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Title:

Knowledge and Attitude of Nurses toward pain Management at Omdurman Military Hospital

A thesis Submitted in fulfillment for the requirement for the degree of Master in critical care nursing

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الايـــــة

قَالَ تَعَالَىٰ:

﴿ وَأَيُّوبَ إِذْ نَادَىٰ رَبَّهُۥٓ أَنِّي مَسَّنِيَ ٱلضُّرُّ وَأَنتَ أَرْحَمُ ٱلرَّٰحِمِينَ ﴾

صدق الله العظيم

سورةالانبياء رقم (83)

Dedication

This work is dedicated to my family.

The first and the greatest woman in my life, to my father, to my brother who I see them in eyes all human beings.

Acknowledge

Thanks gods I was capable of achieving this task lot of thanks and appreciation to all those support me.

Special thanks to my parent who all my help me all the time.

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List of abbreviation

BP I	Brief pain inventory
CCU	Coronary care unit
CCR	Critical care room
CNS	Central nervous system
ENT	Ear Nose Throat
ICP	Increase intra cranial pressure
IMMPACT	Initiative on method, measurement and pain assessment in clinical trials
NRS	Numeric rating scale
NSAIDS	Non steroidal anti inflammatory drugs
PCA	Patient control analgesia
PCEA	Patient control epidural analgesia
PQAS	Pain quality assessment scale
PRN	Per need
QST	Quantities sensory test
SCCM	Society of critical care management
VAS	Visual analog scale

Abstract

Background: Pain is defined as an unpleasant sensory and emotional experience Associated with actual or potential tissue damage.

Objective: this study to assess nurses' knowledge and attitude toward Management of pain at Omdurman Military Hospital.

Method: this is descriptive cross-sectional study hospital based at Omdurman military hospital, assessed 60 nurses working at emergency department, using structured self administrated questionnaire. Data were collected and analysis by Computerized statistical package for social science (spss, version20), From October 2017to April 2018.

Result: The majority of nurses knew definition of pain (66.7%), type of pain (81.7%) and factor influence pain (91.7%).but knowledge about manage of anxiety related to pain (50%), physical dependence discontinuation to immediate analgesia of Opioids (38%) and routine administration to immediate analgesia (58.4%).

-The total knowledge regarding pain management (91.7%).

Conclusion: Total knowledge of study regarding pain management (91.7%), and poor attitude regarding pain management (23%).

No relation between Demographic data as well as Knowledge and Attitude of Nurses toward pain management.

Recommendation: - Guidelines in emergency department about the scale and tools used in pain assessment and who to treat pain according to intensity and type of pain

-Further researches regarding pain management.

-Continue training program for nurse

مستخلص الدراسة

- **الخلفية :** تعريف الالم هو تجربة حسية وعاطفية غير سارة مرتبطة بضرر فعلي او محتمل في الانسجة .
- **الهدف :** معرفة وسلوك الممرضين نحو علاج الألم في مستشفى أم درمان العسكري .
- **الطريقة :**دراسة عرضية وصفية في مستشفى أم درمان العسكري تم استخدام بيانات استبيان منظم ذاتي ،عدد 60من الممرضين الذين يعملو في قسم الطوارئ والاصابات وتم تحليل البيانات ببرنامج التحليل الاحصائي .
- **النتائج :** اغلبية الممرضين بنسبة (66.7%) لديهم المعرفة بتعريف الألم ،التأثير علي عامل الالم بنسبة (91.7%) ونوع الالم بنسبة (81.7%) ولكن لديهم ضعف في معرفة علاج القلق الناتج من الالم بنسبة (50%) ومضاعفات الالم بنسبة (38%) وطريقة اخذ المسكن الفوري بنسبة (58.4%) ولديهم المعرفة الكلية لعلاج الالم بنسبة (91.7%) .
- **الخلاصة :** لديهم المعرفة الكاملة للدراسة فيما يتعلق بعلاج الالم ،وسوء السلوك فيما يتعلق بعلاج الالم ووجدنا انه لايوجد علاقة بين البيانات الشخصية ومعرفة وسلوك الممرضين لعلاج الالم .
- **التوصيات :** وضع ارشادات في قسم الطوارئ حول قياس وتقيم الالم ومن يتعامل مع الالم وفقا لشدة ونوع الابحاث الاضافية المتعلقة بنوع الالم ، مواصلة برنامج التدريب للممرضين .

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CHPTER ONE

Introduction

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Introduction

1-1 Background:

Pain is defined as an unpleasant sensory and emotional experience Associated with actual or potential tissue damage. Classical type of pain: there 3types of pain (acute, chronic and cancer related pain [(1).]

Purpose of pain assessment include detect and describe pain to help in the diagnostic process, understanding the cause of pain to help determine best treatment, and monitor the pain to determine whether the underline disease or disorder is improving.

Effective pain assessments are crucial for patient care, this is why it is important for all health professionals to be able to complete an accurate pain assessment and implemented successful pain management strategies [(2).]

Assessment of pain is critical step to provide good pain management [(3).]

Nurse role in assessment and care of 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(1).

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.

Pain management is considered such an important part of care that it is referred to as "the fifth vital sign" to emphasize its significance and to increase the awareness among health care professionals of the importance of effective pain management.

Documentation of pain assessment is now as important as documentation of the "traditional" vital signs (1).

The American Nurses Association and the American Society for Pain Management Nursing (2005) published standards that indicated that nurses must document assessment of the patient's pain in the medical record.

The American Pain Foundation developed the Pain Care Bill of Rights, which addresses the importance of pain management In addition; the U.S. Congress identified 2000 to 2010 as the Decade of Pain Control and Research.

The National Pain Care Policy Act of 2007 was designed to address the barriers to pain management by improving pain research, education, and quality program within the Agency for Healthcare Research and Quality [(1).]

1-2 Problem statement:

The highly subjective nature of pain means that pain assessment and Attitude to management present challenges for all clinicians, assessment and Attitude to management of pain require that the nurse has a good rapport with the person in pain. Now a day's pain is conceder and documented as fifth vital signs.

Inadequate pain management negatively affect patient, increase length of stay and readmission.

1-3 Justification

Nurses spend more time with patients in pain than other health care providers do, nurses need to understand the path physiology of pain, the physiologic and psychological consequences of acute and chronic pain, and the methods used to treat pain[(1).]

Inadequately manage pain can lead to adverse physical and psychological individual outcomes for patients and their family [(3).]

In sample of physicians and nurses', Anderson and colleagues found lack of pain assessment was one of the most problematic barriers to achieving good pain control[(3).]

Evidence indicates that higher level of pain and depression are linked to poor satisfaction with care [(3).]

There are many obstacles to effective pain management; the health professional may have inadequate skills and knowledge relating to pain management which makes treatment more difficult [(2).]

1-4 Objectives

1-4-1 General objective:

-To assess nurses knowledge and Attitude in pain management.

1-4-2 Specific objectives:

1- To assess nurse’s knowledge about pain assessment.

2-To assess nurse’s knowledge about pain management.

3- To assess nurse’s Attitude toward pain management.

4- To explore if there is relationship between Demographic data as well as Knowledge and Attitude of Nurses toward pain management.

Chapter two

Literature Review

2.1 Definition

Pain is one of the most common experiences and stressors in critically ill patients. Symptoms Of critical illnesses as well as many interventions and procedures in the critical care unit increase pain. , pain continues to be misunderstood, poorly assessed, and undertreated in critical care units and many other healthcare settings. Uncontrolled pain triggers physical and emotional stress responses, inhibits healing, increases the risk for other complications, and increases the length of stay in the critical care unit [(4).]

Pain is a complex, subjective phenomenon. The International Association for the Study of Pain defines pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage."An operational definition of pain is based on the premise that the individual experiencing the pain is the true authority, pain is subjective and that pain is whatever the experiencing person says it is [(4).]

2.2 Path physiology

Critically ill patients endure substantial pain from pathologic conditions, injury, therapeutic Interventions such as surgery and multiple invasive diagnostic procedures. Even seemingly Unconscious patients experience pain. The patient's pain experience is compounded by fear, Anxiety and multiple barriers to communication. In addition, pain control frequently assumes a low priority against respiratory or hemodynamic instability, either of which is common in critical care areas. The presence of pain is a significant stressor for critically ill patients and contributes to and potentiates other problems such as confusion, in adequate ventilation, immobility, sleeps deprivation, depression, and immunosuppressant, this can lead to extended healing times. The subjective nature of pain adds to its complexity [(5).]

2.3 Mechanisms of pain transmission

Many theories of how pain is transmitted are described in the literature. The specificity theory, developed by Descartes in 1644, proposed that body trauma sends a message directly

To the brain, causing a sort of "bell" to ring, prompting response from the brain. In 1965, Melaka and Wall pro-posed the gate control theory, which describes the dorsa of the spinal cord as a gate, allowing impulses to go through when there is a pain stimulus and closing the gate The gate control theory stimulated massive research on the physiology of pain and is still considered in research. Much more is known about the transmission of pain today. Endorphins are endogenous (naturally occurring) chemicals that act like Opioids to inhibit pain impulses

in the spinal cord and brain. Unfortunately, they degrade too quickly to be considered effective analgesics [6].

Pain is transmitted through the dorsal horn of the spinal cord and other points in the central nervous system to higher centers of the brain with the influence of chemicals known as neurotransmitters, which are released from damaged tissue. These chemicals include prostaglandins, substance P, and others. Many treatments and analgesics are designed, based on known principles, to inhibit the release of these chemicals at different points along the pain pathway. It is also now understood that men and women respond differently to painful stimuli and to pain management interventions [6].

2.4 Pain control issues

Because fear of pain is a major concern for many critically ill patients, pain management is an important part of your care.

Critical care patients are exposed to many types of procedures—such as I.V. procedures, cardiac monitoring, and intubation—that cause discomfort and pain. Pain is classified as acute or chronic [7].

2.5 Types of Pain

2.5.1. Acute pain

Acute pain is caused by tissue damage due to injury or disease. It varies in intensity from mild to severe and lasts briefly (generally up to 6 months).Acute pain is considered a protective mechanism because it warns of present or potential tissue damage or organ disease. It may result from a traumatic injury, surgical or diagnostic procedure, or medical disorder.

Examples of acute pain are:

- pain experienced during a dressing change
- pain related to surgery
- pain of acute myocardial infarction
- Pain of immobility.
- Acute pain can be managed effectively with analgesics, such as Opioids and no steroidal anti-inflammatory drugs .It generally subsides when the underlying problem is resolved [7].

2.5.2 Chronic pain

Chronic pain is pain that has lasted 6 months or longer and is ongoing. It may be as intense as acute pain but it isn't a warning of tissue damage. Some patients on the CCU experience chronic as well as acute pain.

Examples of chronic pain include:

- Arthritis pain
- Back pain
- Pain from cancer.

Don't look for the signs

The nervous system adapts to chronic pain. This means that many typical manifestations of pain—such as abnormal vital signs and facial grimacing—cease to exist. Therefore, chronic pain should be assessed as often as acute pain (generally, at least every 2 hours or more often, depending on the patient's condition). Assess chronic pain by questioning the patient [7].

2.5.3 Cancer-related pain

Pain associated with cancer may be acute or chronic. Pain resulting from cancer is so ubiquitous that when cancer patients are asked about possible outcomes, pain is reported tube the most feared outcome .Pain in patients with cancer can be directly associated with the cancer (e.g., bony infiltration with tumor cells or nerve compression), a result of cancer treatment (e.g., surgery or radiation), or not associated with the cancer (e.g., trauma). However, most pain as-associated with cancer is a direct result of tumor involvement [1].

2.5.4 Pain classified by location

Pain can also be categorized according to location (e.g., pelvic pain, headache, chest pain). This type of categorization aids in communication about and treatment of the pain. For example, chest pain may suggest acute coronary syndrome and indicates the need for diagnostic evaluation and treatment according to cardiac care standards as appropriate [1].

2.5.5 Pain classified by etiology

Pain can also be categorized by etiology. Burn pain and post herpetic neuralgia are examples of pain described in terms of their cause. Clinicians often can predict the course of pain and plan effective treatment using this categorization [1].

2.6 Harmful effects of pain

Regardless of its nature, pattern, or cause, pain that is inadequately treated has harmful effects beyond the suffering it causes. For example, unrelieved pain is associated with sleep alterations. Sleep deprivation affects the pain experience. Research suggests that patients with sleep deprivation frequently display hyposomnia (i.e., little sleep), fatigue, chronic pain, and depression. Analgesics may also be less effective if patients experience sleep deprivation [(1).]

2.6.1 Effects of acute pain

Unrelieved acute pain can affect the pulmonary, cardiovascular, gastrointestinal, endocrine, and immune systems. The stress response (endocrine response to stress") that occurs with trauma also occurs with other causes of severe pain. The widespread endocrine, immunologic, and inflammatory changes that occur with stress can have significant negative effects. This is particularly harmful in patients whose health is already compromised by age, illness, or injury. The stress response generally consists of increased metabolic rate and cardiac output, impaired insulin response, increased production of cortical, and increased retention of fluids .

The stress response may increase the risk of physiologic disorders (e.g., myocardial infarction, pulmonary infection, venous thrombi embolism, prolonged paralytic ileuses). Patients with severe pain and associated stress may be unable to take deep breaths and may experience increased fatigue and decreased mobility. Although these effects may be tolerated by young, healthy people, they may hamper recovery in elderly, debilitated, or critically ill people. Effective pain relief may result in faster recovery and improved outcomes [(1).]

2.6.2 Effects of chronic pain

Like acute pain, chronic pain also has adverse effects. Suppression of the immune function associated with chronic pain may promote tumor growth. In addition, chronic pain often results in depression and disability. Although healthcare providers may express concern about high dosages of Opioids medications required relieving chronic pain in some patients, it is safe to use gradually increased dosages of these medications to control progressive chronic pain. In fact, failure to administer adequate pain relief may be unsafe because of the consequences of unrelieved pain. Regardless of how patients cope with chronic pain, pain that lasts for an extended period can result in disability. Patients with a number of chronic pain syndromes report depression, anger, and fatigue .Patients may be unable to continue the activities and interpersonal relationships they engaged in before the pain began. Disabilities may range from an impaired ability to participate in physical activities to an inability to take care of personal needs, such as dressing or eating. Nurses should understand the effects of chronic pain on

patients and families and should be knowledgeable about pain relief strategies and appropriate resources to assist effectively with pain management [1].

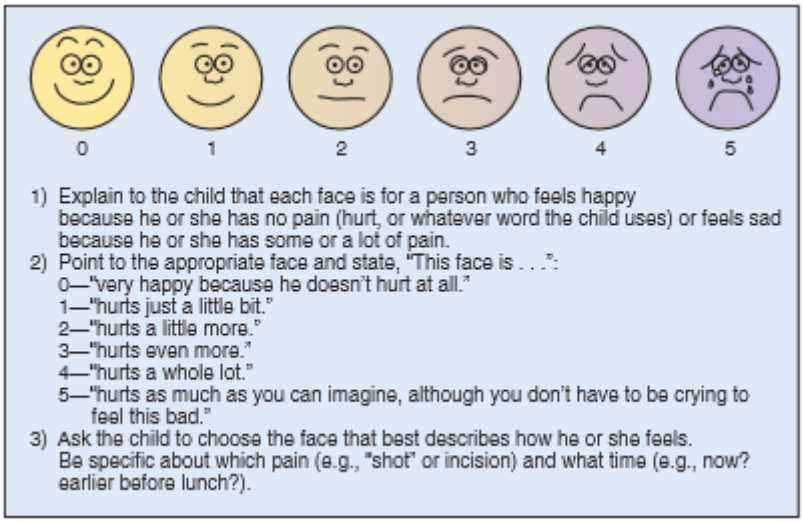
2.7 Pain assessment

Assessment of pain can be a simple and straight forward task when dealing with acute pain and pain as a symptom of trauma or disease. Assessment of location and intensity of pain often suffices in clinical practice. However, other important aspects of acute pain, in addition to pain intensity at rest, need to be defined and measured when Clinical trials of acute pain treatment are planned. If not, meaningless data and false conclusions may result. Assessment of long-lasting pain and the effects overtreatment is more challenging, both in patients suffering pain from non-malignant causes and in patients with cancer pain. Numerous instruments have been developed for different types and subtypes of chronic pain conditions in order to assess qualitative aspects of chronic pain and its impact on function. The long list of published Instruments indicates that pain assessment continues to be challenge. Because pain is such a subjective, personal, and private experience, assessing pain in patients with whom we cannot communicate well is difficult, most of all in patients suffering cognitive impairment and dementia.

When it comes to pain assessment for critical care patients, it's especially important for the nurse to have good assessment skills [7].

2.7.1 A pain assessment includes questions about:

- Location—Ask the patient to tell you where the Pain is; there may be more than one area of pain.
- Intensity—Ask the patient to rate the pain using a pain scale.
- Quality—Ask how the pain feels: sharp, dull, Aching, or burning.
- Onset, duration, and frequency—Ask when the Pain started, how long it lasts, and how often it occurs.
- Alleviating and aggravating factors—ask what makes the pain feels better and what makes it worse.
- Associated factors—ask whether other problems are associated with the pain, such as nausea and vomiting.
- Effects on lifestyle—ask whether appetite, sleep, relationships, Emotions and work are affected.
- When it comes to pain, the best validation comes from the patient's own report of pain [7].



2.7. 2 Assessment of pain intensity and pain relief in acute pain

For acute pain, caused by trauma, surgery, childbirth, Or an acute medical disease, determining location, temporal aspects, and pain intensity, goes a long way to characterize the pain and evaluate the effects of treatment of the pain Condition and its underlying cause[(8).]

2.7.3 Assessment of intensity of acute pain

The well-known visual analogue scale and numeric rating scale for assessment of pain intensity agree well and are equally sensitive in assessing acute pain after surgery, and they are both superior to a four-point verbal categorical rating scale .They function best for the patient's subjective feeling of the intensity of pain right Now—present pain intensity. They may be used for worst, least, or average pain over the last 24 h, or during the last week. There are some limitations with this, as memory of pain is not accurate and often colored by changing context factors. They are also used to assess 'un pleasantness' of pain and to grade impact of pain on function [(8).]

A computerized simulation study, randomly sampling 10 000 times, repeatedly from simultaneous observations and documented that the power to detect a difference in pain intensity was higher with the NRS and the data compared with the data. The power to detect a difference in pain intensity was shown to be higher with a large difference. This also means that if baseline pain is high before pain relief is initiated, an effective treatment will be able to cause a larger change in pain intensity than a less effective treatment. The power of a trial to detect a large difference is high, compared with a trial where the baseline pain intensity is low and even a very effective treatment will cause only a small change in pain intensity[(8) .]

When comparing a simple, weak analgesic with a potent analgesic drug in patients with only mild baseline pain, they will both relieve the mild pain and appear to be equally effective. The verbal categories mild, moderate, and severe pain may correspond to different values on the

VAS in the same patient on different occasions, whereas the NRS and VAS values generally agreed well.

Thus, a categorical pain scale should be used only as a coarse screening instrument, and more accurate pain intensity assessment should rely on an NRS or VAS, even in routine clinical assessment. An NRS with numbers from 0 to 10 (‘no pain’ to ‘worst pain imaginable’) is more practical than a VAS, easier to understand for most people, and does not need clear vision, dexterity, paper, and pen. One can even determine the intensity of pain accurately using telephone interview, a computerized telephone interview, and recording of NRS data by the patient directly into the database of a computer via the telephone keyboard. The NRS and the VAS have been shown to give almost identical values in the same Patient at various times after surgery, whereas the four-point VRS seemed to underestimate the most intense pain [(9).]

2.7.4 Assessment of acute pain during movement (dynamic pain) is more important than pain at rest

Assessment of the intensity of acute pain at rest after surgery is important for making the patient comfortable in bed. However, adequate relief of dynamic pain during mobilization, deep breathing, and coughing is more important for reducing risks of cardiopulmonary and thrombo embolic complications after surgery.

Immobilization is also a known risk factor for chronic hyper algesic pain after surgery, becoming a significant health problem in about 1%, a bothersome but not negligible problem in another Effective relief of dynamic pain facilitates mobilization and therefore may improve long-term outcome after surgery.

Assessment of pain only at rest will not reveal differences between more potent pain relieving methods, such as optimal thoracic epidural analgesia, compared with less effective epidurals or systemic Opioids analgesia: systemic Opioids can make the patient comfortable, even after major surgery, when resting in bed. However, severe dynamic pain provoked by movements necessary to get the patient out of bed, and mobilizing bronchial secretions by forceful coughing, cannot be relieved by systemically administered potent Opioids without causing un acceptable [(10).]

2.7.5 Assessment of chronic pain

Chronic pain has a major impact on physical, emotional, and cognitive function, on social and family life, and on the ability to work and secure an income. Meaningful assessment of long-lasting pain is therefore a more demanding task than assessing acute pain. This is true both in clinical practice and when conducting trials of management of long lasting pain.

A comprehensive assessment of any chronic complex pain condition requires documenting

(i) Pain history

(ii) Physical examination

(iii) Specific diagnostic tests [10].

-In similar study done about pain assessment in emergency was performed by59.3% of our nurses. Simple interrogatory assessment was the main tool (88.3%), with limited use of algometric scales (11.7%). Thus, the assessment of pain in emergency remains insufficient. This can be explaining by the absence of objective measures; the clinician must depend on the patient to supply key information on the localization, quality, and severity of the pain. Even when pain assessment was carried out, it was rarely recorded on clinical charts, as reported in other studies. Recent guidelines and policies on pain management require the assessment of pain for all patient standing, and require that pain assessment rerecorded in the medical record by using a pain scale .improved pain assessment. The gap in emergency nurses 'clinical knowledge of pain management reflects the lack of formal teaching, and training of pain management in Moroccan medical schools. The barriers related to medical staff and the health care system were the most commonly encountered difficulties that preclude emergency nurses from proper pain management [11].

2.8 Pain history

A general medical history is an important part of the pain history, often revealing important aspects of co morbidities contributing to a complex pain condition. The specific pain history must clarify location, intensity, pain descriptors, temporal aspects, and possible path physiological and etiological issues.

(i) Where is the pain?

(ii) How intense is the pain?

(iii) Description of the pain (e.g. burning, aching, stabbing, shooting, throbbing, etc).

(iv) How did the pain start?

(v) What is the time course of the pain?

(vi) What relieves the pain?

(vii) What aggravates the pain?

(viii) How does your pain affect

(a) your sleep?

(b) your physical functions?

(c) your ability to work?

(d) your economy?

(e) your mood?

(f) your family life?

(g) your social life?

(h) your sex life?

(ix) What treatments have you received? Effects of treatments? Any adverse effects?

(x) Are you depressed?

(xi) Are you worried about the outcome of your pain condition and your health?

(xii) Are you involved in a litigation or compensation process? [12].

Physical examination

(i) General physical examination;

(ii) specific pain evaluation;

(iii) neurological examination;

(iv) musculoskeletal system examination;

(v) assessment of psychological factors. Specific diagnostic studies

(i) Quantitative sensory testing with specific and well-defined sensory stimuli for pain thresholds and pain tolerance.

(ii) 'Poor man's sensory testing': cold water in a glass

tube (for cold alloying—Ad- and C-fibers), one glass tube with about 408C warm water (for heat allo- dynia—C-fibers), cotton wool and artist's brush for dynamic mechanical alloying, and a blunt needle for hyperalgesia and temporal summation of pain stimuli.

(iii) Diagnostic nerve blocks.

(iv) Pharmacological tests.

(v) Conventional radiography, computerized tomography, magnetic resonance imaging(12).

2.9 Chronic pain assessment tools

Several assessment tools are developed; the following are documented to be reliable and valid in several languages.

The Brief Pain Inventory (BPI) was developed from the Wisconsin Brief Pain Questionnaire.

The BPI assesses pain severity and the degree of interference with function, using 0–10 NRS. It can be self-administered, given in clinical interview, or even administered over the telephone. Most patients can complete the short version of the BPI in2 or 3 min. chronic pain usually varies throughout the day and night, and therefore the BPI asks the patient to rate their present pain intensity, 'pain now', and pain 'at its worst', 'least', and 'average' over the last 24 h. Location

of pain on a body chart and characteristics of the pain are documented. The BPI also asks the patient to rate how much pain interferes with seven aspects of life:

(1) General activity.

(2) Walking.

(3) Normal work.

(4) Relations with other people.

(5) Mood.

(6) Sleep.

(7) Enjoyment of life. The BPI asks the patient to rate the relief they feel from the current pain treatment. Covering the essential issues needed in a self-report pain form [13].

2-10 Neuropathic pain screening tools

The self-complete Leeds Assessment of Neuropathic Symptoms and Signs and the neuropathic pain scale screen for and evaluate neuropathic pain conditions. The pain quality assessment scale (PQAS) is a more generic instrument which will differentiate between more nociceptive and more neuropathic pain conditions.

Clearly, complex chronic pain conditions may have components of nociceptive, inflammatory, and neuropathic pain mechanisms. Treatments may have different effects on the different pain mechanisms. The Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials The Initiative on Methods, Measurement, and Pain Assessment in Clinical Trials (IMMPACT) recommended six core outcome domains:

(i) pain;

(ii) physical functioning;

(iii) emotional functioning;

(iv) patient ratings of improvement and satisfaction with treatment;

(v) other symptoms and adverse events during treatment;

(vi) patient's disposition and characteristics data. The recommended outcome measures and instruments for these six domains, and what the IMMPACT group considers meaningful changes in the measured variables are the following.

(i)Pain intensity rated on a 0–10 NRS and the amount of any rescue analgesics used: a 10–20% decrease in pain intensity is considered minimally important, at least 30% decrease is moderately important, and more than 50% decrease is a substantial improvement.

(ii)Physical functioning assessed by the BPI pain interference items: a one-point improvement is minimally important.

(iii)Emotional functioning assessed by Beck Depression Inventory: more than five-point decrease is clinically important. The Profile of Mood States: total mood disturbance is clinically important with a 10–15point decrease.

(iv)Patient ratings of improvement, or worsening of the pain condition by the patients' global impression of change scale: a minimally important change to the better is the patient's report of 'minimally improved', moderately important is 'much improved', and substantial change is 'very much improved'.

(v)Other symptoms and any adverse events are documented by using passive capture of spontaneously

reported events and open-ended prompts.

(vi)Patient's dispositions and characteristics data assessed in accord with the consort recommendations[13].

2-11 Patient self-report

Because pain is a subjective experience, the patient's self-report is considered the foundation of pain assessment; however, family members and caregivers are often used as proxies for patients unable to self report, which can pose significant communication barriers.

A self-report or proxy assessment of pain hold be obtained not only at rest, but also during routine activity, such as coughing, deep breathing, and turning. In the conscious and coherent patient, behavioral cues or physiological indicators should never take precedence over the patient's self-report of pain. If the patient can communicate, the nurse must accept the patient's description of pain as valid.

Behavioral and physiological manifestations of pain absent, despite the presence of significant pain. In assessing pain quality, the nurse elicits a specific verbal description of the patient's pain, in their own words, such as "burning,""crushing," "stabbing," "dull," or "sharp,"

whenever possible. These terms help pinpoint the cause of the pain. The Older Patient. When assessing pain in an older patient, be aware of the following points:

• When reporting pain, an older patient may use words such as “aches” or “tenderness,” rather than “pain.”

• Some older patients can experience acutely painful conditions, such as myocardial infarction or appendicitis, without the presence of significant pain [14].

2-12 promoting safe and effective pain control

• Emphasize the importance of preventing pain before it occurs or becomes severe.

• Help patients and caregivers to understand the difference between tolerance and addiction. This helps to ensure that fears of addiction do not impede necessary analgesic administration.

• Discuss no pharmacological interventions for minimizing pain (e.g., splinting in incision area with a pillow while coughing or ambulating).

• Explain to caregivers the impact of analgesics on pain and respiratory status if they’re responsible for administering PCA in the hospital or administering medication after discharge [16].

2-13 Contradictions in pain assessment

Occasionally, there may be discrepancies between the patient’s self-report and behavioral and physiological manifestations. For example, one patient may report pain as 2 out of 10, while being tachycardia, diaphoretic, and splinting with respirations. Another patient may give a self-report of 8 out of 10 while smiling. These discrepancies can be due to the use of diversionary activities, coping skills, beliefs about pain, cultural background, fears of addiction, or fears of being bothersome to the nursing staff. When these situations occur, they are discussed with the patient, and any misconceptions or knowledge def cites are addressed [16].

2-14 Pain intervention

Although pharmacological intervention is the most commonly used strategy, nursing management of pain also includes physical, cognitive, and behavioral Measures. In addition to administering medications or pro-viding alternative therapies, the nurse’s role involves measuring the patient’s response to those therapies.

2-15 Pharmacological interventions

Most drug therapy regimens that nurses use in the critical care setting include a combination of non Opioids analgesics, Opioids, and sometimes anxiolytics or sedatives. Use of these drugs is explained in the sections that follow; examples, mechanisms of action, and special considerations [16].

- In similar Study done assess and reassess pain and decided on the appropriate Opioids dose, identify signs and symptoms of addiction, tolerance, and physical dependency. Around 15.4% of the nurses failed to recognize the presence of pain because the vital signs were normal and that patients showed relaxed facial expressions. Around 15.4% of the nurses were not able to decide on which morphine dose to be used (item 38, 8.9%). Only 20% of nurses agreed that patients can sleep in spite the presence of pain. Around 78.9% of the nurses agreed that the patient is the only reliable source in reporting pain. Overall, it was found that nurses were weak in the pharmacological interventions with regard to appropriate selection, dosing, and converting between different types of Opioids. The results of the current study demonstrated that the surveyed nurses had limited knowledge of pain management, and it was associated with poor attitude toward pain management [17].

2-16 Nonpaid analgesics

Ideally, analgesic regimens should include a non Opioids drug, even if the pain is severe enough to also require Opioids. In many patient populations, non-steroidal anti inflammatory drugs (NSAIDs) are the preferred choice for the non Opioids component of analgesic therapy. NSAIDs decrease pain by inhibiting the synthesis of inflammatory mediators (prostaglandin, histamine, and bradykinin) at the site of injury and effectively relieve pain without causing sedation, respiratory depression, or problems with bowel or bladder function. When NSAIDs are used in combination with Opioids, the Opioids dose can often be reduced and still produce effective analgesia. This decreases the incidence of Opioids-related side effects.

Many NSAIDs are supplied only in oral forms but this is not satisfactory in many critically ill patients whose oral intake is restricted. In addition to the concerns about route of administration, a major con cern associated with NSAID use is the potential for adverse effects, including gastrointestinal bleeding, platelet inhibition, and renal insufficiency. Second generation NSAIDs are more selective in their site of action and therefore do not cause these harmful adverse effects, but their slow onset of action may decrease their utility in critically ill patients.

Pain scales and rating instruments based on the patient’s self-report provide a simple but consistent measure of pain trends over time. Numerical rating scales and visual analog scales are used to mea-sure pain intensity. With these scales, the patient is asked to choose a number, word, or point on a line that best describes the amount of pain he or she is experiencing. The Society of Critical Care Medicine (SCCM) clinical practice guideline suggests that the numerical rating scale is the preferred type of scale for use in critical care units.

With this type of scale, the patient is asked to rate the pain, with 0 being no pain and 10 being the worst possible pain imaginable.

Pictures or word boards can also facilitate communication about the patient's pain. The board should include open-ended questions, such as "Do you have pain?", "Where is the pain located?",

"How bad is your pain?", and "What helps your pain?"(16).

2-17 Observation

Research has demonstrated that nurses can rely on behavioral and physiological indicators of pain in critically ill patients who cannot provide a verbal self-report. Patients who are unable to speak may use eye or facial expressions or movement of hands or legs to communicate their pain. Additionally, protective behaviors (e.g., guarding, avoidance of movement, touching or rubbing the area, changing positions, muscular bracing) are suggestive of pain. Other nonverbal behaviors such as frowning, grimacing, clenching the teeth, tightly closing the eyes, and exhibiting restlessness and agitation can indicate pain as well.

Input from family members or other caregivers is helpful in interpreting specific behavioral manifestations of pain based on their knowledge of the patient's behavior before hospitalization(15).

2-18 Physiological parameters

The observation of the physiological effects of pain assists to some extent in pain assessment; how-ever, much like nonverbal cues, the physiological response to pain is highly individualized. Vital signs, such as heart rate, blood pressure, and respiratory rate, may increase or decrease in the presence of pain. Additionally, it can be difficult to attribute these physiological changes specifically to pain rather than to other causes. For example, an unexpected increase in the severity of the patient's pain may cause hypotension and tachycardia but could also signal the development of life-threatening complications, such as wound dehiscence, infection, or deep venous thrombosis. The absence of physiological or behavioral cues should never be interpreted as absence of pain. If the procedure, surgery, or condition is believed to be associated with pain, the presence of pain should be assumed and treated appropriately [(15).]

2-19 Relieving pain and providing comfort

Medications should be titrated based on the patient's response, and the drug should be quickly eliminated when analgesia is no longer needed. Most clinicians agree that when using a numerical scale for assessment, pain medications should be Titrated according to the following goals:

• The patient's reported pain score is less than his or her own predetermined pain management goal (e.g., 3 on a scale of 1 to 10).

• Adequate respiration is maintained. Because pain may diminish or the pain pattern may change, therapy adjustments may be needed before improvements are seen. Pain reassessment should correspond to the time of onset or peak effect of the drug administered and the time the analgesic effect is expected to dissipate. Response to therapy is best measured as a change from the patient's baseline pain level.

2-20 Administration

The two most commonly used routes for Opioids administration in the critical care setting are the intravenous route and the spinal route. Other routes that are less commonly used in the critical care.

2-21 Opioids analgesics

Opioids are the pharmacological cornerstone of postoperative pain management. They provide pain relief by binding to various receptor sites in the spinal cord, central nervous system (CNS), and peripheral nervous system, thus changing the perception of pain. Opioids are selected based on individual patient needs and the potential for adverse effects. According to the SCCM, morphine sulfate, fentanyl, and hydromorphone are the preferred agents when IV opioids are needed.

Other opioids used in critical care include codeine, oxycodone, and methadone. Even though meperidine continues to be widely used in some settings, national experts and national practice guidelines consider it to be dangerous and do not recommend it for most patients.

The efficacy of analgesia depends on the presence of an adequate and consistent serum drug level. Although opioids may be administered on an "as needed" (PRN) basis, the PRN order poses many barriers to effective pain control. Per the PRN order, the nurse administers a dose of analgesic only when the patient requests it and only after a certain time interval has elapsed since the previous dose. Usually, delays occur between the time of the request and the time the medication is actually administered. PRN orders also pose a problem when the patient is asleep. As serum drug levels decrease, the patient may be suddenly awakened by severe pain, and a greater amount of the drug is needed to achieve adequate serum levels. For these reasons, scheduled Opioids doses or continuous infusions are preferred over PRN administration [(18).]

2-22 Dosing guidelines

Opioids dosage varies depending on the individual patient, the method of administration, and the pharmacokinetics of the drug. Adequate pain relief occurs once a minimum serum level of

the Opioids has been achieved. The dosing and titration of Opioids must be individualized, and the patient's response and any undesirable effects, such as respiratory depression or over sedation, must be closely assessed. If the patient has previously been taking Opioids prior to admission, doses should be adjusted above the previous required dose to achieve an optimal effect. Factors such as age, individual pain tolerance, coexisting diseases, type of surgical procedure, and the concomitant use of sedative consideration as well. Appropriate dosing and titration can be difficult because many critically ill patients have hepatic or renal dysfunction that result in decreased metabolism of the opioid.Older patients are often more sensitive to the effects of Opioids because in older people, Opioids achieve higher peak concentrations and have a longer duration of effect. Decreasing the initial Opioids dose and slow titration are recommended for older patients. Less Commonly Used Methods of Administering Opioids in the Critical Care (5).

2-22-1 Oral route

. The oral route is used infrequently in the critical care setting because many patients are unable to take anything by mouth. Serum drug levels obtained after oral administration of Opioids are variable and difficult to titrate. In addition, the transformation of oral Opioids by the liver causes a significant decrease in serum levels.

2-22-2 Rectal route

The rectal route has many of the same disadvantages as the oral route, including variability in dosing requirements, delays to peak effect, and unstable serum drug levels[(5).]

2-22-3 Transdermal route

The transdermal route is used primarily to control chronic cancer pain because it takes 12 to 16 hours to obtain substantial therapeutic effects and up to 48 hours to achieve stable serum concentrations. If used for acute pain, such as postoperative pain, high serum concentrations may remain after the pain has subsided, putting the patient at risk for respiratory depression.

2-22-4 Intramuscular route

The intramuscular route should not be used to provide acute pain relief for the critically ill patient. Intramuscular drug absorption is extremely variable in critically ill patients, due to alterations in cardiac output and tissue perfusion. In addition, intramuscular injections are painful. Subcutaneous route. In some situations, venous access may be limited or impossible to obtain. When this occurs, continuous subcutaneous infusion and subcutaneous PCA may be used [(5).]

2-22-5 IV Administration

IV Opioids have the most rapid onset and are easy to administer. Intermittent IV injections may be used when the patient requires short-term acute pain relief—for example, during procedures such as chest tube removal, diagnostic tests, suctioning, or wound care. Continuous IV administration has many benefit ts for critically ill patients, especially those who have difficulty communicating their pain because of an altered level of consciousness or an end tracheal tube.

Continuous IV infusions are easily initiated and maintain consistent serum drug levels compared to intermittent IV injections, which can cause serum levels to fluctuate. When a patient is receiving continuous IV infusions, pain occur-ring during painful procedures may not be managed unless additional IV bolus injections are given.PCA is an effective method of pain relief for the critically ill patient who is conscious and able to participate in pain management therapy. With PCA, the patient self-administers small, frequent IV analgesic doses using a programmable infusion device. The PCA device limits the Opioids dose within a specific time period, thus preventing over sedation and respiratory depression. PCA produces good-quality analgesia, stable drug concentrations, less sedation, less Opioids consumption, and fewer adverse effects.PCA individualizes pain control therapy; and offers the patient greater feelings of control and well-being.

2-22-6 Spinal Administration

Spinal Opioids selectively block Opioids receptors while leaving sensation, motor, and sympathetic nervous system function intact, resulting in fewer Opioids-related side effects. Analgesia from spinal Opioids has a longer duration than other routes, and signifies scantly less Opioids is needed to achieve effective pain relief [(5).]

2-23 Opioids

Can be given as a single injection in the epidural or intra the cal space, as intermittent injections, as continuous infusions through an epidural catheter, or through epidural PCA. With epidural or intrathe-cal analgesia, a local anesthetic can be added to the continuous Opioids infusion. Less opioid is needed to provide effective analgesia when used in combination with local anesthetics, and the incidence of Opioids-related side effects is decreased .Epidural Analgesia. Epidural analgesia is noted for providing effective pain relief and improved post-operative pulmonary function. In a classic study, patients whose pain was controlled with epidural anesthesia and epidural analgesia had shorter critical care unit stays, shorter hospital stays, and half as many complications as patients receiving standard anesthesia and analgesia.

This method is especially beneficial for critically ill patients after thoracic, upper abdominal, or peripheral vascular surgery; postoperative patients with a history of obesity or pulmonary disease; and patients with rib fractures or orthopedic trauma. Contraindications to epidural analgesia include systemic infection or sepsis, bleeding disorders, and increased intracranial pressure (ICP).With epidural analgesia, opioids are administered through a catheter inserted in the spinal canal between the Dura mater and vertebral arch. Opioids diffuse across the Dura and subarachnoid space and bind with opioid receptor sites. Epidurals may take the form of:

• Intermittent injections given before, during, or after a surgical procedure

• Continuous epidural infusions, which are recommended for more sustained pain relief

• Patient-controlled epidural analgesia (PCEA), which uses the same parameters as IV PCA except in smaller doses Although the incidence of serious respiratory depression is extremely low with epidural analgesia, respiratory assessments should be performed hourly during the first 24 hours of therapy and every 4 hours thereafter. In addition, because epidural analgesia is invasive, the patient must be closely monitored for signs of local or systemic infections. The insertion site is covered with a sterile dressing, and the catheter is taped securely. To avoid accidental injection of preservative-containing medications (which can be neurotoxin), the epidural catheter, infusion tubing, and pump must be clearly marked .Intrathecal Analgesia. With intrathecal analgesia, the Opioids is injected into the subarachnoid space, located between the arachnoids and pia mater. Intrathecal Opioids are significantly more potent than those given epidurals; therefore, less medications is needed to provide effective analgesia. The intrathecal method is usually used to deliver a one-time dose of analgesic, such as before surgery, and is infrequently used as a continuous infusion because of the risk for CNS infection [(18).]

2-23-1 Side effects

Opioids cause undesirable side effects, such as constipation, urinary retention, sedation, respiratory depression, and nausea. These are managed in many ways, including decreasing the Opioids dose, avoiding PRN dosing, and adding other medications to supplement Opioids doses or to counteract Opioids side effects. However, medications commonly pre-scribed to treat Opioids-related adverse effects, such as antiemetic for nausea, can cause other adverse effects, such as hypotension, restlessness, and tremors. Respiratory depression, a life-threatening complication of Opioids administration, is often a concern. However, the incidence of true Opioids-induced respiratory depression is low in most patients. In some cases, a respiratory rate as low as 10 breaths/min may not be signify if the patient is still breathing deeply.

the adverse effects of the Opioids. Antagonists are titrated to effect, which means reversing the over sedation and respiratory depression, not reversing analgesia. This usually occurs within 1 to 2 minutes. After administering an antagonist, the nurse continues to observe the patient closely for over sedation and respiratory depression because the half-life of antagonists is shorter than that of most Opioids [18].

2-24 Sedatives and anxiolytics

Acute pain is frequently accompanied by anxiety, which can increase the patient's perception of pain. When treating acute pain, anxiolytics and hypnotics can be used to complement analgesia and improve the patient's overall comfort .Anxiolytics medications (e.g., benzodiazepines) control anxiety and muscle spasms and produce amnesia for uncomfortable procedures. Because these medications have no analgesic effect (except for con-trolling pain caused by muscle spasm), an analgesic must be administered concomitantly to relieve pain.

If an opioid and benzodiazepine are used together, the doses of both medications are usually reduced because of their synergistic effects. The patient must also be closely monitored for over sedation and respiratory depression.An advantage of benzodiazepines is that they are reversible agents. If respiratory depression occurs because of benzodiazepine administration, benzodiazepine-specific reversal agents can be administered intravenously. These drugs are given reverse the sedative and respiratory depressant effects without reversing Opioids Critically ill patients who are receiving repeated doses or continuous infusions of benzodiazepines are given a break from sedation at least once per day. Administration should be interrupted until the patient is fully awake. This helps prevent over sedation, which can inhibit weaning from mechanical ventilation [19].

2-24-1 Hypnotics

With appropriate airway and ventilator management, hypnotics can be an ideal agent for patients requiring sedation during painful procedures. Because of their ultra short half-life, they are reversible simply by discontinuing the infusion and patients awaken within a few minutes. They also can be used as a continuous infusion for mechanically ventilated patients who require deep, prolonged sedation [19].

2-25 No pharmacological comfort measures

Research has shown that the combination of non-pharmacological and pharmacological interventions provides better pain control, with less use of Opioids analgesics, decreased incidence of anxiety, and increased patient satisfaction.

2-25-1 Environmental modification

Environmental modifications can help to minimize anxiety and agitation. Care should be preplanned to minimize noise and disruptions during normal Sleeping hours and to create a pattern of light that mimics normal day–night patterns. Earphones, with music of the patient's choosing, and earplugs have Also been recommended for use in the critical care unit [20].

2-25-2 Distraction

Distraction helps patients direct their attention away from the source of pain or discomfort toward something more pleasant. Initiating a conversation with the patient during an uncomfortable procedure, watching television, and visiting with family are all excellent sources of distraction.

2-25-3 Relaxation techniques

Relaxation exercises involve repetitive focus on a word, phrase, prayer, or muscular activity, and a conscious effort to reject other intruding thoughts. Most relaxation methods require a quiet environment, a comfortable position, a passive attitude, and Breathing exercises have been used with much success in critically ill patients The quieting reflex is a breathing technique that requires only 6 seconds to complete, calms the sympathetic nervous system, and gives the patient a sense of control over stress and anxiety. The nurse teaches the patient to per-form the following steps frequently during the day:

1. Inhale an easy, natural breath.
2. Think "alert mind, calm body."
3. Exhale, allowing the jaw, tongue, and shoulders to go loose.
4. Allow a feeling of warmth and looseness to go down through the body and out through the toes [21].

2-25-4 Touch

Touch has a positive effect on perceptual and cognitive abilities and can influence physiological parameters, such as respiration and blood flow. Additionally, touch has played a major part in promoting and maintaining reality orientation in patients prone to confusion about time, place, and personal identification. Nursing touch may be most helpful in situations in which people experience Fear, anxiety, depression, or isolation [(4).]

2-25-5 Massage

Superficial massage initiates the relaxation response and has been shown to increase the amount of sleep in critical care patients. Hands, feet, and shoulders are good sites for massage in critically ill patients, because the back is less accessible. Family members who wish to provide comfort to a critically ill loved One can be taught the technique of massage [(4).]

Chapter Three

Research methodology

Methodology

3-1 Study design:

Descriptive cross-sectional study Hospital based conducted at Omdurman military hospital; to assess Knowledge and Attitude of Nurses toward Management of pain.

3-2 Study area:

Military hospital is the public hospital in Sudan / Khartoum State which is the capital of Sudan, located at the confluence point of the White Nile and Blue Nile, governance center in Sudan. Omdurman is the second largest city in Sudan and Khartoum state, lying on the western banks of the River Nile, opposite the capital, Khartoum. Omdurman city –near National Assembly it contain Emergency department, Intermitted coronary care unit, intensive care unit, and cardiac care unit, dialysis unit, General ward of female and male, psychiatric and orthopedic department, echocardiogram , X-ray department, urology department ,obese and gynecological department, pediatric department, surgical department, ENT and ophthalmic department ,nutrition department and educational department and facilities .beds number in hospital 1080 bed. Beds number in emergency department 114 bed. Nurses working in emergency department 335.

3-3 Study setting

. Trauma and emergency hospital located near the junction of blue and white Nile from western line and behind Aalia hospital ,limited by Gars of young and children from northern Area, its has triage , trauma unit ,asthma unit,[C1-C2],room A and B [resuscitation room]2 critical care unit,2 ward VIP, Pharmacy and LAB. There are Doctors, Laboratories', Pharmacist, Nursing Staff and other personnel staff like cleaners and security staff

3-4 study period

Total duration of the study from october2017 to May 2018

3-5 Study population

The target population includes all nurses working at Trauma and emergency in Omdurman Military hospital during the study period, morning and night shift

3-5-1 Inclusion criteria:

Nurses' staff who are:

-Working in triage, trauma unit, Resustiction room (A&B)and c1 with Bsc, Diploma, certified nurses and master.

- There experience more than one years.- Willing to participate

3-5-2 Exclusion criteria:

Nurses' staff who are:

-Working in administration

- working in asthma unit, CCR1, CCR2, C2, VIP wards Male and Female.

-on vacation during data collection period.

3-6 sample technique:

Complete coverage of all nurses (60 nurses) during period of study working in triage, trauma unit and Resustiction room (A&B) and C1.

3-7 Data collection Tools and technique

3-7-1 Data collection Tools

Structure self –administrated questionnaire was prepared and designed by researcher to assess knowledge and attitude of nurses toward pain management composed of (29) questions, with closed ended questions. Questionnaire consists of 3 parts.

Part one demographic data [5questions], part two nurses knowledge about pain management [16question] , part three nurses attitude regarding pain[8question]

3-7-2 scoring system

Rational scaling (good, satisfy, or poor knowledge) Good knowledge for more or equal 75percent Satisfy knowledge for more or equal 50percent Poor knowledge for less than 50 percent [(22).]

3-8 Data analysis

The data was coded and analyzed manually by simple statistical technique

Then entered into the computer by use of the statistical package of social scientific (SPSS)version 20), different statistical measures were used e.g. (frequency, percentage, CHI-squire). Then the data was presented in the forms of figures and tables.

3-9 Ethical consideration:

The approved was taken from ethical committee of the faculty of graduate

Study and scientific research, permission was taken from the hospital

Director and the head nurse, verbal consent was taken from participant after

Explanation the purpose of the study.

CHAPTER FOUR

RESULT

Result

4-1.Figure picture

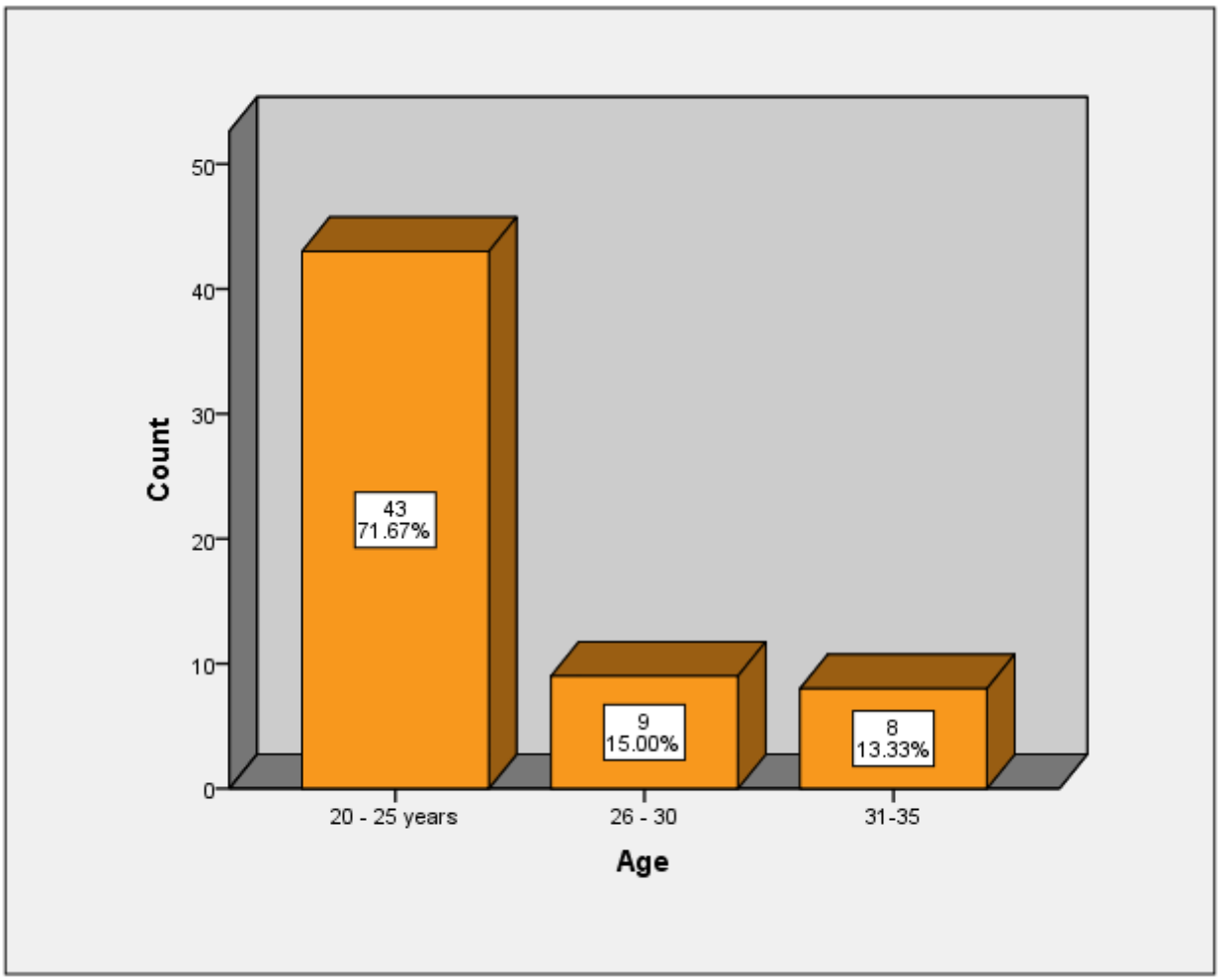


Figure (1): Distribution of study group according to their Age 71.6 %(20-25yrs), 15 % (26-30yrs), 13.3 %(31-35yrs) n=60.

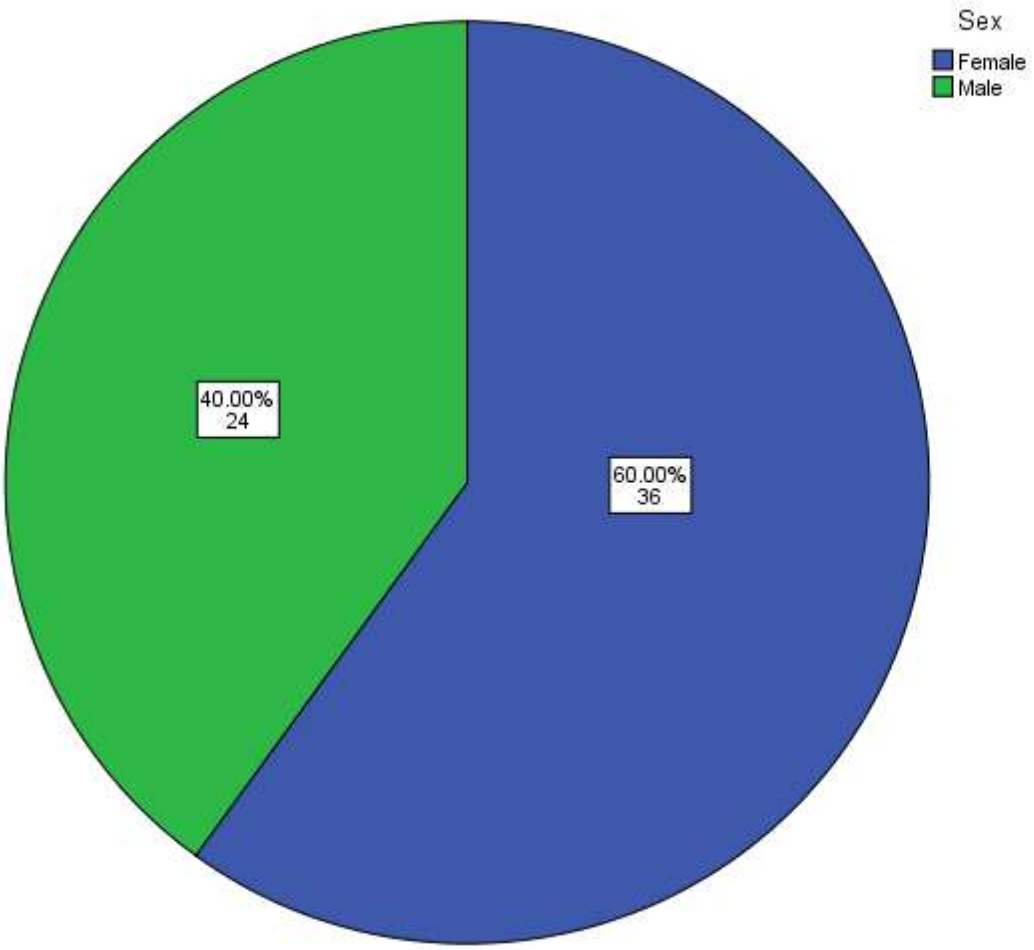


Figure (2): Distribution of study group according to their Sex (40%) male,(60%)female n=60.

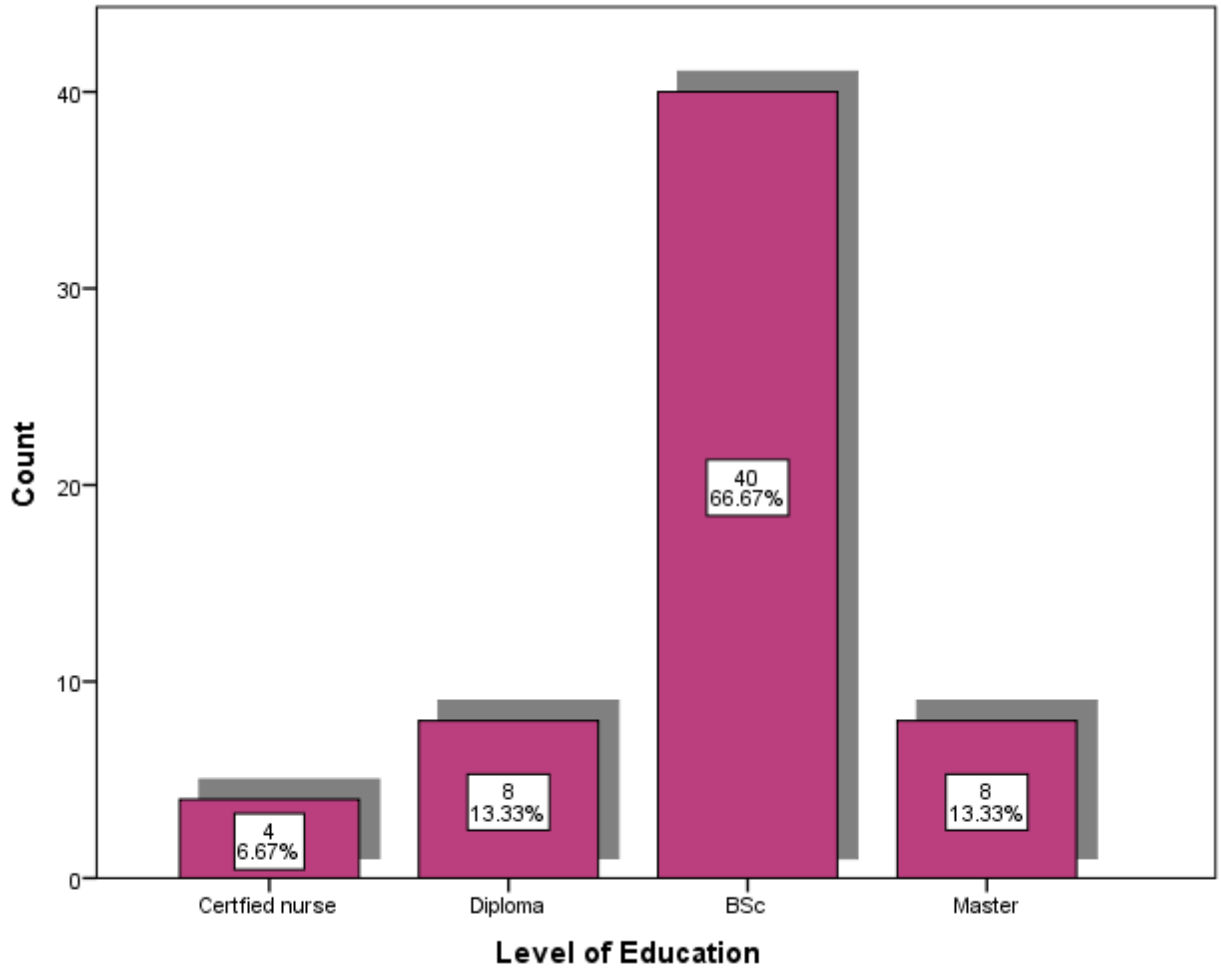


Figure (3): Distribution of study group according to their Level of Education(6.6%)certified nurse ,(13,3%)Diploma,(66.6%)Bsc,(13.3%)Master n=60.

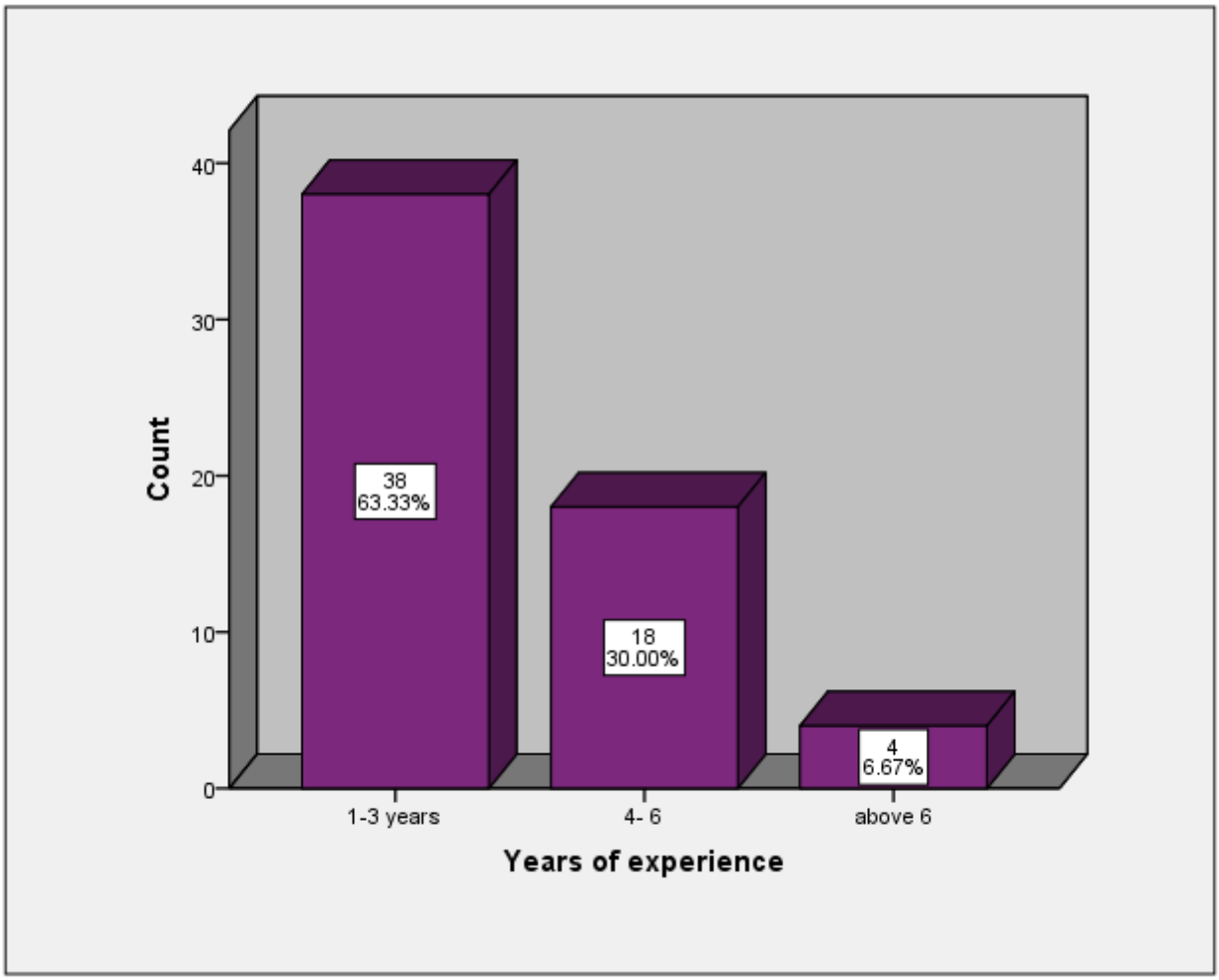


Figure (4): Distribution of study group according to their of Years of experience63.3% (1-3yrs), 30%(4-6yrs),6,6%(above 6years) n=60.

4-2 Frequent Table:

Table (1) Distribution of study group about training course in pain management (N=60).

		Frequency	Percent%
training course in pain management	Never	41	68.3%
	Once	16	26.7%
	Twice	3	5.0%
	Total	60	100.0%

Table above show training course in pain management (Never 68.3%, Once 26.7%, Twice5.0%).

Table (2) Distribution of study group according to their knowledge about pain (N=60).

Level of knowledge	Frequent	Percentage%
Good	40	66.7%
Faire	12	20%
Poor	8	13.3%
Total	60	100%

Table above show knowledge about Define of pain (Good 66.7%, Faire 20%, Poor 13.3%).

Table (3) Distribution of study group according to their knowledge about the type of pain (N=60).

Level of knowledge	Frequent	Percentage%
Good	49	81.7%
Faire	5	8.3%
Poor	6	10%
Total	60	100%

Table above show knowledge about Type of pain (Good 81.7%, Faire8.3%, Poor 10%).

Table (4) Distribution of study group according to their knowledge about Factor influence pain (N=60).

Level of knowledge	Frequent	Percentage%
Good	55	91.7%
Faire	2	3.3%
Poor	3	5%
Total	60	100%

Table above show knowledge about Factor influence pain (Good 91.7%, Faire3.3%, Poor 5%).

Table (5) Distribution of study group according to their knowledge about the effect of pain (N=60).

Level of knowledge	Frequent	Percentage%
Good	28	46.7%
Faire	20	33.3%
Poor	12	20%
Total	60	100%

Table above show knowledge about the effect of pain (Good 46.7%, Faire33.3%, poor 20%).

Table (6) Distribution of study group according to their knowledge about the first consideration of pain management (N=60).

Level of knowledge	Frequent	Percentage%
Good	15	25%
Faire	25	41.7%
Poor	20	33.3%
Total	60	100%

Table above show knowledge about the first consideration of pain management' (Good 25% , Faire41.7%,Poor 33.3%).

Table (7) Distribution of study group according to their knowledge about the routine of administration to immediate analgesia (N=60).

Level of knowledge	Frequent	Percentage%
Good	5	8.3%
Faire	20	33.3%
Poor	35	58.4%
Total	60	100%

Table above show knowledge about the routine of administration to immediate analgesia(Good 8.3%, Faire 33.3% ,Poor 58.4%).

Table (8) Distribution of study group according to their knowledge about the Important of the pain assessment (N=60).

Level of knowledge	Frequent	Percentage%
Good	26	43.4%
Faire	16	26.7%
Poor	18	30%
Total	60	100%

Table above show knowledge about Important of the pain assessment (Good 43.4% , Faire 26.7% , poor 30%)

Table (9) Distribution of study group according to their knowledge about Pain assessment (N=60).

Level of knowledge	Frequent	Percentage%
Good	35	58.3%
Faire	6	10%
Poor	19	31.7%
Total	60	100%

Table above show knowledge about pain assessment (Good58.3%, Faire10% , Poor 31.7%).

Table (10) Distribution of study group according to their knowledge about the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain(N=60).

Level of knowledge	Frequent	Percentage%
Good	10	16.7%
Faire	20	33.3%
Poor	30	50%
Total	60	100%

Table above show knowledge about analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain (Good 16.7% ,Faire 33.3% , Poor 50%).

Table (11) Distribution of study group according to their knowledge about the Factor influence the pain response (N=60).

Level of knowledge	Frequent	Percentage%
Good	40	66.7%
Faire	10	16.7%
Poor	10	16.6%
Total	60	100%

Table above show knowledge about factor influence the pain response (Good 66.7%, Faire 16.7%, Poor 16, 6%).

Table (12) Distribution of study group according to their knowledge about intensity Scale of pain (N=60).

Level of knowledge	Frequent	Percentage%
Good	40	66.7%
Faire	1	1.7%
Poor	19	31.6%
Total	60	100%

Table above show knowledge about intensity scale of pain (Good 66.7%, Faire 1.7%, Poor 31.6%).

Table (13) Distribution of study group according to their knowledge about following abrupt discontinuation of an opioid, physical dependence is manifested by the following(N=60).

Level of knowledge	Frequent	Percentage%
Good	20	33.3%
Faire	17	28.4%
Poor	23	38.3%
Total	60	100%

Table above show knowledge about following abrupt discontinuation of an opioid, physical dependence is manifested by the following(Good 33.3% ,Faire 28.4% ,Poor 38.3%).

Table (14) Distribution of study group according to their knowledge about used to manage anxiety related to pain (N=60).

Level of knowledge	Frequent	Percentage%
Good	10	16.7%
Faire	20	33.3%
Poor	30	50%
Total	60	100%

Table above show knowledge about manage anxiety related to pain (Good 16.7% , Faire 33.3% ,Poor 50%).

Table (15) Distribution of study group according to their knowledge about the goal of pain management(N=60).

Level of knowledge	Frequent	Percentage%
Good	37	61.6%
Faire	13	21.7%
Poor	10	16.7%
Total	60	100%

Table above show knowledge about the goal of pain management (Good 61.6%, Faire 21.7%, Poor 16.7%).

Table (16) Distribution of study group according to their knowledge of Teaching patient and his family (N=60).

Level of knowledge	Frequent	Percentage%
Good	40	36.7%
Faire	8	13.3%
Poor	12	20%
Total	60	100%

Table above show knowledge about Teaching patient and his family (Good 36.7%, Faire 13.3%, Poor 20%).

Table No (17) Distribution of study group according to their knowledge about Plan of nursing care (N=60).

Level of knowledge	Frequent	Percentage%
Good	45	75%
Faire	10	16.7%
Poor	5	8.3%
Total	60	100%

Table above show knowledge about plan of nursing care (Good 75%, Faire 16.7%, Poor 8.3%).

Table No (18): Distribution Of study group according to their total knowledge (N=60).

		Frequency	Percent
Valid	Good	55	91.7
	Faire	5	8.3
	Total	60	100.0

Table above show total knowledge of pain management (Good 91.7%, faire 8.3%).

Table (19) Distribution of study group according to their attitude of nurses regarding pain management (N=60).

		Frequency	Percent
Vital signs are always reliable indicators of the intensity of a patient's pain	Yes	53	88.3
	No	7	11.7
	Total	60	100.0
Patients who can be distracted from pain usually do not have severe pain	Yes	23	38.3
	No	37	61.7
	Total	60	100.0
Patients may sleep in spite of severe pain	Yes	29	48.3
	No	31	51.7
	Total	60	100.0
Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids	Yes	38	63.3
	No	22	36.7
	Total	60	100.0
Opioids should not be used in patients with a history of substance abuse	Yes	32	53.3
	No	28	46.7
	Total	60	100.0
Elderly patients cannot tolerate opioids for pain relief	Yes	30	50.0
	No	30	50.0
	Total	60	100.0
Patients should be encouraged to endure as much pain as possible before using an opioid	Yes	35	58.3
	No	25	41.7
	Total	60	100.0
Giving patients sterile water by injection is a useful test to determine if the pain is real	Yes	23	38.3
	No	37	61.7
	Total	60	100.0

Table above show attitude of pain management (Vital signs are always reliable indicators of the intensity of a patient's pain88.3% , Patients who can be distracted from pain usually do not have severe pain 38.3% , Patients may sleep in spite of severe pain 48.3% , Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids 63.3% , Opioids should not be used in patients with a history of substance abuse 53.3% , Elderly patients cannot tolerate Opioids for pain relief 50% , Patients should be encouraged to endure as much pain as possible before using an opioid 58.3% , Giving patients sterile water by injection is a useful test to determine if the pain is real 38.3%).

4-3.Crosstab:

Table (20)

Show correlation between Age and Define of pain of study group and their qualifications:

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.162a	2	.339
Likelihood Ratio	1.974	2	.373
Linear-by-Linear Association	1.979	1	.160
N of Valid Cases	60		

P value<0.05 significant

P value >0.05 not significant

P value =0.00 high significant

Table above show correlation between Age and Define of pain of study group and their qualifications (P value= .339 >0.05 not significant)

Table (21):

Show correlation between Age and type of pain:

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.605a	2	.272
Likelihood Ratio	2.295	2	.317
Linear-by-Linear Association	2.507	1	.113
N of Valid Cases	60		

P value<0.05 significant

P value >0.05 not significant

P value =0.00 high significant

Table above show correlation between Age and type of pain(P Value =.272>0.05 not significant

Table No (22):

Show correlation between level of education and type of pain

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.034[a]	3	.793
Likelihood Ratio	1.656	3	.647
Linear-by-Linear Association	.070	1	.791
N of Valid Cases	60		

P value<0.05 significant

P value >0.05 not significant

P value =0.00 high significant

Table above Show correlation between level of education and type of pain (P value=.793>0.05 not significant).

Table No(23):

Show Correlation between level of education and pain assessment

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.719[a]	3	.081
Likelihood Ratio	7.361	3	.061
Linear-by-Linear Association	3.846	1	.050
N of Valid Cases	60		

P value<0.05 significant

P value >0.05 not significant

P value =0.00 high significant

Table above Show correlation between level of education and pain assessment (P value=.081<0.05 significant).

Table No (24):

Show Correlation between years of experience and routine of administration to immediate analgesia

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.156[a]	2	.925
Likelihood Ratio	.156	2	.925
Linear-by-Linear Association	.056	1	.814
N of Valid Cases	60		

P value<0.05 significant

P value >0.05 not significant

P value =0.00 high significant

Table above Show correlation between years of experience and routine of administration to immediate analgesia(p value =.925 >0.05 not significant).

Table No (25):

Show Correlation between have training course and pain intensity scale

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.193[a]	2	.203
Likelihood Ratio	3.257	2	.196
Linear-by-Linear Association	.789	1	.374
N of Valid Cases	60		

P value<0.05 significant

P value >0.05 not significant

P value =0.00 high significant

Table above Show correlation between training course and pain intensity scale(P value =.203 >0.05 not significant).

Table No(26):

Show Correlation between level of education and attitude toward giving patient sterile water to determine real pain

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.996[a]	3	.392
Likelihood Ratio	3.376	3	.337
Linear-by-Linear Association	.574	1	.449
N of Valid Cases	60		

P value<0.05 significant

P value >0.05 not significant

P value =0.00 high significant

Table above Show correlation between level of education and attitude toward giving patient sterile water to determine real pain(P value =.392 >0.05 not significant).

Table No (27):

Show Correlation between Level of Education * Patients should be encouraged to endure as much pain as possible before using an opioid

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.326[a]	3	.344
Likelihood Ratio	4.777	3	.189
Linear-by-Linear Association	.712	1	.399
N of Valid Cases	60		

P value<0.05 significant

P value >0.05 not significant

P value =0.00 high significant

Table above Show correlation between Level of Education * Patients should be encouraged to endure as much pain as possible before using an opioid(P value =.344 >0.05 not significant).

Table No (28):

Show correlation between years of experience and the first consideration of pain management

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.135[a]	2	.344
Likelihood Ratio	2.751	2	.253
Linear-by-Linear Association	.016	1	.900
N of Valid Cases	60		

P value<0.05 significant

P value >0.05 not significant

P value =0.00 high significant

Table above Show correlation between years of experience and the first consideration of pain management (P value =.344>0.05 not significant).

Table No (29):

Show correlation between level of education and factor influence the pain response

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.495[a]	3	.139
Likelihood Ratio	5.630	3	.131
Linear-by-Linear Association	.006	1	.940
N of Valid Cases	60		

P value<0.05 significant

P value >0.05 not significant

P value =0.00 high significant

Table above Show correlation between level of education and factor influence the pain response (P value= .139>0.05 not significant).

Chapter Five

Discussion

Conclusion

Recommendation

Discussion

This is descriptive cross –sectional study was conducted at Omdurman military hospital sample size was 60 of nurses was participated to assess Knowledge and Attitude of Nurses toward Pain Management.

The result showed that more than two third of nurses (71.6%) their age arrange between (20-25yrs),and more than half were female (60%), more than two third (66.6%) from nurses had Bsc degree and the experience years between (1-3y)about (63.3%),The study group they not received training course about pain management more than two third (68.3%).The study revealed that more than two third from nurses had good knowledge about the define of pain (66,7%)and more than The majority of nurses had good knowledge (81.7%) about type of pain The majority of nurses had good knowledge (91.7%) about factor influence pain, there are less than half from study group with faire knowledge (41,7%)about the first consideration of pain management, poor knowledge regarding routine of administration to immediate analgesia (58.4%), good knowledge(43.4%)about important of the pain assessment , study show good knowledge (58.3%)about question of pain assessment, half of nurses poor knowledge(50%)about analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain.

The majority of nurses had good knowledge regarding factor influence the pain response (66.7%), and had good knowledge about pain intensity scale (66.7%),But poor knowledge(38.3%) of physical dependence following abrupt discontinuation of an opioid, half of nurses in study was poor knowledge regarding manage anxiety related to pain (50%), more than two third had good knowledge about goal of pain management (61.6%),had good knowledge about teaching patient and his family (36.7%) ,The majority of nurses had good knowledge regarding plan of nurses care(75%)and the total knowledge regarding pain management was good(91.7%) this is similar to study done by Christopher chee Kong in an urban hospital 2013 the total knowledge(72.2%).

The majority of nurses attitude regarding vital signs are always reliable indicator of the intensity of patient pain is poor (11,7) this is agree with study done by Jocelyn A.craig in 2014 (95%) , the attitude regarding Patients who can be distracted from pain usually do not have severe pain is satisfy(61,7), the study about Patients may sleep in spite of severe pain is poor(48,3) not agree with study done by Jocelyn A.craig in 2014(87.3%), the study result about Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids is satisfy (63,3), the study result about Opioids should not be used in patients with a history of substance abuse(46,7), the study result about Elderly patients cannot tolerate opioids

for pain relief(50) not agree with study done by Jocelyn A.craig in 2014(90.2%), the attitude regarding Patients should be encouraged to endure as much pain as possible before using an opioid(41.7), The attitude Giving patients sterile water by injection is a useful test to Determine if the pain is real(61,7).The relation between age and define of pain and their qualification is not significant(P value= ,3), the age not significant with type of pain (p value ,2).The level of education not affected in the nurses knowledge about type of pain (P value= ,7), significant relation with pain assessment (P value= ,08) , and factor influence the pain response (p value= ,1).The level of education not affected in the nurses attitude about giving patient sterile water to determine real pain(P value= ,3) and encouraged to endure as much pain as possible before using an Opioids (p value= ,3).

The years of experience not affected in the nurse's knowledge about routine of administration to immediate analgesia (P value=, 9) and the first consideration of pain management (p value =, 3) No relation between attending training program with pain intensity scale (p value=, 2).

Conclusion

The current study revealed Total good knowledge of study regarding pain management (91.7%), and poor attitude regarding pain management.

No relation between Demographic data as well as Knowledge and Attitude of Nurses toward pain management but found relation between level of education and pain assessment .

Recommendation

- Guidelines in emergency department about the scale and tools used in pain assessment and who to treat pain according to intensity and type of pain.
-further researches regarding pain management.
- continue training program for nurses about pain assessment and management.

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Index

Appendixes

References

Shendi University

Faculty of Graduate studies and Scientific Research

Faculty of nursing science

Questionnaires about Knowledge and Attitude of Nurses toward pain Management in Omdurman Military Hospital

Serial Number: ☐

Part I

Demographic Data

1- Age (Year)

(A) 20-25 ☐ (B) 26-30 ☐ (C) 31-35 ☐ (D) Above 35 ☐

2-Sex

(A) Male ☐ (B) Female ☐

3- Level of Qualification

(A) Certified Nurse ☐ (B) Diploma ☐ (C) BSC ☐ (D) Master ☐

4- Years of experience

(A) 1-3 ☐ (B) 4-6 ☐ (C) Above6 ☐

5- Did you have training Course in pain Management?

(A) Never ☐ (B) Once ☐ (C) Twice ☐ (D) above twice ☐

Part II

Knowledge of pain management

6- Defined of pain

(A) Un pleasant Sensory ☐

(B) Emotional experience associated with actual or potential tissue damage ☐

(C) Seeking health care ☐ (D) Fifth vital sign ☐

7-What the Type of pain

(A)Acute ☐ (B) Chronic ☐ (C) pain related to Cancer ☐ (D) All of ☐

8-Factor influence Pain

(A) Physical ☐ (B) Psychosocial ☐ (C) Environment ☐ (D) All of the above ☐

9-What the effect of pain

(A) Neurologic effect ☐ (B) Cardiovascular effect ☐

(C) Pulmonary effect ☐ (D) Gastrointestinal effect ☐

10-What is the first consideration of pain management

(A) Management is based on client goals ☐ (B) To improve quality of care ☐

(C) The client must be believed about perception of own pai☐ (D) to prevent effect of ☐ pain

11-Which routine of administration to immediate analgesia

(A) Intra spinal ☐ (B) Intra muscular ☐ (C) Intra venous ☐ (D) Subcutaneous ☐

12-What the Important of the pain assessment

(A) To control pain ☐ (B) Fundamental in assisting the diagnoses ☐

(C) Effective pain management ☐ (D) to treat pain ☐

13-Pain assessment include question about

(A) Location ☐ (B) Alleviating and aggravating factor ☐

(C) Quality ☐ (D) Duration ☐

14-Which of the following analgesic medications is considered the drug of choice
For the treatment of prolonged moderate to severe pain

(A) Codeine ☐ (B) Morphine ☐ (C) Hydro morphine ☐ (D) Oxycodone ☐

15-Factor influence the pain response

(A)Anxiety ☐ (B) Culture ☐ (C) Gender ☐ (D) Age ☐

16-Pain intensity Scale include

(A) No pain ☐ (B) Mild pain ☐ (C) Moderate pain ☐ (D) Sever pain ☐

17-Following abrupt discontinuation of an opioid, physical dependence is Manifested by the following:

(A) Sweating ☐ (B) Diarrhea ☐ (C) Constipation ☐ (D) Urinary retention ☐

18-Who used to manage anxiety related to pain

(A) Analgesia ☐ (B) Teaching ☐

(C) Relaxation technique ☐ (D) Psychological support ☐

19-Goal of pain management

(A)Decrease intensity ☐ (B) Decrease Frequency ☐

(C) Decrease anxiety ☐ (D) Decrease duration ☐

20-Teaching patient and his family about

(A) Pain ☐ (B) Strategic to reduce Pain ☐

(C) Absence of pain ☐ (D) Control of pain ☐

21-Plan of nursing care include

(A) Reassess patient non pain ☐ (B) Use pain assessment ☐

(C) Record pain character ☐ (D) Administration of analgesia ☐

Part III

Attitudes Regarding Pain

True/False – Circle the correct answer.

T F22- Vital signs are always reliable indicators of the intensity of a patient's pain.

T F 23-Patients who can be distracted from pain usually do not have severe pain.

T F 24-Patients may sleep in spite of severe pain.

T F 25-Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids

T F 26-Opioids should not be used in patients with a history of substance abuse.

TF 27-Elderly patients cannot tolerate opioids for pain relief.

T F28-Patients should be encouraged to endure as much pain as possible before using an opioid.

T F29-Giving patients sterile water by injection is a useful test to determine if the pain is real.