufen which are nonsteroidal anti-inflammatory drugs (NSAIDs) can also be given orally and rectally as well as paracetamol.
3. Opiates can be given in three situations;
 - I. Pre operatively
 - II. Intra operatively
 - III. Post operatively
4. Opiate premedication was used some years back but rarely use these days. It is common for an injured patient to come into the theatre with opiate already given.
5. Pre operative and intra operative opiates have significant effect in the post operative period because they can lead to delayed recovery and respiratory depression which may necessitate mechanical ventilation.
6. Opiates with short acting effects like fentanyl is recommended intra operatively to avoid prolong effect of opiate
7. Opiates antagonist (naloxone) is effective in reversing the action of opiates but its effect quickly wears off.
8. Morphine is more potent (about ten times potent) and has a longer duration of action than pethidine
9. The ideal way to give post operative analgesia is to;
 - a. Give a small dose of the drug about a quarter or a third of the maximum dose for example, 25mg pethidine or 2.5mg morphine

bolus intravenously.

- b. Observe and monitor the effect of the drug for about 5-10 minutes.

Check for desired analgesia effect with retained consciousness

- c. Calculate the correct total dose (10mg morphine or 100mg pethidine for an adult) and administer the balance intramuscularly
- d. With this technique, patients are able to receive analgesia quickly and the correct dose is given.

10. In situations where opiates are needed on the ward, it is recommended that it should be administered intramuscularly

- a. Morphine

Age one (1) year to adult 0.1-0.2mg/kg

Age three (3) months to one year 0.05-0.1mg/kg

- b. Pethidine

Adult 1-2mg/kg and 0.5-1mg/kg for children

- c. It is important to know that opiates are not recommended for babies less than three months unless monitoring in a neonatal intensive unit is available. Opiates analgesics for children less than one year should be given cautiously.

2.6 ANAESTHESIA AND PAIN MANAGEMENT IN CHILDREN

- a. The most widely use anaesthetic agent for children in rural settings is ketamine and it is noted for its good pain control effect.
- b. Children also experiences pain as much as adults but they have different ways of expressing pain
 - 1. surgical procedures should be made painless as much as possible
 - 2. Paracetamol can be given orally and rectally several hours before surgery

3. Administration of local anaesthetic like bupivacaine 0.25% (should not exceed 1mg/kg) in theatre can reduce incisional pain
4. Administration of paracetamol (10-15mg/kg every 4-6 hours) by mouth or rectally is good and effective method for controlling post operative pain in children
5. Use intravenous narcotics or opiates like morphine 0.05-0.1mg/kg every 2-4 hours for more severe pain
6. Brufen 10mg/kg can also be given every 6-8 hours orally and rectally
7. Codeine 0.5-1mg/kg can be administered every 6 hours by mouth when needed (WHO, 2003)

2.7 ASSESSMENT OF PAIN EXPERIENCE OF CLIENTS WHO UNDERGO SURGERY

Subramanian *et al*, 2014 conducted a study with the aim of assessing the pain experiences and satisfaction with pain control among surgically treated clients in which one hundred and seven (107) respondents were interviewed. Only clients who had abdominal surgeries and were admitted to surgical wards of an urban hospital were used for the study. The study revealed that post operative pain continues to be a problem for clients are surgically treated and that good and effective pain management and health education are required to help manage pain more efficiently after surgery.

In the study in which the revised American pain society's patients outcome and satisfaction survey questionnaire was used revealed pain ranging from moderate to high levels of intensity were recorded. The pain as well interfered with the performance of care activities (high to moderate interference).

Apfelbaum *et al*, (2003), published a study on post operative experience. Two hundred and fifty (250) adults who had undergone surgical procedure were used for the study using telephone questionnaire. Patients were asked about the severity of post surgical pain, treatment, satisfaction with pain medication, patient's education and perception about post operative pain and pain medication. 80% of the respondents indicated that they experienced acute pain after surgery. 50% out of those who complained of acute pain had moderate, severe or extreme pain with more patients experience pain after discharge. In all 59% of the respondents reported that experiencing post operative pain was the most common concern.

2.8 DURATION OF PAIN IN THE FIRST 24 HOURS AFTER SURGERY

Pain is one the most common, unpleasant and frightening symptoms associated with surgery. This acute pain if unmanaged well in the early hours or days after surgery may lead to the development of chronic pain. In a study to determine the severity/intensity of post operative pain following day surgery at Aga university hospital in Nairobi by Mwaka *et al*, (2013) revealed that, the prevalence of post operative pain after day surgery was 50% within 30 minutes post operatively, 53.3% after 24 hours, 34.7% after 48 hour after surgery.

In a study to test the hypothesis the incidence of post operative symptom is influenced by surgical intervention (Frances *et al*, 1996). Post operative symptoms included dizziness, nausea/vomiting, drowsiness, incisional pain fever and headache. Two hundred and seventy (270) patients were asked to rate the percentage on 0-100 scale of their return to daily function 24 hours after surgery. Findings from the study indicated that incisional pain (26.9%), headache (11.6%) and drowsiness (11.5%) were the most frequently reported symptoms within the 24 hours after surgery. Approximately 50%

of patients undergoing laparoscopy, orthopaedic and general surgery report 24 hours post operative incisional pain.

2.9 ASSESSMENT OF THE PATTERN OF ANALGESICS USED

POSTOPERATIVELY

The most common complaint by surgical clients is post operative pain and this is highly influenced by the type of post operative analgesic prescribed and its pattern of use.

Ogboli-Nwasor *et al*, (2012), published a study on post operative pain management among adult surgical patients in Nigeria and the aim was to identify the common analgesics used in management of post operative pain and the pattern of prescription in adult surgical patients. Results from the study indicated that surgeons or surgical residents prescribed post operative analgesics for one hundred and thirty two (132) patients representing 95.7% of the respondents. The anaesthetist only made passive suggestions about the post operative analgesics for only six (6) representing 4.3%. One hundred and twenty six (126) patients thus 91.3% of the respondents received opiates injections intramuscularly which were administered intermittently and nine (9) patients (6.5%) were injections of non steroidal anti-inflammatory drugs intramuscularly. Oral paracetamol were prescribed for six (6) patients (4.3%) and three (3) patients were not given any analgesic post operatively.

With this pattern of analgesics prescription, 34.5% of the patients reported moderate pain and 65.2% reported mild pain 8 hrs after their operations before subsequent doses of analgesics were given. The study concluded that with the above pattern of post operative analgesics prescription, a large number of patients continue to experience post operative pain of moderate to severe intensity despite the recent advance and the development of more effective pain management techniques for post operative pain

control. The mainstay of post operative pain management at the study area in Nigeria is intermittent intramuscular injection.

Kumarasingam *et al* (2014), conducted a study on utilization pattern of analgesics among post operative patients in a tertiary care hospital in which clients who had general surgery, obstetrics and gynaecology and orthopedic surgery were used for the study. Findings from the study revealed that on the day of surgery, monotherapy was prescribed for 53% of patients of which diclofenac (60%) was the most commonly prescribed drug followed by tramadol (37%) and pentazocin (3%). 45% of the patients received a combination analgesics for their post operative pain. Out of this, 56% received a combination of tramadol and diclofenac, diclofenac and pentazocin (24%) and tramadol with pentazocin was the least (20%). Three drugs therapy of diclofenac, tramadol and pentazocin was prescribed for only 2% of the respondents. Intramuscular administration of these drugs was the most preferred route.

The study suggested that, post operative pain control can be achieved by non-opiates analgesics like diclofenac and opiates analogue can be added to patients when pain relief cannot be achieved by the non-opiates. Utilization of analgesics was found to be based on the type of surgery and the physician's preference.

2.10 LEVEL OF SATISFACTION WITH POST OPERATIVE PAIN MANAGEMENT

Good and effective pain management and control is one of the determinants of patient's satisfaction with health care. In spite of this, studies have shown that patients' satisfactions with regards to pain management after surgical procedures continue to indicate that most patients seem not satisfied with their post operative pain

management. A number of factors influences satisfaction with health care, more especially pain management and satisfaction in itself is a subjective appraisal of personal care.

Lovatsis *et al*, (2007) conducted a study to assess patients' satisfaction with post operative pain management after ambulatory gynaecologic laparoscopy. The aim of the study was to assess patients' satisfaction with post operative analgesia on the day of surgery and post operative day one and two. Clients who underwent surgeries like oophorectomy, tubal ligation with cautery, diagnostic laparoscopy, Burch procedures and ovarian cystectomy were used for the study. Questionnaire was used to collect data from clients either by mail or telephone on each post operative day. Respondents' were asked to rate as "very satisfied" , "perfectly satisfied" or "unsatisfied" based on the overall satisfaction with post operative pain management on the day of surgery, post operative day one and two. Sixty percent (60%) were classified as satisfied with their level of post operative analgesia. The study concluded that the 60% of the clients who were satisfied with their post operative pain control is inadequate, especially now that more surgical procedures are being done as day surgeries through less invasive techniques.

Joanne *et al*, 2001 conducted post operative pain management study in a Hong Kong hospital. The aim of the study was to understand the level of patient's pain and satisfaction with responsiveness with responsiveness of health care providers to their pain report. The study examined patients' pain (both current pain intensity and the most intense pain experience) and the satisfaction with post operative pain management and also the discrepancies in pain and satisfaction levels among patients. Only adult clients who were admitted for surgery in a Hong Kong hospital were used for the study

except clients who had their surgeries done under local anaesthesia. The patient outcome questionnaire developed by the American pain society was used to solicit data about patients' pain and satisfaction with pain relief. 87% of the patients' complained of various degree of pain twenty four hours (24 hrs) earlier to the assessment of their pain. Most patients' complained of mild to severe pain.

Approximately 80% of the respondents indicated that both nurses' and physicians reminded them to report pain when it occurred. 48.6% of the respondents agreed that the nurse and physicians sufficiently emphasized the importance of pain relief. The study also revealed that, the respondents who received acute pain relief treatment or services were provided by anaesthetist reported lower level of current pain intensity. In all over 60% of the respondents were satisfied with all level of health care they received regarding the post operative pain management.

2.11 THE BURDEN OF UNMANAGED PAIN (PAIN AS A PUBLIC HEALTH PROBLEM)

Protection from and relief of pain and suffering are a fundamental feature of the human contract we make as parents, partners, children, family, friends, and community members, as well as a cardinal underpinning of the art and science of healing. Pain is part of the human condition; at some point, for short or long periods of time, we all experience pain and suffer its consequences. While pain can serve as a warning to protect us from further harm, it also can contribute to severe and even relentless suffering, surpassing its underlying cause to become a disease in its own domains and dimensions. Individuals may share common accounting of pain, but in reality, experiences with pain are deeply personal, filtered through the lens of one's unique biological make up, the society and community in which the individual is was born and

live, the personalities and styles of coping the individual have developed, and the manner in which our life journey has been enjoined with health and disease. The personal experience of pain is often difficult to describe, and the words we choose to describe pain rarely capture its personal impact, whether it is sudden and limited or persists over time. Severe or chronic pain can overtake our lives, having an impact on us as individuals as well as on our family, friends, and community.

At least 116 million U.S. adults more than the number affected by heart disease, diabetes, and cancer combined suffer from common chronic pain conditions (Tsang et al., 2008). Everyone is at some risk of acute or chronic pain arising from an illness, an injury, or an array of other factors, but some population groups have a much higher risk of experiencing pain and its disabling effects and receiving inadequate treatment. Pain is a universal experience but unique to each individual. Across the life span, pain acute and chronic is one of the most frequent reasons for physician visits, among the most common reasons for taking medications, and a major cause of work disability. Severe chronic pain affects physical and mental functioning, quality of life, and productivity. It imposes a significant financial burden on affected individuals, as well as their families, their employers, their friends, their communities, and the nation as a whole. The annual economic cost of chronic pain in adults, including health care expenses and lost productivity, is \$560-630 billion annually according to a new estimate developed for this study. (IOM, 2011)

Pain can be conceptualized as a public health challenge for a number of important reasons having to do with prevalence, seriousness, disparities, vulnerable populations, the utility of population health strategies, and the importance of prevention at both the population and individual levels.

First is the extent of the problem: pain affects tens of millions and contributes substantially to morbidity, mortality, disability, demands on the health care system, and significant economic burdens for the nation. The prevalence of chronic pain is growing and likely to continue to do so. Second, there are substantial disparities in pain prevalence and seriousness and rates of under treatment across population groups. Inadequately treated pain is more common in vulnerable populations including the elderly, children, racial and ethnic minorities, and others that are a traditional concern of public health agencies and programs.

Third, because pain is everywhere across the population, imposes a differential burden on vulnerable subgroups, and is affected by conditions in the social, physical, and economic environments, a comprehensive pain prevention and management strategy at the population health level is needed. It is not sufficient to treat pain merely on a case-by-case basis in physicians' offices and other health care settings. Fourth, pain is costly to the nation; not just in terms of health care expenditures and disability compensation but also in terms of lost school days, lost productivity and employment, reduced incomes, and, indeed, lost potential and quality of life.

Fifth, pain raises societal issues that extend beyond individuals and their suffering. Specifically, the opiate medications that are effective for many people with pain also are subject to misuse and abuse, and ensuring that they are available for those who need them and not available to abusers necessitates cross-governmental efforts at all levels.

Sixth, the public's health is greatly influenced by the graduates of the nation's health professions training programs, many of which are heavily supported with public monies. From initial education through continuing education programs, health professionals need to learn more about the importance of pain prevention, ways to

prevent the transition from acute to chronic pain, how to treat pain more effectively and cost-effectively, and how to prevent other physical and psycho-logical conditions associated with pain.

Seventh, the ability to reduce pain's impact on the public's health can be strengthened as a result of new knowledge generated by the nation's vital research establishment through basic, clinical, and translational research; epidemiologic studies; and analysis of care patterns and costs.

Finally, public health offers an infrastructure and a forum for developing strategies for preventing and addressing pain. Multiple federal agencies

Rising Rates of Chronic Pain

An increase in pain prevalence has been recorded for some types of pain in the U.S. population; Rising rates of chronic pain are not unique to the United States. A U.K. report, for example, notes that the prevalence of chronic pain is rising sharply:

“chronic pain is two to three times more common now than it was 40 years ago” (U.K. Department of Health, 2009, p. 34). And chronic pain rates are likely to continue to rise, for at least five reasons.

First, the aging of the population means that a growing number of people will experience the diseases with which chronic pain is associated diabetes, cardiovascular disorders, arthritis, and cancer, among others (Cherry et al., 2010).

Second is the rising prevalence of obesity, which is associated with chronic conditions that have painful symptoms (diabetes-associated neuropathy, for example), as well as orthopedic problems, including cartilage degradation (Richettel et al., 2011). While it may be readily understood that increased weight places a greater burden on a person's bones and joints back, knees, hips obesity also is associated with higher rates of other types of pain, notably migraine (Peterlin et al., 2009).

Third, progress in saving the lives of people with catastrophic injuries related to work, sports, or vehicle crashes, which in previous times would have died creates a group of relatively young people at high risk of lifelong chronic pain. Similarly, modern medicine can help many people with serious illnesses survive longer, but the cost of survival may be debilitating pain. As one example, cancer chemotherapy can cause neuropathic pain.

Fourth, all surgical patients are at risk of both acute and chronic pain as a result of their procedure. Today, more of surgical procedures are performed on an outpatient basis, and persistent problems with adequate pain control after ambulatory surgery are well documented. People may be discharged before their level of pain can be adequately assessed, or they may be unable to implement the prescribed pain management strategy at home. The greatest risk is that undermanaged acute postsurgical pain may evolve into chronic pain (Rawal, 2007; Schug and Chong, 2009).

Fifth, greater public understanding of chronic pain syndromes and the development of new treatments may cause many people who have not sought help or who previously gave up on treatment to reenter the health care system.

Pain affects millions of Americans; contributes greatly to national rates of morbidity, mortality, and disability; and is rising in prevalence. Substantial disparities exist in the prevalence, seriousness, and adequate treatment of pain that affect the vulnerable populations of traditional public health concern. Pain exacts enormous costs both economically and in the toll it takes on people's lives. Analysis performed for the committee revealed that the annual economic cost of chronic pain in the United States is at least The \$560-635 billion range is a conservative estimate because it excludes the cost of pain affecting institutionalized individuals (including nursing home residents and corrections inmates), military personnel, children under age 18, and personal

caregivers (such as spouses who miss work while caring for people with pain), as well as the lost productivity of workers younger than 24 and older than 65. The estimate also excludes the emotional cost of pain. \$560-635 billion.

Pain in Africa has been explored especially in the area of HIV/AIDS and cancer, McCaffery *et al* (2012). Even though pain as a result of surgical intervention has a far bigger burden, a report by a human right watch indicated that it is only 10% of patients who have surgery in Africa receive good and adequate pain management. In spite of the fact that African Union summits and workshops has adopted good and effective pain management as a basic human right, most surgical patients in Africa do not receive adequate pain management due to stringent legal issues concerning morphine use and access, shortage of clinical staff and lack of knowledge on the part of patients and health workers (Vijayan R, 2011).

There are no data quantifying the burden of poor pain management especially Ghana in particular and Africa in general, there is no doubt that unmanaged pain have emotional, social and economic burden on the individuals, families, communities and the nation as a whole.

The above revelations about the impact of pain (irrespective of the type and the cause), which is of major concern for physicians and their patients makes pain management a public health issue.

There is an urgent need for education and training of healthcare providers, patients, and the public at large, in addition to collaboration among all stakeholders, including policy makers, to provide optimal pain care.

KNUST

CHAPTER THREE

3.0 METHODOLOGY 3.1 RESEACH METHODS AND DESIGN

A non-interventional prospective cross sectional study design was used. A quantitative method was used to elicit responses from study participants. The study was a hospital based and respondents' data were also reviewed.

3.2 DATA COLLECTION TECHNIQUES AND TOOL

The 2010 version of American Pain Society Pain Outcome Questionnaire (APSPOQ) tool was used to collect data on patient's satisfaction level, pain intensity and the effect of pain on the function through face to face interview.

Clients' anesthetists' records and post operative analgesics use were also reviewed.

3.3 STUDY POPULATION

The study population was clients/patients who underwent various surgeries at the hospital. Hospitalized patients who were 18 years and above and within 24 and 72 hours after surgery were invited to participate in the study and participation was voluntary.

3.4 PROFILE OF STUDY AREA

The Agogo Presbyterian hospital was established in March, 1931 by the Basel missionaries and is the first mission hospital to be established in Ghana. The hospital serves as the district hospital for the Asante Akyem North. Due to the strategic location of the hospital and more especially an excellent ophthalmological service provision, patients from other parts of Ghana and neighboring countries like Togo, La

‘Cote d’Ivoire and Burkina-Faso visits the hospital.

The hospital has a bed capacity of 250 beds and provides the following services;

Internal Medicine, General Surgery, Child Health, Obstetrics/Gynaecology, Ultrasonography, Ophthalmology, Electrocardiography, Physiotherapy, Laboratory Investigations and Blood Transfusion. The rest are X-Ray Investigations, HIV/AIDS (VCT, ART, and PMTCT), Special Sickle Cell Clinic, Special Diabetic Clinic, Special Hypertensive Clinic, Special TB Clinic, special buruli ulcer clinic, Pharmacy (with Infusion Production Unit) and Morgue Services

The Presbyterian hospital Agogo, is accredited for

1. Housemanship Training in Surgery, Paediatrics and Obstetrics/Gynaecology
2. Diploma in Ophthalmology programme for Doctors and Ophthalmic Nursing Training
3. Training of Residents in Surgery and Paediatrics
4. Designated as Collaborating Centre for the University of Ghana School of Public Health
5. Baby Friendly Hospital
6. MOH/WHO designated centre for training in the surgical management of Buruli Ulcer

7. One of two sites in Ghana and eleven sites in Africa for Malaria Vaccine

Trial. The hospital has the following existing facilities

- (a) Inpatients Department (Wards): Medical Ward (male and female) 28 beds; Maternity Ward 28 beds; Surgical Ward (male & female) 14 beds; Children's Ward 50 beds; Ward "U" (Ulcer) 20 beds; Eye Ward (Male & Female) 28 beds; Isolation Ward 9 beds; Casualty Ward 29 beds; Special Ward (Ward "A") 3 beds; Intensive Care Unit 6 beds; Nursery 7 beds; Labour ward 8 beds.
- (b) Outpatients Department (OPD) General Has four (4) Consulting Rooms each partitioned into two for two (2) Doctors to consult at the same time in privacy. OPD Eye – has four (4) Consulting Rooms and an Optical wing.
- (c) Operating Theatres for general surgeries and ophthalmological surgeries.
- (d) Pathological and Research Laboratory

The hospital staff strength stands at 385; 19 Doctors (including: 7 specialists, 2 Senior Medical officers, 2 Medical Officers, 2 Residents, 6 House Officers), 3 Medical Assistants, 5 Anaesthetist Assistants, 88 General Nurses (including 22 on orientation), 19 Midwives, 2 Pharmacists, 7 Biomedical Scientists, 2 X-Ray Technical Officers, 1 Physiotherapist, 238 other paramedical, administrative and service staff

3.5 INCLUSION CRITERIA

Hospitalized patients above 18 years and were within 24 and 72hours post operative period who volunteered were used for the study.

3.6 EXCLUSION CRITERIA

Clients who had difficulty in communicating, unconscious and clients with documented psychiatric illness were excluded from the study.

3.7 STUDY VARIABLES

Factor	Variable	Scale/Measure
Socio-demographics	Age	
	Sex	Nominal
	Religion	
	Education	
Surgery Characteristics	Type of surgery	Nominal
	Duration of surgery	
	Type of Anaesthesia	Nominal
Prescribed post-operative analgesia	Time of commencement of post operative	
Post operative pain experiences	Least Pain after 24hrs	Ordinal
	Worst pain after 24hrs	Ordinal
	Frequency of pain	Ordinal
Pain interfering with activities in bed	Pain interfering with activities in bed	Nominal
	Pain interfering with falling sleep	Nominal
	Pain interfering with staying asleep	Nominal
	Pain interfering with our emotions	Nominal
	Side effects	Nominal

Patient Satisfaction	Participation in decision making	Nominal
	Satisfaction	Ordinal
	Information on treatment options	Ordinal
	Usage of any nonmedicine method to relieve pain	Ordinal
	Encouraged to use nonmedicine method	Nominal

3.8 SAMPLING

A convenience sampling technique was used to select participants for the study. Participant recruitment was voluntary. Post operative clients within 24 and 72 hours post operative period who consented were allowed to participate in the study. Surgical patients who met the inclusion criteria were contacted at the maternity ward and surgical wards A and B 24hrs and 72hrs after surgery. A total of 200 participants were used for the study.

3.9 PRE-TESTING

Pretesting of the questionnaire was done at the Presbyterian hospital, Donkorkrom in the Kwahu North District with 15 participants. The data obtained was analyzed to determine if the findings can be used to answer the research questions or the specific objectives of the study. The questionnaire was not reviewed because it was realized that all the research questions could be answered.

3.10 DATA HANDLING

Data collected were checked for completeness and correctness on daily basis by principal investigator and the completed questionnaires were kept locked in a drawer by the principal investigator. This was done to ensure the confidentiality of the participants. An excel sheet was created to group the raw data to enable easy analysis of the data.

Guidelines that were predetermined by the Committee on Human Research Publication and Ethics of the School of Medical Sciences, Kwame Nkrumah University of Science and Technology were also adhered to, to ensure confidentiality and preservation of data.

3.11 DATA ANALYSIS

The data was analysed using the statistical software “statistical package for social sciences” (SPSS) and results presented in the form of means, frequencies and percentages.

3.12 ETHICAL CONSIDERATION

Permission to conduct the study was obtained from the Institutional Review Committee Board, Kwame Nkrumah University of Science and Technology, Kumasi. A written informed consent for the study was also obtained from the management of the Presbyterian hospital, Agogo.

The research assistants were trained to assess client’s ability to comprehend in plain language information about the study and to participate in the study. Informed consent was obtained after comprehensive explanation of the purpose and procedure of the study from the participants. Clients were informed about their right to withdraw or refuse to be part of the study at any point in the course of the interview and that would

not affect them negatively and were assured of confidentiality of all information that were to be obtained.

3.13 LIMITATION OF THE STUDY

The study was limited by the convenience sampling method that was used to select participants. Secondly, because of time limit, the study was conducted with a small sample size of 200.

CHAPTER FOUR-RESULTS

4.0 Introduction

This chapter presents the results of the assessment of post operative pain management project that was carried out at Agogo Presbyterian hospital between July and September 2015. The statistical software “statistical package for the social sciences” (SPSS), 2009 was use for the analysis and the results were presented in the form of simple descriptive statistics; frequencies, mean and percentages.

Table 4.1: Socio-Demographic characteristics

Variable Name	Category	Frequency	Percent (%)
Sex	Female	141	70.5
	Male	59	29.5
	Total	200	100.0
Age	Below 20 years	10	5.0
	20-40 years	138	69.0
	41-60 years	34	17.0
	Above 60 years	18	9.0
	Total	200	100.0
Mean Age (35.68)			
Religion	Christian	174	87.0
	Muslim	26	13.0

	Total	200	100.0
	NIL	7	3.7
	M S L C J	18	9.0
	SS	44	22.0
Education	Primary	54	27.0
	SSS	41	20.5
	Tertiary	36	18.0
	Total	200	100.0

4.1: Demographic characteristics

Two hundred subjects participated in the study consisting of one hundred and forty one (141) females and fifty nine (59) males. Ten (10) respondents were below the age of twenty (20 years) representing 5% of the entire respondents. With the mean age of respondents been 35.68 years, most of the respondents one hundred and thirty eight (138) representing 69.0% were within the ages of 20-40 years. Eighteen (18) 9.0% were above 60 years.

Majority of the respondents (87%) are Christian with Muslims accounting for 13% (26 respondents). Seven (7) of the respondents (3.5) had no form of formal education, fifty four (27%) had primary education and only thirty six (36) 18 % had tertiary education.

Table 4.2: Type of Surgery

Type of Surgery	frequency	Percent (%)
Caesarian section	74	37.0
Debridement	17	8.5
Hernia repair	29	14.5
Hysterectomy/myomectomy	19	9.5

Laporatomy	19	9.5
Incision and drainage	9	4.5
Thyriodectomy	3	1.5
Others	30	15.0
Total	200	100.0

others; suturing, amputation, bilateral tubal ligation, cauterization, excision and heamorrhidectomy the rest are orchidectomy, salpinjectomy , reduction of dislocation and skin grafting.

From Table 4.2 above, seventy four (74) of the respondents (37%) had caesarian section with hernia repair accounting for 14.5%. hysterectomy/myomectomy 9.5% (19 respondents) and this is same for laporatomy. Thirty (30) respondents (15%) had the following surgeries: suturing, amputation, bilateral tubal ligation, cauterization, excision and heamorrhidectomy. The rest are orchidectomy, salpinjectomy, reduction of dislocation and skin grafting.

Table 4.3: Type of anesthesia

Type of Anaesthesia	Frequency	Percent (%)
General Anaesthesia	65	32.5
Local anaesthesia	2	1.0
Local + sedation	2	1.0
Spinal anaesthesia	131	65.5
Total	200	100.0

4.2 Types of anaesthesia

Majority of the respondents had spinal anaesthesia, one hundred and thirty-one (131) representing 65.5% and 32.5% had general anaesthesia. Local anaesthesia and local anaesthesia with sedation account for only 2%.

Table 4.4: Duration of surgery

Duration of Surgery	Frequency	Percent (%)
Below 30 minutes	2	1.0
30-60 minutes	69	34.5
61-90 minutes	78	39.0
91-120 minutes	34	17.0
Above 120 minutes	17	8.5
Total	200	100.0
Mean duration of surgery = 80.97		

4.3 Duration of surgery

Out of the two hundred (200) respondents used for the study, seventy eight (78) of them (39.0 %) had their surgeries done within sixty one (61) and ninety (90) minutes. Respondents whose surgeries were extended beyond one hundred and twenty (120) minutes were seventeen (17) accounting for 8.5% of the respondents. The mean time duration of surgery for respondents was 80.97 minutes.

Table 4.5: Intra operative analgesia

Intra operative analgesia	Frequency	Percent (%)
No intra operative analgesia	133	66.5

Morphine	26	13.0
Pethidine	41	20.5
Total	200	100.0

4.4 Intra operative analgesia

In all, sixty-seven (67) respondents (33.5%) were given intra operative analgesia and the two main intra operative analgesics given are morphine (13%) and pethidine (20.5%).

Table 4.6: Post-operative analgesics (0-24hrs post operatively)

Post-operative analgesics (0-24hrs post operatively)	Frequency	Percent (%)
injection tramadol 100mg	1	0.0
Injection diclofenac 75mg	10	5.0
injection morphine 5mg q i d	19	9.5
Injection pethidine 100mg	1	0.5
Injection pethidine 50mg q i d	21	10.5
injection tramadol 100mg b d	79	39.5
injection tramadol 200mg b d	69	34.5
Total	200	100.0

4.5 Post-operative analgesics (0-24hrs post op)

Table 4.6 above summarises the post operative analgesics that was given to client in the first twenty four (24) hours after surgery. All the two hundred (200) respondents were given injections for their post operative pains in the first twenty four (24) hours. Injection tramadol was the most frequently prescribed analgesic (74.5%) either in

hundred milligrams twelve hourly (100mg b d) or two hundred milligrams twelve hourly (200mg b d). Injection pethidine fifty milligrams six hourly (50mg q i d) was prescribed for twenty one (21) respondents (10.5%). Injection morphine five milligrams six hourly (5mg q i d) was given to nineteen (19) Of the respondents (9.5%). Ninety three (93) respondents who had ceasarian section, myomectomy or hysterectomy were given diclofenac in the form of suppository hundred milligrams 12 hourly (100mg b d) alongside the prescribed injection. They were the only respondents who had two analgesics for their post operative pains management in the first twenty four (24) hours.

Table 4.7 :Post Operative Analgesics (post op day2-5)

Post Operative Analgesics (post op day2-5)	Frequency	Percent
Capsule tramadol 50mg t d s	55	27.5
Supp diclofenac 100mg b d	101	50.5
Tablet diclofenac 50mg t d s	24	12.0
Injection tramadol 100mg b d	20	10.0
Total	200	100.0

4.6 Post Operative Analgesics (post op day2-5)

Respondents were given injection or capsule tramadol and diclofenac for their post operative pain 24 hours after surgery. One hundred and one (101) respondents were given diclofenac hundred milligrams twelve hourly (100mg b d) representing 50% of the respondents and 12 % (24 respondents) were given diclofenac fifty milligrams eight hourly (50mg t d s). Capsule tramadol fifty milligrams eight hourly (50 mg t d s) were given to fifty five (55) respondents constituting 27% of the total respondents. 10% (20)

respondents were given injection tramadol hundred milligrams twelve hourly (100mg
b d)

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Table 4.8: Commencement of post-operative analgesics (start of post analgesia in minutes)

Start of post analgesia in minutes	Frequency	Percent (%)
30-60 minutes	59	29.5
61-90 minutes	70	35.0
91-120 minutes	58	29.0
Above 120 minutes	13	6.5
Total	200	100.0

4.7 Commencement of post-operative analgesics (start of post analgesia in minutes)

From the table above, 29.5% of the respondents had their post operative analgesics started within 60 minutes after operation. Majority of the respondents (64%) had their post operative analgesics started between 61 and 120 minutes after surgery and 6.5 % of them said their post operative analgesics was delayed for more than 120 minutes thus more than 2 hours after surgery.

Table 4.9: Various Forms of Pains Experience

Ratings, Frequencies (%)

Statement	0 No pain	1-3 Mild	4-7 Moderate	8-10 Severe	Mean score
Least pain you had in the first 24 hours	0	92 (46.0)	108 (54.0)	0	3.53
Worst pain you had in the first 24 hours	0	0	74 (37.0)	126 (63.0)	7.64

percentage of time you experienced severe pain

	0	10%-30%	40-70%	80-100%	Mean
How often were you in severe pain in the first 24 hours	0	0	191 (95.5)	9 (4.5)	63.5

Ratings of how much pain interfered or prevented you from

	0 Does not interfere	1-3 Mild interference	4-7 Moderate interference	8-10 Severe interference	Mean
Doing activities in bed such as turning, sitting up, repositioning	0	12 (6.0)	181 (90.5)	7 (3.5)	5.35
Doing activities out of bed such as walking, sitting in a chair, standing at the sink	0	6 (3.0)	170 (85.0)	24 (12.0)	5.94
Falling asleep	0	9 (4.5)	181 (90.5)	10 (5.0)	5.68
Staying asleep	0	20 (10.0)	177 (88.5)	3 (1.5)	5.08

Pain can affect our mood and emotions

	0 Not at all	1-3	4-7	8-10	0 Not at all
Anxious	36 (18.0)	114 (57.0)	48 (42.0)	2 (1.0)	2.82
Depressed	99 (49.5)	86 (43.0)	14 (7.0)	1 (0.5)	1.32
Frightened	45 (22.5)	117 (58.5)	37 (18.5)	1 (0.5)	2.39
Helpless	29 (14.5)	132 (66.0)	35 (17.5)	4 (2.0)	2.73

4.8 Various Forms of Pains Experienced

Table 4.9 above summarizes the responses of the subjects in relation to their post operative pain experiences within the first 24 hours after surgery and afterwards, how the pain affected them in the performance of their daily activity and how much pain affected their mood.

One hundred and eight (108) respondents (54%) said they experienced moderate pain within the first 24 hours after surgery and ninety two (92) of the respondents (46%) experienced mild pain and this is with regard to the least pain respondents experienced within the first 24 hours after surgery. The mean pain score on the least pain in the first 24 hours after surgery was 3.53 on the zero to ten (0-10) scale.

On the worst pain respondents experienced within the 24 hours after surgery, one hundred and twenty six (126) (63%) experienced severe pain and seventy four (74) (37%) of the respondents experienced moderate pain. The mean score on the worst pain scale was 7.64 on the zero to ten (0-10) scale.

Majority of the respondents (191 respondents) (95.5) said they experienced moderate (40%-70%) pain within the first 24 hours after surgery with only 4.5% (9 respondents) experiencing severe (80%-100%) pain on the 0-100 scale. The mean pain score within the first 24 hours after surgery was 63.5%.

In relation to how much pain interfered with respondents daily activities, one hundred and eighty one (181) (90.5%) respondents indicated that their pain moderately (4-7) interfered with activities such as turning, sitting up in bed and repositioning. One hundred and seventy (170) (85%) stated that their pain moderately affected them in performing activities such as walking and sitting up in a chair. Most of the respondents 90.5% (181 respondents) had moderate difficulty in falling asleep and

88.5% (177 respondents) had moderate difficulty in staying asleep as a result of the pain they experienced.

On how pain affects mood and emotions, 141 respondents (57%) were mildly anxious with 48 respondents (24%) experiencing moderate anxiety as a result of their pain. 99 (49.5%) had no depression as a results of post operative pain, 86 (43%) experienced mild depression with only 14 (7%) reporting of moderate depression. 117 (58.5%) of the respondents were mildly frightened, 37 respondents (18.5%) were moderately frightened as a results of post operative pain and 45 (22.5%) were not frightened at all.

With helplessness, 132 (66%) respondents indicated mind helpless, 35(17.55) were moderately helpless with 29 (14.5%) did not experienced any form of helplessness.

Table 4.10: side effects

Ratings,					
Freq. (percent)					
	0 None	1-3 Mild	4-7 moderate	8-10 severe	Mean
Nausea	130 (65)	49 (24.5)	20 (10)	1 (0.5)	1.17
Drowsiness	100 (50)	48 (24)	49 (24.5)	3 (1 .5)	1.5
Itching	186 (93)	13 (6.5)	0	0	0.17
Dizziness	113 (56.5)	71 (35.5)	14 (7)	2 (1)	1.31

4.9 Side effects of post operative analgesics

Table 4.10 summarizes the side effects of the post operative prescribed drugs. More than 50% of the respondents did not experience any side effect like nausea, itching

and dizziness. Forty nine (49) (24.5%) reported of moderate drowsiness and 48 (24%) of the respondents reported of mild drowsiness.

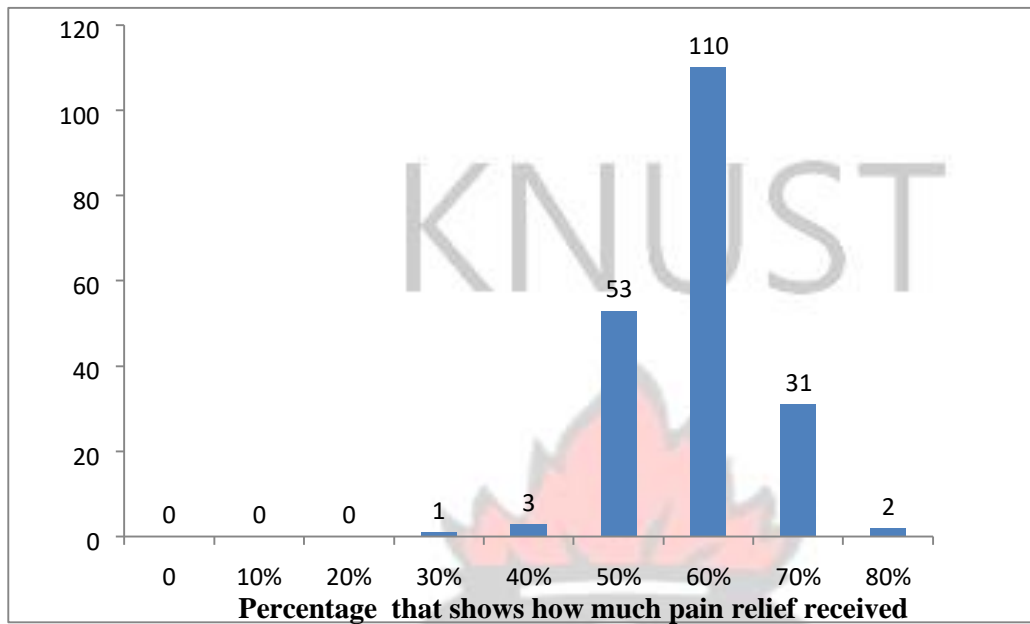


Figure 4.1 pain reliefs received for the first 24 hours after surgery

4.10 How much pain relief received from your pain treatment in the first 24 hours

Figure 4.1 shows how much pain relief respondents received within the first 24 hours after surgery. Majority of the respondents thus 196 (98%) stated that they received pain relief of 50% and above. 110 respondents (55%) received 60% pain relief with 2 respondents (1%) having 80% pain relief. Only 4 respondents (2%) indicated that their pain relief was less than 50% on the 0- 100% scale.

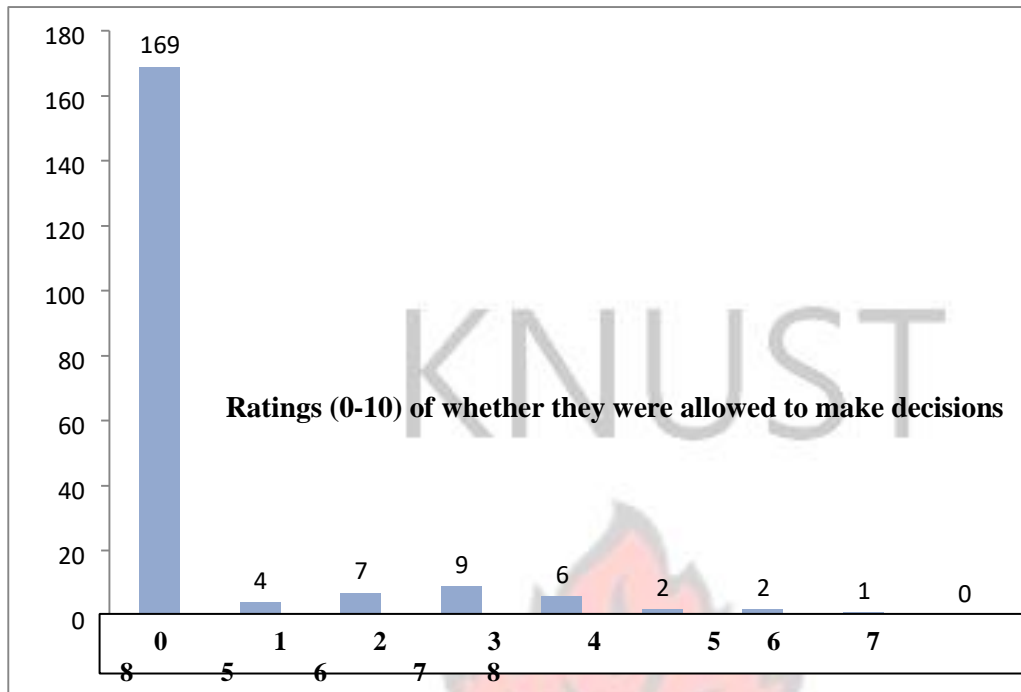


Figure 4.2: Ratings (0-10) of whether they were allowed to make decisions

4.11 Involvements of patients in decision making

One hundred and sixty one (169) respondents (84.5%) were not allowed at all to participate in the decision concerning their pain management as much as they wanted to do. Thirty nine (31) respondents (15.5%) said they were allowed to participate in decision making concerning their pain management and this can be seen from figure 4.12 on the 0-10 scale with 10 indicating that respondents were very much involved and 0 indicating no involvement at all.

4.12 Satisfaction with pain treatment while in the hospital

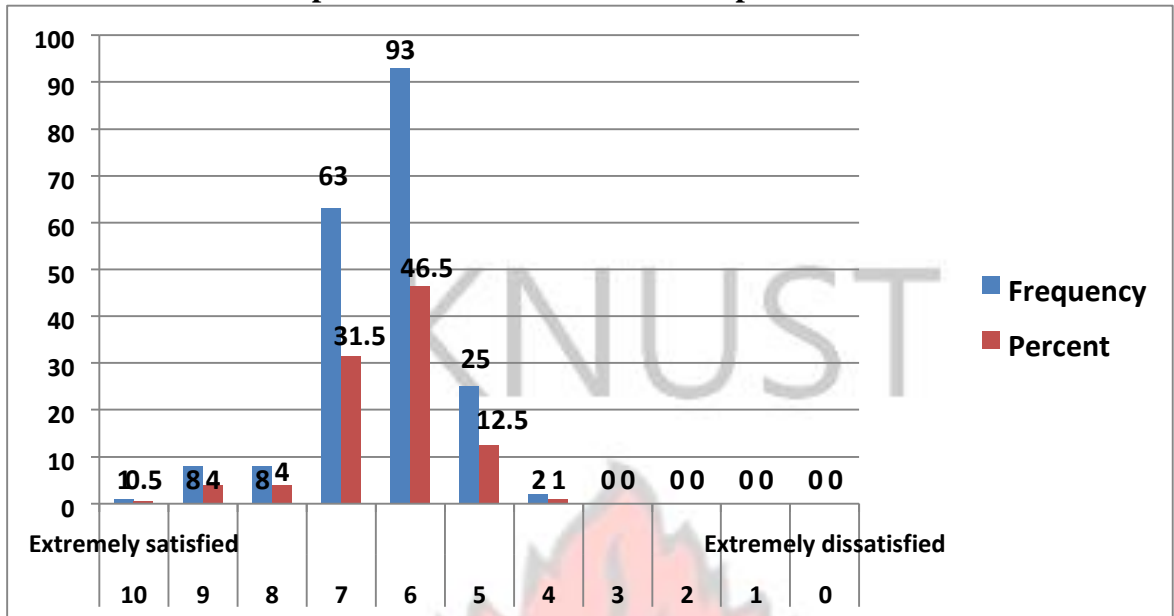


Figure 4.13: How satisfied you are with the results of your pain treatment while in the hospital

Figure 4.13 shows how satisfied respondents were with their pain management in the hospital. On the zero to ten (0-10) scale, ninety eight (98) respondents thus 99% scored their satisfaction level at five (5) and above. With this, ninety three (93) (46.5%) said they 60% satisfied with their pain treatment in the hospital after operation, sixty three (63) (31.5%) said they were 70% satisfied and 26 respondents (13%) were satisfied 80% and above. Only two (2) respondents representing 1% of the respondents said they were only 40% satisfied with their pain treatment in the hospital.

Table 4.14: Information about your pain treatment options

	Frequency	Percent
No	194	97.0
Yes	6	3.0
Total	200	100.0

4.13 Information about your pain treatment options

One hundred and ninety four (194) respondents (97%) did not received and information about their pain treatment options and only 3% (6 respondents) receive any information about their pain treatment option. This can be seen in Table 4.11

4.14 Usefulness of pain treatment options

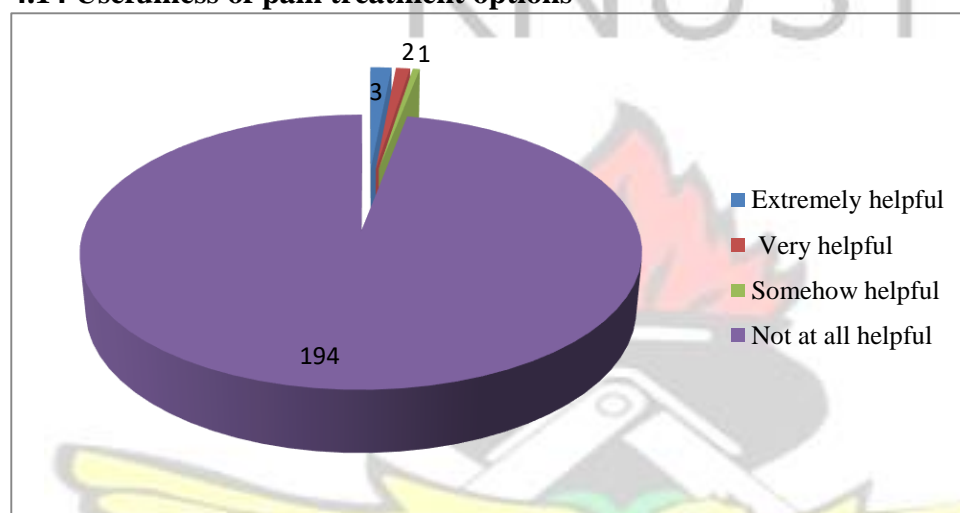


Figure 4.14: How helpful is the information about the pain treatment options

Out of the six (6) respondents who received information about their pain treatment options, three (3) of them indicated that the pain treatment option information they received were extremely helpful, two (2) said the information was very helpful and one (1) respondent said the information was somehow helpful. One hundred and ninety four (194) (97%) of the respondents did not receive any information about their pain treatment options and this is clearly seen in figure 4.4.

Table 4.16 : Usage of any non-medicine methods to relieve pain

	Frequency	Percent
No	131	65.5

Yes	69	34.5
Total	200	100.0

4.15 Usage of any non-medicine methods to relieve your pain

Out of the 200 respondents that were used for the study, 69 of them (34.5%) use nonmedicinal methods in relieving their pain and 131 respondents (65.5%) never used any non-medicinal method in the control of their pain after surgery in the hospital and this can be seen in Table 4.12

Table 4.17: Various non-medicine methods used to relief pain

	Frequency	Percent
No response	131	65.5
deep breathing, meditation, prayer, walking	5	2.5
deep breathing	4	2.0
deep breathing, listen to music	4	2.0
deep breathing, prayer	4	2.0
deep breathing, prayer, imagery	1	0.5
deep breathing, prayer, walking	18	9.0
deep breathing, walking, prayer, listen to music	2	1.0
deep breathing, walking, prayer, listen to music	1	0.5
deep breathing, walking, relaxation, prayer	1	0.5
deep breathing, relaxation, listen to music, prayer	1	0.5
distraction, prayer, relaxation, walking	2	1.0
Massage	1	0.5

prayer, deep breathing	3	1.5
prayer, meditation, deep breathing	1	0.5
prayer, walking, deep breathing	1	0.5
Walking	8	4.0
walking, deep breathing	5	2.5
walking, deep breathing, listen to music	2	1.0
walking, deep breathing, meditation, prayer	1	0.5
walking, deep breathing, prayer, listen to music	1	0.5
walking, deep breathing	1	0.5
walking, meditation, prayer	1	0.5
walking, relaxation, listen to music	1	.5
Total	200	100.0

4.16 The various non-medicine methods used to relief pain

Table 4.13 shows the various non-medicinal methods used by the sixty nine (69) (34.5%) respondents who indicated earlier that they used non-medicinal methods to help in their post operative pain management. From the Table, 69 respondents used walking, relaxation, praying, deep breathing, meditation, imagery and listening to music to help in their post operative pain control. Most of them used combination of two or more of these methods. 18 out of the 69 respondents who used non-medicinal method combined deep breathing, prayer and walking to help them in their pain control.

4.17 use of non-medicinal method in pain management

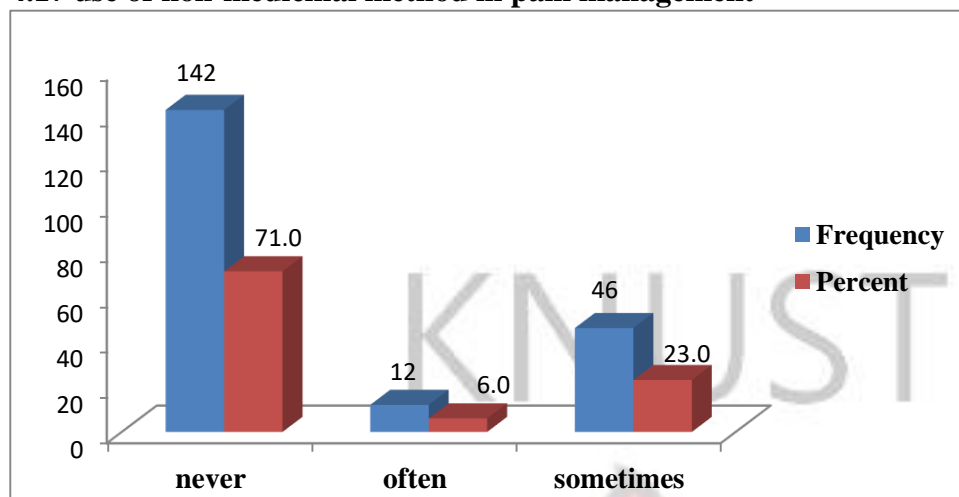


Figure 4.5: How often did a nurse or doctor encourage you to use non-medicinal methods

Majority of the respondents (71%) according to figure 4.5 were never encouraged by either nurses or doctors to use non-medicinal methods to help in their post operative pain treatment. Only 6% of them were often encouraged to use non-medicinal methods and 23% of the respondents said they were sometimes encouraged by nurses and doctors to use non-medicinal methods in their post operative pain management.

CHAPTER FIVE

5.0 DISCUSSION 5.1 INTRODUCTION

This chapter focuses on discussion of the findings of the study, the research objectives and the research questions relative to previous studies conducted.

5.2 PAIN EXPERIENCE OF CLIENTS WHO HAD SURGERY

From the study, the mean pain score on the 0-10 pain scale for the least pain in first 24 hours is 3.53 and this falls within the moderate pain region. Also the mean pain score for the worst pain experience in the first 24 hours after surgery is 7.64 and this falls into the category of severe pain. It can therefore be concluded from the study that,

respondent's experienced moderate to severe post operative pain within the first 24hours after surgery. This finding is supported by the study conducted by Subramanian *et al*, (2014) that revealed that post operative pain still remains an issue among surgical patients. Moderate to high levels of pain intensity in the first 24 hours after surgery was reported by Subramanian *et al*, (2014). This pain moderately affected /interfered with the performance of activities such as turning in bed, sitting up, reposition, falling and staying asleep and this was also reported in Subramanian et al (2014).

Then again, this finding is also supported by the findings of Apfelbuam *et al*, (2013) which concluded that 80% of surgical patients experience acute pain and that 50% out of those who complain of acute pain had moderate to severe pain with more patients experiencing pain even after discharge.

5.3 DURATION OF PAIN IN THE FIRST 24 HOUR AFTER SURGERY

The study revealed that, the mean score of how often clients were in severe pain in the first 24 hours was 63.5% on the 0-100% scale. Majority of the respondents (70.5%) indicated that, their post operative analgesics were delayed for over one hour (61minutes and above) after surgery. Furthermore, from Table 4.8 above, one hundred and ninety one (191) respondents (95.5%) were in pain between 40-70% in the first 24 hour post operative period. This indicates that post operative clients were in pain 63.5% of the first 24 hours after surgery. This agrees with the findings in a study conducted in Aga University Hospital in Nairobi by Mwaka *et al*, (2013) reported that the prevalence of post operative pain 53.3% 24 hours after surgery and 34.7% 48 hours after surgery. This means that surgical patients experience pain in most hours in the first 24 hours after surgery.

Secondly, Frances *et al*, (1996) revealed that approximately 50% of surgical treated clients experience incisional pain 24 hours after surgery and this not different from the findings of this study that surgical patients were most often in pain in the first 24 hours in after surgery

5.4 PATTERN OF ANALGESICS USE POST OPERATIVELY

In the first 24 hours after surgery, respondents were given intramuscular injection of tramadol, pethidine, morphine or diclofenac. Seventy nine (79) respondents (39.5%) were given intramuscular injection of tramadol 100mg 12 hourly and 34.5% received intravenous injection of tramadol 200mg in dextrose saline 500ml 12 hourly. Apart from respondents who underwent caesarian section and myomectomy/hysterectomy who received tramadol injections and suppository diclofenac in the first 24 hours after surgery, the rest received monotherapy prescription for their pain. After 24 hours, all the respondents received monotherapy pain treatment till discharged. These drugs were all prescribed by the surgeon who performed the surgeries.

It is also observed that, majority (63.08%) of clients who had their surgeries under general anaesthesia were given either injection pethidine 50mg 6 hourly (q i d) or injection morphine 5mg 6 hourly (q i d) for the first 24 hours after surgery. All the respondents who had laporatomy, thyroidectomy, and heamorrhoidectomy were either given pethidine or morphine for the first 24 hours. Respondents who underwent hernia repair and major debridement under general anaesthesia were also given pethidine or morphine for the first 24 hours after.

Furthermore, injection tramadol 100mg 12 hourly (b d) was prescribed for 20 respondents (10%) 48 hours after surgery thus post operative day afterwards. All the clients who had laporatomy and one client who had thyroidectomy were given injection

tramadol after 24 hours. This constitutes 30.77% of all the clients who had their surgery under general anaesthesia.

With regards to intra operative analgesia, only two drugs; injection pethidine and morphine were used. It is important to state that, only clients who had their surgeries under general anaesthesia and local infiltration with sedation were given intra operative analgesia.

With this pattern of analgesics prescription, most clients experienced moderate to severe post operative pain in the first 24 hours after surgery and were also in pain averagely 63.5% of the first 24 after surgery. On post operative day two and above, 20 respondents (10%) were given injection tramadol 100mg 12 hourly, 101 respondents (50.5%) had diclofenac 100mg in the form of suppository, 55 respondents (27.5%) were given capsule tramadol 50mg eight hourly and 24 respondents (12%) had diclofenac 50mg eight hourly. From the above prescriptions, 99% of the clients said they were 50% and above satisfied with their post operative pain treatment while in the hospital. This result is not different from the result of Ogboli-Nwasor *et al*, (2012) which also revealed that, post operative analgesics were prescribed by surgeons and residents and that, 91.3% received intermittent intramuscular injections of opiates while 6.5% received intramuscular injection of non steroidal anti-inflammatory drugs. 34.5% of those who received these prescriptions reported moderate pain and 65% reported mild pain 8 hours after their operation. This also confirms the finding from this study which indicates that most clients experienced moderate to severe pain within the first 24 hours after surgery. This suggests that most surgical clients still experience moderate to severe post operative pain in spite of advances and development of more effective pain management technique for post operative pain control.

The prescription pattern revealed that 46.5% of the respondents (who are made up of clients who had caesarean section and myomectomy/hysterectomy) who were given a combination of analgesics (injection tramadol and suppository diclofenac), the rest of the respondents were given monotherapy prescription. The monotherapy were injection tramadol (28%), injection pethidine (11%), morphine (9.5%) and injection diclofenac (5%). This is in line with Kumarasingam *et al*, (2014) which indicated that, monotherapy analgesic prescription were also prescribed for 53% of surgical clients that were used for the study while 45% of the clients received a combination of analgesic prescription on the day of surgery. The most commonly prescribed monotherapy in Kumarasingam *et al*, (2014) was diclofenac (60%) followed by tramadol (37%), but in this study the most commonly prescribed monotherapy was tramadol (52.3%), pethidine (20.6%), morphine (17.8%) and diclofenac (9.3). Again this shows that utilization of analgesics was based on the type of surgery and the surgeons preferences and this was also established in Kumarasingam *et al*, (2014).

5.5 SATISFACTION WITH POST OPERATIVE PAIN MANAGEMENT

On how respondents were satisfied with regards to the results of their post operative pain management while in the hospital, 99% of the respondents said they were 50% and above satisfied. With this, majority of the respondents were between 60-70% satisfied and only 13% of the respondents were 80% and above satisfied. This satisfaction level is higher than what was reported in Lovatsis et al (2007) which stated that 60% of post operative patients were satisfied with their post operative pain control. Joanne *et al*, (2001), also puts the overall satisfaction with post operative management at 60% and this suggests an improvement in the management of post operative pain.

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CHAPTER SX: CONCLUSION AND RECOMMEDATION INTRODUCTION

This chapter summarizes the main thrust and key findings of the study. It also presents recommendations to be considered by appropriate authorities.

6.1 CONCLUSIONS.

6.1.1 Pain experience of post operative clients

The study revealed that, surgical clients experienced moderate to severe post operative pain within the first 24 hours after surgery. Prescribed post operative analgesics were also not commenced early and were delayed for more than two hours after surgery before treatment started and this can affect negatively post operative pain management especially in the first 24 hours.

6.1.2 Duration of pain in the first 24 hours after surgery

The mean score of how often clients were in pain in the first 24 hours after surgery was 63.5% indicating that most surgical clients spent 63.5% of the first 24 hours in pain which ranged from moderate to severe. This can be attributed to the delay in the commencement of post operative analgesics.

6.1.3 Pattern of analgesics use

All post operative analgesics were prescribed by the surgeons who performed the various surgeries. Except clients who underwent caesarian section, myomectomy or hysterectomy who had two analgesics prescribed for them for the first 24 hours after surgery, all surgical clients were given only one analgesic (monotherapy) for post operative pain management.

Two drugs were used for intra operative analgesia; morphine and pethidine. Only clients who had their surgeries under general anaesthesia and local infiltration with sedation were given intra operative analgesia. One of these drugs was prescribed for respondents; injection pethidine, injection morphine and injection tramadol for clients for the first 24 after surgery. After 24 hours, clients were either given tramadol (injection or capsule) or diclofenac (suppository or tablet).

6.1.4 Satisfaction with post operative pain management

Majority of surgical patients were over 60% satisfied with their post operative pain management while in the hospital.

6.1.5 Participation in decision making about pain treatment

Majority of surgical patients were not given the opportunity to participate in decision making concerning their post operative pain management.

6.1.6 The use of non-medicinal methods for pain relieve

Two thirds of the surgical clients did not use any form of non-medicinal method in their post operative pain treatment and this is because they were never encouraged to use them by their doctors and nurses.

6.2 RECOMMENDATIONS

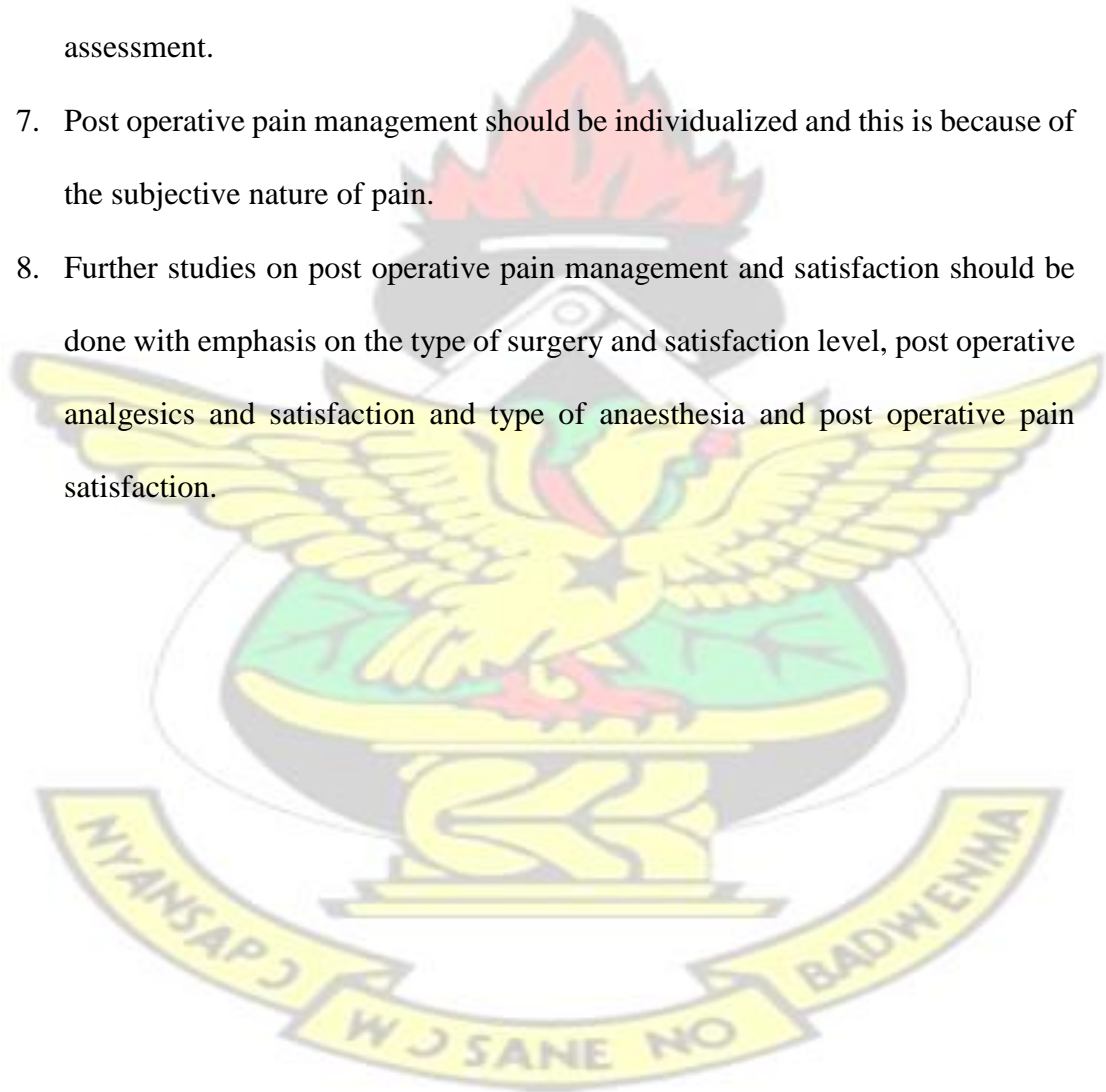
6.2.1 Ghana Health Service/ Agogo Presbyterian Hospital

Pain if not managed and controlled well have negative effects on the individual, the family and the community. Post operative pain which is acute in if not managed well can results in the development of chronic pain. The burden of unmanaged pain on the individual, family and the community as a whole makes pain management a major public health issue and effects should be put in place to help achieve 100% pain management and control especially after surgery.

To achieve good and effective pain management and control, it is recommended that:

1. Pain management and control should be addressed as a public health issue and all stakeholders in the help delivery system should come on board to help in its management.
2. It is recommended that, all clinical staff especially doctors and nurses should encourage surgical clients to use non-medicinal methods to complement analgesic use in their post operative pain management. The use of non medicinal methods in pain management and control has shown to be effective as this diverts patient's attention from the pain perception.
3. To reduce the incidence of post operative pain in the first 24 hours after surgery, clinical staff should be encouraged to start post operative analgesics treatment early so that pain control commences while clients are recovering from intra operative analgesia.
4. Surgical clients should be allowed and given the opportunity to participate in decision making concerning their post operative pain management and this will go a long way to help improve post operative pain management.

5. Combination of analgesics (especially opiates and non-steroidal antiinflammatory drugs) more especially in the first 48 hours after surgery for all surgical clients so that analgesics effects will be potentiated and this can reduce the high incidence of post operative pain in the first 24 hours after surgery.
6. Education of all clinical staff on assessment and management of pain especially surgical pain. Good pain management can only be achieved after a good pain assessment.
7. Post operative pain management should be individualized and this is because of the subjective nature of pain.
8. Further studies on post operative pain management and satisfaction should be done with emphasis on the type of surgery and satisfaction level, post operative analgesics and satisfaction and type of anaesthesia and post operative pain satisfaction.



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APPENDICES

APPENDIX A: PAIN RATING SCALE

PAIN RATING SCALE (0-10) INTERPRETATION

0	1-3	4-7	8-10
No pain	Mild pain	Moderate pain	Severe pain

APPENDIX B: DATA COLLECTION TOOL (QUESTIONNAIRE)

Patient information and assent

Dear Sir \ Madam,

We would be grateful if you would participate in our survey on how patients feel after surgery. The aim of the survey is to improve management of pain after surgery in this hospital.

Your participation is voluntary and the information you provide will be made anonymous once you hand in this questionnaire. This means that your name or other form of identification will be deleted from the questionnaire after you hand it in and will not be included in any records we will have.

Your answers in this questionnaire will not be shared with your medical or nursing team.

We can assure you that your team will treat you in the same way whether or not you choose to participate in our survey.

Many thanks for *considering* taking part in this survey.

Department.....

Hospital number.....

Age.....

Sex.....

Religion.....

Highest Education level.....

Type of surgery.....

Duration of surgery.....

Type of Anaesthesia.....

Prescribed post operative

Analgesia.....

.....

.....

Time of commencement of post operative analgesics after surgery.....

The following questions are about pain you experienced during the first 24 hours after your operation.

P1. 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
worst pain
possible
pain

P2. 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
worst pain
possible
pain

P3. How often were you in **severe** pain in the first 24 hours?

Please circle 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 always in
severe severe pain pain

P4. 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

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**

P5. 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

P6. Have you had any of the following side effects? Please circle "0" if no; if yes, 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. 0 1 2 3 4 5 6 7 8 9 10
Drowsiness
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*

P7. In the first 24 hours, how much pain **relief** 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%
no relief complete relief

P8. Were you **allowed to participate in decisions** about your pain treatment as much as you wanted to?

0 1 2 3 4 5 6 7 8 9
10 *not at all* *very much so*

P9. Circle the one number that best shows how **satisfied** you are with the results of your pain treatment while in the hospital:

0 1 2 3 4 5 6 7 8 9 10
extremely dissatisfied *extremely satisfied*

P10. Did you receive any **information** about your pain treatment options? ____ No, ____ Yes.

a. If yes, please circle the number that best shows **how helpful** the information was:

0 1 2 3 4 5 6 7 8 9 10 not at all *extremely helpful* helpful

P11. Did you use any **non-medicine methods** to relieve your pain? ____ No ____ Yes.

If yes, **check all** that apply:

____ cold pack	____ meditation
____ deep breathing	____ listen to music
____ distraction (such as watching TV, reading)	____ prayer
____ heat	____ relaxation
____ imagery or visualization	____ walking
____ massage	other (please describe)

P12. How often did a nurse or doctor **encourage you to use** non-medicine methods?

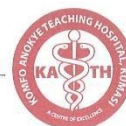
____ never ____ sometimes ____ often

Thank you for your time and feedback



KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICAL SCIENCES / KOMFO ANOKYE TEACHING HOSPITAL
COMMITTEE ON HUMAN RESEARCH, PUBLICATION AND ETHICS



Our Ref: CHRPE/AP/130/16

18th March, 2016.

Mr. Emmanuel Nakua
Department of Population, Family
and Reproductive Health
School of Public Health
KNUST-KUMASI.

Dear Sir,

LETTER OF APPROVAL

Protocol Title: *"Assessment of Post Operative Pain Management at Agogo Presbyterian Hospital, Asante Akyem North District."*

Proposed Site: *Presbyterian Hospital, Agogo, Asante Akyem North District.*

Sponsor: *Principal Investigator.*

Your submission to the Committee on Human Research, Publications and Ethics on the above named protocol refers.

The Committee reviewed the following documents:

- A notification letter of 3rd June, 2015 from Agogo Hospital (study site) indicating approval for the conduct of the study in the Hospital.
- A Completed CHRPE Application Form.
- Participant Information Leaflet and Consent form.
- Research Protocol.
- Questionnaire.

The Committee has considered the ethical merit of your submission and approved the protocol. The approval is for a fixed period of one year, renewable annually thereafter. The Committee may however, suspend or withdraw ethical approval at anytime if your study is found to contravene the approved protocol.

Data gathered for the study should be used for the approved purposes only. Permission should be sought from the Committee if any amendment to the protocol or use, other than submitted, is made of your research data.

The Committee should be notified of the actual start date of the project and would expect a report on your study, annually or at the close of the project, whichever one comes first. It should also be informed of any publication arising from the study.

Yours faithfully,

Osomfuor Prof. Sir J. W. Acheampong MD, FWACP
Chairman