# ASSESSMENT OF KNOWLEDGE AND APPROACHES OF NURSES TOWARDS CANCER PAIN MANAGEMENT IN ELDERLY PATIENTS IN AHMADU BELLO UNIVERSITY TEACHING HOSPITAL, ZARIA KADUNA STATE

BY

IBRAHIM ATTAHIR

DEPARTMENT OF NURSING SCIENCES
FACULTY OF ALLIED HEALTH SCIENCES
COLLEGE OF HEALTH SCIENCES
AHMADU BELLO UNIVERSITY, ZARIA

AUGUST, 2018

# ASSESSMENT OF KNOWLEDGE AND APPROACHES OF NURSES TOWARDS CANCER PAIN MANAGEMENT IN ELDERLY PATIENTS IN AHMADU BELLO UNIVERSITY TEACHING HOSPITAL, ZARIA KADUNA STATE

By

Ibrahim ATTAHIR,RN, RM, BSc Nursing Sciences (ABU, 2012)

P15MDNS8016

A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, AHMADU BELLO UNIVERSITY IN PARTIAL FULFILMENT FOR THE AWARD OF MASTER DEGREE IN NURSING SCIENCES

DEPARTMENT OF NURSING SCIENCES
FACULTY OF ALLIED HEALTH SCIENCES
COLLEGE OF HEALTH SCIENCES
AHMADU BELLO UNIVERSITY, ZARIA
NIGERIA

AUGUST, 2018

## Declaration

I declare that the work in this dissertation entitled Knowledge and Approaches of Nurses towards Cancer Pain Management in Elderly Patients in Ahmadu Bello University Teaching Hospital, Zaria Kaduna State has been carried out by me in the Department of Nursing Sciences. The information derived from the literature has been duly acknowledged in the text and a list of references provided. No part of this dissertation was previously presented for another degree or diploma at this or any other institution.

| _____ | _____ | _____ |
|---|---|---|
| Name of Student | Signature | Date |

**Certification**

This dissertation entitled ASSESSMENT OF KNOWLEDGE AND APPROACHES OF NURSES TOWARDS CANCER PAIN MANAGEMENT IN ELDERLY PATIENTS IN AHMADU BELLO UNIVERSITY TEACHING HOSPITAL, ZARIA KADUNA STATE by Ibrahim ATTAHIR meets the regulations governing the award of the degree of Masters in Nursing Sciences of Ahmadu Bello university, and is approved for its contribution to knowledge and literary presentation.

| | | |
|---|---|---|
| Dr. B.M Tukur<br>Chairman, Supervisory Committee | _____ | _____ |
| | Signature | Date |
| Prof. A.W Tijani<br>Member, Supervisory Committee | _____ | _____ |
| | Signature | Date |
| Dr. S.N Garba<br>Head of Department | _____ | _____ |
| | Signature | Date |
| Prof.Z.S Abubakar<br>Dean School of Postgraduate Studies | _____ | _____ |
| | Signature | Date |

**Acknowledgement**

I extend my profound gratitude and appreciation to Allah (S.W.T) who provided me with guidanceandstrength towards undertaking this research work and who made it possible for me to see the end of it.

I am highly delighted and indebted to my supervisors Dr. B. M Tukur and Prof. A.W Tijani for all their assistance, time, encouragement, patience and all possible efforts they applied towards the success of this research.

My special appreciation goes to Matron Aikoye the coordinator, Nursing In-service Training Ahmadu Bello University Teaching Hospital, Dr. S.N Garba the Head of Nursing Department Ahmadu Bello University Zaria, Dr A. L Mfuh and Alh. Abdurrahman Kombo for their courageous support and advice.

My sincere acknowledgement goes to all staff of the Oncology Department especially those who gave up their time to participate in the research. So also to those who assisted in terms of advice such as Prof. Sunday Adewuyi, Dr. Aminu and Dr. Tumba.

I am humbly and honestly expressing my sincere gratitude and appreciation to my lovely and caring mum Haj. Aishatu and my Dad Mal. Attahiru, my beloved wife Maryam Muhammad, my son Abdul-Barr and my siblings for their encouragement, prayers, support and patience during this program. May almighty Allah duly reward youall.

My appreciation also goes to both academic and non-academic staffs of the department, my entire course mates, especially the ‘Medical Surgical groups of friends’ and everyone who directly or indirectly contributed to my success under the course of this program.

**Abstract**

Pain is the most disturbing and annoying symptom experienced by cancer patients, yet it is poorly managed. About 60-70% of cancer cases in Nigeria present in advance stage; at least 30% of such cases experience one or more types of pain, which is almost pathognomic of the disease state. As a result, the study aimed at assessing nurses' knowledge, approaches rendered to elderly patient with pain and the challenges they encounter during cancer pain assessment and managementat Ahmadu Bello University Teaching Hospital, Zaria. A cross sectional descriptive research design was used where both questionnaire and observation were used to obtain information from 73 nurses. The data obtained were analysed using descriptive and inferential statistics with the aid of SPSS version 22.0 as a tool for analysis. Findings on level of knowledge revealed that only 24 (32.8%) of the nurses have knowledge on cancer pain in elderlywhich is below average.The challenges nurses encountered during pain assessment includetoo many patients to assess (mean 4.1); absence of time for assessing patients with pain (mean 4.0); inconsistency of pain report by cognitive impaired patients(mean 3.8);lack of institutional policies for accountability for pain assessment(mean 3.6); and communication barrier between nurses and patients(mean 3.5). The challenges they encountered during cancer pain management include; none availability/inadequatemedications(mean 3.5) andinadequate trained nurses on cancer pain management(mean 4.0). Based on the result of the observation, the approaches nurses rendered includereassuring patient (that pain is real and will assist him or her in dealing with it)(mean 2.95);administering balanced analgesic agents as prescribed to promote optimal pain relief(mean 3.0); anddocumenting severity of patient's pain on chart(mean 2.14). It can therefore be concluded that, nurses' knowledge on cancer pain is below optimal. This was found to be hindered by certain factors during assessment and in the course of rendering their care to elderly patients with cancer. It is therefore recommended that there should be frequent formal training of nurses on cancer pain management. This could be at the local level such as in both pre service and in service trainings. Pain assessment tools should be available to nurses and adequate staff nurses should be postedto all wards with oncology cases.

**Key words**: Approaches, Cancer, Elderly, Knowledge, Nurses, Pain

## Table of Contents

**Pages**


Title page ..... ii

Declaration ..... iii

Certification ..... iv

Acknowledgement ..... v

Abstract ..... vi

Table of Content ..... vii

List of Tables ..... x

List of Figures ..... xii

Abbreviation, Glossary and Symbols ..... xiii

Definition of Operational Terms ..... xiv

**CHAPTER ONE** ..... 1

**1.0 INTRODUCTION** ..... 1

1.1 Background to the Study ..... 1

1.2 Statement of the Problem ..... 4

1.3 Aim and Objectives of the Study ..... 6

1.4 Significance of the study ..... 7

1.5 Research Questions ..... 8

1.6 Scope of the study ..... 8

**CHAPTER TWO** ..... 10

**2.0 REVIEW OF RELATED LITERATURE** ..... 10

2.1 Introduction ..... 10

2.2 Conceptual Review of Cancer Pain ..... 10

2.2.1 Causes of Cancer Pain ..... 11

2.2.2 Types of therapies that stimulate pain in cancer patients ..... 11

2.2.3 Classification of cancer pain ..... 13

2.2.4 Pathophysiology of Cancer Pain ..... 14

2.3 Knowledge of Nurses on cancer pain in elderly patients. ..... 15

2.4 Cancer Pain Assessment in elderly ..... 17

2.4.1 Assessment Tools ..... 18

2.4.2 Challenges faced by Nurses during cancer pain assessment in elderly ..... 24
2.5 Cancer Pain Management in Elderly ..... 26
2.5.1 Pharmacologic Management of Pain in the Elderly ..... 26
2.5.2 Non pharmacologic Management of Pain ..... 31
2.5.3 Challenges faced by Nurses during Management of cancer pain in elderly ..... 34
2.6 Effects of pain on the life of an elderly ..... 36
2.7 Approaches of Nurses in Cancer Pain Management ..... 37
2.8 Empirical Review ..... 38
2.9 Theoretical Review ..... 40
**CHAPTER THREE** ..... 44
**3.0 RESEARCH METHOD** ..... 44
3.1 Introduction ..... 44
3.2 Research Design ..... 44
3.3 Study Area ..... 44
3.4 Population of the Study ..... 45
3.4.1 Inclusion criteria ..... 46
3.4.2 Exclusion Criteria ..... 46
3.6 Sample Size ..... 46
3.6 Sampling Technique ..... 46
3.7 Instruments for Data Collection ..... 47
3.8 Validity ..... 48
3.8 Reliability ..... 48
3.9 Method of Data Collection ..... 49
3.10 Method of Data Analysis ..... 50
3.11 Ethical consideration ..... 50
**CHAPTER FOUR** ..... 51
**RESULTS** ..... 51
4.1 Introduction ..... 51
**CHAPTER FIVE** ..... 67
**DISCUSSION** ..... 67
5.1 Introduction ..... 67
5.2 Discussion of Findings ..... 67

5.4 Discussion of findings in relation to Roy Adaptation Model ..... 73
**CHAPTER SIX** ..... 76
**SUMMARY, CONCLUSION AND RECOMMENDATIONS** ..... 76
6.0 Introduction ..... 76
6.1 Summary ..... 76
6.2 Conclusion ..... 77
6.3 Implications to nursing ..... 78
6.4 Limitations of the study ..... 78
6.5 Recommendation ..... 79
6.6 Suggestion for further studies ..... 80
**References** ..... 81
**Appendix 1** Informed Consent Form ..... 87
**Appendix 2** Questionnaire ..... 89
**Appendix 3** Observational Checklist ..... 93
**Appendix 4** Other tables and Figures ..... 94
**Appendix 5** Introductory letter fom the department ..... 109
**Appendix 6** Ethical Clearance from ABUTH ..... 110

## List of Tables

Table 2.1:- Behaviors to observe when assessing pain ..... 23

Table2.2:- Approaches to pain Management in cancer patient ..... 27

Table 2.3:-World Health Organisation analgesic ladder and analgesic choice based on pain rating scale ..... 29

Table 3.1:- Number of nurses in selected wards for the study ..... 46

Table 4. 1 Socio-demographic and Professional Characteristics of the nurses ..... 52

Table 4. 2a Item analysis on correct responses and score of nurses regarding knowledge of cancer pain in elderly ..... 54

Table 4. 2b Respondents grading on the level of knowledge on cancer pain ..... 56

Table 4. 2c Respondents grading on the level of knowledge on cancer pain based on wards …… ……..55

Table 4. 3a Type of scale used by nurses and the frequency of utilization. ..... 58

Table 4. 3b Challenges encountered by nurses during cancer pain assessment in elderly patient ..... 59

Table 4. 3c Summary of the Challenges encountered by nurses during cancer pain assessment in elderly patient ..... 58

Table 4. 4a Challenges encountered by nurses during cancer pain management in elderly patient ..... 62

Table 4. 4b Summary of the Challenges encountered by nurses during cancer pain management in elderly patient ..... 621

Table 4. 5 Relationship between nurses' knowledge on cancer pain and challenges during cancer pain Management ..... 64

Table 4. 6a Theapproache nurses render to cancer pain patients ..... 65

Table 4. 6bSummary table of  the approaches nurses render to cancer pain patients..... 654

# List of Figures

Figure 2.1:- World Health Organisation analgesic ladder----------28

## Abbreviation, Glossary and Symbols

| | |
|---|---|
| ABU | Ahmadu Bello University |
| ABUTH | Ahmadu Bello University Teaching Hospital |
| BPI-SF | Brief Pain Inventory Short Form |
| CPPS | Cancer Pain Prognotic Scale |
| ECS-CP | Edmonton classification System for cancer pain |
| IASP | International Association for the Study of Pain |
| NCG | National Clinical Guide |
| NCI | National Cancer Institute |
| NKASRP | Nurses Knowledge and Attitudes Survey Regarding Pain |
| NRS | Numerical rating scales |
| NSAID | Non-steroidal Anti-Inflammatory Drug |
| RPN | Registered Public Health Nurse |
| SF-MPQ | Short-form McGill Pain Questionnaire |
| TENS | Transcutaneous electrical nerve stimulation |
| UCH | University College Hospital |
| VAS | Visual analogue scales |
| VRS | Verbal rating scales |
| WHO | World Health Organization |
| μ: | *mu* |
| κ: | *kappa* |
| δ: | *delta* |

## Definition of Operational Terms

**Approaches:** these are methodologies that encompasses assessment, identification of goal for cancer pain management and providing necessary interventions in order to deal with a situation or problem of cancer pain in elderly patients.

**Cancer:** a condition of uncontrolled (and rapid) proliferation of cells or tissue

**Challenges**: the difficulties or barriers encountered by nurses during managing cancer pain in elderly.

**Elderly:** in this study, it refers to older person of age greater than 60 years of age based on World Health Organisation estimated age of elderly person in Africa.

**Management:** this refers to the approach nurses use in relieving patients' pain which include assessment and approaches.

**Nurses:** In this study staff nurses refers to those who have completed basic training in nursing and are registered by the Nursing and Midwifery council of Nigeria available for the study and working in the oncology units.

**Pain:** a subjective ache or bodily suffering or an instance of this, an unpleasant sensation felt by cancer patient either due to the cancer pathogenesis, pain induced by the therapies for the disease or those pain experienced by elderly patients that are not related to cancer itself or the therapies.

# CHAPTER ONE

## 1.0 INTRODUCTION

### 1.1 Background to the Study

Cancer is a term for diseases in which abnormal cells divide without control and can invade nearby tissues(National Cancer Institute, 2015). One defining feature of cancer is the rapid creation of abnormal cells that grow beyond their usual boundaries, and which can then invade adjoining parts of the body and spread to other organs, the latter process is referred to as metastasis(National Cancer Institute, 2015). Metastases are a major cause of death from cancer (World Health Organisation, 2017). Cancer is the second leading cause of death globally, and was responsible for 8.8 million deaths in 2015. Globally, nearly 1 in 6 deaths is due to cancer (World Health Organisation, 2017). Ageing is a fundamental factor for the development of cancer because the incidence of cancer rises dramatically with age, most likely due to a build-up of risks for specific cancers that increase with age (World Health Organisation, 2017).The incidence of malignancies after the age of 65 years has increased 11-fold compared to younger adults (Marosi & Köller, 2016). Nearly 80% of all cancers are diagnosed in persons beyond the age of 55 years (Palli, Fortpied, & Wedding, 2010). The median age of diagnosis in many tumours lies beyond the age of 60 years, for example, hormone-sensitive breast cancer, multiple myeloma, renal, prostate and colon cancer(Arnold, Karim-Kos, & Coebergh, 2015).

The prevalence of cancer pain is estimated in 25 to 50% for recently diagnosed patients, in 33 to 80% for patients under treatment, and in approximately 75 to 100% for those in advanced and terminal states (Oliveira, Sobrinho, & Cunha, 2016). Research suggests that 70-90% of people with advanced cancer experience persistent pain (Kapoor, Kalwar,

Singhal, Nirban, & Kumar, 2015). Further statistics indicate that the over-60s are likely to stay more than twice as long in hospital for conditions associated with persistent pain than those aged 59 and below. While pain management has advanced significantly in recent decades, older people remain less likely than younger people to receive good pain management, with older women and being more at risk of under-treatment than older men(McLachlan, Bath, Naganathan, & Hilmer, 2011).As the number of individuals older than 65 years continues to rise, frailty and chronic diseases associated with pain will likely increase (Cavalieri, 2005). Reports from the developed world have shown that in general, the prevalence of pain at the time of cancer diagnosis and early in the course of disease is estimated to be approximately 50%, increasing to 75% at advanced stages (International Association for the Study of Pain, 2009).

Persistent pain experienced by cancer patients may be the direct result of the type of cancer that they have, or it may be related to therapies administered to manage the disease or to disorders unrelated to the cancer or its treatment. Individuals with cancer experience both acute and persistent pain syndromes; that is, pain that occurs in cancer can be acute or chronic which are related to a tumour, treatment, to both or to neither(Kapoor,*et al.,* 2015). The statement above also coincide with Oliveira, Sobrinho, & Cunha, (2016), that cancer pain is related to tumour and the presence of metastases; it may be induced by diagnostic and therapeutic procedures which may be uncomfortable; and also may be caused by disease.

According to the National Comprehensive Cancer Network., (2011), the two pathophysiological mechanisms of pain are nociceptive and neuropathic. Most acute pain problems that these patients encounter are caused by diagnostic or therapeutic

approaches(Henry, 2010). Hence, pain in older people is a major concern and attention must also be paid to the cancer related pain and absence of pain, because neglecting any warning of impending problems in older people could result in greater long-term persistent pain(McCleane, 2007). Cancer Pain has debilitating effects and significantly interferes with the patient's physical, emotional and spiritual well-being when untreated or undertreated, thus can alter the patient's quality of life (Swan & Hamilton, 2016).

The treatment options available for cancer pain management are non-pharmacological approach and Pharmacologic treatment approach. According to Delgado & Bruera (2008), pain in older cancer patients should be managed in a multidisciplinary environment, combining pharmacologic with non-pharmacologic measures. The interdisciplinary team allows practitioners to better understand and respond to patients' and family members' experience of the illness. In the interdisciplinary team setting, a group of professionals are joined with the mutual goal of relieving patients' and family members' suffering. They provide different management skills and perspectives to improve patients' quality of life(Delgado & Bruera, 2008). As such, the aim of this study is to focus on the nursing team aspect as part of the interdisciplinary team in the management of cancer pain in elderly.

Nurses being part of the interdisciplinary team play a vital role in cancer pain management. They actively intervene to totally control and relief pain by means of non-pharmacological approaches and should know pharmacological treatments, as well as indications, contraindications and adverse effects(Oliveira, Sobrinho, & Cunha, 2016). Nurses' knowledge of pain management is weak with incorrect answers being highest on pharmacology and assessment of pain (Manwere, Chipfuwa, & Chironda, 2015). Nurses'

opioid phobia is just one example of a barrier to effective pain management(Henry, 2010).

There are certain challenges nurses usually encounter often in the management of cancer pain in elderly. These challenges range from assessment to management of pain itself and the effect of therapies thereafter. There are studies that have shown the poor knowledge of healthcare workers about cancer-related pain control and have pointed out that the barriers in the treatment of this symptom are caused by factors such as resistance to change, an adverse approach to cancer-related pain and to its treatment, and a poor collaboration with the care system(Prandi, Garrino, Mastromarino, Torino, Vellone & Carlo, 2015). Other studies by Manwere, Chipfuwa, & Chironda, (2015)concluded that clinical experience is the most influential factor that promotes nurses knowledge and confidence in managing patient's pain. Nurses with longer clinical working experience applied knowledge of pain to their daily practice. This undoubtedly is well applicable in the management of cancer pain in elderly.This situation has prompted the development of the research to assess the knowledge and approaches of nurses towards management of cancer pain in elderly.

## 1.2 Statement of the Problem

Despite the sustained trend of decreasing overall cancer incidence, the number of elderly patients with cancer will considerably increase in the coming years(Marosi & Köller, 2016). About 60-70% of Cancer cases in Nigeria present in advance stage; at least 30% of such cases experience one or more types of pain, which is almost pathognomic of the disease state(Oyebola, 2015).The study by Elima, Paula, Olufemi, & Emmanuel, (2013) revealed that the mean age of all cancer of men and women in Nigeria is 51.1 and 49.1

years respectively. This by all implications is reflecting the statement by WHO, (2008) that estimated the incidence of cancer in Nigerian men and women by 2020 to be 90.7/100,000 and 100.9/100,000 respectively and the death rate will be 72.7/100,000 and 76/100,000 for men and women respectively. According to (Adewuyi, *et al*., 2012) in their study in ABUTH, the age range of patients with cancer was 18-82 with a median age of 49 and a ratio male to female of 1: 1.4; and most cancer cases being cervical cancer, breast cancer and prostate cancer. These by all implications are mostly cancers of the elderly. Bone is the most site of metastasis in most cases especially breast and prostate cancer. This is a major cause of pain and poor quality of life in elderly cancer patients (Adewuyi, et al., 2016).

Pain is the most disturbing and annoying symptom experienced by cancer patients, yet it is poorly managed(Manwere, Chipfuwa, & Chironda, 2015).Despite significant medical, pharmacological and technological advances in the area of cancer pain assessment and management, up to 90% of patients with advance cancer experience pain significant enough to require further interventions (Everdingen, Rijke, & Kessels, 2007). Despite the above, inadequate knowledge remains a major barrier to achieving effective pain management among nurses in Nigeria(Elumelu, Adenipekun, Eriba, & Akinlade, 2014). Clients diagnosed with cancer especially the elderly patients needs the supports, care and help of all individuals not only that of the nurse. But unfortunately results of a research conducted by Manwere, Chipfuwa, & Chironda, (2015) revealed that "Nurses' knowledge of pain management is weak with incorrect answers being highest on pharmacology and assessment of pain".

In addition, it was observed during the few months of practicum by the researcher in Ahmadu Bello University Teaching Hospital, Zaria, that most cancer patients in the oncology units are elderly patients having most of their diagnosis being cervical cancer, breast cancer, prostate cancer and colorectal cancer.Similarly, various literatures search shows that there has not been a study carried out on nursing perspective on the care rendered to cancer patients with pain; despite being an oncology centre. As such it is paramount to explore the management approaches by nurses in an attempt to relieve pain related to cancer in elderly in order to improve the quality of care of cancer patients.

In view of this, Ahmadu Bello University Teaching Hospital was chosen for the study to assess nurses knowledge and approaches towards cancer pain management, being the tertiary Oncology based hospital in Kaduna state, one out of the four hospitals in the northern region of Nigeria with an oncology centre and being a hospital that serves as a focal point of referral for cancer patients covering the Northern Nigeria, Southern part of Niger, Chad and Northern Cameroon. In addition, despites its location in the North, patients from the Southern part of Nigeria are also seen.

### 1.3 Aim and Objectives of the Study

The aim of the study is to assess nurses Knowledge and the approaches used in managing cancer pain in elderly patients with cancer attending ABUTH. The study has the following specific objectives:

1. To determine nurses level of Knowledge on cancer Pain management in elderly patients in Ahmadu Bello University Teaching Hospital, Shika Zaria.
2. To identify the approaches nurses in Ahmadu Bello University Teaching Hospital, Shika Zaria render to elderly patients with cancer pain.

3. To identify the challenges nurses encounter during cancer pain assessment in elderly patients in Ahmadu Bello University Teaching Hospital, Shika Zaria.
4. To identify the challenges nurses encounter during cancer pain management in elderly patients in Ahmadu Bello University Teaching Hospital, Shika Zaria.
5. To determine the relationship between nurses' level of knowledge on cancer pain and the challenges they encountered in cancer pain management of elderly patients in Ahmadu Bello University Teaching Hospital, Shika Zaria.

## 1.4 Significance of the study

For patients with cancer, pain can have a devastating impact on their quality of life. Better pain assessment and management will benefit all cancer patients especially the elderly patients, regardless of cancer subtype, making their entire cancer journey more tolerable.

The benefit of this study is to provide information about the nurses' knowledge level, approaches to cancer pain management and the challenges they face in cancer pain management that may interfere with delivering quality care to oncology patients who are in pain. Findings from this study will add important information to the literature regarding nurses' knowledgeand provide information regarding those hindering factors towards cancer pain assessment and management in elderly patients. More so, findings from this work can be used to inform future interventions that improve pain assessment and treatment in elderly with cancer pain. This research will present in the course of its literature review a precise, current and in-depth issues related to cancer pain assessment strategy and management guidelines for nurses in their course of caring for the elderly with cancer pain; because they have more contact time with patients in any healthcare

setting. This vantage position gives the nurse a unique privilege to identify patients who have pain, assess the pain and its impact on the patients and their family members, thus initiate actions to manage the pain and evaluate the effectiveness of those actions.

## 1.5 Research Questions

The study tried to answer the following research questions.

1. What is the level of nurses' knowledge on cancer Pain in elderly patients in Ahmadu Bello University Teaching Hospital, Shika Zaria?
2. What are the approaches nurses in Ahmadu Bello University Teaching Hospital, Shika Zaria render to elderly patients with cancer pain?
3. What are the challenges encountered by nurses during cancer pain assessment in elderly patients in Ahmadu Bello University Teaching Hospital, Shika Zaria?
4. What are the challenges encountered by nurses during cancer pain management in elderly patients in Ahmadu Bello University Teaching Hospital, Shika Zaria?
5. What is the relationship between nurses' level of knowledge on cancer pain and the challenges they encountered in cancer pain management of elderly patients in Ahmadu Bello University Teaching Hospital, Shika Zaria?

## 1.6 Scope of the study

This study will centre on assessing nurses knowledge and approaches in managing elderly patients with cancer pain in Ahmadu Bello University Teaching Hospital, Zaria.

# CHAPTER TWO

## 2.0 REVIEW OF RELATED LITERATURE

### 2.1 Introduction

This chapter review relevant literatures which were organised based on the objectives of the study. These objectives are the subsections of the reviewed literature. They include; an overview of cancer pain in elderly, nurses knowledge on cancer pain, challenges encountered by nurses during assessment and management of cancer pain in elderly, the relationship between the challenges encountered and the level of knowledge and finally the theoretical framework that guides the study.

### 2.2 Conceptual Review of Cancer Pain

Cancer is a generic term for a large group of diseases that can affect any part of the body, it cause cells in the body to change and grow out of control(American Cancer Society, 2016). Other terms used for cancer are malignant tumours and neoplasms(American Cancer Society, 2016). One defining feature of cancer is the rapid creation of abnormal cells that grow beyond their usual boundaries, and which can then invade adjoining parts of the body and spread to other organs, the latter process is referred to as metastasizing. Metastases are the major cause of death from cancer(World Health Organisation, 2017). By definition, cancers are a large family of diseases that involve abnormal cell growth with the potential to invade or spread to other parts of the body (WHO, 2015). Pain as defined by the International Association for the Study of Pain (2015) is “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”. So therefore it can be said that pain is the most common symptom of advanced cancer.

Cancer pain are unpleasant sensation that patients often has to carry with them along their journey from pre diagnosis, through treatment and even when in remission (Shunt, 2013).

### 2.2.1 Causes of Cancer Pain

Based on literature findings, about 75 percent of cancer pain is caused by the cancer itself; most of the remainder is caused by cancer therapies, including surgery, radiation therapy, chemotherapy, targeted therapy, supportive care therapies, and/or diagnostic procedures (Portenoy, 2011). According to the National Cancer Institute, (2015), a study evaluating the characteristics of patients with advanced cancer presenting to a palliative care service found primary tumour as the chief cause of pain in 68% of patients - as a result of compression on nerve endings (neuropathic), inflammatory, ischaemic (associated with occlusion of blood vessels). More so, the direct compression effects on organs by cancer cells are capable of causing cancer pain(McCracken, 2015). Cancer pain was also found to be occurring in patients receiving anticancer treatment and in patients after curative treatments (Everdingen, Rijke, & Kessels, 2007).

### 2.2.2 Types of therapies that stimulate pain in cancer patients

#### 2.2.2.1 Infusion-related pain syndromes

The infusion of intravenous chemotherapy causes four pain syndromes: venous spasm, chemical phlebitis, vesicant extravasation, and anthracycline-associated flare (Sauerland, Engelking, & Wickham, 2006). Venous spasm is treated by application of a warm compress or decrease in the infusion rate. Chemical phlebitis may result from chemotherapy or non-chemotherapy infusions such as potassium chloride and hyperosmolar solutions of Doxorubicin may result in the venous flare reaction, which includes local uticaria, pain, or stinging (NCI, 2016).

#### 2.2.2.2 Treatment-related mucositis

Severe mucositis often occurs as a consequence of myeloablative chemotherapy and standard-intensity therapy for cancer patients(Peterson, Ohrn, & Bowen, 2010). Cytotoxic agents commonly associated with mucositis are cytarabine, doxorubicin, etoposide, 5-fluorouracil, and methotrexate(Boers-Doets, Epstein, & Raber-Durlacher, 2012). Risk factors for mucositis include preexisting oral pathology, cancer therapy side effects (example chemotherapy and radiotherapy), poor dental hygiene, and younger age (Peterson, Ohrn, & Bowen, 2010).

#### 2.2.2.2 Chemotherapy-related musculoskeletal pain (systemic therapy-related)

Paclitaxel a chemotherapy agent generates a syndrome of diffuse arthralgias and myalgias in 10% to 20% of patients being treated for cancer(Peterson, Ohrn, & Bowen, 2010). Acute herpetic neuralgia- a form of pain in nerve cell occurs with a significantly increased incidence among cancer patients, especially those with hematologic malignancies and those receiving immunosuppressive therapies. The palmar-plantar erythrodysesthesia syndrome (Hand and Foot syndrome) - a form of toxicity accompanied by pain in the hand and sole of patients receiving cancer treatment as side effect, is observed in association with continuously infused 5-fluorouracil, capecitabine, liposomal doxorubicin and paclitaxel(National Cancer Institute, 2015). Targeted agents such as sorafenib and sunitinib are also associated with hand-foot–like syndrome(Peterson, Ohrn, & Bowen, 2010).Hormonal therapies with aromatase inhibitors (example; letrozole, anastrozole and exemestane) cause musculoskeletal symptoms, osteoporotic fractures, arthralgias, and myalgias (Coleman and Bolten, 2008).

#### 2.2.2.3 Radiation-induced pain

Radiation causes several pain syndromes, including mucositis, mucosal inflammation in areas receiving radiation, pain flares, and radiation dermatitis(National Cancer Institute, 2015). Patients may experience pain from brachytherapy and from positioning during treatment that is, placement on a radiation treatment table (Ripamonti, Bossi and Santini, 2014).

### 2.2.3 Classification of cancer pain

Cancer pain is not a single entity(Stewart, 2014). It incorporates a range of etiological, pathophysiological and anatomical subtypes, all requiring unique descriptive terminology, assessment technique and treatment modalities(Hjermstad, Fainsinger, & Kaasa, 2009). The pain associated with cancer can either be acute or chronic or by how it varies over time with terms such as breakthrough, persistent, orincidental. Acute pain is typically induced by tissue injury, begins suddenly with the injury, and diminishes over time with tissue healing. There is no definite length but, in general, acute pain resolves within 3 to 6 months (Voscopoulos & Lema, 2010). The treatment of acute pain focuses on blocking nociceptive pathways while the tissue heals. Chronic pain typically persists even after the injury has healed, although patients with chronic joint disease, for example, may have ongoing tissue damage and therefore experience chronic pain. Pain becomes chronic when it continues for more than 1 month after the healing of precipitating lesions; persists or becomes recurrent over months; or results from lesions unlikely to regress or heal (National Cancer Institute, 2016). The transition from acute to chronic pain may be understood as a series of relatively discrete changes in the CNS (National Cancer Institute, 2016).

Some classification systems already exist including; the International Association for the Study of Pain (IASP) pain list, which codes chronic pain by region of the body, the Edmonton classification System for cancer pain (ECS-CP), which was produced as a standardised assessment guide for cancer pain, and the Cancer Pain Prognotic Scale (CPPS) which was developed as a prognotic tool for prediction of pain relief in cancer patients(Stewart, 2014).

### 2.2.4 Pathophysiology of Cancer Pain

Kapoor *et al*, (2015) in their work provided a detailed explanation on the Pathophysiology of cancer pain in elderly as series of processes that begins as tissue injury activates primary afferent neurons called nociceptors, which are small diameter afferent neurons (with A-delta and C-fibres) that respond to noxious stimuli and are found in skin, muscle, joints, and some visceral tissues. Depolarization of the primary afferent involves a complex neurochemistry, and the role of prostaglandins, bradykinin, protons, nerve growth factor, and other compounds that are transmitted as information (Impulses) that proceeds proximally along the axon to the spinal cord and then on to higher centres.

Neuropathic pain has a different pathophysiology. Injury to a peripheral nerve axon can result in abnormal nerve morphology. The damaged axon may grow multiple nerve sprouts, some of which form neuromas. These nerve sprouts, including those forming neuromas, can generate spontaneous activity, which peaks in intensity several weeks after injury. These areas of increased sensitivity are associated with a change in sodium receptor concentration, and other molecular processes, and also can occur at sites of demyelination or nerve fibre injury not associated with the severing of axons. Unlike

normal nerve, these injured regions are more sensitive to physical stimuli, which are clinically associated with tenderness and the appearance of Tinel's sign that is, pain or tingling when the area over a nerve is tapped).

**2.3 Knowledge of Nurses on cancer pain in elderly patients.**

In a broader point of view, knowledge can be defined as the fact or condition of knowing something with familiarity gained through experience or association (Webster, 2016).There are basicallytwo aspects of knowledge that affects nurses' ability to manage cancer pain – personal knowledge and the knowledge in regards to pain related to cancer (Kipkorir, 2011). Nurses personal knowledge according to Kipkorir, (2011)are obtained in various ways that includes; traditions, authority, trial and error methods, borrowed knowledge from nursing related fields, personal experience, being a role model as well as a tutor or instructor, perception, thinking and research. In addition, the knowledge and training of those individuals qualified in the provision of healthcare services can be referred to as clinical expertise. It can be influenced by the time spent by nurses in their field of work, up-to-date knowledge on research and clinical-based information as well as academic training attained during the study period. According to Craig & Smyth (2007) and Sackett, Straus, Richardson, Rosenberg & Haynes (2000), the nurses' "knowledge provides them with the ability to make decisions regarding clinical issues in dispatching the best care possible". Apart from personal knowledge, nurses are required to possess knowledge regarding pain itself. This will be of great benefit for the nurses to effectively plan nursing activities so as to ensure that pain is fully managed according to its subjective occurrence(Henry, 2010; Kipkorir, 2011). On the basis of this, according to Elumelu, Adenipekun, Eriba, &Akinlade, (2014);2 (2%) out of the 119 nurses could give

a good account on the management of cancer pain in a study to assess the level of knowledge of cancer pain management among trained nurses at the University College Hospital (UCH), Ibadan, Nigeria.

In view of this, it is essential for nurses to fully possess the knowledge concerning the use of pharmacological and non-pharmacological means of relieving cancer pain in elderly. In this case, the nurses need to have the knowledge on the use of pharmacological means such as; opioids, non-opioids and adjuvant drug treatments or remedies. Indeed, knowledge on the above mentioned pharmacological means should include; non-therapeutic/unwanted effects caused by medications, the process of medication interactions as well as the doses to be administered as they relate with certain causes of pain (Maryland Board of Nursing, 2016)

Nurses should also have knowledge on the use of non-pharmacological approaches such as; the use of hot and cold mechanisms, acupuncture, massages and breathing measures among others in pain management. In addition to the areas of pain management required of a nurse, knowledge on the existing standards of pain management as well as the already established recommendations is considered to be vital. Furthermore, nurses should learn to distinguish between endurance, physical and psychological reliance, withdrawal and pseudo addiction as a result of patients using or having used certain drugs(Maryland Board of Nursing, 2016).

In reviewed literatures, a study done in Turkey on oncology nurses revealed that oncology nurses' knowledge about cancer pain management was far from optimal; out of the 39 pain questions examined, only 35.41% were correctly answered (Yasemin & Fadiloglu, 2008). Similar finding in Iran also showed that nurses had inadequate

knowledge in relation to cancer pain management (Shahnazi, Saryazdi, Sharifirad, Hasanzadeh, Charkazi, *et al*. 2012). A study conducted in Hong Kong identified that 20% of the participant had knowledge deficit regarding pain management (Liza, Winnie, & Daniel 2007). A study in Nigeria tertiary institution by Elumelu, Adenipekun, Eriba, &Akinlade, (2014) also *r*evealed inadequate knowledge in cancer pain management among the nurses. So therefore, a deduction can be made that the knowledge on cancer pain among nurses is relatively inadequate. Hence, among the objectives of this study is to assess the knowledge of nurses who are working with cancer patients that are elderly in ABUTH, Kaduna state.

**2.4 Cancer Pain Assessment in elderly**

Assessment is defined as "the process of documenting, usually in measurable terms, knowledge, skills, attitude and beliefs in various disciplines; that is education economy and health" (Stewart, 2014). Since pain is subjective by its way of definition, nurses need to be able to help those in pains by conveying the message that they are indeed in pain so as to enable implementation of successful treatment options(Henry, 2010). In doing so, it is important to believe patients who report pain, it is equally important to be alert to patients who deny pain in situations where pain would be expected (Smeltzer, Bare, Hinkle, & Cheever, 2010). According to the American Pain Society (2003) for example, pain assessment is being assessed routinely and has been referred to as the fifth vital sign. Effective assessment of pain in the elderly can be challenging (Stewart, 2014).In assessing a patient with pain, the nurse reviews the patient's description of the pain and other factors that may influence pain, as well as the patient's response to pain relief strategies. Documentation of the pain level as rated on a pain scale becomes part of the

patient's medical record, as does the record of the pain relief obtained from interventions(Smeltzer, Bare, Hinkle, & Cheever, 2010).

In order to ensure a comprehensive assessment of a patient's priorities and monitoring of the effectiveness of a management plan for cancer pain, the nurses should therefore be able to select the right pain measurement tools in order to meet the needs of such patients. The elderly should be provided with adequate time to respond to the pain assessment tools used, the tools should also be sufficiently visible to allow them respond in a manner that best describes their pain level (Lilley, Collins, Harrington & Snyder, 2011).

### 2.4.1 Assessment Tools

A number of pain assessment tools are available, and their content varies(Swan & Hamilton, 2016). There is currently no generally accepted pain classification that exists on which to base such tools(Swan & Hamilton, 2016). Current recommendations advise that pain severity should be assessed on an 11 point Numerical Rating Scale (NRS) (0-10), with more comprehensive tools including the Brief Pain Inventory (BPI) and McGill short Form Questionnaire(Stewart, 2014). According to Keela and Garand (2011), mentioned that "if a patient suffers from chronic pain, assessment must be geared toward determining both the pain-causing pathology and the physical, psychological, and social consequences of the pain experience". Therefore, comprehensive pain assessment frequently includes both the uni-dimensional measurement of pain intensity and the multidimensional comprehensive evaluation of the pain experience(Swan & Hamilton, 2016). Complex pain problems may benefit from a multidisciplinary approach to evaluation report (IASP, 2015).

### 2.4.1.1 Pain Measurements Scales

**2.4.1.1.1 Uni-dimensional scales** assess and measure only pain intensity. They are used for assessing acute pain or when the aetiology is unknown(Swan & Hamilton, 2016)

2.4.1.1.1.1 **Verbal rating scales (VRS):** Self-reporting is the standard method for identifying pain(International Association for the Study of Pain, 2009). Simply worded questions and easy-to-understand tools are designed to assess the sensory and emotional experience of pain and the impact it has on the physical, functional, and psychosocial aspects of the individual's life (Delgado & Bruera, 2008).

2.4.1.1.1.2 **Visual analogue scales (VAS):** The visual analogue scale (VAS) is another validated approach to pain measurement and is conceptually similar to a Numerical Rating Scale (NRS) which has been widely used in diverse adult populations(Hawker, Mian, & Kandzerska, 2011). The most common VAS consists of a 10-cm line with one end labelled "no pain" and the other end labelled "worst pain imaginable." The patient marks the line at the point that best describes the pain intensity. The length of the line to the patient's mark is measured and recorded in millimetres. The main theoretical advantage of the VAS is that it does not limit pain to 10 discrete levels of intensity, permitting a more detailed rating of pain (Smeltzer, Bare, Hinkle, & Cheever, 2010).

2.4.1.1.1.3 **Numerical rating scales (NRS):** In the clinical setting, the numeric rating scale (NRS) is simple to use and is one of the most common

approaches for quantifying pain(Smeltzer, Bare, Hinkle, & Cheever, 2010). Patients indicate their pain intensity on a scale of 0-10, with 0 indicating no pain and 10 the worst pain imaginable. The NRS can be used at the bedside by the clinician or at home by the patient as part of a pain diary that serves as a record of pain intensity at fixed times throughout the day (Swan & Hamilton, 2016)

2.4.1.1.1.4 **Faces scale:** This scale presents pictures of 6-8 different facial expressions depicting a range of emotionsfrom contented to obvious distress (Smeltzer, Bare, Hinkle, & Cheever, 2010). This scale may be useful in patients who have mild to moderate cognitive impairment, or patients with other language barriers. (kapoor *et al*, 2015)

2.4.1.1.1.5 SOCRATES pain assessment framework

S - Severity: None, mild, moderate, severe

O - onset: When and how did it start?

C - Characteristic: Is it shooting, burning, aching - asks the patient to describe it

R - radiation: Does it radiate anywhere else?

A - Additional factors: What makes it better?

T - Time: Is it there all the time, is there a time of day when it is worse?

E - Exacerbating factors: What makes it worse?

S - Site: Where is the pain?

#### 2.4.1.1.2 Multidimensional pain scales

This measure intensity, quality, and location as well as the impact pain is having on mood or activity. These scales are useful in complex or persistent acute or chronic pain.

Examples include Multidimensional Pain Inventory, Short-form McGill Pain Questionnaire (SF-MPQ) and Brief Pain Inventory Short Form (BPI-SF)(Swan & Hamilton, 2016).

The Brief Pain Inventory (BPI) was developed from the Wisconsin Brief Pain Questionnaire(Breivik, Borchgrevink, Allen, Rosseland, & Hals, 2008). The BPI assesses pain severity and the degree of interference with function, using 0–10 NRS. It can be self-administered, given in a clinical interview, or even administered over the telephone. The McGill Pain Questionnaire (MPQ) and the short-form MPQ (SF-MPQ) evaluate sensory, affective–emotional, evaluative, and temporal aspects of the patient's pain condition. The SF-MPQ consists of 11 sensory (sharp, shooting, etc.) and four affective (sickening, fearful, etc.) verbal descriptors. The patient is asked to rate the intensity of each descriptoron a scale from 0 to 3 (¼severe). Three pain scores are calculated: the sensory, the affective, and the total pain index. Patients also rate their present pain intensity on a 0–5 scale and a VAS(Melzack, 2006).

#### 2.4.1.2 Behavioural Observations of pain

Most people who are experiencing pain usually show it either by verbal complaint or nonverbal behaviours. It is important; however, to remember that people in pain may or may not display behaviours that are considered an indication of "being in pain," and making judgments about their honesty is inappropriate(Swan & Hamilton, 2016).

**Table 2.1:- Behaviours to observe when assessing pain**

| NONVERBAL BEHAVIORS INDICATING PAIN | |
|---|---|
| Facial expressions | • Sad or frightened look<br>• Clenched teeth or jaw<br>• Wrinkled forehead<br>• Biting lips<br>• Grimacing, wincing<br>• Rapid blinking or closing eyes tightly<br>• Widely opened eyes or mouth |
| Vocalizations | • Sighing<br>• Crying<br>• Moaning<br>• Gasping<br>• Groaning<br>• Grunting<br>• Whining<br>• Calling out<br>• Screaming<br>• Chanting<br>• "Ooh"-ing and "aah"-ing |
| Body movements | • Restlessness<br>• Fidgeting<br>• Muscle tension<br>• Immobility<br>• Pacing<br>• Rhythmic movement |
| Activity/routine changes | • Loss of appetite<br>• Alterations in sleep patterns<br>• Changes in ambulation<br>• Becoming aggressive or combative<br>• Resisting care |
| Social interaction | • Silence<br>• Withdrawal from social activity<br>• Reduced attention span<br>• Focus on pain relief measures |
| Protective movements | • Guarding or splinting a body part<br>• Rubbing or massaging a body part<br>• Holding an affected area during movement |
| Mental status changes | • Disorientation<br>• Confusion<br>• Irritability<br>• Depression |

**Source:** (Richeimer, 2013)

### 2.4.2 Challenges faced by Nurses during cancer pain assessment in elderly

The obstacles to an adequate treatment of chronic pain have been identified and categorized as institutional, patient-related and caregivers-related (Swan & Hamilton, 2016). A healthcaresystem may lack criteria or culturally sensitive instruments for pain assessment as well as institutional policies for accountability for pain assessment performance and documentation. Among medical professionals, it has been recognized that pain management is given a low priority in medical schools and residency training programs, leaving clinicians and nurses with gaps in knowledge and inadequate assessment skills. Among all healthcare professionals challenges may include insufficient knowledge of pain management, a failure to identify pain assessment and relief of pain as a priority for patient care, and the belief that there is inadequate time to conduct and document the results of a pain assessment. Continuity of care may be lacking as well as communication among members of the healthcare team (Institute of Medicine, 2012). Research findings suggest that a provider's expectations of the pain experience of a patient are influenced by the stereotypes he or she has about different genders, races, and ages. Healthcare providers may demonstrate differences in pain expectations based upon these demographic characteristics, which can influence pain assessment and treatment decisions (Wandner, Scipio, Hirsh, Torres, & Robinson, 2013).

Patient barriers as a challenge to effective cancer pain assessment include psychological factors such as depression, fear, anger, and anxiety, which can all influence and complicate assessment. It is important to obtainpatients self-report of pain whenever possible as pain is subjective in its nature. A relatively high percentage of older adults, however, experience alterations in cognitive, sensory-perceptual, and motorabilities

which interfere with their ability to communicate or to quantify their pain. So failure to report pain must not be interpreted as absence of pain in elderly patients, and aggressive approaches to pain assessment should be instituted (Herr & Garand, 2001). Patients, family members, and society need to be made aware of the importance of communicating with healthcare professionals about pain. Many factors are involved in this failure to communicate, and education by healthcare professionals is extremely important in this regard (Fink, Gates, Montgomery, 2015).

Herr & Garand, (2001)identified certain issues related to pain assessment in elderly that have serious implications. Among these issues are misconception by health care givers and patients themselves that pain is an expected and natural consequence of aging. This belief contributes to the failure of some patients to report pain and request pain management approaches because they do not want to be a nuisance to staff or because they get tired of asking staff to treat their pain. Older adults frequently fail to report pain because they may view that it is an expected part of old age or because they are fearful that it may lead to more diagnostic testing or added medication (Cavalieri, 2005).

There has been extensive research into the refinement of cancer pain assessment resulting in the continuous influx of new tools with different nomenclature (Clare, 2012). This may further burden Health Care Workers and in turn cause the gravitation towards informal assessment. A lack of documentation of assessment findings by nurses has also been reported as a barrier to effective pain relief (McCracken, 2015).

Some of the other reasons involved as challenges in assessing pain in elderly as mentioned by Voscopoulos & Lema, (2010) were; knowledge deficits, personal principles and feelings affecting ones‟ own ability to assess, decision making and the use

of evidence-based information in managing pain, poor consideration of pain and pain management as important at a personalized as well organizational status.

## 2.5 Cancer Pain Management in Elderly

According to National Clinical Guide, (2015), cancer pain impacts on a patient's physical, psychosocial and emotional wellbeing. As such, cancer painmanagement should address the physical, psychosocial and emotionaldomains of patient care. Among the principles it mentioned is that; cancer patients should have their pain managed in accordance with the World Health Organisation (WHO) Cancer Pain Relief guidance. Once a comprehensive assessment of a patient's pain has been made including the physical, psychosocial and emotional domains, the various treatment approaches should be considered prior to the formulation of a treatment plan. The treatment approach can either be pharmacological or non-pharmacological.

### 2.5.1 Pharmacologic Management of Pain in the Elderly

Pharmacologic intervention for pain management is the principal treatment modality for pain. The goals of pharmacologic therapies in the older adult include relief of pain, prevention and early management of adverse effects of analgesics, and enhancement of quality of life (American Cancer Society, 2016). Few studies were found addressing the subject. According to a statement by Oliveira, Sobrinho, & Cunha, (2016), the use of drugs seems to be the first method of choice for pain relief. Among these drugs, anti-inflammatory, opioids, antidepressants, and anticonvulsants, among others, were the most commonly mentioned drugs use by nursing team.

The World Health Organisation (WHO) first published Cancer Pain Reliefin 1986 (World Health Organisation, 2017), designed to be a simple, intuitive and accessible guide to the management of cancer pain that would be applicable and useful whatever the language, culture, economy, country and clinical setting. The guidelines, based on a three step analgesic ladder, are widely accepted and have had significant clinical and educational impact across the globe (Brennan, Carr, & Cousins, 2007). In 1990, the WHO outlined a general approach to pain management, as follows.

**Table 2.2:- Approaches to pain Management in cancer patient**

| Approaches to pain management in cancer patients | |
|---|---|
| **Psychological Approaches**:<br>• Understanding<br>• Companionship<br>• Cognitive behavioural therapies | **Interruption of pain pathways:**<br>• Local anaesthetic agents<br>• Neurolytic agents |
| **Modification of pathological processes:**<br>• Radiotherapy<br>• Hormone therapy<br>• Chemotherapy<br>• Surgery | **Modification of daily activities/immobilisation:**<br>• Rest<br>• Cervical collar<br>• Plastic splints or slings<br>• Orthopaedic surgery |
| **Drugs:**<br>• Analgesics<br>• Antidepressants<br>• Anticonvulsants<br>• Anxiolytics<br>• Neuroleptics | |

**Sources: (Brennan, Carr & Cousins, 2007)**

The WHO analgesic ladder has been extensively validated (Brennan, Carr & Cousins, 2007) and its use debated in the literature. It is estimated that between 71% and 100% of patients achieve adequate analgesia for cancer pain when the WHO approach is used appropriately. A small proportion of patients (10-30%) do not respond to morphine sulphate or experience intolerable side-effects. The WHO guideline should be viewed as

a framework of principles that allow flexibility in the choice of analgesics. It has played a critical role in the dissemination of the fundamental therapeutic and caring principles indispensable to the treatment of cancer pain globally and facilitating the acceptance of opioid use worldwide (NCG, 2015).

**Figure 2.1: World Health Organisation analgesic ladder**

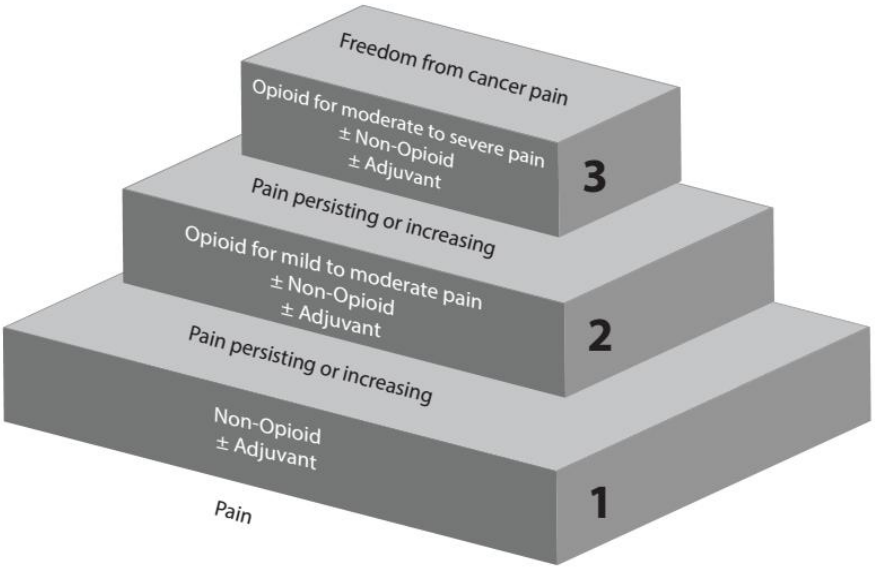



**Figure 2.1:- World Health Organisation analgesic ladder**

World Health Organisation analgesic ladder from World Health Organisation. Cancer Pain Relief, 2nd ed. Geneva: WHO, 1996

**Table 2.3:-World Health Organisation analgesic ladder and analgesic choice based on pain rating scale**

| WHO analgesic ladder | Score on numerical rating scale | Analgesic of choice |
|---|---|---|
| Step 1:<br>mild pain | 1 to 2<br>out of 10 | Non-opioid (Paracetamol/NSAID)<br>+/- Adjuvant |
| Step 2:<br>mild to moderate pain | 3 to 6<br>out of 10 | Weak opioid (Codeine/<br>Tramadol*)<br>+/- Non-opioid<br>+/- Adjuvant |
| Step 3:<br>severe pain | 7 to 10<br>out of 10 | Strong opioid (Morphine<br>sulphate/ Oxycodone/<br>Hydromorphone/ Fentanyl)<br>+/-Non-opioid<br>+/- Adjuvant |

There are two primary groups of pain medications: non-opioids and opioids. A third group of drugs called "adjuvants" or "co-analgesics" address symptoms that often accompany pain, such as insomnia, anxiety, muscle spasm, anorexia, and depression (Swan & Hamilton, 2016)

### 2.5.1.1 Non-opioid Analgesics

The Non-steroidal Anti-Inflammatory Drugs (NSAIDs) are a group of medications used for their anti-inflammatory properties and to decrease fever and pain(Delgado & Bruera, 2008). They can be used in combination with opioids. They act in the periphery, decreasing prostaglandin synthesis, and thus reduce the activity of the N-methyl-d-aspartate (NMDA) receptor in the central nervous system(Mercadante & Arcuri, 2007).

NSAIDs can cause several side effects that might limit their use in older cancer patients, such as renal toxicity, gastrointestinal bleeding and ulceration, and inhibition of platelet aggregation. Prolonged use of NSAIDs in the elderly should be avoided whenever possible (Cavalieri, 2005). A proton-pump inhibitor can be recommended to decrease the incidence of gastric ulceration secondary to NSAIDs, but there is no protection against renal toxicity(Delgado & Bruera, 2008). Acetaminophen does not have anti-inflammatory properties, but it has antipyretic and analgesic properties and can be combined with opioids(Mercadante & Arcuri, 2007).

#### 2.5.1.2 Opioid Analgesics

Opioid (narcotic, CNS-acting) analgesics pertain to natural and synthetic chemicals with opium-like effects though they are not derived from opium(Mosby, 2013). Natural examples include endorphins or enkephalins produced by body tissue, and synthetic drugs include morphine, codeine, and methadone, among others. These drugs modify the perception of pain and provide a sense of euphoria by acting on receptors located on neuronal cell membranes to inhibit neurotransmitter release throughout the nervous system. Opiate receptors have various names, denoted by the Greek letters *mu* (μ), *kappa* (κ), and *delta* (δ) (Swan & Hamilton, 2016).

Because elderly cancer patients are more likely to be affected by the acute and chronic toxicities of opioids, opioids should be initially administered at a lower dose and titrated cautiously(Delgado & Bruera, 2008). Opioids are safe and have been shown to relieve a variety of pain syndromes, including both nociceptive and neuropathic pain when used appropriately(Swan & Hamilton, 2016).

Certain opioids should be avoided in the elderly when possible. Propoxyphene is thought to be no more effective than aspirin or acetaminophen, but it is associated with ataxia, dizziness, and neuro-excitatory effects due to drug accumulation. Meperidine hydrochloride should not be used because of the accumulation of a nephrotoxic metabolite. Methadone hydrochloride should also be avoided in the elderly because it has a long and variable half-life, which makes titration difficult. In addition, the analgesic action is shorter than that of respiratory depression so patients whose methadone dosage is too low may increase their daily amount, which increases the risk of death from respiratory depression (Cavalieri, 2005).

#### 2.5.1.3 Adjuvant Analgesics

Adjuvant analgesics (co-analgesics) are drugs that were developed for uses other than pain but have been found to enhance analgesic effects(Hanks-Bell, Halvey, & Paice, 2004) These are "helper drugs," not substitutes for analgesics. Clients in pain still need analgesics.When selecting an adjuvant agent to treat the elderly for pain, physicians should prescribe medications with the lowest side effect profile for older adults. They should titrate the drug slowly and assess patients carefully for both effectiveness and the presence of adverse effects (Swan & Hamilton, 2016).

### 2.5.2 Non pharmacologic Management of Pain

Pain in older cancer patients can be managed by combining pharmacologic measures with non-pharmacologic (Delgado & Bruera, 2008). The Non-pharmacologic interventions can be psychological and/or physical and can be used independently or in combination with pharmacologic methods of pain control(Swan & Hamilton, 2016).Non-pharmacologic

interventions work in two basic ways: they alter pain transmission or modify pain perception.(Swan & Hamilton, 2016).

Transcutaneous electrical nerve stimulation (TENS) is the most common form of electrical stimulation that works by altering pain transmission(Swan & Hamilton, 2016). TENS provides a low-voltage electrical current to the skin through electrodes applied over the area of pain. Although TENS may help relieve pain for some people, its effectiveness has not been proven. Research has so far been inconclusive, and the effect may vary from individual to individual, even with the same condition (Denegar, Saliba, & Saliba, 2015). Massage is the use of touch or force to areas and tissues of the patient for therapeutic purposes. Goals may include decreasing pain, increasing blood or lymph flow, increasing ranges of motion, or providing perceptive and sensory feedback (Swan & Hamilton, 2016). Massage reduces pain by stimulating A-beta fibres, resulting in closing of the "gate" to impulses from the periphery. There are many types of massage; Acupressure applies pressure to acupuncture points, Deep-tissue massage reduces pain and inflammation, Myofascial release directs force into dysfunctional muscle and fascial tissue(Lavretsky, Sajatovic, & Reynolds, 2016).

Psychotherapy is one of the most common ways of modifying pain perception the most common type is cognitive-behavioural therapy (CBT), the goal of which is to motivate patients to become aware of how they think about pain and to consciously and consistently replace negative thoughts with positive ones(Swan & Hamilton, 2016). Another form of psychotherapy is called acceptance and commitment therapy (ACT). This therapy encourages patients with pain to increase acceptance of their pain while focusing attention on other goals or activities they value. This has been shown to lead to a

significant reduction in pain intensity compared with no treatment (Brannon, Feist, & Updegraff, 2014)

Relaxation involves the conscious relaxing of muscle groups. It is frequently done progressively, starting at the feet and moving up the body, ending with the neck and facial muscles. Initially, the clinician guides the patient verbally, slowly directing attention to the next muscle group to be relaxed. By reducing muscle tension, pain intensity is decreased.(Swan & Hamilton, 2016). After one or two sessions, most patients are able to effectively provide their own relaxation sequence (DeWit & Kumagai, 2013).

Hypnosis alters pain perception. It is a state of self-induced relaxation and concentration in which cognitive thinking is bypassed, allowing the person to become more susceptible to sensory and emotional suggestions, such as reduction of pain(Swan & Hamilton, 2016). The patient is trained by the therapist to practice self-hypnosis at home. Several sessions may be necessary for optimum results. Hypnosis happens when the person enters a state of deep physical relaxation and enhanced mental awareness. Studies have proven that hypnotic suggestions can reach all brain areas involved in processing pain. Brain scans show that suggestions to decrease pain intensity elicit responses in some regions of the brain, and suggestions that increase acceptance of pain register in other areas (Lu, 2015).

Distraction is about forgetting to feel the pain by diverting the attention of individuals away from painful stimuli. Distraction stimulates descending pathways that modulate the pain impulse. When people focus on something that gives pleasure, they are less likely to feel acute pain. This phenomenon occurs because the reticular activating system briefly inhibits the awareness of pain. Distraction works best for short acute pain, such as a

needle stick. Such things as listening to music, watching an intense scene on television, using guided imagery, or being involved in something of special interest may temporarily distract a person from pain. Distraction is an effective approach to use with children. Distraction, however, does not work for chronic, long-term, or severe acute pain (DeWit & Kumagai, 2013).

Mindfulness meditation is the act of passively being aware of thoughts and is believed to modify the subjective pain experience by enhancing acceptance and coping. It has been found to change the manner in which noxious stimuli are experienced; however, the nature of these changes remains unclear(Swan & Hamilton, 2016).

### 2.5.3 Challenges faced by Nurses during Management of cancer pain in elderly

Achieving successful pain management strategies is complicated; this is because different techniques needed, can only be fulfilled by a combination of skills from different professionals (Kipkorir, 2011). According to Marosi& Köller, (2016) despite the high prevalence of malignancies in elderly people, administering the optimal treatment to elderly patients with cancer remains challenging. For instance; in Nigeria, according to Oyebola, (2015);opioid phobia and lack of skills and experience of appropriate opioids prescriptions among doctors are common phenomenon affecting cancer treatment in elderly patients especially in limited resource settings. As a result, many of the patients suffered from physical, social, emotional, financial and spiritual distress culminating to pain, which are often underestimated. Another barrier of effective pain management for healthcare providers is inaccurate and inadequate knowledge about the pharmacological principles to pain management (Prandi, et al., 2015). According to a study by Elumelu,

Adenipekun, Eriba, &Akinlade, (2014) Only 23 (19%) of nurses could state the relevance of opioids in cancer pain management.

Wilkie & Ezenwa, (2012) andReynolds & Dunwoody, (2013) identified some Barriers to adequate pain management by healthcare providers to include; failure to recognize pain or denial of its presence, lack of understanding about the global nature of pain (e.g., psychological, social, and cultural aspects), fear of doing harm or causing adverse effects, including tolerance to opioid effectiveness, Concerns about diversion or misuse of drugs by other than the patient, failure to request assistance from pain specialists, failure to include effective non-pharmacologic measures, lack of knowledge, skills, and time for adequate pain and symptom assessment, lack of knowledge about analgesics, symptom approaches, and side effects of therapies, low priority given to pain and symptom management, reimbursement issues and restrictive regulations designed to curb misuse of prescription drugs (e.g., caps on dosage levels, cost barriers, reclassification of pain medications to more restrictive categories, monitoring compliance, federal and state interference with medical decision-making, mandated inspection of pain management clinics, formulary restrictions, Medicare and Medicaid coverage regulations).

The use of evidence based information alone by nurses is inadequate to affect change on pain management(Kipkorir, 2011). This is because a variety of other nurse characteristics and conduct affect the pain management process in different ways. They include; educational requirements of the nursing profession as well as the years of working experience, knowledge based on certain situations and values and opinions possessed by the nurses themselves. Notwithstanding the nurses‟ internal characteristics, there are external features that also influence the nurses‟ ability to manage pain. This consists of;

patients‟ condition and complications associated with it, appearance of the surroundings, employee assets as well as relationships developed by health professionals, patients and their relatives as they interact. All the effects related to pain management stated may cause misconceptions that will eventually affect the nurses' ability to make informed decisions on patient care(Seer, Watt-Watson, & Buctnall, 2006).

## 2.6 Effects of pain on the life of an elderly

Hanks-Bell, Halvey, & Paice, (2004) described the effect of unrelieved pain in elderly to have a range of significant functional, cognitive, emotional, and societal consequences. He explained that function is impaired due to decreased activity and ambulation leading to deconditioning, gait disturbances and injuries from falls. Sleep is crucial to a sense of well-being, especially in the older adult(American Cancer Society, 2016). Several literature have shown that pain can lead to sleep deprivation, which can decrease pain thresholds, limit the amount of daytime energy and increase the incidence and severity of depression and mood disturbances. Societal consequences of pain include increased financial and caregiving burdens placed on families and friends as well as the increased utilization of health care services (Hanks-Bell, Halvey, & Paice, 2004).

All of these consequences of pain further diminish quality of life by isolating individuals from important social stimulation, amplifying the functional and emotional losses already experienced from undertreated pain.

While according to Global Year Against cancer pain, (2009); Cancer Pain Has a Detrimental Impact on the Quality of Life of Older Patients as tt impairs elders' physical function, sleep, activities of daily living, life enjoyment, and mood. They also stated that

"Older and younger cancer patients may be equally vulnerable to depression, multiple health concerns and are at high risk for psychological distress".

## 2.7 Approaches of Nurses in Cancer Pain Management

The care of persons with cancer and pain and their families presents unique challenges to a nurse at any level(WIlconsin Cancer Pain Initiative, 1995). It is essential for nurses to fully possess the knowledge concerning the use of pharmacological and non-pharmacological means of relieving cancer pain in elderly(Maryland Board of Nursing, 2016). The role/ competencies required of a nurse in pain management is to perform pain assessment, identify goals for pain management, provide patient teaching, perform physical care, help relieve pain by administering pain-relieving interventions (including both pharmacologic and non-pharmacologic approaches), assess the effectiveness of those approaches, monitor for adverse effects, and serve as an advocate for the patient when the prescribed intervention is ineffective in relieving pain.(Smeltzer, Bare, Hinkle, & Cheever, 2010).

In anotherpoint of view, the nurse needs to know that the person with the pain experience including the cancer pain, cancer pain treatment, deleterious effect of unrelieved cancer pain and patient's sociocultural background(Mahfudh & Hematol, 2011). In another statement still by Mahfudh & Hematol, (2011) is that the nurse play a role in assessing pain, identifying the root of pain problem, planning the care, administering medication, evaluating effectiveness, ensuring good pain control and individualised care. The information the nurse obtains from the pain assessment is used to identify goals for managing pain. These goals are shared and validated with the patient. For a few patients, the goal may be complete elimination of the pain. However, this expectation may be

unrealistic. Other goals may include a decrease in the intensity, duration, or frequency of pain and a decrease in the negative effects of the pain (Smeltzer, Bare, Hinkle, & Cheever, 2010).

Nurses also serve as advocate for empowering patients to engage in self-management of their pain and offer education and support to patients and families at their most vulnerable times(Vallerand, Musto, & Polomano, 2011). According to Ashley, Argoff, Gordin, & Gudin, (2014), relay the information gotten during assessment of cancer pain to the treating physician since the information may impact treatment.

## 2.8Empirical Review

About 60-70% of Cancer cases in Nigeria present in advance stage; at least 30% of such cases experience one or more types of pain, which is almost pathognomic of the disease state(Oyebola, 2015). In a study by Elima, Paula, Olufemi, & Emmanuel, (2013)on cancer incidence in Nigeria revealed that the mean age of all cancer of men and women in Nigeria are 51.1 and 49.1 years respectively. The rate at which elderly patients are diagnosed with cancer is still alarming because finding by (Adewuyi, et al., 2012) in ABUTH, on pattern of oncologic emergencies seen in adult patients attending radiotherapy revealed that the age range of patients with cancer was 18-82 with a median age of 49 and a ratio male female of 1: 1.4; and most cancer cases being cervical cancer, breast cancer and prostate cancer.

Evidence in view of nurses' knowledge on cancer pain revealed that, apart from personal knowledge, nurses are required to possess knowledge regarding pain itself. This will be of great benefit for the nurses to effectively plan nursing activities so as to ensure that pain is fully managed according to its subjective occurrence(Henry, 2010; Kipkorir,

2011). Elumelu, Adenipekun, Eriba, &Akinlade, (2014)2 (2%) out of the 119 nurses could give a good account on the management of cancer pain in a study to assess the level of knowledge of cancer pain management among trained nurses at the University College Hospital (UCH), Ibadan, Nigeria.

The obstacles to an adequate treatment of chronic pain have been identified and categorized as institutional, patient-related and caregivers-related (Swan & Hamilton, 2016). Among all healthcare professionals challenges may include insufficient knowledge of pain management, a failure to identify pain assessment and relief of pain as a priority for patient care, and the belief that there is inadequate time to conduct and document the results of a pain assessment. Continuity of care may be lacking as well as communication among members of the healthcare team (Institute of Medicine, 2012).

Older adults frequently fail to report pain because they may view that it is an expected part of old age or because they are fearful that it may lead to more diagnostic testing or added medication (Cavalieri, 2005). There has been extensive research into the refinement of cancer pain assessment resulting in the continuous influx of new tools with different nomenclature (Clare, 2012). This may further burden Health Care Workers and in turn cause the gravitation towards informal assessment. A lack of documentation of assessment findings by nurses has also been reported as a barrier to effective pain relief (McCracken, 2015).

Achieving successful pain management strategies is complicated(Kipkorir, 2011). According to Marosi& Köller, (2016) despite the high prevalence of malignancies in elderly people, administering the optimal treatment to elderly patients with cancer remains challenging. For instance; in Nigeria, according to Oyebola, (2015);opioid

phobia and lack of skills and experience of appropriate opioids prescriptions among doctors are common phenomenon affecting cancer treatment in elderly patients especially in limited resource settings. As a result, many of the patients suffered from physical, social, emotional, financial and spiritual distress culminating to pain, which are often underestimated. According to a study by Elumelu, Adenipekun, Eriba, &Akinlade, (2014) Only 23 (19%) of nurses could state the relevance of opioids in cancer pain management.

## 2.9 Theoretical Review

To provide a framework to guide the research process, the Roy Adaptation Model (RAM) was used. This model view human beings as an adaptive system, in constant interaction with a changing environment(Rogers & Keller, 2011). The individual and environment are sources of stimuli that require modification for adaptation. When the demands of environmental stimuli are too great, individuals mobilize all possible ways to adapt to a stressful situation. An individual's ability to adapt to situations varies depending on the nature of the stimuli confronting the person. Stimuli are focal, contextual, or residual. Focal stimuli are influenced by contextual and residual stimuli. Contextual stimuli are internal or external factors that influence how the individual reacts to the focal stimuli but do not require direct and immediate attention or energy. Residual stimuli are factors affecting the person with an uncertain effect(Zhang, 2013).

Focal stimuli exert a direct and immediate effect on the individual and become the focus of attention for the person. The person mobilizes control processes which consist of regulator and cognator processes(Roy & Andrews, 1999). Neural, chemical, and endocrine coping processes (physiological) are termed regulator processes, while

cognator processes result from cognitive-emotive channels. The person spends energy to mobilize four adaptive modes: physical, self-concept, rolefunction, and interdependence mode in dealing with the focal stimuli in order to maintain or restore adaptation through stressful event(Roy & Andrews, 1991). The assumption of using this theory is that each individual under any stressful situation would attempt to balance the interrelationship of physical, self-concept, role function, and interdependence mode in order to maintain or restore adaptation.

According to RAM, the overall goal of nursing is to focus on promoting health of the individual and group by promoting adaptation in each of four adaptive modes: physiological-physical, self-concept, role function, and interdependence(Naga & Al-Atiyyat, 2014).

**Explicit assumptions of Roy Adaptation Model**

- The person is a bio-psycho-social being.
- The person is in constant interaction with a changing environment.
- To cope with a changing world, person uses both innate and acquired mechanisms which are biological, psychological and social in origin.
- Health and illness are inevitable dimensions of the person's life.
- To respond positively to environmental changes, the person must adapt.
- The person's adaptation is a function of the stimulus he is exposed to and his adaptation level
- The person's adaptation level is such that it comprises a zone indicating the range of stimulation that will lead to a positive response.

- The person has 4 modes of adaptation: physiologic needs, self- concept, role function and inter-dependence.
- "Nursing accepts the humanistic approach of valuing other persons' opinions, and viewpoints" Interpersonal relations are an integral part of nursing
- There is a dynamic objective for existence with ultimate goal of achieving dignity and integrity (Nursing Theories, 2013).

Roy Adaptation Model has five main concepts of nursing theory: the health, the person, the nurse, the adaptation and the environment(Nursing Theories, 2013). Health was viewed as an inevitable dimension of person's life represented by a health-illness continuum and a process becoming integrated and whole. Roy views the person in a holistic way. The core concept in her model is adaptation. The concept of adaptation assumes that a person is an open system who responds to stimuli from both outside and inside of the person. Environmental stimuli are categorized as focal, contextual, and residual stimuli. Focal stimuli represent an immediate and apparent cause of the problem; contextual stimuli are other causative factors whilst residual stimuli relate to the patient's past experiences with the illness and how these experiences may impact upon the patient's current condition. According to Roy, the nurse uses conscious awareness, self-reflection and choice to create human and environmental integration that leads to positive adaptation. The nurse's role while caring for a patient involves manipulating the stimuli that comes from the environment so that they fall within the client's field of positive coping, resulting in adaptation(Naga & Al-Atiyyat, 2014).

Man, as the recipient of nursing care, can be conceptualized as an adaptive system (Nursing Theories, 2013). This person (family) receives inputs that come both externally

from the environment outside the person and internally from the self. These inputs, termed stimuli, can be classified in three categories: “focal stimuli, or stimuli immediately confronting the person; contextual stimuli, or all other stimuli present, either within persons as their internal condition or coming as input from the environment; and residual stimuli such as beliefs, attitudes, or traits which have an indeterminate effect on the present situation” (Roy & Andrews, 1991)

**Application of the Theory to Cancer Pain**

According to Roy & Andrews, (1991), the treatment regimen (e.g., chemotherapy, radiotherapy, and surgery) was viewed as a focal stimulus, the internal or external stimulus most immediately confronting the human system which leads to ineffective responses (fatigue, pain, vomiting, and nausea) for patients with cancer disease. In other words, the cancer patients who are under treatment with chemotherapy and radiotherapy may experience a physical self-disruption such as fatigue, altered skin integrity, fluid and electrolyte imbalances and physical changes (hair loss)(Naga & Al-Atiyyat, 2014). This experience in physiological changes may influence the role function of the patient (social interaction with peers) and changes in the interdependence mode (family); if the families understand how to support the patient, the patient may have an integrated adaptation level. By understanding the relationships among self-concept, family functioning, functional status, and psychological adaptation, the nurse can identify the factors that lead to mal adaptation, and supportive services can be implemented during the course of cancer treatment.

# CHAPTER THREE

## 3.0 RESEARCH METHOD

### 3.1 Introduction

This chapter presents the methodology that was used to address the research questions for this study. The research design, the study area, population of the study and sampling technique, instruments used in collecting the data, procedures, and data analysis plan are also discussed.

### 3.2 Research Design

The research design employed in this study was a cross sectional descriptive research. It is cross sectional because it analyses data collected from respondents at specific point in time and the purpose of the descriptive research is to describe concepts and identify relationships among variables (Burns & Grove, 2005).

### 3.3 Study Area

Ahmadu Bello University Teaching Hospital (A.B.U.T.H) is located in Shika which is a town in Giwa Local Government Area in Zaria. Giwa is a local government in the northern part of Kaduna State Nigeria. The hospital is vested with the responsibility of providing tertiary health care services, student and manpower services, training as well as research in various aspects of health care delivery. The institution is divided into blocks for easy administration and identification. Services rendered by A.B.U.TH are: laboratory services, x-ray, surgery, psychiatry, medicine, ophthalmic, orthopaedics, paediatrics, accident and emergency, oncology, obstetrics and gynaecology, nursing services, nutrition and dietetics, social welfare, works and maintenance and catering. The nursing services is made up of the following units: medical, surgical, Obstetrics &

Gynaecological, orthopaedics, oncology, peri-operative, anaesthesia, psychiatry (mental health), cardiothoracic, Accident &Emergency, intensive care nursing, cardiothoracic nursing and a palliative nursing.

With regards to the hospital in terms of oncology services, Ahmadu Bello University Teaching Hospital is the only tertiary hospital in Kaduna state, one out of the four hospitals in the northern region of Nigeria with an oncology centre and it serves as a focal point of referral for cancer patients covering the Northern Nigeria, Southern part of Niger, Chad and Northern Cameroon. Despites its location in the North, patients from the Southern part of Nigeria are also seen. The oncology unit is a separate unit within the hospital with extension of its services to surgical, medical, paediatric, obstetric and gynaecological and palliative ward where patients with oncology cases are usually managed. These services are rendered in three shifts that is, morning, afternoon and night daily on weekly basis (24hours services). The hospital has a total of 627nurses (Ahmadu Bello University Teaching Hospital Nurses' Nominal Roll, 2014); and there are a total of 86nurses in theoncology sections.

### 3.4 Population of the Study

The population of the studyconstitute nurses working in oncology ward, oncology section of gynaecological ward, female surgical ward (for Breast cancer and other cases), male surgical ( for urologic cancers and other male related cancers) and palliative care unit (for cancer cases) in Ahmadu Bello Teaching Hospital Shika, Zaria. There were a total of 86 nurses in the oncology sections in general.

### 3.4.1 Inclusion criteria

The inclusion criteria for the study werenurses who are working in the oncology unit and its divisions available during the study period and are willing to participate.

### 3.4.2 Exclusion Criteria

Nurses who were not willing to participate, working in the oncology sections and its other division and those who are not available during data collection period.

### 3.6 Sample Size

The sample size constitutes the whole 86 nurses (census sample size) working in the oncology units of the hospital. The table below summarises the number of nurses in respective wards.

**Table 3.1:- Number of nurses in selected wards for the study**

| Wards | Division | Number of nurses |
|---|---|---|
| Oncology | - | 9 |
| Palliative | - | 4 |
| Female Surgical ward | A | 12 |
| | B | 12 |
| Male Surgical Ward | A | 12 |
| | B | 13 |
| Obstetrics and gynaecological Ward | A | 12 |
| | B | 12 |
| **Total** | | **86** |

### 3.6 Sampling Technique

The whole 86 nurses were selected. The selection was done by visiting each ward selected for the study during the three shift working periods (Morning, evening and Night). This was done in order to have access to the whole sample within each ward. After which, a convenient approach during the visitwas used to select the respondents.

They were offered the questionnaire to fill after consent had been sorted. This was repeated in other wards until the sample size was covered.

### 3.7 Instruments for Data Collection

Two instrumentswere used in this studyfor data collection, the firstwas the revised Nurses Knowledge and Attitudes Survey Regarding Pain (NKASRP) developed by Ferrell and McCaffery to measure knowledge and attitudes toward pain management (Ferrell & McCaffery, 2014). The NKASRP has 22 true/false, fourteen (14) multiple choice and two case studies with two questions each making a total of 38 questions. But this instrument was modified by the researcher in order to fit the study in accordance to (Nega, Tachbele, & Kassa, 2014); who uses same approach. Eleven True/False questions and four multiple choice questions were adapted for assessing nurses' knowledge on cancer pain. The knowledge was scaled to have a score of 30 andwas classified as:-

- Poor knowledge: less than 50% ( the participant score < 15)
- Fair knowledge: 50 - < 70% (the participant score 15 – < 21)
- Good knowledge: 70% or more (the participant score ≥ 21)

The Questionnaire consist of four sections; section A constitute the respondents socio-demographic and professional data, section B constitute the questions that assess respondents level of knowledge on cancer pain in elderly, section C - the challenges faced by nurses in cancer pain assessmentand section D constitute questions on challenges nurses face during management of cancer pain management. Section A comprises of closed ended questions, section B is of Likert scaling and closed ended question while section C and D comprise of Likert scaling, closed ended and open ended questions.

The second instrument used was anadapted observational check list on nursing care for a patient with pain developed by Smeltzer, Bare, Hinkle, & Cheever, (2010)that was used to detremine the approaches nurses render to elderly patients with cancer pain. The check list comprises of ten approaches to be implemented on a patient with cancer pain. Items within the checklist were scored as three for done satisfactoryly or completely done, two for done not satisfactoyly and one for not done. Some of the components include, reasurance,assessment of pain, administration of drugs, documentation among others.

### 3.8 Validity

The validity of the revised Nurses Knowledge and Attitudes Survey Regarding Pain (NKASRP) developed by Ferrell and McCaffery, 2014 was established by pain experts and has been reviewed over several years (Davis, 2014). The content of this instrument has been derived from current standards pain management such as the American Pain Society, World Health Organization, and the National Comprehensive Cancer Network pain guidelines. In addition, the adapted content of the revised Nurses Knowledge and Attitudes Survey Regarding Pain (NKASRP) and that of the researchers' self-developed instrument questionnaire and the observational checklist were submitted to five jurors for vetting who were experts in various professions associated with the research topic. They include a professor in Oncology, a consultant in oncology, professor in Human Physiology and two doctorate degree holders in Nursing.

### 3.8 Reliability

The "Knowledge and Attitudes Survey Regarding Pain" tool can be used to assess nurses and other professionals and as a pre and post-test evaluation measure for educational programs. The tool was developed in 1987 and has been used extensively from 1987 -

present. The tool has been revised over the years to reflect changes in pain management practice(Ferrell & McCaffery, 2014).Meanwhile, the reliability index of the questionnaire was computed using SPSS version 22.0 and the alpha value was found to be 0.701; this indicates that the instrument is reliable for the study.

### 3.9 Method of Data Collection

An introductory letter was obtained from the Department of Nursing Sciences Ahmadu Bello University after the proposal defence for readiness of the research work. The letter, a copy of the research proposal and the ethical research form were submitted to the ethical committee of the hospital for approval. After the approval by the ethical clearance committee, the letter of approval and the questionnaires was presented to the head of nursing department of the hospital who later debriefed the matrons of the wards involved in the research.

Participants were then approached during the three shift working periods (Morning, evening and Night) in order to have access to the whole sample within such ward. After which, a convenience approach (participant who was less busy or during their break period) during the shift visit was used to select the respondents present to fill the questionnaire after consent has been sorted. Participation was entirely voluntarily. The participants were given 60 minutes to complete the questionnaire for the researcher retrieval. Permission was given to those participants willing to fill the questionnaire at their convenient time and later the questionnaire were retrieved. This was repeated in other wards until the sample size was covered.

Observation using the observational check list was done concurrently by the researcher during his visit to the ward to administer the questionnaires (that is, during the morning,

afternoon or night shifts). Participants were not notified that they were being observed to avoid insincerity of action. Data were collected over a period of three months (June to August 2017).

### 3.10 Method of Data Analysis

Data were analysed using Microsoft excel and statistical package for social sciences (SPSS) version 22.0. Descriptive statistics in the form of a frequency distribution, percentages, mean and charts were used to determine the level of nurses' knowledge on cancer pain in elderly patients, approach they render and the challenges they face.A simple t-test was used as it is a statistical method that aids in comparing the means between the variables that were analysed using descriptive statistics and that of the population which was standardised to be (3.5) for the aspect of nurses' challenges and (1.5) for the aspect of the approach they render. Multiple regression coefficient was used to determine the relationship between nurses' level of knowledge and the challenges they encounter when managing cancer pain. A professional statistician enter the data and analyses' it.

### 3.11 Ethical consideration

The copy of the proposed dissertation, introductory letter from the department and the copy of the questionnaire were submitted to the ethical research committee of Ahmadu Bello University Teaching Hospital Shika Zaria, for approval which was obtained. In order to protect the human rights of the participating nurses, no names were requiredon the questionnaire and there was no negative consequences associated with participation or non-participation. No risks was identified with this study. Informed consent was obtained from the study participants after explaining the objectives and procedure of the

study. The study was voluntary and confidentiality of the study participants were maintained.

# CHAPTER FOUR
# RESULTS

## 4.1 Introduction

This chapter presents the data collectedfrom the administered questionnaires and the observational check-list. Out of the 86 copies of the questionnaire distributed to the respondents, a total of 73 (85%) copies were returned duly completed. The percentage of respondents observed was74 (86%). Data were presented and analysed using descriptive and inferential analysis.

Table 4. 1 Socio-demographic and Professional Characteristics of the nurses N=73

| Variables | | Frequency | Percent |
|---|---|---|---|
| **Respondents Age** | 21-25 years | 7 | 9.6 |
| | 26-30 years | 7 | 9.6 |
| | 31-35 years | 12 | 16.4 |
| | 36-40 years | 15 | 20.5 |
| | 41-45 years | 17 | 23.3 |
| | ≥ 46 years | 15 | 20.5 |
| **Gender Status** | Male | 15 | 20.5 |
| | Female | 58 | 79.5 |
| **Marital Status** | Single | 16 | 21.9 |
| | Married | 57 | 78.1 |
| **Religion** | Islam | 30 | 41.1 |
| | Christianity | 43 | 58.9 |
| **Highest Qualification/Cadre** | Registered Nurse (RN) | 11 | 15.1 |
| | RN/RM | 47 | 64.4 |
| | B.Sc. Nursing | 9 | 12.3 |
| | M.Sc. Nursing | 1 | 1.4 |
| | *Others | 5 | 6.8 |
| **Ward working** | Oncology | 7 | 9.6 |
| | Palliative | 3 | 4.1 |
| | Female Surgical | 21 | 28.8 |
| | Male Surgical | 23 | 31.5 |
| | Obstetric and Gynaecological | 19 | 26.0 |
| **Years of Working Experience** | ≤ 2 years | 9 | 12.3 |
| | 3-10 years | 25 | 34.2 |
| | 11-20 years | 20 | 27.4 |
| | 21-30 years | 15 | 20.5 |
| | ≥ 30 years | 4 | 5.5 |
| **Additional cancer/pain related training** | Yes | 22 | 30.1 |
| | No | 51 | 69.9 |
| **Kind of training** | General Pain Management | 13 | 17.8 |
| | Palliative | 6 | 8.2 |
| | Oncology | 3 | 4.1 |
| | General pain Management and palliative | 1 | 1.4 |
| | General pain Management and Oncology | 1 | 1.4 |
| | No Training | 49 | 67.1 |
| **Attended Educational class on pain Management on elderly** | Yes | 17 | 23.3 |
| | No | 56 | 76.7 |
| **Managed cancer pain in elderly** | Yes | 52 | 71.2 |
| | No | 21 | 28.8 |
| **Type of cancer pain managed** | Acute | 3 | 4.1 |
| | Chronic | 49 | 67.1 |
| | None | 21 | 28.8 |

* represents other qualifications such as Paediatric Nurse, ADPA, Public Health, RPN, Reproductive Health

Table 4.1 shows that 17 (23.3%) of the nurses are within the age range of 41-45 years of age; most of whom 58 (79.5%) are females, 15 (20.5%) are males and 57 (78.1%) are married. Also, 43(58.9%) of the nurses are Christian. In respect to their qualifications, most of the nurses 47 (64.4%) have both Registered Nurse (RN) and Registered Midwives (RM) as qualification. About 20 (27.4%) of the nurses which is the highest frequency have working experience of 11-20 years; but only 22 (30.1%) of the nurses have additional cancer/pain related training. Most of the training being General pain Management 13 (17.8%). 17 (23.3%) nurses have attended educational class on pain management in elderly. Majority of the nurses 52 (71.2%) have managed cancer pain in elderly most of which 49 (67.1%) being chronic pain.

Table 4. 2a Item analysis on correct responses and score of nurses regarding knowledge of cancer pain in elderly

| Rank | Item No | Item content (correct answer) | Correct responses | |
|---|---|---|---|---|
| | | | Frequency | percent |
| | | **Items receiving more than 70% correct response rate** | | |
| 1 | 13 | Best choice for treatment of prolong moderate to severe cancer pain. Morphine (correct answer) | 58 | 79.5 |
| | | **Items receiving between 50%-70% correct response rate** | | |
| 2 | 6 | Combining analgesics with different mechanism result in better pain control. ( True= Agree) | 51 | 69.9 |
| 2 | 9 | Patients' spiritual belief makes them think that pain is a necessary experience in life.( True= Agree) | 51 | 69.9 |
| 2 | 11 | Pain is part of aging process. (False= Disagree) | 51 | 69.9 |
| 5 | 14 | Useful for treatment of cancer pain. Ibuprofen (Motrin), Phenytoin (Dilantin), Gabapentin (Neurontin), All of the above (correct answer) | 46 | 63.0 |
| 6 | 15 | Most accurate judge of patients' pain. The patient (correct answer) | 44 | 60.3 |
| 7 | 5 | Respiratory depression rarely occurs in patients receiving opioids. ( True= Agree) | 39 | 53.4 |
| | | **Items receiving less than 50% correct response rate** | | |
| 8 | 8 | Elderly patients cannot tolerate opioids for pain relief. (False= Disagree) | 29 | 39.7 |
| 8 | 12 | Route of administration of opioid in patient with persistent cancer pain. Oral (correct answer) | 29 | 39.7 |
| 10 | 2 | Patient who can be distracted have no severe pain. (False= Disagree) | 16 | 21.9 |
| 11 | 1 | Vital signs are indicators of intensity of pain. (False= Disagree) | 14 | 19.2 |
| 11 | 4 | Aspirin and NSAID are not effective for painful bone metastases. (False= Disagree) | 14 | 19.2 |
| 11 | 7 | Duration of Morphine 1-2mg IV is 4-5 hours. (False= Disagree) | 14 | 19.2 |
| 11 | 10 | If patients' pain is unknown, opioids shouldn't be given as it affects diagnosis of pain. (False= Disagree) | 14 | 19.2 |
| 15 | 3 | Patient may sleep in spite of severe pain. ( True= Agree) | 7 | 9.6 |

Table 4.2a shows the correct response score on knowledge of nurses on cancer pain. The highest correct response by nurses is on the item number 3 on the questionnaire which is on “the best choice of treatment of prolong, moderate to severe cancer pain” which morphine is the correct has 58 (79.5%) response by nurses, other correct response that follows are Combining analgesics with different mechanism result in better pain control 51 (69.9%), Patients' spiritual belief makes them think that pain is a necessary experience in life51 (69.9%), Pain is part of aging process 51 (69.9%), Useful for treatment of cancer pain 46 (63%) and Most accurate judge of patients' pain 44 (60.3%). The item with the least percentage of correct response on knowledge of nurses on cancer pain in elderly is the statement “Patient may sleep in spite of severe pain 7 (9.6%).

Table 4. 2b Respondents grading on the level of knowledge on cancer pain

| | Frequency | Percent |
|---|---|---|
| [a]Poor knowledge | 49 | 67.1 |
| [b]Fair knowledge | 22 | 30.1 |
| [c]Good knowledge | 2 | 2.7 |
| Total | 73 | 100.0 |

a - less than 50% (the participant score < 15) b - 50 - < 70% (the participant score 15 – < 21)
c - 70% or more (the participant score ≥ 21)

Table 4.2b shows the overall level of knowledge of nurses based on their knowledge on cancer pain in elderly patient. Majority of the nurses (67.1%) have poor knowledge on cancer pain. 30.1% of the nurses have fair knowledge and only 2.7% of the nurses have good knowledge. In others words only 32.8% of the nurses have knowledge on cancer pain in elderly pain that is above average.

**Table 4. 2c Respondents grading on the level of knowledge on cancer pain based on wards**

| | | knowledge | | | Total |
|---|---|---|---|---|---|
| | | Good | Fair | Poor | |
| ward | Female Surgical (N=21) | 2 | 10 | 9 | 21 |
| | Male Surgical (N=23) | 0 | 2 | 21 | 23 |
| | Obstetric (N=19) | 0 | 3 | 16 | 19 |
| | Oncology (N=7) | 0 | 4 | 3 | 7 |
| | Palliative (N=3) | 0 | 3 | 0 | 3 |
| Total | | 2 | 22 | 49 | 73 |

The Table above revealed the level of knowledge of nurses based on the ward in which they work. The female surgical ward was the only ward with nurse with Good level of knowledge 2. Basically, the palliative, oncology and the female surgical ward have the highest number of nurses that have fair knowledge on cancer pain. While majority of the nurses in male surgical and gynaecological ward have the highest number of nurses that have poor knowledge on cancer pain in elderly.

Table 4. 3a Type of scale used by nurses and the frequency of utilization.

| | | Frequency | Percent | Mean |
|---|---|---|---|---|
| **Type of pain assessment method/scale** | Behavioural Observation of pain | 14 | 19.2 | |
| | Verbal rating scale | 18 | 24.7 | |
| | Verbal analogue scale | 8 | 11.0 | |
| | Numerical rating scale | 13 | 17.8 | |
| | Face scale | 4 | 5.5 | |
| | Do not use scale | 11 | 15.1 | |
| | Use all scale | 5 | 6.8 | |
| **Frequency of use of objective tool while assessing pain** | Rarely (1 per day) | 7 | 9.6 | 2.70 |
| | Sometimes (2-4 times per day) | 30 | 41.1 | |
| | Most a times (5-8 times per day) | 14 | 19.2 | |
| | Never | 22 | 30.1 | |

Table 4.3a shows that the most common scale used by nurses are verbal rating scale 18 (24.7%), behavioural observation of pain 14 (19.2%) and 11 (15.1%) of the nurses do not use scale during assessment of patient pain while only 5 (6.8%) of the nurses use all scale. The frequency of utilization revealed that 30 (41.1%) of the nurses sometimes (2-4 times) use the scale per day, while 14 (19.2%) of the nurses use it most at times (5-8 times) per day and 22 (30.1%) never use a scale in assessment of patient pain

Table 4. 3b Challenges encountered by nurses during cancer pain assessment in elderly patients

| | | Frequency | Percent | Mean | t-test/ p-value |
|---|---|---|---|---|---|
| **Too many patients to assess** | Strongly Disagree | 2 | 2.7 | 4.1 | t=4.448 p=0.000 |
| | Disagree | 7 | 9.6 | | |
| | Uncertain | 6 | 8.2 | | |
| | Agree | 28 | 38.4 | | |
| | Strongly Agree | 30 | 41.1 | | |
| **No enough time for assessment** | Strongly Disagree | 2 | 2.7 | 4.0 | t=4.590 p=0.000 |
| | Disagree | 5 | 6.8 | | |
| | Uncertain | 3 | 4.1 | | |
| | Agree | 45 | 61.6 | | |
| | Strongly Agree | 18 | 24.7 | | |
| **Elderly patients may be reluctant to report pain** | Strongly Disagree | 5 | 6.8 | 3.2 | t=-2.567 p=0.012 |
| | Disagree | 20 | 27.4 | | |
| | Uncertain | 16 | 21.9 | | |
| | Agree | 23 | 31.5 | | |
| | Strongly Agree | 9 | 12.3 | | |
| **Inconsistency of pain report by cognitive impaired patients** | Disagree | 3 | 4.1 | 3.8 | t=2.986 p=0.004 |
| | Uncertain | 24 | 32.9 | | |
| | Agree | 32 | 43.8 | | |
| | Strongly Agree | 14 | 19.2 | | |
| **Lack of systematic investigation into pain phenomenon** | Strongly Disagree | 1 | 1.4 | 3.4 | t=-.836 p=0.406 |
| | Disagree | 11 | 15.1 | | |
| | Uncertain | 25 | 34.2 | | |
| | Agree | 29 | 39.7 | | |
| | Strongly Agree | 7 | 9.6 | | |
| **Institutional policies for accountability for pain assessment** | Disagree | 10 | 13.7 | 3.6 | t=1.384 p=0.171 |
| | Uncertain | 16 | 21.9 | | |
| | Agree | 37 | 50.7 | | |
| | Strongly Agree | 10 | 13.7 | | |
| **Communication barrier between patient and Nurses** | Strongly Disagree | 4 | 5.5 | 3.5 | t=-0.366 p=0.715 |
| | Disagree | 12 | 16.4 | | |
| | Uncertain | 16 | 21.9 | | |
| | Agree | 29 | 39.7 | | |
| | Strongly Agree | 12 | 16.4 | | |
| **Not trained to use scale** | Strongly Disagree | 7 | 9.6 | 3.4 | t=-0.571 p=0.570 |
| | Disagree | 16 | 21.9 | | |
| | Uncertain | 8 | 11.0 | | |
| | Agree | 24 | 32.9 | | |
| | Strongly Agree | 18 | 24.7 | | |
| **Pain assessment scale not always available** | Strongly Disagree | 10 | 13.7 | 3.4 | t=-0.571 p=0.570 |
| | Disagree | 11 | 15.1 | | |
| | Uncertain | 5 | 6.8 | | |
| | Agree | 33 | 45.2 | | |
| | Strongly Agree | 14 | 19.2 | | |

Grand mean= 3.6 Level of significance (p-value) for t-testunder a test value of 3.5 was consider to be value less than 0.05

Table 4.3cSummary of Challenges encountered by nurses during cancer pain assessment in elderly patients

| | Mean | t-test/ **p-value** |
|---|---|---|
| Too many patients to assess | 4.1 | t=4.448<br>p=.000 |
| No enough time for assessment | 4.0 | t=4.590<br>p=0.000 |
| Inconsistency of pain report by cognitive impaired patients | 3.8 | t=2.986<br>p=0.004 |
| Institutional policies for accountability for pain assessment | 3.6 | t=1.384<br>p=0.171 |
| Communication barrier between patient and Nurses | 3.5 | t=-0.366<br>p=0.715 |

Level of significance (p-value) for t-testunder a test value of 3.5 was consider to be value less than 0.05

Table 4.3c: shows the mean score of the challenges faced by nurses during cancer pain assessment in elderly patients. Majority of the nurses agree to the statement that there are too many patient to assess as a challenge during assessment of cancer pain; this has a mean score of 4.1. Other challenges include, Absence of enough time for assessing patient with pain (4.0 mean score), Inconsistency of pain report by cognitive impaired patients (3.8 mean score), Institutional policies for accountability for pain assessment (3.6 mean score) and communication barrier between patients and nurses (3.5 mean score). While the rest of the statement are within the borderline of agree and disagree.

With regards to the t-test, it reveals clearly that there is a significant relationship as the p-value are below 0.05 indicating that too many patients to assess, absence of enough time for assessment, elderly patients may be reluctant to report pain and Inconsistency of pain report by cognitive impaired patientsare the most pressing challenges nurses encounter during assessment of elderly patient with cancer pain. While institutional policies for

accountability for pain assessment and communication barrier between patients and nurseshave no significant relationship with the challenges nurse encounter despite being experienced by most nurses.

Table 4. 4a Challenges encountered by nurses during cancer pain management in elderly patients

| | | Frequency | Percent | Mean | t-test/ p-value |
|---|---|---|---|---|---|
| **Medications not available** | Strongly Disagree | 9 | 12.3 | 3.5 | t=-0.121 |
| | Disagree | 16 | 21.9 | | p=0.904 |
| | Uncertain | 3 | 4.1 | | |
| | Agree | 21 | 28.8 | | |
| | Strongly Agree | 24 | 32.9 | | |
| **Not knowing the medication to give if more than one pain medication is ordered** | Strongly Disagree | 22 | 30.1 | 2.4 | t= -7.244 |
| | Disagree | 23 | 31.5 | | p=0.000 |
| | Uncertain | 5 | 6.8 | | |
| | Agree | 21 | 28.8 | | |
| | Strongly Agree | 2 | 2.7 | | |
| **Fear of use of opioids** | Strongly Disagree | 10 | 13.7 | 3.0 | t=-3.629 |
| | Disagree | 19 | 26.0 | | p=0.001 |
| | Uncertain | 19 | 26.0 | | |
| | Agree | 14 | 19.2 | | |
| | Strongly Agree | 11 | 15.1 | | |
| **Do not believe with patients' pain rating** | Strongly Disagree | 11 | 15.1 | 2.6 | t=-7.193 |
| | Disagree | 34 | 46.6 | | p=0.000 |
| | Uncertain | 8 | 11.0 | | |
| | Agree | 17 | 23.3 | | |
| | Strongly Agree | 3 | 4.1 | | |
| **Do not practice non-pharmacological interventions** | Strongly Disagree | 8 | 11.0 | 2.9 | t=-4.471 |
| | Disagree | 30 | 41.1 | | p=0.000 |
| | Uncertain | 8 | 11.0 | | |
| | Agree | 19 | 26.0 | | |
| | Strongly Agree | 8 | 11.0 | | |
| **Fear of over sedation** | Strongly Disagree | 5 | 6.8 | 3.4 | t=-1.000 |
| | Disagree | 13 | 17.8 | | p=0.321 |
| | Uncertain | 13 | 17.8 | | |
| | Agree | 34 | 46.6 | | |
| | Strongly Agree | 8 | 11.0 | | |
| **Apprehension about approaching the physician for change in pain medication** | Strongly Disagree | 11 | 15.1 | 2.7 | t=-6.039 |
| | Disagree | 26 | 35.6 | | p=0.000 |
| | Uncertain | 15 | 20.5 | | |
| | Agree | 17 | 23.3 | | |
| | Strongly Agree | 4 | 5.5 | | |
| **Poor documentation of drugs administered** | Strongly Disagree | 16 | 21.9 | 2.8 | t=-4.453 |
| | Disagree | 20 | 27.4 | | p=0.000 |
| | Uncertain | 7 | 9.6 | | |
| | Agree | 23 | 31.5 | | |
| | Strongly Agree | 7 | 9.6 | | |
| **No training on pain management** | Strongly Disagree | 4 | 5.5 | 4.0 | t=4.053 |
| | Disagree | 4 | 5.5 | | p=0.000 |
| | Uncertain | 4 | 5.5 | | |
| | Agree | 37 | 50.7 | | |
| | Strongly Agree | 24 | 32.9 | | |
| **Poor communication between nurses and doctors** | Strongly Disagree | 5 | 6.8 | 3.4 | t=-0.887 |
| | Disagree | 18 | 24.7 | | p=0.378 |
| | Uncertain | 10 | 13.7 | | |
| | Agree | 25 | 34.2 | | |
| | Strongly Agree | 15 | 20.5 | | |
| **No team work among nurses in caring for patients with cancer pain** | Strongly Disagree | 14 | 19.2 | 2.6 | t=-6.154 |
| | Disagree | 24 | 32.9 | | p=0.000 |
| | Uncertain | 15 | 20.5 | | |
| | Agree | 15 | 20.5 | | |
| | Strongly Agree | 5 | 6.8 | | |

Grand mean= 3.0 Level of significance (p-value) for t-testunder a test value of 3.5 was consider to be value less than 0.05

Table 4.4bSummary of Challenges encountered by nurses during cancer pain management in elderly patients

| | Mean | t-test/ **p-value** |
|---|---|---|
| Medications not available | 3.5 | t=-0.121<br>p=0.904 |
| No training on pain management | 4.0 | t=4.053<br>p=0.000 |

Level of significance (p-value) for t-testunder a test value of 3.5 was consider to be value less than 0.05

Table 4.4b shows the challenges faced by nurses during cancer pain management in elderly patients. Nurses agreed that 'no training on cancer pain management' (4.0 Mean score) and medication not available (3.5 mean score) are the main challenges associated with cancer pain management. On the other hand as shown in table 4.4a, nurses only disagreed to not knowing the medication to give if more than one pain medication is ordered (2.4 mean score). Other statement are with the borderline of agreed and disagreed.

With regards to the t-test analysis, it shows that there is a significant relationship indicating that there is 'none training of nurses on pain management' while on the other hand, non-availability of medication yielded no significant relationship. This is due to the fact that most patients in the main oncology have most of their medication available. The non-availability of medication to serve most elderly cancer patients were experienced by nurses in various oncology wards; especially among those who are on prolonged hospitalisation.

Table 4. 5 Relationship between nurses' knowledge on cancer pain and challenges during cancer pain Management

| | | Strongly Disagree | Disagree | Uncertain | Agree | Strongly Agree | Pearson's correlation (r) | p-value |
|---|---|---|---|---|---|---|---|---|
| Grade on Knowledge and Medications not available | Poor | 6 | 8 | 3 | 13 | 19 | -0.186 | 0.05 |
| | Fair | 3 | 6 | 0 | 8 | 5 | | |
| | Good | 0 | 2 | 0 | 0 | 0 | | |
| Grade on Knowledge and No training on pain management | Poor | 2 | 3 | 4 | 23 | 17 | -0.025 | 0.41 |
| | Fair | 2 | 1 | 0 | 12 | 7 | | |
| | Good | 0 | 0 | 0 | 2 | 0 | | |

Level of significance for regression is consider to be value less than 0.05 R square value is 0.36

Table 4.5 reveals the relationship between nurses' knowledge on cancer pain and the challenges they encountered during cancer pain management. The Pearson's regression coefficient (r) yielded (-0.186) which indicates a negative correlation signifying any absence of medication; in other words, non-availability of drug leads to decrease in the level of knowledge on cancer pain. With regards to none training of nurses and their level of knowledge, it also yielded a negative correlation (-0.025) indicating that the lesser nurses are trained, the lower their level of knowledge on cancer pain.The R-square value of 0.36 indicates that, for every increase in knowledge, there will be 0.36% decrease in challenges vies visa.

Table 4. 6a The approaches nurses render to patients with cancer pain

| | | Frequency | Percent | Mean | t-test Value & P-value |
|---|---|---|---|---|---|
| Reassuring Patient that pain is real | Not Done | 1 | 1.4 | 2.95 | t=44.190 |
| | Done not Satisfactorily | 2 | 2.7 | | p= 0.000 |
| | Done Satisfactorily | 71 | 95.9 | | |
| Use pain assessment scale | Not Done | 70 | 94.6 | 1.11 | t=-7.404 |
| | Done Satisfactorily | 4 | 5.4 | | p= 0.000 |
| Assess and record pain characteristics | Not Done | 4 | 5.4 | 2.05 | t= 11.863 |
| | Done not Satisfactorily | 62 | 83.8 | | p= 0.000 |
| | Done Satisfactorily | 8 | 10.8 | | |
| Administer balanced analgesic agent as prescribed | Done Satisfactorily | 74 | 100.0 | 3.00 | t=0.000 p=0.000 |
| Re-administer pain scale | Not Done | 74 | 100.0 | 1.00 | t=0.000 p=0.000 |
| Document severity of patient's pain on chart | Not Done | 22 | 29.7 | 2.14 | t= 6.434 |
| | Done not Satisfactorily | 20 | 27.0 | | p=0.001 |
| | Done Satisfactorily | 32 | 43.2 | | |
| Obtain additional prescriptions as needed | Not Done | 58 | 78.4 | 1.27 | t= -3.552 |
| | Done not Satisfactorily | 12 | 16.2 | | p=0.001 |
| | Done Satisfactorily | 4 | 5.4 | | |
| Identify and encourage patient to use strategies that have been successful | Not Done | 33 | 44.6 | 1.68 | t= 2.207 |
| | Done not Satisfactorily | 32 | 43.2 | | p= 0.030 |
| | Done Satisfactorily | 9 | 12.2 | | |
| Teach patient additional strategies to relieve pain and discomfort | Not Done | 22 | 29.7 | 1.82 | t= 4.448 |
| | Done not Satisfactorily | 43 | 58.1 | | p= 0.740 |
| | Done Satisfactorily | 9 | 12.2 | | |
| Instruct patient and family about potential side effect of analgesic | Not Done | 49 | 66.2 | 1.36 | t= -2.160 |
| | Done not Satisfactorily | 23 | 31.1 | | p= 0.034 |
| | Done Satisfactorily | 2 | 2.7 | | |

Grand mean= 1.8 Level of significance (p-value) for t-testunder a test value of 1.5 was consider to be value less than 0.05

Table 4.6b Summary table of the approaches nurses render to cancer pain patients

| **Approaches** | **Mean** | **t-test/ p-value** |
|---|---|---|
| Reassuring Patient that pain is real | 2.95 | t= 44.190<br>p= 0.000 |
| Administer balanced analgesic agent as prescribed | 3.00 | t=0.000<br>p=0.000 |
| Document severity of patient's pain on chart | 2.14 | t= 6.434<br>p= 0.001 |

Level of significance (p-value) for t-testunder a test value of 1.5 was consider to be value less than 0.05

Table 4.6b shows the overall mean of the approaches nurses render to cancer patients which is 1.8 indicating that approaches nurses offer are within the borderline of done satisfactorily and done not satisfactorily.Reassuring Patients that pain is real (95.9%), administering balanced analgesic agent as prescribed (100%) and documenting the severity of patient's pain on chart (43.2%) were the approaches nurses render to patients with cancer pain satisfactorily.

The t-test shows significant relationship between activities done satisfactorily by nurses which includeReassuring Patient that pain is real,Administering balanced analgesic agent as prescribed andDocumenting severity of patient's pain on chart; while activities not done satisfactorily also shows significant relationship with nurses ‘Assessingand recording pain characteristics’.

# CHAPTER FIVE
# DISCUSSION

## 5.1 Introduction

This chapter will discuss the results of answers to the research questions.

## 5.2 Discussion of Findings

The study result revealed that 17 (23.3%) of the nurses are within the age range of 41-45 years of age; most of whom 58 (79.5%) are females, 15 (20.5%) are males yielding a male to female ratio of 1:4. Among them, 57 (78.1%) are married. Also, 43 (58.9%) of the nurses are Christian. In respect to their qualifications, most of the nurses 47 (64.4%) have both Registered Nurse (RN) and Registered Midwives (RM) as qualification and the major duration of working experience of the nurses is 11-20 years. This indicates that majority of the nurses have been caring for patients with cancer pain for long. But with respect to nurses having additional cancer/pain related training only 22 (30.1%) of the nurses have undergone such training. Most of the training being General pain Management 13 (17.8%) while merely 3 (4.1%) have had a training on oncology care and 6 (8.2%) have had training on palliative care. About 17 (23.3%) nurses have attended educational class on pain management in elderly. Majority of the nurses 52 (71.2%) have managed cancer pain in elderly most of which 49 (67.1%) being chronic pain. This finding also reflects what was obtained by Adewuyi, *et al*., (2012) in their study in A.B.U.T.H, the age range of patients with cancer was 18-82 with a median age of 49 and by Marosi & Köller, (2016) who assumed that the number of elderly patients with cancer will considerably increase in the coming years. With regards to the pain being chronic as indicated by nurses from the findings, this is in line with what was found by Oyebola, (2015) that 60-70% of Cancer cases in Nigeria present in advance stage; at least 30% of such cases experience one or more types of pain, which is almost pathognomic of the disease state.

The level of knowledge of nurses based on the study revealed that 24 (32.8%) of the nurses have knowledge on cancer pain in elderly which is below average. It can be generalised that nurses who were working with cancer patientshad insufficient knowledge about cancer pain management. This is in conjunction with the findings by Elumelu, Adenipekun, Eriba, &Akinlade, (2014)that only2 (2%) out of the 119 nurses could give a good account on the management of cancer pain in a study to assess the level of knowledge of cancer pain management among trained nurses at the University College Hospital (UCH), Ibadan, Nigeria. Though in this study, there is a great improvement in the level of knowledge on cancer pain management when compared with the above result of Elumelu, Adenipekun, Eriba, &Akinlade, (2014).

On a more specific note,Table 4.2c revealed that nurses in oncology, palliative and feamle surgical wards have more knowledge of cancer pain compared to any other nurse from the other wards. This might be to the fact that most of them had had a training on cancer pain and general pain management. This finding agreed to statement by Henry, (2010) and Kipkorir, (2011) that apart from personal knowledge, nurses are required to possess knowledge regarding pain itself. This will be of great benefit for the nurses to effectively plan nursing activities so as to ensure that pain is fully managed according to its subjective occurrence.

Moreover, based on the item analysis of Table 4.2a there was an excellent response from nurses on questions regarding pharmacological aspect of management of cancer pain this include statements in the questionnaire that states“the best choice of treatment of prolong, moderate to severe cancer pain” where  morphine is the correct option had 58 (79.5%) response by nurses, other correct responses that follows were “Combining analgesics with different mechanism result in better pain control” 51 (69.9%) of nurses responded correctly and “Drugs useful for

treatment of cancer pain" had a response rate of nurses as 46 (63%). These findings justified the statement by Maryland Board of Nursing, (2016) that states "nurses need to have the knowledge on the use of pharmacological means such as; opioids, non-opioids and adjuvant drug treatments or remedies" and contrary to Manwere, Chipfuwa, & Chironda, (2015) that mentioned - Nurses' knowledge of pain management is weak with incorrect answers being highest on pharmacology and assessment of pain.

On the other hand, regarding opioids, questions that reflects this in the questionnaire were; "Route of administration of opioid in patient with persistent cancer pain;had 29 (39.7%) of nurses response rate", Duration of Morphine 1-2mg IV is 4-5 hours;had 14 (19.2%)of nurses response rate and "If patients' pain is unknown, opioids shouldn't be given as it affects diagnosis of pain;had 14 (19.2%) of nurses response rate. All of these were not answered appropriately. This finding corresponds to what was mentioned by Henry, (2010) that nurses' opioid phobia is a barrier to effective pain management.

Among the approachesemployed by nurses during cancer pain management as identified in the study include Reassuring patient that pain is real and nurses' assist him or her in dealing with it; had 71 (95.9%) of nurses' response rate. This was one of the fundamental protocol in beginning any nursing care that nurses in this study adhere to. Other approaches were"administering balanced analgesic agent as prescribed";74 (100%) of the nurses performed that satisfactorily and "documenting severity of patient's pain on chart (patients' record sheet)" 32 (43.2%) of the nurses performed that satisfactorily. By so doing, it's obvious that nurses' actions are aimed at relieving the pain as proposed by Roy. Stimulus that results in mal adaptive responses (pain and other discomfort) as experienced by elderly cancer patients are managed through providing comfort inform of reassuring, administering analgesic among others.

Specifically, according to Table 5 in the appendix, the use of pain assessment scale in assessing the level of pain by nurses was only done by nurses working in palliative 4 (100%) while nurses in other wards do not use scale but other approach as shown in table 4.3a that include verbal rating scale where 18 (24.7%), nurses use the patient's complaints of having pain and behavioural observation of patient's pain 14 (19.2%) as a means of assessing patients' pain. Looking at the frequency of utilization based on table 4.4, this approach is used sometimes (2-4 times) by the nurses. Either of these approaches of pain assessment is crucial in pain management as such, the result of this study is in accordance with requirement stated by Smeltzer, Bare, Hinkle, & Cheever, (2010) and Mahfudh & Hematol, (2011) that the nurse play a role in assessing pain, identifying the root of pain problem thereby planning the care.

As to the aspect of recording or documentation of pain characteristics as assessed by nurses, this was done though not satisfactorily by nurses in the sense that there was no documentation on patient's pain chart instead documentation was done in patient's record sheet and sometimes in the Nursing process booklet inform of 'nursing diagnosis'. This approach rendered by nurses is contrary to what was mentioned by McCracken, (2015) that there is lack of documentation of assessment findings by nurses and this has been a barrier to effective pain relief.

Administration of the prescribed pain medication was among the approaches excellently performed by nurses to elderly patients with cancer pain in all wards of the study. There was a 100% "done satisfactorily" rate in all wards. This is in line with expectations of nurses as stated by Mahfudh & Hematol, (2011) that the nurse play a role in assessing pain, identifying the root of pain problem, planning the care, administering medication, evaluating effectiveness, ensuring good pain control and individualised care. This also reflects the finding as earlier obtained that indicates nurse's excellent knowledge on pharmacological aspect of pain management.

Other approaches not performed satisfactorily by nurses as observed are teaching patient on additional strategies to relieve pain and instructing patient and family about potential side effects of analgesic agent. The strategy employed as observed was nurses educating patient and patient relative on how to position the affected body part to relief pain. The aspect of educating patients and patients' family on side effect of analgesic and other anti-cancer medication was performed mostly by nurses in the main oncology unit. Other non- pharmacological approach to pain management that was observed was provision of television set in some wards. Though in some of the wards, the television set are not functional. All these findings are in conjunction with the findings by Vallerand, Musto, & Polomano, (2011) that nurses also serve as advocate for empowering patients to engage in self-management of their pain and offer education and support to patients and families at their most vulnerable times.

The aspect of using pain assessment scale, obtaining additional prescription on pain as need to patient and instructing patient and family about side effects of analgesic agent are the area where nurses are lagging in terms ofapproach provided to elderly patients with cancer pain. The explanation of this could be that the non-utilization of the pain assessment scale is because, most of the nurses use the verbal rating scale (description of the pain by the patient) and the behavioural observation scale or it could be that the pain assessment scale are not available for them to uses or the hospital policy does not permit nurses to use pain scale for assessment or the complexity of the scale as it may be perceived by some nurses possibly due to none training on how to use the scale. As stated by Clare, (2012), there has been extensive research into the refinement of cancer pain assessment resulting in the continuous influx of new tools with different nomenclature; this may further burden Health Care Workers and in turn cause the gravitation towards informal assessment.

Another point of focus was the issue of nurses not obtaining additional prescription for pain this could be due to efficiency of the first prescribed medication for pain or there are no side effects or adverse effect of the pain medication that demands changing of the medication.

The study revealed that too many patients to assess, absence of enough time for assessment, inconsistency of pain report by cognitive impaired patients, Institutional policies for accountability for pain assessment and communication barrier between patients and nurses are most pressing challenges nurses encounter during assessment of elderly patient with cancer pain.Moreover, there was a strong relationship among these factors when compared with the accepted mean with the exception of Institutional policies for accountability for pain assessment and communication barrier between patients and nurses.

This finding is in agreement with what was stated by Institute of Medicine, (2012) that there exist a belief that there is inadequate time to conduct and document the results of a pain assessment in certain health institutions. Inconsistency of pain report by cognitive impaired patientsand nurses not believing in patients pain rating were also considered as challenges; this is in line with findings by Herr & Garand, (2001) that older adults, however, experience alterations in cognitive, sensory-perceptual, and motor abilities which interfere with their ability to communicate or to quantify their pain. Institutional policies for accountability for pain assessment (3.6 mean score) was also among the challenges experienced by nurses.Communication barrier between patients and nurses as seen in the study is in line with what was reported by Herr & Garand, (2001) that failure to report pain must not be interpreted as absence of pain in elderly patients, and aggressive approaches to pain assessment should be instituted; due to this Fink, Gates, Montgomery, (2015) mentioned that communication between healthcare professionals and patients is extremely important.

The study revealed that medications not availableand nurses not trained on pain management are the challenges faced by nurses during cancer pain management in elderly patients. These challenges are alarming, as the effective management of pain depends on training of nurses on cancer pain management especially on elderly patients and availability of drugs to administer to patient is also crucial. Thus, this reflects the finding from this study that only 22 (30.1%) of nurses out of 73 according to table 4.1, had training on cancer and/or pain.This finding is in accordance with what was obtained by Wilkie & Ezenwa, (2012) and Reynolds& Dunwoody, (2013) that barriers to adequate pain management by healthcare providers to include; … lack of knowledge and skills on cancer management.

With regards to the relationship between nurses' knowledge on cancer pain and medication not available as one of the challenge nurses faced while caring for elderly patient with pain, findings from table 4.5indicated an inverse relationship with a significant relationship which explained that when there is a decrease in none availability of medication (in other words, when there is increase in availability of medication), there will be 0.36 increase in knowledge of nurses based on the R-square value of the regression.

Analysis of the regression coefficient (r) between nurses' knowledge on cancer and none training of nurses on management of pain in elderly indicated an inverse relationship with non-significant relationship which explained that when there is a decrease in none training of nurses, (in other words, when there is increase in training of nurses on cancer pain management), there will be 0.36 increase in knowledge of nurses based on the R-square value of the regression.

## 5.4 Discussion of findings in relation to Roy Adaptation Model

The source of focal stimuli was represented as the cancer process or its treatment which exert a direct and immediate effect (chronic pain) on the individual as indicated by nurses from the

results of the study that they have been engaged in the treatment of cancer pain in elderly patients which is chronic in nature and becomes the focus of attention for the patient they treated. With regards to the Model's major concepts; the first being health, was viewed as the process of becoming relieved from the pain experienced by elderly patients as a result of the cancer. The second concept being the person; was regarded to be the elderly patient who is above 60 years and is suffering from pain related to cancer. The third concept being the nurses who render care to the elderly with cancer. The forth concept was that of adaptation. In this case it is adaptation to cancer pain. While the final concept is based on the environmental stimuli which could be the immediate or apparent cause of the problem (disease process, treatment approach or complications of the cancer itself), other cofactors responsible and the patient's past experience with regards to the illness.

This dissertation focuses on the nurses' concept as it assesses their level of knowledge, approach they rendered and the challenges they faced in caring for elderly patients with cancer pain. Based on the result obtained on knowledge which is below average, indicated that most of the nurses will experience difficulty in understanding the actual health need of a patient with cancer pain before even initiating the proper modality to care for the patient in order to relief his pain. So, the low level of knowledge points to a gap in one of the assumptions with regards to Roy's concept of nursing that states "the nurse uses conscious awareness, self-reflection and choice to create human and environmental integration that leads to positive adaptation".

With respect to the approaches rendered by nurses from the study, only few of the approaches were rendered by nurses especially those working in the surgical, medical and gyneacological wards. This points to limited approach interms of caring for patients with cancer pain.As indicated by Naga & Al-Atiyyat, (2014) as regards to Roy's concept of Nursing, the nurse's role

while caring for a patient involves manipulating the stimuli that comes from the environment so that they fall within the client's field of positive coping, resulting in adaptation. This can be said to be lacking based on the findings so far. Although the administration of analgesic agents and use of non-pharmacological approach were practiced by most nurses in the respective wards. Thus, thses will not provide an optimal means of promoting adptation that will contribute to health and quality of life as assumed by Roy.

# CHAPTER SIX

# SUMMARY, CONCLUSION AND RECOMMENDATIONS

## 6.0 Introduction

In this chapter the summary and conclusions were made based on the findings of the research work that are in relation with the objectives and those that helped in answering of the research questions. The implication of these findings to nursing profession will also be explained. Recommendations were based on the objectives of the study and conclusions that were made.

## 6.1 Summary

This research was aimed at assessing nurses Knowledge and the approaches used in managing cancer pain in elderly patients with cancer attending ABUTH. It also try to identify the challenges nurses faced as they tend to assess and manage pain in elderly patients. The reviewed literatures were obtained using recent journals, from search engines such as PubMed and Google search; published journals, textbooks among others.

A cross sectional descriptive research design was used where both questionnaire and observation were used to obtained information from 73 nurses which consist the sample size.

The results obtained was analysed using SPSS version 22.0. Findings showed that the level of knowledge of nurses based on the study revealed that 24 (32.8%) of the nurses have knowledge on cancer pain in elderly pain; which is below average. The approach nurses rendered as obtained from the studies are Reassuring patient that pain is real and will assist him or her in dealing with it, administering balanced analgesic agents as prescribed to promote optimal pain relief, documenting severity of patient's pain on chart.

The challenges nurses encountered during cancer pain assessment in elderly patients as obtained from this study weretoo many patients to assess, absence of enough time for assessment, inconsistency of pain report by cognitive impaired patients, Institutional policies for accountability for pain assessment and communication barrier between patients and nurses. While the challenges they encountered during cancer pain management weremedications not availableand none training of nurses on pain management. Finally, there was an inverse relationship between nurses' knowledge and the challenge of medication not being available and none training of nurses on cancer pain management.

## 6.2 Conclusion

This study indicates through its results that the level of knowledge of nurses is below average (poor).This call for concern since nurses play a pivotal role in pain management. This is because most of them did not have formal training on pain management for cancer cases. Though many of the nurses are acquainted with certain approaches that are aimed at relieving pain such as reassuring patients on the pain being experienced, administering balanced analgesic agents as prescribed to promote optimal pain relief and documenting the severity of patient's pain on patients'record sheet.

Also, many of them did not use often the pain scale (verbal rating and behavioural observation of elderly patient with pain) to assess cancer pain. This might be linked to the fact that most nurses complained of too many patient to assess, absence of time for assessing patient with pain, inconsistency of pain report by cognitive impaired patients and institutional policies for accountability for pain assessment.

## 6.3 Implications to nursing

The results obtained from this research delineate the situation regarding pain management in elderly cancer patients and the need to give it utmost priority based on its relevance to clinical practice. This is because the result of this study is essential as it provides an overview of the state of management of cancer pain in elderly patients with regards to nurses' knowledge, approaches they render and challenges they faced either during assessment or management; all of these was investigated so as to enhance the quality of lives of those enduring the effect of inadequately managed pain.

This research acts as a reference point to the institutions most especially the nurses where the research was embarked and to other institutions that are at the same level as the one involved in this research. The issue of low knowledge of nurses regarding cancer pain management and low priority accorded to pain assessment still poses an effect on the whole process of pain management as such, this research work provides strategies in its recommendations on how to overcome such problem since both form the foundation of pain management.

## 6.4 Limitations of the study

The researcher used a questionnaire developed by McCaffery and Ferrell (2014) by selecting just questions that are related to knowledge only without considering the attitudinal aspect of the adapted questionnaire and within the selected aspect, only questions that has to do with pain in elderly were considered. Another limitation was most of the questionnaires that were given to the nurses to fill in their convenient time were lost and the researcher had to make new copies for them to fill.

## 6.5 Recommendation

In order to improve the Nursing care of cancer patients in pains and in view of the findings obtained from the study, the following recommendations were made:

1. There should be frequent formal training of nurses on cancer pain management either at the local level such as in both pre service and in service trainings.
2. Nurses should be given the opportunity to go for special training in the field of oncology nursing as a specialisation so as to improve quality of cancer pain management.
3. Continuing education organized by hospitals and the act of preparing a current pain management guidelines most especially pharmacological and non-pharmacological approaches that increase the effectiveness of nurses in clinical aspects will have a significant impact on nurses' knowledge towards pain management.
4. Couple with the above points, pain management should be incorporated into the curriculum of Schools of Nursing and all Post Basic Nursing Schools and universities so as to produce future nurses with appreciable knowledge of cancer pain management.
5. Pain assessment tools should be available to nurses and it should be integrated into nursing practice if possible, it should form part of the nursing process form.
6. Adequate staff nurses should be made on duty in all oncology wards in order for nurses to render optimal nursing care to cancer patient.
7. In cases of insufficient staff, there should be a ward visit round by an oncology nurse to supervise the care rendered to cancer patient.

## 6.6 Suggestion for further studies

Based on the results of the findings and limitations mentioned above, it was suggested that there should be a study that will tend to explore more on the attitudinal aspect of nurses towards cancer pain management in elderly. There is also need to determine the effectiveness of an educational interventional program that will aim at improving nurses' knowledge on cancer pain management.

## References


Adewuyi, S., Ajekigbe, A., Campbell, O., Mbibu, N., Oguntayo, A., Kolawole, M., . . . Shehu, S. (2012). Pattern of oncologic emergencies seen in adult cancer patients attending the Radiotherapy and Oncology Centre, Ahmadu Bello University Teaching Hospital, Zaria - Nigeria. *Niger Postgraduate Medical Journal, 19*(4), 208.

Adewuyi, S., Ajekigbe, A., Campbell, O., Mbibu, N., Oguntayo, A., Kolawole, M., . . . Shehu, S. (2016). Sociodemographic and Clinicopathologic characterisation of 249 Elderly Cancer Patients Seenat Radiotherapy and Oncology Department of Ahmadu Bello University Teaching Hospital. *Archieve of International Surgery, 6*, 22-27.

Ahmadu Bello University Teaching Hospital Nurses' Nominal Roll. (2014). *Ahmadu Bello University Teaching Hospital Nurses' Norminal Role.* Zaria, Kaduna State.

*American Cancer Society.* (2016). Retrieved April 10, 2017, from American Cancer Society: www.cancer.org/content/cancer/glossary

Arnold, M., Karim-Kos, H., & Coebergh, J. (2015). Recent trends in incidence of five common cancers in 26 European countries since 1988: analysis of the European Cancer Observatory. *European Journal of Cancer, 51*, 1164–87.

Ashley, J. L., Argoff, C., Gordin, V., & Gudin, J. (2014). Role of Oncology Nurse in breakthrough cancer pain. *Oncology live Journals, 4*(5), 1-6.

Boers-Doets, C., Epstein, & Raber-Durlacher. (2012). Oral adverse events associated with tyrosine kinase and mammalian target of rapamycin inhibitors in renal cell carcinoma: a structured literature review. *Oncologist, 17*(1), 135-44.

Brannon, L., Feist, J., & Updegraff, J. (2014). *Health psychology: an introduction to behavior and health* (8th ed.). Belmont.

Breivik, H., Borchgrevink, P. C., Allen, S. M., Rosseland, L. A., & Hals, E. K. (2008). Assessment of pain. *British Journal of Anaesthesia, 101*(1), 17-24.

Brennan, F., Carr, & Cousins. (2007). Pain Management: A Fundamental Human Right. *Anesthesia and Analgesa journal, 105*, 205-21.

Cavalieri, T. A. (2005). Management of Pain in Older Adults. *The Journal of the American Osteopathic Association, 105*, 1-7.

Davis, A. (2014). An Assessment of Nurses' Knowledge and Attitudes toward End of Life Care Pain. North Carolina: Boiling Spring.

Delgado, M. O., & Bruera, E. (2008). Management of Pain in the Older Person With Cancer Part 2: Treatment Options. *Oncology Journal, 4*(3), 1-12.

Denegar, C., Saliba, E., & Saliba, S. (2015). *Therapeutic modalities for musculoskeletal injuries* (4th ed.). Champaign.

DeWit, S., & Kumagai, C. (2013). *Medical-surgical nursing: concepts & practice* (2nd ed.). St. Louis: Saunders.

Elima, J. A., Paula, C. M., Olufemi, O., & Emmanuel, O. (2013). Cancer Incidence in Nigeria: A Report from Population-based Cancer Registries. *cancer Epidemiology, 36*(5), 271-278.

Elumelu, T. N., Adenipekun, A. A., Eriba, L. O., &Akinlade, B. I. (2014). Knowledge of cancer pain management among nurses. *Journal of Nursing Education and Practice, 4*(4), 74-80.

Everdingen, v. d.-v., Rijke, d., & Kessels, A. (2007). The prevalence of pain in patients with cancer: Asystemic review of the past 40 years. *Ann Oncology, 18*(9), 4427-49.

Ferrell, B., & McCaffery, M. (2014). *Revised Knowledge andvAttitudes Survey Regarding Pain* . City of Hope.

*Global Year Against cancer pain*. (2009). Retrieved September 2016, from www.iasp-pain.org/Globalyear

Hanks-Bell, M., Halvey, K., & Paice, J. A. (2004). *Pain Assessment and Management in Aging.* Retrieved March 12, 2017, from www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals

Hawker, G., Mian, S., & Kandzerska, T. (2011). *Wiley Online library*. Retrieved MAY 18, 2017, from http://onlinelibrary.wiley.com/doi/10.1002/acr.20543/full

Henry, M. D. (2010). *Knownledge and Attitude of Nurses about pain Management in patients.* Indiana: Ball State University Munice.

Herr, K., & Garand, L. (2001). Assessment and Management of pain in older adults. *Clinical Geriatric Medicine journal, 17*(3), 457-78.

Hjermstad, Fainsinger, & Kaasa. (2009). Assessment and Classification of cancer Pain. *Current Opinion Support Palliative Care, 3*(1), 24-30.

*Institute of Medicine.* (2012). Retrieved August 3, 2016, from Institute of Medicine: http://iom.nationalacademies.org

*International Association for the Study of Pain*. (2009). Retrieved November 12, 2016, from International Association for the Study of Pain: http://www.iasp-pain.org/Meetings/EventDetail.aspx?EventID=21591

Kapoor, A., Kalwar, A., Singhal, M. K., Nirban, R. K., & Kumar, H. S. (2015). Challenges in the management of cancer pain in elderly population: A review. *Acharya Tulsi Regional Cancer Treatment and Research Institute, 4*(2), 111-119.

Kipkorir, C. (2011). *knowledge and Attitude of Nurses toward pain management in Elderly: A case study of Registered nurses from a local health care center.* Kokkola: Central Ostrobothnia.

Lavretsky, H., Sajatovic, M., & Reynolds, C. (2016). *Complementary, alternative, and integrative interventions for mental health and aging: research and practice. .* New York: Oxford University Press.

Lu, S. (2015). Easing pain. *Monitor on Psychology, 46*(10), 66.

Mahfudh, S., & Hematol, P. (2011). Nurse's role in controlling cancer apin. *PubMed- Oncology, 33*(2), 146-148. Retrieved May 2017, from PubMed: www.ncbi.nlm.gov

Manwere, A., Chipfuwa, T., & Chironda, M. M. (2015). Knowledge and Attitudes of Registered Nurses towards Pain Management of Adult Medical Patients: A Case of Bindura Hospital. *Health Science Journal, 9*(4), 1-6.

Marosi, C., & Köller, M. (2016). *Challenge of cancer in the elderly.* Retrieved 2016 6, 2016, from Open cancer Horizon: http://esmoopen.bmj.com/

*Maryland Board of Nursing.* (2016). Retrieved November 12, 2016, from Pain Management, Nursing Role/ Core Competency: a Guide for Nurses: http://www.mbon.org/practice/pain_management.pdf

McCleane, G. (2007). Pharmacological pain management in the elderly patient. (H. Smith, Ed.) *Pain Research and Management, 13*(3), 304.

McCracken, K. (2015). Challenges of cancer pain Assessment. *Ulster Medical Journal, 84*(1), 55-57.

McLachlan, A., Bath, S., Naganathan, V., & Hilmer, S. (2011). Clinical pharmacology of analgesic medicines in older people: Impact of frailty and cognitive impairment. *journal of Clinical Pharmacology, 71*, 351-64.

Melzack, R. (2006). *Pain assessment in adult patients* (5th ed.). London: Elsevier.

Mercadante, S., & Arcuri. (2007). Pharmacological management of cancer pain in the elderly.Drugs Aging. *24*, 761-776.

Mosby. (2013). *Mosby's Dictionary of Medicine* (9th ed.). St. Louis: Mosby Elsevier.

Naga, B. S., & Al-Atiyyat, N. M. (2014). The relationship between pain experienced and Roy adaptation model:Application of theoritical framework. *MIDDLE EAST JOURNAL OF NURSING, 8*(1), 18-23.

*National Cancer Institute*. (2015). Retrieved March Saturday, 2016, from National Cancer Institute: www.cancer.gov/about-cancer/understanding/what-is-cancer

*National Cancer Istitute.* (2015). Retrieved November 13, 2016, from Cancer Pain- Health Professional Version.

National Clinical Guide. (2015). *Pharmacological Management of Cancer Pain in Adults.9.* Royal College of Physician.

*National Comprehensive Cancer Network.* (2011). Retrieved November 12, 2016, from National Comprehensive Cancer Network.: www.nccn.org/professionals/physician_gls/pdf/pain.pdf

Nega, R., Tachbele, E., & Kassa, G. (2014). Cancer Pain and its Management: Knowledge of Nurses at Selected Health Institutions, Offering Cancer Treatment in Addis Ababa, Ethiopia, 2013. *Journal of Pain Relie, 3*(2), 1-6.

*Nursing Theories*. (2013). Retrieved May 2017, from Roy's Adaptation Model: www.currentnursing.com

Oliveira, A. d., Sobrinho, N. d., & Cunha, B. A. (2016). Chronic cancer pain management by the nursing team. *Manuseio da dor crônica em pacientes oncológicos, 17*(3), 219-22.

*Oncology Nursing Society*. (2004). Retrieved September 2016, from Oncology Nursing Society: http://www.onsfoundation.org/

Oyebola, F. O. (2015). Challenges of cancer pain management in a limited resource setting - A Nigeria hospital experience. *International Conference and Exhibition on Pain Medicine, 4*(3), 75-76.

Palli, Fortpied, & Wedding. (2010). Elderly task force position paper: approach to the older cancer patient. *Eur J Cancer, 4*, 1502–13.

Peterson, D., Ohrn, K., & Bowen, J. (2010). Oral mucositis: the new paradigms. *Current Opinion Oncolology, 22*(4), 318-22.

Portenoy, R. (2011). Treatment of cancer pain. *The Lancet, 377*(9784), 2236-47.

Prandi, C., Garrino, L., Mastromarino, P., Torino, F., Vellone, E., & Carlo Peruselli, R. A. (2015). Barriers in the management of cancer related pain and strategies to overcome

them: findings of a qualitative research involving physicians and nurses in Italy. *Ann Journals, 51*(1), 71-78.

Reynolds, J., D, D., & Dunwoody, C. (2013). *American society for pain Management.* Retrieved August 2016, from American society for pain Management Nursing position statement: pain management at the end of life: www.aspmn.org

Richeimer, S. (2013). *The Assessment of Patient with Pain.* (Gershwin, & Hamilton, Eds.) New York: Springer Science & Business Media.

Rogers, C., & Keller, C. (2011). Roy's adaptation model to promote physical activity among sedentary older adults. *Geriatric Nursing, 30*(25), 21-26.

Roy, C., & Andrews, H. (1991). The Roy adaptation model: The definitive statement. Norwalk: Appleton & Lange.

Roy, C., & Andrews, H. (1999). *Overview of the Adaptive Modes. The Roy Adaptation Model.* Stamford United Ste of American: Appleton & Lange.

Sauerland, C., Engelking, & Wickham. (2006). Vesicant Extravasation part 1; mechanisms, pathogenesis, and Nursing care to reduce risk. *Oncology Nurses Forum, 33*(6), 1134-1141.

Seer, K., Watt-Watson, J., & Buctnall, T. (2006). Challenges of pain for the 21st century. *Journal compilation*.

Shunt, C. (2013). The Challenges of Cancer pain Assessement and Management. *Ulster medical Journal, 82*(1), 40-42.

Smeltzer, S. C., Bare, B. G., Hinkle, J. L., & Cheever, K. H. (2010). *Brunner & Suddarth's textbook of medical-surgical nursing* (Twelfth Edition ed.). (H. Surrena, Ed.) China: Lippincott-Raven Publishers.

Stewart, J. (2014). The challenges of cancer pain Assesment. *Ulster Medical Journal, 83*(1), 44-46.

Swan, J., & Hamilton, P. M. (2016). *Pain Management.* Retrieved November 13, 2016, from Wild Iris Medical Education, Inc.: https://wildirismedicaleducation.com

Vallerand, A., Musto, S., & Polomano, R. (2011). Nursing role in cancer pain management. *Current pain Headache report, 15*(4), 250-62.

Voscopoulos, C., & Lema, M. (2010). When does acute pain becomes chronic. *Anesthesia Journal, 105*(1), 69-85.

Wandner, L., Scipio, C., Hirsh, A., Torres, C., & Robinson, M. (2013). The Perception of Pain in others: How gender, race and Age Influence Pain Expectations. *Journal of Pain, 13*(3), 220-227.

Webster, M. (2016). *Merriam webster*. Retrieved September 13, 2017, from Merriam webster Dictionary: www.merriam-webster.com

*WIlconsin Cancer Pain Initiative*. (1995). Retrieved september 2016

Wilkie, D., & Ezenwa, M. (2012). Pain and symptom management in palliative care and at end of life. *Nurses Outlook, 60*(6), 337-64.

*World Health Organisation*. (2017). Retrieved April 6, 2017, from World Health Organisation: http://www.who.int/mediacentre/factsheets/fs297/en/

*World Health Organisation*. (1996). Retrieved April 6, 2017, from World Health Organisation: http://www.who.int/mediacentre/factsheets/fs297/en/

*World Health Organisation*. (2016). Proposed working definition of an older person in Africa for the MDS project. Geneva. Available from: http://www.who.int/healthinfo/survey/ageingdefnolder/en/

Yasemin, K., & Fadiloglu, H. O. (2008). Knowledge and Attitude of Turkish Oncology Nurses about cancer pain management. *Pain Management Nurses, 9*, 17-25.

Zhang, W. (2013). Older Adults Making End of Life Decisions: An Application of Roy's Adaptation Model. *Journal of Aging Research, 2013*.

**Appendix 1**
**INFORMED CONSENT FORM**

**DEPARTMENT OF NURSING SCIENCES**
**FACULTY OF MEDICINE**
**AHMADU BELLO UNIVERSITY ZARIA**

**Principal investigator:** ATTAHIR Ibrahim
**Contact:** +2348069134559, drhaqqun@gmail.com
**Supervisor I:** Dr B.M Tukur
**Contact:** +2348065612550
**Institution:** Department of Nursing Sciences**,** Ahmadu Bello University Zaria
**Supervisor II:** Prof. A.W Tijani
**Contact:** +2348184438100
**Institution:** Department of Nursing Sciences**,** Bayero University Kano
**ABUTH Ethics Committee assigned Number:** ABUTHZ/HREC/M05/2017
**Duration of study as approved:** 20th June, 2017 – 20th June, 2018

**Title of Research:**
Knowledge and Approaches of Nurses towards Cancer Pain Management in Elderly Patients of Ahmadu Bello Teaching Hospital, Zaria Kaduna State

**Introduction**
You are invited to participate in a research study **Assessment of Knowledge and Approaches of Nurses towards Cancer Pain Management in Elderly Patients in Ahmadu Bello University Teaching Hospital, Zaria Kaduna State**. The study would be beneficial in gaining an understanding of how nurses assess and provide pain management to elderly patients with cancer pain

**Procedures**
You will be given a questionnaire to complete and return to the researcher. Written instructions will be given on how to complete and return the forms. You will be able to fill out the questionnaire at a time convenient and in a familiar environment for you. The process of completing the forms will take approximately 50 minutes to complete.

**Benefit or Risk of participation**
The potential benefit for participating in this project is; you will provide the researcher with valuable insight into pain management practices for cancer patient. This knowledge can assist in improving assessment documentation by nurses. There are no known risks for participating in this study except for a minimal level of anxiety/guilt when reflecting on your cancer pain management practice. The researcher will be available to discuss any emotional discomfort you may experience while participating. Participation in this study is entirely voluntary and you may choose to stop participating at any time without penalty.

**Protection of personal information**

The results will be confidential and the ethical rights of any participant will be protected. To ensure anonymity there will be no identifying data collected on the measuring instruments. If at any time you have questions regarding the study, you may contact Attahir Ibrahim (student researcher) at 08069134559, Dr. B. M Tukur (Supervisor I) at 08065612550 and Prof. A.W Tijani (Supervisor II) at 08184438100.

**Documentation of Consent**

I have read this consent form and agree to voluntarily participate in this study. I understand that by submitting the questionnaire, I am providing my informed consent to participate in this study.

Signature of participant _____ Date _____

**Statement by the researcher/ research assistant**

I have accurately read out the information sheet to the potential participant, and to the best of my ability made sure that the participants understand the contents. I confirm that the participant was given an opportunity to ask questions about the study, and all the questions asked by the participants have been answered correctly and to the best of my ability. I confirm that the individual has not been coerced into giving consent, and the consent has been given freely and voluntarily. A copy of this Informed Consent Form has been provided to the participant.

Name/Signature of Investigator_____

Phone number _____ Date _____

## Appendix 2
## Questionnaire

**TOPIC: Assessment of Knowledge and Approaches of Nurses towards Cancer Pain Management in Elderly Patients in Ahmadu Bello University Teaching Hospital, Zaria Kaduna State.**

**Section A: Socio-demographic and Professional Characteristics of the Nurses**

1. Age (years)
   <20 years [ ] 21-25 years [ ] 26-30 years [ ]
   31-35 years [ ] 36-40 years [ ] 41-45 years [ ]
   > 46 years [ ]
2. Gender status
   Male [ ] Female [ ]
3. Marital status
   Single [ ] Married [ ]
4. Religion
   Islam [ ] Christianity [ ]
5. Highest Qualification/ cadre:
   Registered Nurse [ ] Registered Midwife [ ]
   Registered Nurse/ Registered Midwife [ ] BSc. Nursing [ ]
   Masters in Nursing [ ]
   Others specify: ----------
6. Ward presently working:
   Oncology [ ] palliative [ ] Female Surgical [ ]
   Male Surgical [ ] Obstetric/Gynaecological [ ]
7. Work experience(years)
   <2 years [ ] 3-10 years [ ] 11-20 years [ ]
   21- 30 years [ ] > 31 years [ ]
8. Do you have any additional Cancer and/or pain management related training?
   Yes [ ] No [ ]
9. If "Yes" to the question 8 above, what kind of training? Kindly specify:
   General pain management [ ] palliative [ ] oncology [ ]
   Others ----------
10. Have you attended educational classes/ training/ program on pain management among the elderly patients within the last 1 year?
    Yes [ ] No [ ]
11. Have you had earlier experience managing cancer pain among elderly patients (65 years and above)?
    Yes [ ] No [ ]
12. If Yes to the above question, was it acute or chronic pain?
    Acute [ ] Chronic [ ]

**Section B: Knowledge of nurses on cancer pain management in elderly.**

**Kindly Tick [√] on the following questions based on your opinion on the statements**

| | Questions | A | U | D |
|---|---|---|---|---|
| 1. | Vital signs are always reliable indicators of the intensity of a patient's pain. | | | |
| 2. | Patients who can be distracted from pain usually do not have severe pain. | | | |
| 3. | Patients may sleep in spite of severe pain | | | |
| 4. | Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective for painful bone metastases. | | | |
| 5. | Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months. | | | |
| 6. | Combining analgesics that work by different mechanisms (e.g., combining an NSAID with an opioid) may result in better pain control with fewer side effects than using a single analgesic agent. | | | |
| 7. | The usual duration of analgesia of 1-2 mg morphine IV is 4-5 hours. | | | |
| 8. | Elderly patients cannot tolerate opioids for pain relief. | | | |
| 9. | Patients' spiritual beliefs may condition their minds to belief that pain and suffering are necessary experience of life | | | |
| 10. | If the source of the patient's pain is unknown, opioids should not be used during the pain evaluation period, as this could mask the ability to correctly diagnose the cause of pain. | | | |
| 11. | Pain is part of ageing process | | | |

**A: Agree, U: Uncertain, D: Disagree**

**Tick [√] the appropriate answer**

12. The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain is

    intravenous [ ] intramuscular [ ] subcutaneous [ ]
    oral [ ] rectal [ ]

13. Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients?

    codeine [ ] morphine [ ] meperidine [ ]
    tramadol [ ]

14. Which of the following is useful for treatment of cancer pain?

    Ibuprofen (Motrin) [ ] Phenytoin (Dilantin) [ ]
    Gabapentin (Neurontin) [ ] All of the above [ ]

15. The most accurate judge of the intensity of the patient's pain is

    the treating physician [ ] the patient's primary nurse [ ]
    the patient [ ] the pharmacist [ ]
    the patient's spouse or family [ ]

**Section C: Challenges faced by nurses during Assessment of cancer pain in elderly**

1. What type of Pain assessment method do you use?
   By behavioural observation of pain [ ] verbal Rating scale (VRS) [ ]
   Verbal Analogue scale (VAS) [ ] Numerical Rating Scale (NRS) [ ]
   The Face scale [ ] Do not Use Scale [ ]
   others Specify----------
2. How frequent is the use of the objective tools while assessing pain
   Rarely (ones per day) [ ] Sometimes (2-4 times per day) [ ]
   Most a times (5-8 times per day) [ ] Never [ ]

**Kindly Tick [√] on the following questions on challenges Faced by Nurses during Assessment of Cancer pain in elderly based on your opinion on the statements**

| **Challenges** | **SA** | **A** | **U** | **D** | **SD** |
|---|---|---|---|---|---|
| 3. There are too many patients to assess | | | | | |
| 4. There is not enough time for assessment | | | | | |
| 5. Elderly patients may be reluctant to report pain | | | | | |
| 6. There is Inconsistency of pain reports in cognitive impaired patient | | | | | |
| 7. There is usually lack of systematic investigation into the phenomena of pain in older adults | | | | | |
| 8. Institutional policies for accountability for pain assessment performance and documentation | | | | | |
| 9. Communication barrier between patient and nurse | | | | | |
| 10. Not trained to use scale | | | | | |
| 11. Pain assessment scale not always available | | | | | |

**SA: Strongly Agree, A: Agree, U: Uncertain, D: Disagree, SD: Strongly Disagree**

Other challenges you might like to share:

---

---

---

---

**Section D: Challenges faced by nurses during management of cancer pain in elderly**

**Kindly Tick [√] any one that is applicable and [X] if not applicable as challenges faced in Management cancer pain in elderly**

| Challenges | SA | A | U | D | SD |
|---|---|---|---|---|---|
| - Medications not available | | | | | |
| - Not knowing which medication to administer if more than one pain medication was ordered | | | | | |
| - Fear of use of opioids | | | | | |
| - Do not believe with patients' pain rating | | | | | |
| - Do not practice non-pharmacological intervention. | | | | | |
| - Fear of over-sedation was the next option | | | | | |
| - Apprehension about approaching the physician for a change in pain medication | | | | | |
| - Poor documentation of drugs administered | | | | | |
| - No training on pain management | | | | | |
| - poor communication between Nurse and Doctors | | | | | |
| - No team work among nurses in caring for with cancer pain | | | | | |

**SA: Strongly Agree, A: Agree, U: Uncertain, D: Disagree, SD: Strongly Disagree**

Other challenges you might like to share:

---

---

---

---

## Appendix 3

## Observational check list on nursing care approachfor a patient with cancer pain

| S/N | Observations | Done | | Not Done |
|---|---|---|---|---|
| | | Satisfactory | Not Satisfactory | |
| 1 | Reassure patient that pain is real and will assist him or her in dealing with it. | | | |
| 2 | Use pain assessment scale to identify intensity of pain. | | | |
| 3 | Assess and record pain and its characteristics: intensity, location, quality, frequency, and duration | | | |
| 4 | Administer balanced analgesic agents as prescribed to promote optimal pain relief. | | | |
| 5 | Re-administer pain assessment scale | | | |
| 6 | Document severity of patient's pain on chart | | | |
| 7 | Obtain additional prescriptions as needed. | | | |
| 8 | Identify and encourage patient to use strategies that have been successful with previous pain. | | | |
| 9 | Teach patient additional strategies to relieve pain and discomfort: distraction, relaxation, cutaneous stimulation, etc. | | | |
| 10 | Instruct patient and family about potential side effects of analgesic agents and their prevention and management. | | | |

# Appendix 4

Table 1 Relationship between nurses' knowledge on cancer pain and challenges during cancer pain management

| | Medications not available | | | Not knowing the medication to give if more than one pain medication is ordered | | | Fear of use of opioids | | |
|---|---|---|---|---|---|---|---|---|---|
| | Chi-square | (r)Sig. | P-value. | Chi-square | (r)Sig. | P-value. | Chi-square | (r)Sig | P-value. |
| Vital signs are indicators of intensity of pain | 23.617 | .784 | .023 | 30.849 | .038 | .002 | 19.083 | .323 | .024 |
| Patient who can be distracted have no severe pain | 22.452 | .272 | .033 | 25.506 | **(-.203).005** | .013 | 29.260 | **(0.271).000** | .004 |
| Patient may sleep in spite of severe pain | 14.688 | .807 | .259 | 16.676 | .785 | .162 | 22.814 | .759 | .029 |
| Aspirin and NSAID are not effective for painful bone metastases | 9.414 | .899 | .667 | 19.844 | .578 | .070 | 34.886 | .626 | .000 |
| Respiratory depression rarely occur in patients receiving opioids | 27.632 | .372 | .001 | 14.835 | .351 | .096 | 14.921 | .343 | .093 |
| Combining analgesics with different mechanism result in better pain control | 26.051 | **(-.469).001** | .011 | 10.890 | **(.146).054** | .538 | 34.910 | .161 | .000 |
| Duration of Morphine 1-2mg IV is 4-5 hours | 30.290 | .079 | .003 | 43.711 | .821 | .000 | 18.249 | .318 | .108 |
| Elderly patients cannot tolerate opioids for pain relief | 32.852 | .730 | .000 | 41.784 | .837 | .000 | 13.542 | .728 | .140 |
| Patients' spiritual belief makes them think that pain is a necessary experience in life | 33.327 | **(-005).041** | .001 | 30.500 | **(-.247).031** | .002 | 23.589 | .521 | .023 |
| If patients' pain is unknown, opioids shouldn't be given as it affects diagnosis of pain | 7.289 | .126 | .607 | 14.614 | .379 | .102 | 13.271 | .093 | .151 |
| Pain is part of aging process | 16.553 | .403 | .167 | 19.476 | .917 | .078 | 21.673 | .059 | .010 |
| Route of administration of opioid in patient with persistent cancer pain | 11.057 | .653 | .272 | 19.989 | .488 | .018 | 10.889 | **(.085).012** | .092 |
| Best choice for treatment of prolong moderate to severe cancer pain | 8.490 | .142 | .204 | 7.209 | .256 | .302 | 14.133 | .735 | .028 |
| Useful for treatment of cancer pain | 32.678 | .000 | .000 | 10.493 | .082 | .312 | 11.737 | **(-.065).019** | .229 |
| Most accurate judge of patients' pain | 27.384 | .200 | .007 | 21.989 | .428 | .038 | 7.373 | .876 | .598 |

Level of significance for regression is consider to be value less than 0.05 r= regression coefficient

Table 1: shows that knowledge of nurses on combining analgesics with different mechanism result in better pain control, Patients' spiritual belief makes them think that pain is a necessary experience in life and Useful for treatment of cancer pain have significant relationship on the absence of medication as a challenge. While knowledge of nurses on the statement ‘Patient who can be distracted have no severe pain’ and ‘Patients' spiritual belief makes them think that pain is a necessary experience in life’ have significant relationship with Not knowing the medication to give if more than one pain medication is ordered as a challenge during management. Patient who can be distracted have no severe pain, Route of administration of opioid in patient with persistent cancer pain and Useful for treatment of cancer pain have significant relationship on the absence of medication as a challenge

Table 2 Relationship between nurses' knowledge on cancer pain and challenges during cancer

| | Do not believe with patients' pain rating | | | Do not practice non-pharmacological interventions | | | Fear of over sedation | | |
|---|---|---|---|---|---|---|---|---|---|
| | Chi-square | (r)Sig | P-value. | Chi-square | (r)Sig | P-value. | Chi-square | (r)Sig | P-value. |
| Vital signs are indicators of intensity of pain | 22.785 | .550 | .030 | 21.569 | .161 | .043 | 7.110 | .271 | .850 |
| Patient who can be distracted have no severe pain | 11.589 | **(.18).001** | .479 | 20.966 | **(.215).019** | .05 | 26.598 | **(-.286).000** | .009* |
| Patient may sleep in spite of severe pain | 26.059 | .261 | .011 | 37.740 | .681 | .000* | 10.369 | .451 | .584 |
| Aspirin and NSAID are not effective for painful bone metastases | 29.347 | .452 | .003 | 20.970 | .361 | .051 | 39.216 | .457 | .000* |
| Respiratory depression rarely occur in patients receiving opioids | 14.540 | .499 | .104 | 22.517 | (-.188).**011** | .007* | 9.069 | .873 | .431 |
| Combining analgesics with different mechanism result in better pain control | 8.193 | .071 | .770 | 12.840 | .194 | .381 | 28.421 | .058 | .005* |
| Duration of Morphine 1-2mg IV is 4-5 hours | 15.352 | .501 | .223 | 27.083 | **(-.185).000** | .008* | 49.897 | .191 | .000* |
| Elderly patients cannot tolerate opioids for pain relief | 20.413 | .566 | .016* | 19.528 | .610 | .021* | 29.892 | .820 | .00 |
| Patients' spiritual belief makes them think that pain is a necessary experience in life | 25.773 | .176 | .012* | 15.800 | .546 | .201 | 46.558 | .459 | .000* |
| If patients' pain is unknown, opioids shouldn't be given as it affects diagnosis of pain | 11.607 | .624 | .236 | 23.077 | .587 | .006 | 11.759 | **(-.302).014** | .227 |
| Pain is part of aging process | 25.550 | .299 | .012* | 36.337 | .865 | .000* | 15.324 | .220 | .224 |
| Route of administration of opioid in patient with persistent cancer pain | 11.887 | .432 | .220 | 8.607 | .118 | .474 | 21.896 | .144 | .009* |
| Best choice for treatment of prolong moderate to severe cancer pain | 11.152 | .116 | .084 | 16.264 | .614 | .012* | 14.102 | .322 | .029* |
| Useful for treatment of cancer pain | 9.733 | .376 | .373 | 19.620 | .837 | .020* | 12.251 | .468 | .057 |
| Most accurate judge of patients' pain | 12.473 | .596 | .188 | 29.347 | **(-.365).021** | .003* | 15.393 | .571 | .081 |

Level of significance for regression is consider to be value less than 0.05 r= regression coefficient

Table 2: shows that knowledge of nurses on ‘Patient who can be distracted have no severe pain’ has significant relationship on the challenge during cancer pain management which states ‘Do not believe with patients' pain rating’. Also, Patient who can be distracted have no severe pain’, ‘Respiratory depression rarely occur in patients receiving opioids’, Duration of Morphine 1-2mg IV is 4-5 hours and ‘Most accurate judge of patients' pain’ have significant relationship on the challenge during cancer pain management which states ‘Do not practice non-pharmacological interventions’. The statement on knowledge which states ‘Patient who can be distracted have no severe pain’ and ‘If patients' pain is unknown, opioids shouldn't be given as it affects diagnosis of pain’ also have significant relationship on the challenge during cancer pain management which states ‘Fear of over sedation’

**Table 3 Relationship between nurses' knowledge on cancer pain and challenges during cancer**

| | Apprehension about approaching the physician for change in pain medication | | | Poor documentation of drugs administered | | | No training on pain management | | |
|---|---|---|---|---|---|---|---|---|---|
| | Chi-square | (r)Sig | P-value. | Chi-square | (r)Sig | P-value. | Chi-square | (r)Sig | P-value. |
| Vital signs are indicators of intensity of pain | 31.758 | .507 | .002* | 22.595 | .292 | .031* | 13.443 | .917 | .338 |
| Patient who can be distracted have no severe pain | 14.331 | .774 | .280 | 25.265 | .446 | .014* | 46.066 | .449 | .000 |
| Patient may sleep inspite of severe pain | 25.083 | **(.447).036** | .014* | 23.049 | .097 | .027* | 13.887 | .395 | .308 |
| Aspirin and NSAID are not effective for painful bone metastases | 12.132 | .902 | .435 | 21.143 | **(.282).011** | .048* | 18.183 | .480 | .110 |
| Respiratory depression rarely occur in patients receiving opioids | 13.722 | .773 | .133 | 8.868 | .198 | .450 | 22.185 | .525 | .008* |
| Combining analgesics with different mechanism result in better pain control | 24.501 | .388 | .017* | 20.461 | .077 | .059 | 20.989 | .088 | .051 |
| Duration of Morphine 1-2mg IV is 4-5 hours | 16.944 | **(.172).010** | .152 | 26.683 | **(.096).009** | .009* | 48.858 | **(-513).000** | .000* |
| Elderly patients cannot tolerate opioids for pain relief | 21.377 | **(-.334).029** | .011* | 49.358 | .255 | .000* | 45.548 | .250 | .000 |
| Patients' spiritual belief makes them think that pain is a necessary experience in life | 23.806 | .260 | .022* | 32.567 | .059 | .001* | 34.160 | .222 | .001 |
| If patients' pain is unknown, opioids shouldn't be given as it affects diagnosis of pain | 16.608 | .190 | .055 | 3.010 | .960 | .964 | 20.934 | .314 | .013 |
| Pain is part of aging process | 22.538 | .735 | .032 | 17.149 | .502 | .144 | 16.546 | .174 | .167 |
| Route of administration of opioid in patient with persistent cancer pain | 9.702 | .096 | .375 | 7.946 | .569 | .540 | 13.144 | .151 | .156 |
| Best choice for treatment of prolong moderate to severe cancer pain | 11.877 | .438 | .065 | 5.432 | .113 | .490 | 7.114 | .906 | .310 |
| Useful for treatment of cancer pain | 13.716 | .286 | .133 | 8.800 | **(-.189).048** | .456 | 9.947 | .313 | .355 |
| Most accurate judge of patients' pain | 18.977 | .659 | .089 | 17.309 | .782 | .138 | 9.928 | .125 | .622 |

Level of significance for regression is consider to be value less than 0.05 r= regression coefficient

Table 3 shows that knowledge of nurses on ‘Patient may sleep inspite of severe pain’, ‘Duration of Morphine 1-2mg IV is 4-5 hours’ and ‘Elderly patients cannot tolerate opioids for pain relief’ have significant relationship on the challenge during cancer pain management which states ‘Apprehension about approaching the physician for change in pain medication’. Also, ‘Aspirin and NSAID are not effective for painful bone metastases’, ‘Duration of Morphine 1-2mg IV is 4-5 hours’ and ‘Useful for treatment of cancer pain’ have significant relationship on the challenge during cancer pain management which states ‘Poor documentation of drugs administered’. The statement on knowledge which states ‘Duration of Morphine 1-2mg IV is 4-5 hours’ has significant relationship on the challenge during cancer pain management which states ‘No training on pain management’

**Table 4 Relationship between nurses' knowledge on cancer pain and challenges during cancer**

| | Poor communication between nurses and doctors | | | No team work among nurses in caring for patients with cancer pain | | |
|---|---|---|---|---|---|---|
| | Chi-square | (r)Sig | P-value. | Chi-square | (r)Sig | P-value. |
| Vital signs are indicators of intensity of pain | 14.296 | .678 | .282 | 19.490 | .950 | .077 |
| Patient who can be distracted have no severe pain | 23.253 | .648 | .026 | 13.835 | **(.102).000** | .311 |
| Patient may sleep inspite of severe pain | 18.498 | .884 | .101 | 33.517 | .971 | .001 |
| Aspirin and NSAID are not effective for painful bone metastases | 14.262 | .427 | .284 | 15.954 | .533 | .193 |
| Respiratory depression rarely occur in patients receiving opioids | 14.650 | .488 | .101 | 16.349 | .387 | .060 |
| Combining analgesics with different mechanism result in better pain control | 9.218 | .830 | .684 | 27.742 | .400 | .006 |
| Duration of Morphine 1-2mg IV is 4-5 hours | 20.829 | .739 | .053 | 37.598 | .800 | .000 |
| Elderly patients cannot tolerate opioids for pain relief | 22.212 | .279 | .008 | 20.286 | .837 | .016 |
| Patients' spiritual belief makes them think that pain is a necessary experience in life | 15.065 | .280 | .238 | 22.140 | **(.139).008** | .036 |
| If patients' pain is unknown, opioids shouldn't be given as it affects diagnosis of pain | 19.303 | **(.064).037** | .023 | 21.770 | .469 | .010 |
| Pain is part of aging process | 23.407 | .860 | .024 | 47.858 | .067 | .000 |
| Route of administration of opioid in patient with persistent cancer pain | 10.953 | .883 | .279 | 29.619 | .291 | .001 |
| Best choice for treatment of prolong moderate to severe cancer pain | 8.005 | .454 | .238 | 10.624 | **(.189).044** | .101 |
| Useful for treatment of cancer pain | 20.418 | .722 | .016 | 6.457 | .629 | .693 |
| Most accurate judge of patients' pain | 19.416 | .603 | .022 | 10.834 | .262 | .287 |

Level of significance for regression is consider to be value less than 0.05 r= regression coefficient

Table 4shows that knowledge of nurses on ‘If patients' pain is unknown, opioids shouldn't be given as it affects diagnosis of pain’ has significant relationship on the challenge during cancer pain management which states ‘Poor communication between nurses and doctors’. The statement on knowledge which states ‘Patient who can be distracted have no severe pain’, ‘Patients' spiritual belief makes them think that pain is a necessary experience in life’ and ‘Best choice for treatment of prolong moderate to severe cancer pain’ have significant relationship on the challenge during cancer pain management which states ‘No team work among nurses in caring for patients with cancer pain’.

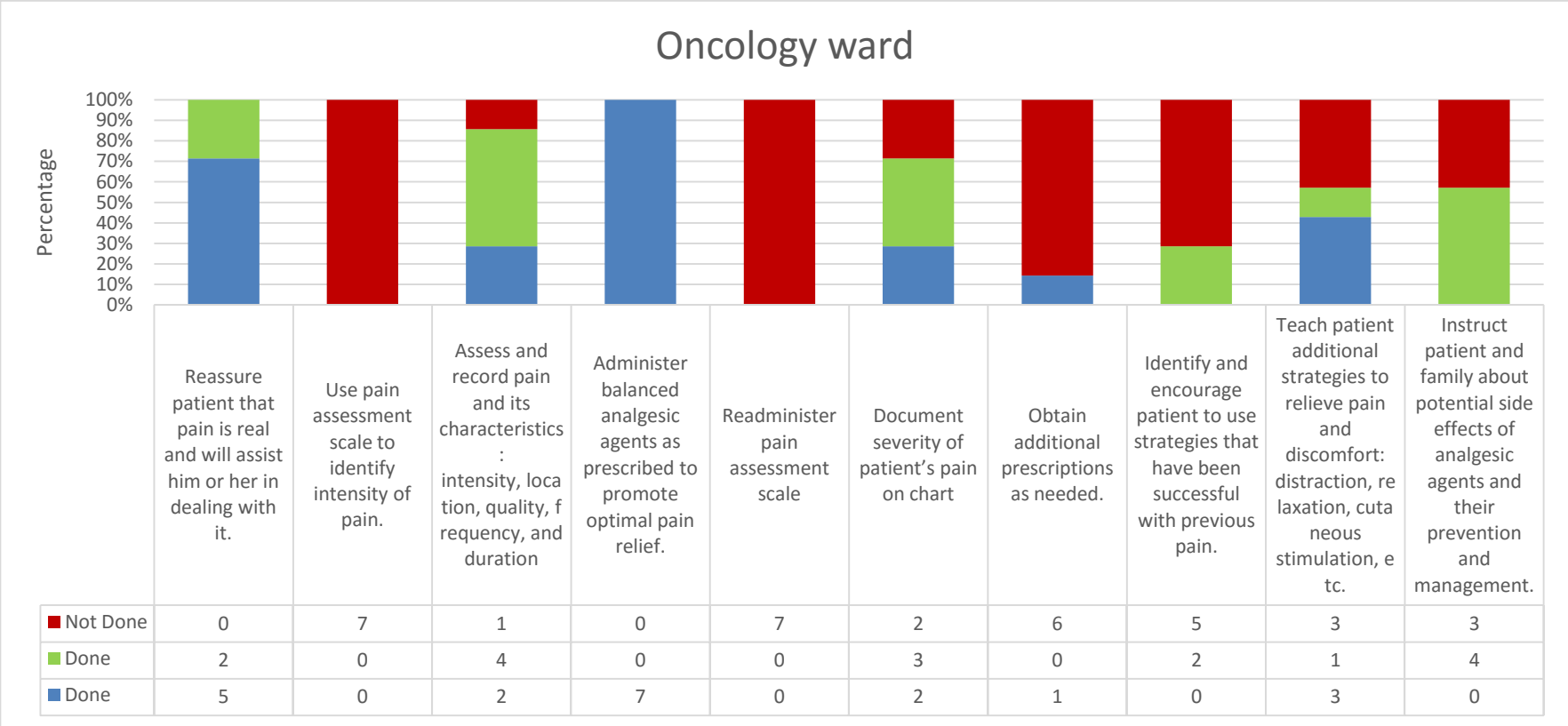
Table 5 Theapproaches rendered by nurses during cancer pain management according towards

| Ward<br>Observations | Oncology N=7 | | | Palliative N=4 | | | Obstetrics and Gynaecology N=24 | | | Male surgical ward N=20 | | | Female Surgical Ward N=19 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | D | | ND | D | | ND | D | | ND | D | | ND | D | | ND |
| | DS | DNS | | DS | DNS | | DS | DNS | | DS | DNS | | DS | DNS | |
| Reassure patient that pain is real and will assist him or her in dealing with it. | 5 | 2 | 0 | 3 | 1 | 0 | 24 | 0 | 0 | 20 | 0 | 0 | 19 | 0 | 0 |
| Use pain assessment scale to identify intensity of pain. | 0 | 0 | 7 | 4 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 20 | 0 | 0 | 19 |
| Assess and record pain and its characteristics: intensity, location, quality, frequency, and duration | 2 | 4 | 1 | 2 | 2 | 0 | 0 | 24 | 0 | 0 | 20 | 0 | 4 | 12 | 3 |
| Administer balanced analgesic agents as prescribed to promote optimal pain relief. | 7 | 0 | 0 | 4 | 0 | 0 | 24 | 0 | 0 | 20 | 0 | 0 | 19 | 0 | 0 |
| Re-administer pain assessment scale | 0 | 0 | 7 | 0 | 0 | 4 | 0 | 0 | 24 | 0 | 0 | 20 | 0 | 0 | 19 |
| Document severity of patient's pain on chart | 2 | 3 | 2 | 4 | 0 | 0 | 18 | 6 | 0 | 0 | 0 | 20 | 8 | 11 | 0 |
| Obtain additional prescriptions as needed. | 1 | 0 | 6 | 0 | 3 | 1 | 0 | 0 | 24 | 0 | 0 | 20 | 0 | 12 | 7 |
| Identify and encourage patient to use strategies that have been successful with previous pain. | 0 | 2 | 5 | 3 | 1 | 0 | 0 | 0 | 24 | 0 | 16 | 4 | 6 | 13 | 0 |
| Teach patient additional strategies to relieve pain and discomfort: distraction, relaxation, cutaneous stimulation, etc. | 3 | 1 | 3 | 1 | 3 | 0 | 0 | 12 | 12 | 5 | 7 | 8 | 0 | 12 | 7 |
| Instruct patient and family about potential side effects of analgesic agents and their prevention and management. | 0 | 4 | 3 | 2 | 2 | 0 | 0 | 12 | 12 | 0 | 0 | 20 | 0 | 4 | 15 |

D= Done ND= Not Done DS= Done Satisfactorily DN= Done not Satisfactorily

Table 5 shows the approaches rendered by nurses during cancer pain management, the include Reassure patient that pain is real and will assist him or her in dealing with it, Assess and record pain and its characteristics: intensity, location, quality, frequency, and duration, Administer balanced analgesic agents as prescribed to promote optimal pain relief, Document severity of patient's pain on chart and Teach patient additional strategies to relieve pain and discomfort: distraction, relaxation, cutaneous stimulation, etc.

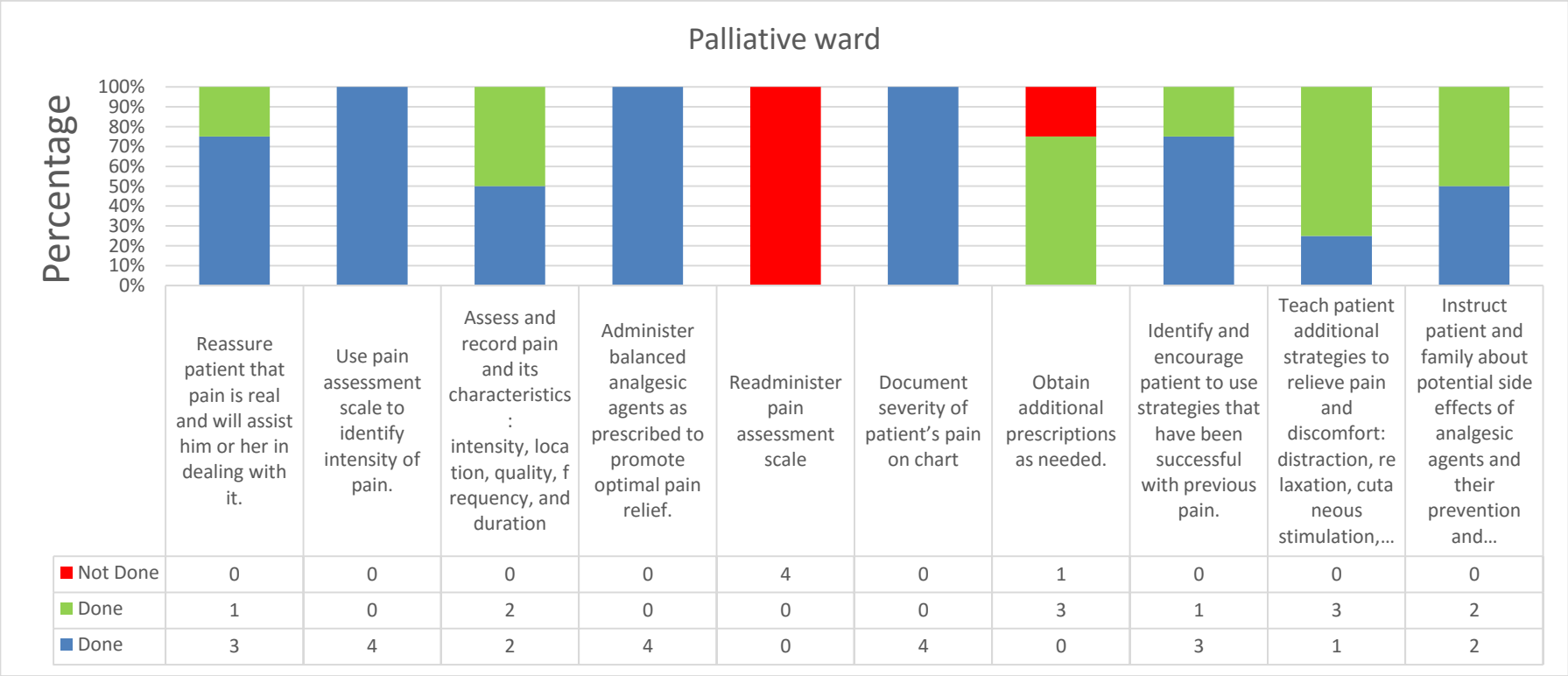
**Figure 1Approach rendered by nurses in Oncology ward**




| | Reassure patient that pain is real and will assist him or her in dealing with it. | Use pain assessment scale to identify intensity of pain. | Assess and record pain and its characteristics : intensity, location, quality, frequency, and duration | Administer balanced analgesic agents as prescribed to promote optimal pain relief. | Readminister pain assessment scale | Document severity of patient's pain on chart | Obtain additional prescriptions as needed. | Identify and encourage patient to use strategies that have been successful with previous pain. | Teach patient additional strategies to relieve pain and discomfort: distraction, relaxation, cutaneous stimulation, etc. | Instruct patient and family about potential side effects of analgesic agents and their prevention and management. |
|---|---|---|---|---|---|---|---|---|---|---|
| Not Done | 0 | 7 | 1 | 0 | 7 | 2 | 6 | 5 | 3 | 3 |
| Done | 2 | 0 | 4 | 0 | 0 | 3 | 0 | 2 | 1 | 4 |
| Done | 5 | 0 | 2 | 7 | 0 | 2 | 1 | 0 | 3 | 0 |

Figure 1 shows that the administration of balanced analgesic 7 (100%), reassurance of patient 5(70%), teaching patient on additional strategies to relieve pain 3(40%), assessment and recording of pain 2(30%) and documentation of severity of pain 2 (30%) are the approaches that are performed by nurses satisfactorily. While use of pain scale for assessment 7 (100%), re-administering of pain scale 7 (100%), obtaining additional prescription 6 (90%) and encouraging patient 5 (70%) are the approaches not practiced by nurses.

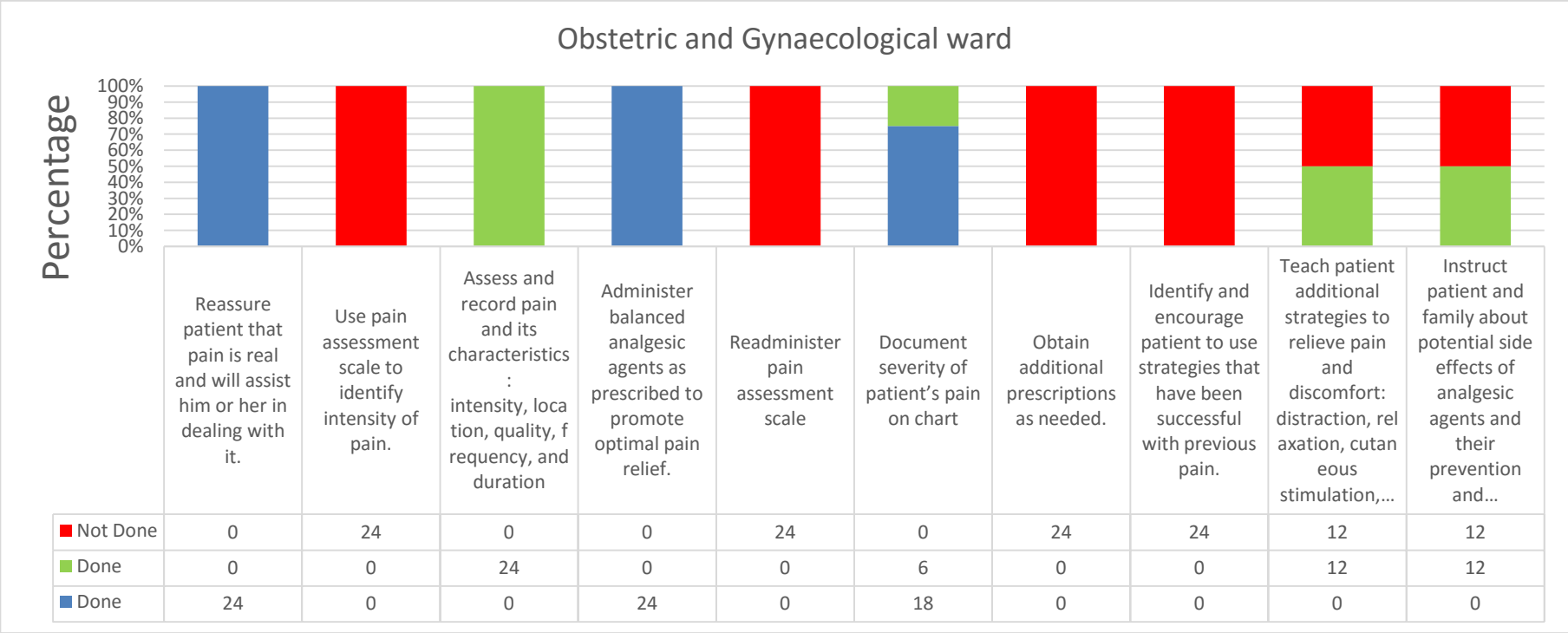
**Figure 2Approach rendered by nurses in Palliative ward**




| | Reassure patient that pain is real and will assist him or her in dealing with it. | Use pain assessment scale to identify intensity of pain. | Assess and record pain and its characteristics : intensity, location, quality, frequency, and duration | Administer balanced analgesic agents as prescribed to promote optimal pain relief. | Readminister pain assessment scale | Document severity of patient's pain on chart | Obtain additional prescriptions as needed. | Identify and encourage patient to use strategies that have been successful with previous pain. | Teach patient additional strategies to relieve pain and discomfort: distraction, relaxation, cutaneous stimulation,... | Instruct patient and family about potential side effects of analgesic agents and their prevention and... |
|---|---|---|---|---|---|---|---|---|---|---|
| Not Done | 0 | 0 | 0 | 0 | 4 | 0 | 1 | 0 | 0 | 0 |
| Done | 1 | 0 | 2 | 0 | 0 | 0 | 3 | 1 | 3 | 2 |
| Done | 3 | 4 | 2 | 4 | 0 | 4 | 0 | 3 | 1 | 2 |

Figure 2 shows that use of pain scale 4 (100%), administering of balanced analgesic agent 4 (100%), documentation of severity of pain 4 (100%), encouraging patient on strategies that relief pain 3(75%) and reassurance of patient 3 (75%) are the approaches mostly practiced by nurses that are satisfactorily done. While re-administering pain assessment scale 4 (100%) and obtaining additional prescription for pain as needed 1 (25%) are among the approaches not done by nurses

**Figure 3Approache rendered by nurses in Obstetric and Gynaecological ward**




| | Reassure patient that pain is real and will assist him or her in dealing with it. | Use pain assessment scale to identify intensity of pain. | Assess and record pain and its characteristics : intensity, location, quality, frequency, and duration | Administer balanced analgesic agents as prescribed to promote optimal pain relief. | Readminister pain assessment scale | Document severity of patient's pain on chart | Obtain additional prescriptions as needed. | Identify and encourage patient to use strategies that have been successful with previous pain. | Teach patient additional strategies to relieve pain and discomfort: distraction, relaxation, cutaneous stimulation,... | Instruct patient and family about potential side effects of analgesic agents and their prevention and... |
|---|---|---|---|---|---|---|---|---|---|---|
| Not Done | 0 | 24 | 0 | 0 | 24 | 0 | 24 | 24 | 12 | 12 |
| Done | 0 | 0 | 24 | 0 | 0 | 6 | 0 | 0 | 12 | 12 |
| Done | 24 | 0 | 0 | 24 | 0 | 18 | 0 | 0 | 0 | 0 |

Figure 3 shows that reassurance of patient 24(100%), admiration of balanced analgesic agent 24 (100%) and documentation of severity of pain 18 (75%) are the approaches performed satisfactorily by nurses. While use of pain assessment scale 24 (100%), re-administering pain assessment scale 24 (100%) and obtaining additional prescription for pain as needed 24 (100%), encouraging patient to use strategies that have been successful in relieving pain 24 (100%), teaching patient additional strategies 12 (50%) and instructing patient and family about potential side effects of analgesic agent 12 (50%) are among the approaches not done by nurses.

**Figure 4Approache rendered by nurses in Male Surgical ward**

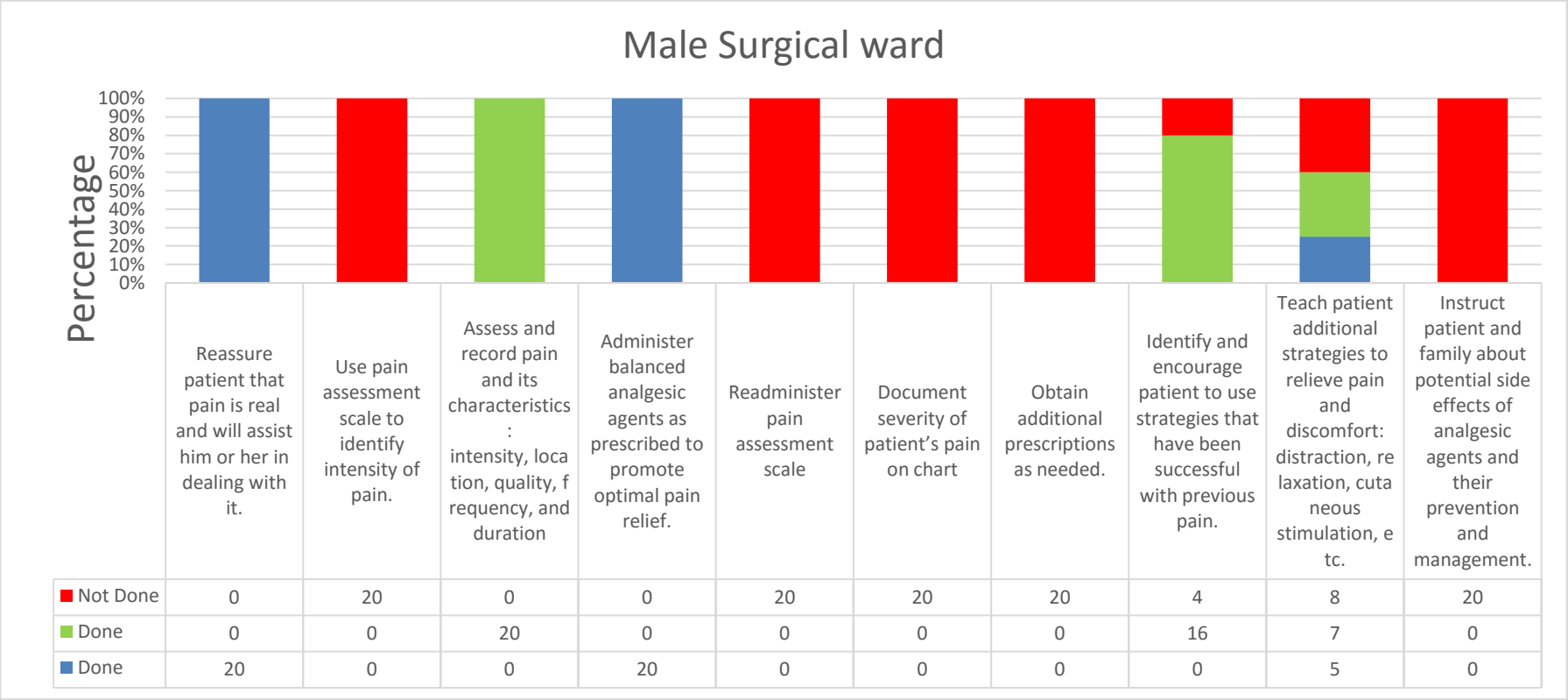
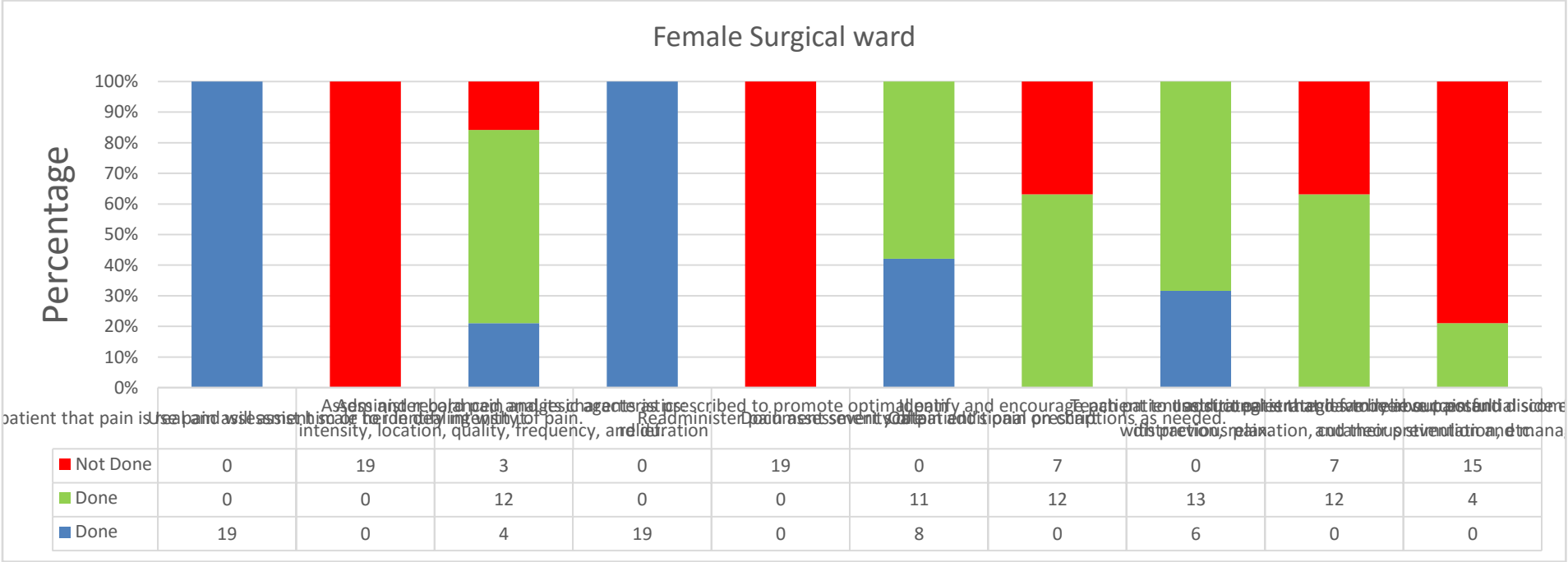



Figure 4: shows that reassurance of patient 20(100%), administration of balanced analgesic agent 20 (100%) and teaching patient on additional strategies in relieving pain 5 (25%) are the approaches performed satisfactorily by nurses. While use of pain assessment scale 24 (100%), re-administering pain assessment scale 20 (100%), documentation of severity of pain 20 (100%), obtaining additional prescription as needed on pain 20 (100%) and instructing patient and family about side effects of analgesic agent 20 (100%) are among the approaches not done by nurses.

**Figure 5Approache rendered by nurses in Female Surgical ward**

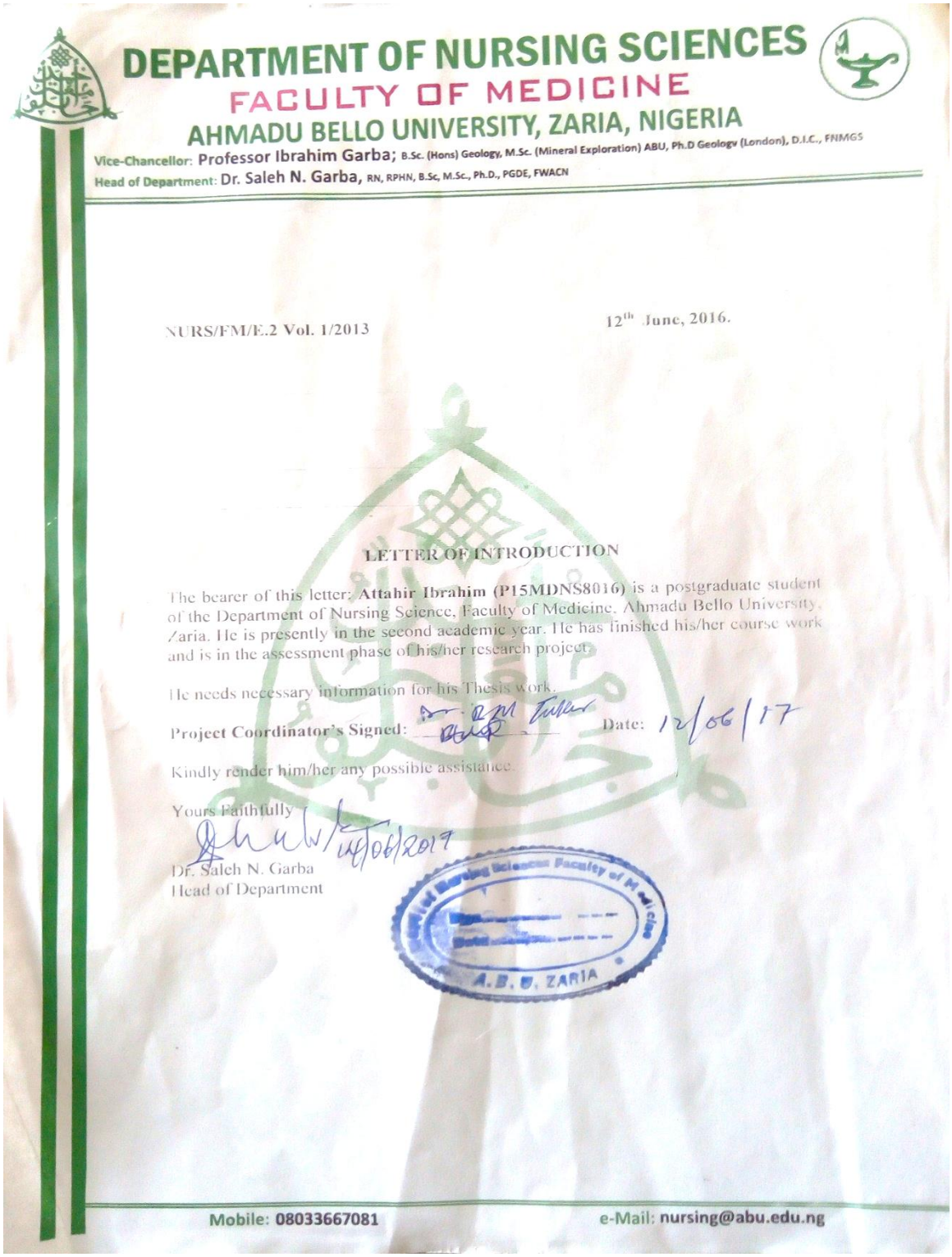



| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Not Done | 0 | 19 | 3 | 0 | 19 | 0 | 7 | 0 | 7 | 15 |
| Done | 0 | 0 | 12 | 0 | 0 | 11 | 12 | 13 | 12 | 4 |
| Done | 19 | 0 | 4 | 19 | 0 | 8 | 0 | 6 | 0 | 0 |

Figure 5 shows that reassurance of patient 19(100%), administration of balanced analgesic agent 19 (100%), documentation of severity of patients pain 8 (42%) and encouraging patient to use strategies that have been successful in relieving pain 6 (30%) are the approaches performed satisfactorily by nurses. While use of pain assessment scale 24 (100%), re-administering pain assessment scale 20 (100%), obtaining additional prescription as needed on pain 7 (35%), teaching patient additional strategies 7 (35%) and instructing patient and family about side effects of analgesic agent 15 (80%) are among the approaches not done by nurses.

## Appendix 5

Letter of introduction from the department of nursing science Ahmadu Bello Unversity, Zaria



DEPARTMENT OF NURSING SCIENCES
FACULTY OF MEDICINE
AHMADU BELLO UNIVERSITY, ZARIA, NIGERIA

Vice-Chancellor: Professor Ibrahim Garba; B.Sc. (Hons) Geology, M.Sc. (Mineral Exploration) ABU, Ph.D Geology (London), D.I.C., FNMGS
Head of Department: Dr. Saleh N. Garba, RN, RPHN, B.Sc, M.Sc., Ph.D., PGDE, FWACN

NURS/FM/E.2 Vol. 1/2013

12th June, 2016.

LETTER OF INTRODUCTION

The bearer of this letter: **Attahir Ibrahim (P15MDNS8016)** is a postgraduate student of the Department of Nursing Science, Faculty of Medicine, Ahmadu Bello University, Zaria. He is presently in the second academic year. He has finished his/her course work and is in the assessment phase of his/her research project.

He needs necessary information for his Thesis work.

Project Coordinator's Signed: _____ Date: 12/06/17

Kindly render him/her any possible assistance.

Yours Faithfully

14/06/2017

Dr. Saleh N. Garba
Head of Department

A.B.U, ZARIA

Mobile: 08033667081 e-Mail: nursing@abu.edu.ng

## Appendix 6

Ethical clearance letter from ethical committee of Ahmadu Bello Teaching Hospital Shika, Zaria.

# HEALTH RESEARCH ETHICS COMMITTEE

**AHMADU BELLO UNIVERSITY TEACHING HOSPITAL SHIKA,**
**ZARIA, NIGERIA.**

E- mail: abuthshika@yahoo.com website: www.abuth.org
Chief Medical Director: Prof. Lawal Khalid, MBBS, FMCS, FWACS, FRCS(ED) mni
Chairman, Medical Advisory Committee: Prof Adamu Ahmed, MBBS, (ABU) LLB (ABU), BL, FWACS, FICS, FACS.
Director of Administration: Alh. Abdulraheem Sallau, BA(Pub. Admin) PGDPA, MPA, (ABU) AHAN, ACIPM
Ag. Chairperson : HREC Prof Aisha I. Mamman MBBS, FMCPath

20th June, 2017

NHREC/10/12/2015 ABUTH/HREC/CL/05

D-U-N-S NUMBER: 954524802

### ABUTH HREC FULL ETHICAL CLEARANCE CERTIFICATE

**Knowledge and Approaches of Nurses towards Cancer Pain Management in Elderly Patients in Ahmadu Bello University Teaching Hospital, Zaria.**

| | | |
|---|---|---|
| ABUTH Ethics Committee assigned number: | - | ABUTHZ/HREC/M05 /2017 |
| National Health Research Ethics Comm. NO. | - | NHREC/10/12/2015 |
| Name of the principal Investigator: | - | Ibrahim Tahir |
| Address of the Principal Investigator: | - | Dept. of Nursing Science, ABU Zaria |
| Date of receipt of valid application: | - | 13th May, 2017 |
| Date of meeting when final determination On ethical approval was made: | - | 7th June, 2017 |

This is to inform you that the research described in the submitted protocol, the consent forms and other participant information materials have been reviewed and ***given full approval by*** *the* ***Health Research Ethics Committee.***

Please note: this approval dates from 20 th June, 2017 - 20th June, 2018

No participant recruitment into this research may be conducted outside these dates.

All informed consent forms in this study must carry the ABUTH HREC number assigned to this research and the duration of ABUTH HREC approval of the study.

This HREC expects that you submit your application as well as an annual report for ethical clearance renewal 3 months prior to expiration of study dates. This is to enable you obtain renewal of your approval and avoid interruption of your research.

If there is delay in starting the research, please inform the ABUTH HREC so that starting dates can be adjusted accordingly.

No changes are permitted in the research without prior approval by ABUTH HREC, except in circumstances outlined in national code for Health Research Ethics: http://www.nhrec.net.

ABUTH HREC reserves the right to conduct compliance assessment visits to your research site without prior notification.

22/06/2017

for **Prof. Aisha. I. Mamman** *MBBS, FMCPath*
**Chairperson, ABUTH HREC**