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DEPARTMENT OF NURSING AND MIDWIFERY

ASSESSMENT OF NURSES' KNOWLEDGE, ATTITUDES AND PRACTICE OF NON-PHARMACOLOGICAL PAIN MANAGEMENT THERAPIES AND TECHNIQUES, IN WEST GOJJAM ZONE, AMHARA REGIONAL STATE, ETHIOPIA, 2014.

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## **Abstract**

**Background:** Non-pharmacological methods have unique advantages to relieving pain that medications do not have such as giving the patients a more active role in managing their pain. There are many types of non-pharmacological methods that vary amongst heat/cold, distraction, massage and relaxation. Nurses must have a great knowledge of non pharmacological methods to practice them effectively. In addition, nurses' own attitudes greatly affect the way they treat a patient's pain.

**Objective:** To assess nurses' knowledge, attitudes and practice of non-pharmacological pain management therapies and techniques when caring for patients in selected governmental health care settings in West Gojjam zone, Amhara regional state, Ethiopia.

**Method:** Cross-sectional study design was used. Data was collected from March 2014 to April 2014 by using a structured open and closed ended questionnaire. Source population of the study was nurses who work at governmental health care institutions in West Gojjam. In this study, sample size was 583 nurses from randomly selected woredas. To assess the relationship of factors and non-pharmacological pain management odds ratio, bivariate and multivariate regression analysis were performed.

**Results:** The results show non pharmacologic pain management practices were at an unsatisfactory level. The most barriers to applied non-pharmacological pain management were lack of time, patient unwieldiness and lack of equipment. There was a positive relationship between age, educational level, years of experience, and attendance on training courses with practice and positive relationship between knowledge and attitude with practice of the nursing staff regarding non-pharmacological methods.

**Conclusion:** In this cross-sectional study, socio demographic factors, knowledge, attitude contributing to nurses' non-pharmacological practice were analyzed. , socio demographic factors, knowledge and attitude were found significantly associated with nurses' practice.

**Recommendation:** This study recommended that efforts to improve application of non drug interventions should focus on innovative educational strategies, using problem solving to secure support, and development and testing of new delivery methods that require less time from busy staff nurses.

**Key words:** pain, non-pharmacological, nurses, knowledge, attitude, practice

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## **Acronyms**

**AAU**= Addis Ababa University

**Bsc**= Baccalaureate Of Science

**CSA**= Central Statistical Agency

**CI**=Confidence Interval

**ENA**=Ethiopia Nursing Association

**HC**= Health center

**H** = Hospital

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

**PPS**= population proportion to size

**TENS**= Trans-electrical nerve stimulation

**US**= United States

## **CHAPTER 1: Introduction**

### **1.1. Background**

Pain is unpleasant sensory and emotional experience associated with actual or potential tissue damage. The inability to communicate verbally does not negate the possibility that an individual is experiencing pain-relieving treatment. Pain is always subjective and has both physical and emotional components. The physical part of pain results from nerve stimulation. Pain is mediated by specific nerve fibers that carry the pain impulses to the brain where their conscious appreciation may be modified by many factors(1-2).

There are three types of pain, based on location: 1<sup>st</sup>: somatic which is caused by the activation of pain receptors in either the body surface or musculoskeletal tissues, 2<sup>nd</sup>: visceral, the pain that we feel when our internal organs are damaged and injured and is the most common form of pain, and 3<sup>rd</sup>: neuropathic, caused by injury or malfunction to the spinal cord and peripheral nerves. All pain types can be either acute or chronic. Acute pain is short lasting and usually manifests in ways that can be easily described. Chronic pain is defined as pain lasting more than three months. It is much more subjective and not easily described as acute pain. The three pain types can be felt at the same time or singly and different times. Somatic and visceral pain is easier to treat than neuropathic pain (3).

Pain management is the relief of pain or reduction in pain to a level that is acceptable to the client. It includes two basic types of nursing interventions: these are pharmacological and non pharmacological (4).

Non pharmacological or complementary therapies are methods that help to decrease pain. These therapies do not involve taking medicines. Non pharmacologic interventions include cognitive behavioral therapy, relaxation therapy, biofeedback, patient education, self-management, and social support interventions. The interventions aim to change behavior, cognitions and emotions by targeting the psychological process that is implicated in the perceptions and response to pain (5-7) To give quality nursing care; nurses require appropriate knowledge, attitudes and skills towards pain, pain assessment and its management. Both knowledge attitudes and skill affects the nurses' ability to effectively manage pain. Nurses

should have knowledge of the use of non pharmacological approaches. Nurses' attitude towards pain management with alternative methods has been examined in a satisfactory number of studies. Nurses' attitudes towards non-pharmacological pain management therapies need to be assessed and any deficits identified need to be rectified so patients have access to other options to more effectively manage their pain. Nurses have a key role in pain management. The promotion of comfort and relief of pain are fundamental to nursing practice. They often use non-pharmacological methods to facilitate comfort for patients within the health care settings. However, guidelines for use of these measures are commonly inadequate or absent (8-10)

## **1.2. Statement of the problem**

The experience of pain negatively influences the patient's daily life unless nurses give quality care based on the best available evidence to prevent patients from suffering harm. But there are many barriers preventing non pharmacological pain therapies and evidence based practice from being used in the hospitals and health centers, some of which are physicians' orders, physicians' approval, patient compliance, nurses' knowledge, and nurses' acceptance (8, 11-12)

The apparent differences between nurses' and patients' pain estimates are likely to be the consequence of multiple influences that are difficult to quantify. Nurses' perceptions of pain may be based on their own knowledge, past experiences of pain, type of operation the patient has undergone, patient's age, number of days following surgery, patient's gender or cultures as well as other contextual concerns. Studies show that patients still are not receiving the adequate pain management that they feel they should be receiving while they are in the hospital. Pain is experienced by 30% to 50% of cancer patients receiving treatment and by 70% to 90% of patients with metastatic or advanced diseases. Estimates of the incidence of pain in hospitalized cancer patients have been reported as high as 90% (13). Most of the time drugs are prescribed to relieve the pain. However, pain is often under treated and patients continue to suffer from the ill effects of pain and lack of management(14). Despite the persistence of unrelieved pain and the potential benefit of using non- pharmacological therapies to relieve pain, an under-utilization of non-pharmacological therapies by nurses managing patients' pain has been identified in the literature. Previous studies confirmed that 90% out of 82 had no documented evidence of the use of any non-pharmacological interventions to relieve pain and, although nurses had knowledge about non- pharmacological therapies, only 25% reported actually

implemented them in practice. Decision- making by RNs for non-pharmacological pain treatments was used by the respondents in only 6% of the patient situation (15-17).

Workload, lack of proper materials, lack of knowledge, perceptions of pain and lack of skill were the main reasons that prevented nurses from using non-pharmacological pain management (18). This documented under-utilization of non-pharmacological therapies for pain management and not research has been done in Ethiopia regarding non-pharmacological pain management raises questions and the need to understand the factors influencing the use of such therapies in health care settings.

### **1.3. Significance of the study**

Since knowledge, attitudes and practice affects the nurses' ability to effectively manage pain Nurses' knowledge, attitudes and practice towards non-pharmacological pain management therapies need to be assessed and any deficits identified need to be rectified so patients have access to other options to more effectively manage their pain. Inadequately managed pain can lead to adverse physical and psychological patient outcomes and also impacts on their families. This situation causes a reduction in living quality and the functional situation of the patients. Non- pharmacological therapies may help in reducing pain and must be encouraged as part of the comprehensive pain management effort. Also, these methods increase the individual's feeling of control, decrease the feeling of weakness, improve the activity level and functional capacity, reduce stress and anxiety, and improve quality of life. As a result, the dosage of analgesic drugs need may be reduced and decreasing the side effects of the treatment and reducing health care costs by reducing doctor visits and reliance on costly medications. In spite of those benefits, no research has been done in Ethiopia regarding nurses' knowledge, attitude and use of non pharmacological pain management methods. Results of this study will assist schools of nursing and in-service education departments, insuring the importance of effective pain management when planning nursing curriculum and give direction to ministry of health to the important of the development of pain management policy.

#### **1.4. Research questions**

The aim of this study is to answer the following research questions.

1. To what extent do nurses use non-pharmacological pain management?
2. What non-pharmacological pain management therapies do nurses utilize in their nursing practice of hospitalized patients?
3. What barriers do nurses perceive in using non-pharmacological therapies in their nursing practice?
4. What advantages or benefits do nurses see to using non-pharmacological therapies to manage pain?
5. How are background factors (age, type of nursing degree, work experience, hours of non-pharmacological education, knowledge, and attitude) related to the practice of non-pharmacological therapies to manage pain?

## **CHAPTER 2: Review of literature**

### **2.1. Pathophysiology of pain**

The parts of the nerves system responsible for the sensation and perception of pain may be divided in to three areas; afferent pathways, central nerves system, and efferent pathways. The afferent portion of the system is composed of nociceptors in the tissue. Nociceptors are specialized terminal branches of sensory nerve fibers that are sensitive to noxious stimuli (16). Afferent pathways end in the dorsal horn of the spinal cord, which contains the substantial gelationosa at the tip of the dorsal horn and layers of ganglia called laminae. Both incoming and descending stimuli modulate pain patterns in the dorsal horn. The portions of the central nervous system involved in the interpretation of pain signals are the limbic system, reticular formation, thalamus, hypothalamus, medulla and cortex. The various regions of the brain that modulate spinal pain transmission are complex and integrated. The efferent pathways composed of the fibers connecting the reticular formation, midbrain, and substantia gelatinosa, are responsible for modulating pain sensation(19). There are two types of pain, acute, and chronic. Acute pain usually has a more rapid onset and of a short duration. This pain is described as somatic, visceral and referred. Somatic pain is superficial and is usually described as sharp or dull, aching and poorly localized. Visceral pain is internal pain of organs, abdomen or bones and referred pain is pain that is present in an area removed from the point of origin (19). Acute pain is responded to by multiple responses. There are physiologic, psychological, and behavioral responses. Physiologic response includes; increased heart rate, pallor or flushing, dilated pupils, diaphoresis and nausea. Psychological and behavioral responses include; fear, anxiety, withdrawn or over-excitability, and general sense of unease(20).

Chronic pain is prolonged pain, longer than 6 months and is responded to differently than acute pain. Physiologic responses to chronic pain are adaptive and the patients may have normal heart rates and blood pressures. Psychological and behavioral responses to chronic pain are more significant than those of acute pain. Individuals with chronic pain may have depression and difficulty sleeping, eating, and may become preoccupied with their pain. They may have a fear of being labeled as a complainer, or an addict and their daily activities greatly affected(20).

## **2.2. Pain and people's daily lives**

Pain is personal and subjective symptom that is influenced by age, gender, race, and psychosocial factors(21). A June 2000 Gallup Survey indicated that 42% of adults say experience pain daily, and approximately 28-30% of the US population suffer from chronic pain(22). In a study done in1998, 79% of hospitalized patients reported pain during the 24 hours before data collection. The study also identified that untreated pain has a profound effect on the patient's general well-being. Sixty-seven percent of patients in the study respond that their sleep was affected by pain. The pain also affected their movement and made them feel worried and hopeless. Unrelieved pain can also affect immune function, increase stress, and delay healing, and cause anxiety and depression for the person experiencing pain. Patients' reports of unrelieved pain while hospitalized suggest and a need for more effective pain management(23).

## **2.3. Under-treatment of pain**

There are many reasons pain is under-treated by health professionals. The most common barrier to effective pain management is the health care provider's incorrect assessment of pain and/or the effectiveness of pain relief measures. A study done in 2001 found that there is knowledge deficit of pain management and assessment by physicians. The doctor may not write the right prescriptions for pain management because they are not given enough education in pain and symptom management in their curriculum(24). Just like treatment of chronic diseases requires follow-up assessments and adjustments in medication, so does the treatment of pain and that is not being done by physicians. Nurses have major role in assessing Patients' pain and providing pain management options; therefore, they are in a position where they can reduce the number of people suffering from pain and the under-treatment of pain(23). Nurses are more worried about addictive behaviors when patients request pain medication than adequately treating severe pain. Study also found that nurses spend little on the patient's daily life and do not understand the importance of pain management(25). Another study done in 1996, to look at pediatric nurse's pain practices found that some obstacles to adequate pain management included knowledge deficits about pain management 83% of the time, attitudes about pain treatment 77% of the time, and skills regarding pain management 35% of the time (26).

According to the research done in 1995, on nurse's knowledge and attitudes about pain found that both greatly affect the nurse's management of pain. A study finding showed that there was a serious gap in nurses' knowledge and attitudes about pain. Very few nurses felt strongly that patients can and should have a pain free state(27).

Another study conducted in 2000, to assessed pediatric nurse knowledge and attitudes of pain management found that a lack of pain management knowledge lead to inadequate management and treatment of pain. Some of these deficits included problems in assessment, pharmacological management with opoides, and knowledge of how to use non-pharmacological pain interventions(28).

#### **2.4. JCAHO Standard on pain**

Pain is a serious problem that affects patient's daily function and is under-treated by different reasons. Nurses' knowledge and attitudes of pain management greatly affects their patient's management of pain. The new standards of JCAHO state that a pain assessment should include a detailed patient history, a psychosocial assessment, physical examination and diagnostic evaluation. The effects pain on patient's daily life also needs to be addressed(22). JCAHO also listed other standards in their article on pain. These are a pain scale to rate pain should be used for adults. They suggested all patients need to be screened for pain, providers need to be educated in pain assessment and management, and the degree of pain management must be monitored. Facilities are also required to have policies and procedures, in place to support effective pain management(29).

#### **2.5. Education needs**

Education and in services that focus on multidisciplinary approach to pain management of health professionals are necessary to meet the new JCAHO standards as well as patients' pain needs. Currently, The National Foundation for the treatment of pain has a national pain awareness campaign. People who are educated about pain wear a pin on the lapel of their shirt and when they asked about pin they are supposed to inform people about the number of people that suffer from untreated pain (30). In addition to making nurses more aware of pain management techniques, research that examines pain relief approaches needs to be conducted (21). Research provides a base of knowledge necessary to advance the diagnosis, treatment, and

prevention of disease. Currently there are many research projects on pain being developed by the national institute of arthritis and muscular skeletal and skin diseases.

Non pharmacological pain management is one method of relieving pain that can be combined with pharmacological methods. According to a research (8) most (57.8%) respondents had 0-5 hours of pain education in the last 2 years and among those 80.4% said they received the knowledge in nursing practice since graduation as opposed to formal nursing school education. Sixty-seven percent of the participants said that they have had some classes on Non-pharmacological pain management. Of the 32.6% of nurses that said they did not have any classes on non-pharmacological pain management, 26% said they wished they had more education in this area. All of the nurses that completed the survey said there is a pain assessment tool available on their unit, and all of them said they use it(22).

## **2.6. Non-pharmacological pain management**

### **2.6.1. Complementary and Alternative therapies**

Complementary and alternative therapy, another name of non pharmacological therapies, use is increasing all over the world. In one study in 1997, forty-two percent of Americans had used at least one complementary therapy in the past year(31). Alternative therapies are used in place of common medicine; however, complimentary therapies are treatment used along with more conventional medical practices (32). This study was focus on complimentary therapies that could be used with patients in the hospital setting. Nurses need to be able to assess patient's use of these alternative and complimentary therapies and able to describe how alternative treatment interacts with traditional medicine. However, in their study found that many nurses do not know about complementary or alternative therapies and there is a great need for continuing education on these alternative options. Overall, the nurses in this study were found to hold favorable ideas about complementary treatments being used with traditional medical practices and identifying healing touch, prayer, and biofeedback as non-pharmacological treatments for pain management(31). Nurses were asked to respond to the safety of the therapies as well as their use of them in a survey of nurses about complementary or alternative therapies. Seventy nine percent of nurses in this study perceived their professional education in the area of complementary or alternative therapies to be fair or to be poor. The nurses recommended that complementary and alternative therapies should be included in basic baccalaureate nursing

curriculum. They felt that biofeedback, chiropractic, and meditation /relaxation were the three most effective non-pharmacological therapies(32).

### **2.7. Non-pharmacological Pain Management Techniques and Therapies nurses use**

Non-pharmacological pain management is one approach to a comprehensive method of pain relief. They do not replace pharmacological method of pain management and can be used in conjunction with pharmacological pain practices to increase the patient's relief of pain. This pain management can be categorized in to three. There are cognitive or behavioral strategies, which include distraction, relaxation, imagery, and breathing techniques. The second category is physical or cutaneous strategies, which include heat /cold, vibration, massage, position changes, and trans-electrical nerve stimulation (TENS). Finally, there are environmental or emotional strategies such as touch, reassurance, or interior decoration of the room(33). The nurse must think many things when selecting one of these treatment options. For example, they must consider the relationship between non-drug and drug treatments, the patient's previous experience, and current attitude and the patients coping styles (34).

The cognitive behavioral strategies are thought to be interfering with the neural perceptions of pain in the brain. They change the subjective experiences of pain intensity.

According to the study, distraction is directing attention away from pain by focusing attention and concentration on something else. There are many different types of distraction including music, humor and movement. Those techniques require more active participation by the person experiencing pain and are more effective in relieving pain (35). A Study done in 1990, showed that humor to be one of the most effective distraction methods to relive pain and the effects continued for at least ten minutes after the laughter stopped(36). Relaxation is the second cognitive behavioral strategies that work to relive pain because of the reduced muscle tension. These techniques included relaxation imagery, which engages a person imaging a pleasant or peaceful experience. Others also included music, massage and slow breathing. When a person is relaxed, their heart rate, blood pressure, respirations decrease(35-36).

Cutaneous intervention such as heat or cold work according to the gate control theory of pain transmission. Stimulation of the skin activates the large diameter nerve fibers and prevents the short diameter nerve fibers from transmitting pain to the brain. Cutaneous stimulation may be applied to the site of pain or other sites distal or proximal to the pain(35).

The use of cold is almost always more effective than heat, and alternating cold and heat is even more effective than using one thermal method alone. Both heat and cold cause a decrease in the sensitivity to pain or decrease muscle spasms and that is may be why they work to relieve pain(36). Vibration is a second type of cutaneous stimulation that causes paresthesia or anesthesia to the area stimulated and changes sharp pain to a dull sensation. Pain relief can last for up to 30 minutes after the vibration is removed. The use of heat with vibration is the best cutaneous stimulation method to relieve pain. Massage is another type of a cutaneous therapy to relieve pain. The back and shoulders are the areas typically massaged. In a study of terminally ill a three-minute slow back rub lowered blood pressure indicating relaxation and less pain(34). In a study (8) the most common non pharmacological pain management therapies listed by nurses were position (53.2%). Massage, distraction, and heat/cold were cited by 51.1 % of the nurses filling out the survey. There are many non-pharmacological pain management therapies or techniques that provide benefits to patients. The result of the study (8)found that the common benefits of non –pharmacological pain management methods were fewer side effects was listed as the most prominent benefit (40.4%). Other popular responses that nurses wrote related to the benefits were: more patient control (19.1 %), less medication needed (12.8%), and more one on one time with the patient (10.6%).

## **2.8. Extent of nurses use non-pharmacological pain management methods**

The degree of nurses to use non-pharmacological pain management methods defers from country to country and from nurses to nurses. It ranges from always to never. According to a research done in (8) Forty-two percent of nurses said they used non-pharmacological pain management therapies' at least 3 times a week.' No one answered 'never.'

## **2.9. Knowledge**

Nurses should have knowledge of the use of non-pharmacological approaches such as the use of hot and cold mechanisms, acupuncture, massages and breathing measures among others employed in pain management. In addition to the areas of pain management required of a

nurse, knowledge of the existing standards of pain management as well as the already established recommendations is considered to be vital, as nurses have the potential to play a vital role in pain management and education(36). A major prerequisite of effective care delivery is nurses who are prepared at a fundamental level of current knowledge, competence and confidence in understanding and managing pain and nursing education, professional activity, and years of clinical experience contribute to the knowledge necessary for competency in pain management(37).

A pathway is created with the development of this knowledge and a skills framework which will promote consistent evidence-based practice and will thus contribute to improved health outcomes for the sufferer/s(38). A study done at Makkah EI-Mukarramah in 2013 showed that, the level of knowledge of nursing staff were in the satisfactory and fair level (12.5% and 87.5% respectively) (39).

#### **2.10. Attitudes**

Attitude is a hypothetical construct that represents an individual's like or dislike for an item. Attitudes are positive, negative or neutral views of an "attitude object": i.e. a person, behavior or event. People can also be "ambivalent" towards a target, meaning that they simultaneously possess a positive and a negative bias towards the attitude in question. Negative attitudes of nurses related to the experience of pain and pain management have been a barrier to effective pain management for many years and a positive attitude is the key to successful pain management. Pain management outcomes for hospitalized patients are often inadequate. The attitude of nurses about evidence-based pain management likely affects their ability to obtain desired patient outcomes. Nurses have the legal responsibility to manage patients' pain and medical/surgical nursing units should be staffed well enough for nurses to carry out their duties. (40). A study done at Makkah EI-Mukarramah in 2013 showed that, nurses' attitudes and practices regarding the use of non-pharmacological methods for pain management. The majority of subjects have achieved a satisfactory level inpatient's preparation, distraction, thermal regulation, massage and touch and environmental comfort (85%,77.5%, 72.5%,80%,100%,and 95% respectively(39).

### **2.11. Practice**

Nurses have a key role in pain management. The promotion of comfort and reliefs of pain are fundamental to nursing practice. They often use non pharmacological measures to facilitate comfort for patients within the hospital setting. However, guidelines for use of these measures are commonly inadequate or absent. Nursing staff can educate patients, families, and other clinicians to use non-pharmacological strategies to manage pain, such as relaxation, massage, and heat/cold. They can investigate patients' attitudes and beliefs about, preference for and experience with non pharmacological pain-treatment strategies. They can thus tailor non-pharmacologic techniques to the individual (41-42). According to a study done in (39) nurses show an unsatisfactory level in thermal regulation and environmental comfort (52.5%, 42.5% respectively) and a satisfactory level in patient's preparation, distraction, massage and touch (65%,92.5%, 67.5%,60%respectively).

### **2.12. Barriers to using non pharmacological pain Techniques**

According to a research conducted in 1996 indicated that, documentation of non-pharmacological treatments for pain was minimal to nonexistent. The respondents identified that non-pharmacological pain management techniques was one of the areas that they received the least amount of information, a factor that may have prevented them from using those therapies (18). Another survey done in 1999, to identify obstacles that prevented nurses from using non-pharmacological pain management, found that workload, lack of proper materials, and lack of knowledge were the three main reasons. The results showed that the areas that nurses needed the most education on included non-pharmacological interventions to relieve pain, difference between acute and chronic pain, and the anatomy and physiology of pain. In this survey pediatric nurses knew more about non-pharmacological pain management than other groups of nurses(43). Another research done in 1995 also identified that lack of time and competing nursing tasks as a major barriers to using non-pharmacological techniques. Other barriers identified included lack of distraction materials, being a stranger to the child, and nurses' lack of knowledge. Nurses indicated that they used simpler techniques like distraction and focusing on breathing most frequently. The barriers to optimally managing pain and using non-pharmacological pain techniques seem to be similar to nurses' knowledge, time and attitude on pain management. Nurses should be educated about pain management so that the patients can receive the best care (44). Results of another study(8) also identified main barriers

that prevent nurses from using methods. The largest barrier identified by 27.7% of the nurses responding was that the patient is unwilling to try non pharmacological methods of pain relief. Lack of time, lack of knowledge, and efficacy were three other barriers listed by nurses.

### **2.12.1. Nurses' knowledge and Attitudes**

Nurses' knowledge deficit and negative attitudes are the two barriers to using non-pharmacological pain management techniques. A lack of knowledge regarding non pharmacological methods resulted in poor nursing practice (45). Even though, not research has been done in Ethiopia to assess the factors that influence the use of non-pharmacological pain management techniques and therapies, some research assessing these factors has been done in some foreign countries. One study done in the US found that 50% of nurses surveyed use non-pharmacological techniques like relaxation, distraction, imagery, positioning, and massage 'often' or 'sometimes' with the pediatric population(25). Another study done in Finland identified the use of non-pharmacological pain therapies used by parents at home for their children. The most commonly used therapies included holding the child on their lap, comforting the child, and spending more time with child. Parents usually used the methods were most familiar to them; however, if they were taught other methods before the children left the hospital they would use them to decrease the child's pain(44). Since teaching is one of the roles of the nurses they should have knowledge about non-pharmacological management to give education to the family before they left the health settings. In Australia a qualitative study was done to assess the nurses' attitudes and use of non-pharmacological techniques. Eighty-nine percent of the nurses said that they had used non-pharmacological therapies on their hospitalized patients. Some of the benefits they identified for their patients included a unique opportunity to develop a therapeutic relationship with the patient, pain relief while waiting for a drug to work, more control over their pain, and distraction during painful procedures. Some barriers to using these therapies included the time needed to implement them, use of these not considered as standards of practice and lack of resources and knowledge to implement them(12).

Another study was also done in Finland to look at nurses' attitudes and knowledge of non-pharmacological methods in relieving children's post-operative pain. About 57% of the respondents used non-pharmacological methods to relieve pain routinely and the rest of the nurses told the children about pain medications. Ninety-eight percent of nurses used position

changes ‘nearly always’ or ‘always’ to relieve pain, and 72% used massage ‘sometimes.’ Thermal regulation was used 63% of the time ‘sometimes.’ The nurses used emotional support, helping with daily activities, and creating a comfortable environment routinely; however, the cognitive behavioral and physical methods like relaxation, distraction, and massage were used less often and were less well known (33).

### 2.13. Conceptual framework

This conceptual frame work is developed by principal investigators, since there is no similar conceptual framework. This conceptual framework has four main factors: socio demographic, knowledge, attitudes and practice related barriers which may influence the practice of non-pharmacological pain management methods.

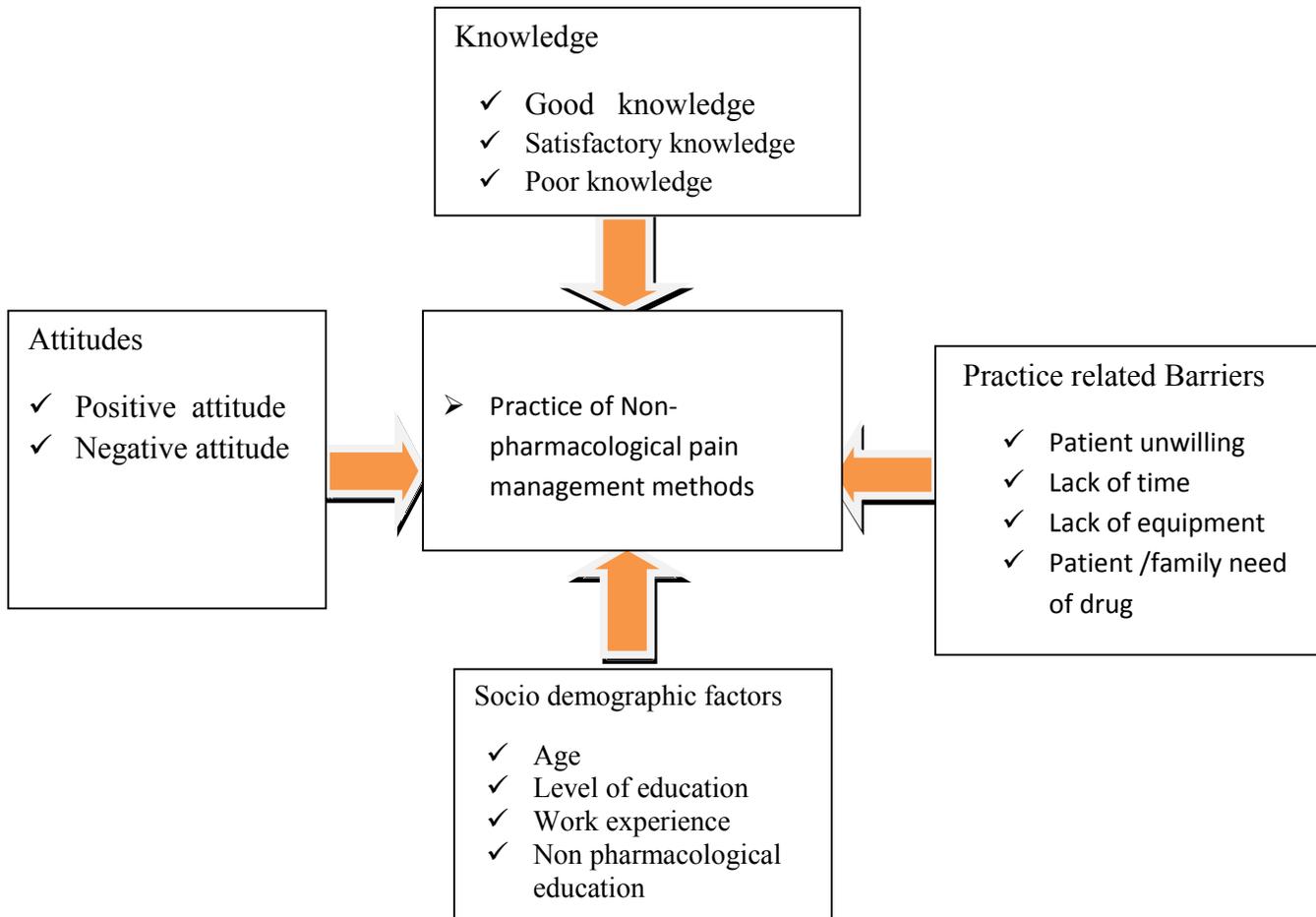


Figure1. Self developed Conceptual framework of the study.

## **CHAPTER 3: Objectives of the study**

### **3.1. General objective**

The general objective of this study is:

To assess nurses' knowledge, attitudes and practice of non-pharmacological pain management therapies and techniques when caring for patients in selected governmental health institutions in West Gojjam zone, Amhara regional state, Ethiopia, 2014.

### **3.2. Specific objectives**

The specific objectives of this study are:

1. To assess nurses' knowledge on non-pharmacological pain management therapies and techniques.
2. To assess nurses' attitude towards non-pharmacological pain management therapies and techniques.
3. To assess nurses' practice of non-pharmacological pain management therapies and techniques.
4. To assess practice related barriers.
5. To find the association between background factors (age, level of education, work experience, non-pharmacological education, knowledge and attitude) and the use of non-pharmacological therapies to manage pain.

## **CHAPTER 4: Methods and Materials**

### **4.1. Back ground of the Study Area**

The study was conducted in West Gojjam zone, which is one of the Zone in Amhara regional state and West Gojjam zone is located in the northern part of the Country at 565km from Addis Ababa. It is bordered on the south by the Abay River which separates it from the Oromia Region and Benishangul-Gumuz Region, on the west by Agew Awi, on the northwest by North Gondar, on the north by Lake Tana, and the Abay River which separates it from the South Gondar, and on the east by East Gojjam. West Gojjam has 18 woredas. Within the zone there are 90 health centers and 1 hospital with 856 nurses(46).

### **4.2. Study Design**

Cross-sectional study was carried out to assess nurses' knowledge, attitudes and practice of non-pharmacological pain management therapies and techniques when caring for patients in selected governmental health care settings in West Gojjam zone, Amhara regional state, Ethiopia, 2014.

### **4.3. Study period**

The study was conducted from November 2013 to May 2014.

### **4.4. Population**

- 4.4.1. **Source population:** All nurses who were full time workers in West Gojjam zone governmental health care institutions.
- 4.4.2. **Study population:** Nurses who were working at randomly selected woredas in West Gojjam governmental health care institutions.

### **4.5. Inclusion and exclusion criteria for the study population**

#### **4.5.1. Inclusion criteria**

Nurses who were working at randomly selected woredas in West Gojjam governmental health care institutions available during the study period and willing to participate in the study.

#### **4.5.2. Exclusion criteria**

- Nurses who were not available at the time of data collection and those who decided to exercise their right not to participate in the study.

#### 4.6. Sample size determination and sampling procedure

##### 4.6.1. Sample Size Determination

The sample size was determined by the assumption that 50% of nurses' have knowledge and positive attitude to practice non pharmacological pain management with 5% marginal error and 95% CI ( $\alpha = 0.05$ ) and none response rate of 10%. Based on this assumption, the actual sample size for the study was determined using the formula for single population proportion

$$S = \frac{(Z A/2)^2 * P (1-P)}{D^2}$$

Where:

S = the required sample size

Z= standard score corresponding to 95% CI

P= assumed proportion of knowledge, attitude and practice of non pharmacological methods.

D= the margin of error 5%

$$S = \frac{(1.96)^2 * 0.5(1-0.5)}{(0.05)^2}$$

$$S = 384$$

The total number of nurses in the West Gojjam zone is 856. So since this figure is below 10,000 we used the following adjustment formula for the sample size determination:

$$S = n / (1 + n/N)$$

Where,

n = sample size for population of size above 10,000

N = number of nurses in the zone.

Therefore,  $S = 384 / (1 + 384 / 856)$

$$S = 265$$

But the sampling procedure is a multi stage (two stages), so design effect which is 2 was considered. Therefore, the sample size of this study is  $265 * 2 = 530$  nurses.

None response rate 10% is = 53

Therefore, the required sample size of this study is  $530 + 53 = 583$  nurses.

#### **4.6.2. Sampling procedures**

Simple random sampling method was used in this study. The primary sampling units, the woredas were selected by simple random sampling. The sample size was distributed to the health settings in the selected woredas by population proportion to size (PPS) formula.

In West Gojjam zone there are 18 woredas (North Achefer, South Achefer, Mecha, Bahir Dar Zuria, Merawi Town, Quarit, Sekela, Dega Damot, Jabi Tenan, Bure twon, Denbecha, Wonberma, Finote Selam Twon, Yilmana Densa, Bure zuria, Gonji Kolela, Adet Town and Denbecha Town). From 18 woreda eleven woreda (North Achefer, South Achefer, Mecha, Merawi Twon, Dega Damot, Finote Selam Twon, Bure twon, Bure zuria, Jabi Tenan, Quarit, and Sekela) were selected. In these eleven woredas there are 60 health centers and 1 hospital with 596 nurses. By proportionate sampling method 583 nurses were included in the study as the study participant

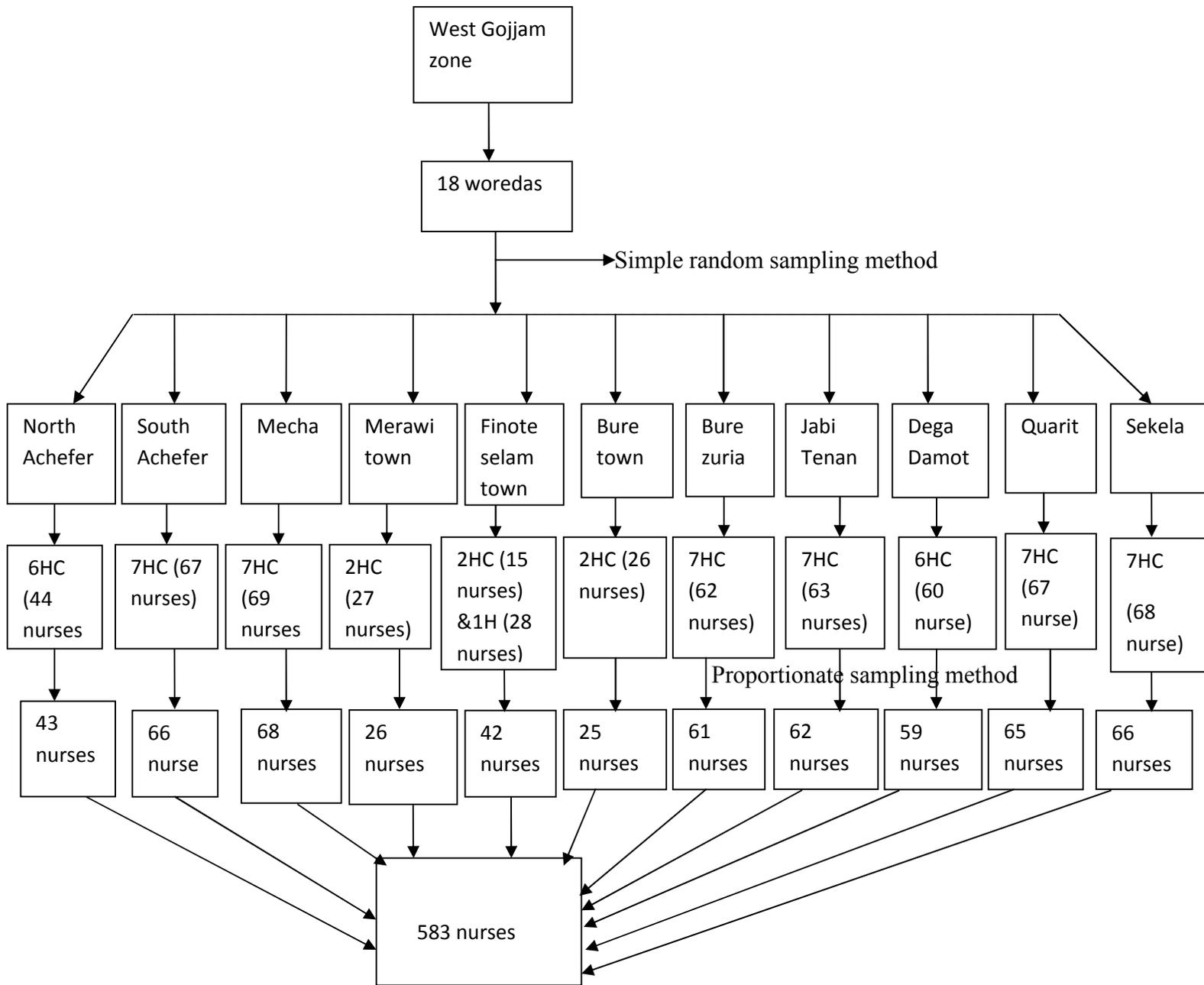


Figure.2. Schematic presentation of sampling procedure

## **4.7. Data Collection procedure**

### **4.7.1. Instrument**

A structured self-administered questionnaire was used to collect data from participants. It was adapted from Bicek E. Kipkorir, C. Hanan et al (8, 37-38) with some modification by researcher. And it was presented in English and interpreted to Amharic then back to English. It consisted of both closed and open ended questions and had five parts.

**Part one: Nurses characteristics questionnaire:** It included questions about the following data: age, gender, level of education, years of experience, any non pharmacological education, whether there are any pain assessment tools and whether these tools are used, what non pharmacological pain management methods use and extent of use and benefits of using non-pharmacological methods.

**Part two:** Nurses' knowledge assessment questionnaire regarding non-pharmacological pain management.

**Scoring System:** Analyzing nursing knowledge regarding using non-pharmacological methods of pain was plotted under three main categories:

- <60% Poor knowledge
- 60-75% Satisfactory knowledge
- >75% Good knowledge

**Part three: Nurses' attitude assessment questionnaire:** It included statements pertaining to the use of non-pharmacological methods in pain management among patients in which the nurse chooses alternatives that best represent her/his attitudes, such as willingness to prepare the patient for the procedure, encouraging the patient to think about/imagine pleasant and positive matters when s/he feels pain, trying to focus patient's thoughts/attention away from pain, encouraging patients to relax and teaching them correct breathing technique, involve the family in pain management program and environmental decoration.

### **Scoring System**

This consists of two grades ranging from 0-1. Grade 0=disagree, 1=agree.

For analysis the nursing attitude regarding non-pharmacological methods for pain management were plotted under two main categories ( $\geq 60\%$  positive and  $< 60\%$  negative) after having divided the total attitude questions in to five items (Willingness to prepare the patient to the procedure, Encouraging the patient to use the methods, teaching the patient about the methods, Environmental decoration, thinking about family involvement in pain management).

**Part four: Nurses' practice assessment questionnaire:** It included statements pertaining to the use of non-pharmacological methods in pain management among patients in which the nurse chooses alternatives that best represent her/his practices, such as position change, distraction, touch, thermal regulation, massage and environmental comfort, heat/cold application

#### **Scoring System**

This consists of five grades ranging from 1-5. Grade 1= not at all, 2 = very seldom, 3= sometimes, 4 nearly always, and 5 = always.

For analysis the nursing practices regarding non-pharmacological methods for pain management were plotted under two main categories ( $\geq 60\%$  satisfactory and  $< 60\%$  unsatisfactory) after having divided the total practices to seven items (position change, distraction, touch, thermal regulation, massage and environmental comfort, heat/cold application).

#### **Part five: Practice related barrier questionnaire**

##### **4.7.2. Personnel**

Data collector were nurses who had diploma or above in nursing profession. Data collectors were responsible to distribute the questionnaire to the participants, collecting the questionnaire after the participants finished and submitting the filled questionnaire to the principal investigator timely.

##### **4.7.3. Data Quality control**

Training was given to 10 data collectors for 3 days to control the quality of the data. In order to evaluate the clarity of the questions in the questionnaire and to ensure that the validity and reliability of the instrument and the reactions of the respondents to the questions, pre-test was done on 29 nurses who were fulfilled the criteria prior to the actual data collection. After pretest, unclear statements in the questionnaire were corrected or changed. The collected data

during pretest were not included in the main data. Frequent supervision and monitoring over all activities of the study was done during data collection and each questionnaire was checked whether they are filled or not by the principal investigator and supervisors.

#### **4.8. Data Processing and Analysis**

Of the 583 questionnaires distributed personally among the data collectors 544 questionnaires were received back with a response rate of 93.3%. This number is higher to the sample of other studies that have analyzed the knowledge, attitude and practice (8). The collected data was cleaned, coded and entered in Epi Info version 3.5.4 and transferred to SPSS version 20.0 for analysis. Descriptive statistics like frequency and percentage was used to summarize the socio-demographic characteristics of the study participants. To know whether there is association or not between socio demographic characteristics, knowledge, attitude and non pharmacological pain management practice, odds ratio, bivariate and multivariate regression analysis were used with non pharmacological pain management practice as the dependent variable, and socio demographics characteristics, knowledge and attitudes, as independent variables at a P value of 0.05.

#### **4.9. Variables of the study**

##### **4.9.1. Dependent variable:**

- ✓ Practice of non pharmacological pain management methods

##### **4.9.2. Independent variables:**

- ✓ Socio demographics like; Age, Level of education, Work experience, non pharmacological education
- ✓ Knowledge
- ✓ Attitude
- ✓ Practice related barriers like; lack of time, patient unwilling, lack of equipment, patient/family need of drug

#### **4.10. Conceptual Definitions**

**Pain:** Pain is unpleasant sensory and emotional experience associated with actual or potential tissue damage.

**Acute pain:** Acute pain is short lasting and usually manifests in ways that can be easily described.

**Chronic pain:** Chronic pain is defined as pain lasting more than six months

**Pain management:** Pain management is the relieve of pain or reduction in pain to a level that is acceptable to the client.

**Non-pharmacological pain management:** Non pharmacological or complementary therapies are methods that help to decrease pain without the use of medication.

**Therapy:** Therapy is the treatment of physical, mental, or social disorders or disease.

**Technique:** Technique is a systematic procedure by which a complex or scientific task is accomplished

#### **4.11. Operational definitions**

The following words are defined based on the previous research (39).

**Knowledge:** - A familiarity, awareness or understanding of nurses regarding non pharmacological pain management methods gained through experience or study.

**Good knowledge:** - Those study participants who scored points more than 75% out of prepared knowledge questions.

**Satisfactory knowledge:**-Those study participants who scored points 60-75% out of prepared knowledge questions.

**Poor knowledge:** - Those study participants who scored points<60% out of prepared knowledge questions.

**Attitude:** - Pattern of nurses' mental views towards non pharmacological pain management methods.

**Positive attitude:**-Those respondents who have positive outlook towards non-pharmacological pain management therapies and who scored points equal to and more than 60% out of the prepared attitude questions.

**Negative attitude:** - Those study participants who have negative outlook towards non-pharmacological pain management therapies and who scored points less than 60% out of the prepared attitude questions.

**Practice:** - Nurses' activities or behavioral experience in relation to non pharmacological pain management

**Satisfactory level of practice:**-Those study participants who scored points equal to and more than 60% out of prepared practice questions.

**Unsatisfactory level of practice:**-Those study participants who scored points less than 60% out of prepared practice questions

#### **4.12. Ethical Considerations**

Ethical clearance and approval to conduct this research was obtained from Addis Ababa University, college of Allied health science, department of nursing and midwifery, Research and Ethical Review Committee. An official letter was written from AAU to West Gojjam Zone and permission to conduct the study was requested from the West Gojjam Health Bureau. The ethical considerations were taken into account the personal and revealing nature of the study, which required that voluntary, informed consent was obtained from the participants using the consent form designed for this study. The collected information was recorded anonymously and the confidentiality was maintained. Participants were informed that their participation was voluntary and that they can withdraw from the study at any time if they wished to do so. Prior to administering the questionnaire, the aims and objectives of the study were clearly explained to the participants and written informed consent was obtained.

#### **4.13. Dissemination of results**

The results of the study will be presented and submitted to Addis Ababa University, college of Allied Health Sciences, Department of Nursing and Midwifery. The result will be submitted to West Gojjam Health Bureau and the study Woredas Health Bureau. The study abstract will be presented in associations like Ethiopian Nursing Association (ENA) and other international associations during continuous medical education events or conferences organized by these associations. The summary of the thesis will be submitted to the international or national peer reviewed journal for publication.

## Chapter 5: Results

The result is presented in two parts. The first part describes the overall findings of the study in descriptive statistics, while the second part comprises the inferential statistics.

### 5.1. Descriptive statistics

A total of 544 respondents were participated in the study. As showed (in table1) below more than half of the respondents were females 289 (53.1%). The sample included; people in all age groups from 20 or below-50+ years of age; however, the most common age represented was 21-29 group or 202 (37.1%) of the sample. Fifty seven percent of nurses were married and nurses with their diploma made up 460 (84.6%) of the sample, but those with baccalaureate 84 (15.4%), and there was no record of masters and PhD level. The years of experience was measured by the nurses circling the range of years since their first employment. The largest range of years since their first employment was 0-9, which was 429 (78.9%) of the nurses.

Seventy percent of the participants said that they have had some classes on non pharmacological pain management. Most 229 (42.1%) respondents had 0-5 hours of non pharmacological education in the last 2 years, so it is somewhat surprising that nurses have so few hours of education in this area. When nurses were asked where they attained most of their knowledge about non pharmacological pain management methods, 321(59%) said they received the knowledge in nursing practice since graduation and 61 (11.2%) from formal nursing school education. Of the 162(29.8%) of nurses that said they did not have any classes on non pharmacological pain management, 152 (29.7%) said they wished to have more education in this area. Among all of the nurses that completed the survey only 152(29.7%) said there is a pain assessment tool available on their unit, and 67(15.3%) of them said they use it.

**Table 1: Socio-demographic characteristics of study participants in West Gojjam, Amhara region, Ethiopia, April 2014 (n=544).**

Variables		Frequency (n)	Percentage (%)
Gender	Female	289	53.1
	Male	255	46.9
Age in years	20 years or lower	63	11.6
	20-29 years	202	37.1
	30-39 years	125	23.0
	40-49 years	99	18.2
Marital status	50+	55	10.1
	Married	311	57.2
	Single	220	40.4
	Divorced	7	1.3
Level of education	Widowed	6	1.1
	Diploma	460	84.6
	Baccalaureate	84	15.4
Year Work experience	0-9	429	78.9
	10-19	91	16.7
	20-29	24	4.4

**Table 2: Demographic pain practice of study participants in West Gojjam, Amhara region, Ethiopia, April 2014(n=544).**

Characteristics		Frequency(n)	Percentage (%)
Any Non pharmacological Classes	Yes	382	70.2
	No	162	29.8
Hours of non pharmacological class <b>n=382</b>	0-5 hours	229	42.1
	6-10 hours	56	10.3
	11-15 hours	19	3.5
	More than 15 hours	78	14.3
Where was Pain Education <b>n=382</b>	In formal Nursing school	61	11.2
	Nursing practice since graduation	321	59.0
Want More Non-pharm. Education <b>n=162</b>	Yes	152	27.9
	No	10	1.8
Pain Tool on Unit <b>n=544</b>	Yes	152	27.9
	No	392	72.1
Use Pain Tool on Unit <b>n=152</b>	Yes	67	15.3
	No	85	15.6

### **Non pharmacological Pain Management Therapies Nurses Utilize**

Nurses were asked to write down what non pharmacological pain management therapies they could use. The most common therapy mentioned was heat/cold 398 (73.2%), distraction 299 (55%), change of position 294 (54%) and Massage were cited by 292 (53.7%), of the nurses filling out the survey. Nurses listed many other non pharmacological therapies that could be used to relieve pain like advice, helping daily activities and favorite food.

**Table 3: Nurses' utilization of non-pharmacological Methods in West Gojjam, Amhara region, Ethiopia, April 2014(n=544)**

Variables	Frequency (n)	Percentage (%)
Non-pharmacological therapies listed		
Heat/cold	398	73.2
Distraction	299	55
Position change	294	54
Massage	292	53.7

### **Extent Nurses Use Non pharmacological Pain Management**

Nurses were asked to circle how often they use the non pharmacological therapies they listed. They could choose from 'everyday', 'at least 3 times a week', 'once a week', 'once every other week', 'once a month', and 'never.' The mode was 'once a month.' Forty-three percent of nurses said they used non pharmacological pain management therapies' once a month.' Seventeen percent of nurses answered 'never.'

**Table 4: nurses' extent of non-pharmacological use in West Gojjam, Amhara region, Ethiopia, April 2014(n=544)**

Variables	Frequency(n)	Percentage (%)
always	23	4.2
at least 3 times a week	63	11.6
once a week	81	14.9
every other day	51	9.4
once a month	234	43.0
never	92	16.9

**Benefits of Using Non- pharmacological Therapies**

Nurses were asked an open ended question to list any benefits of non pharmacological therapies and common themes were found from their responses. Fewer side effects was listed as the most prominent benefit 449 (82.5%) Other popular responses that nurses wrote related to the benefits were: more patient control 380 (69.9%), relaxing 333 (61.2%), less medication needed 360 (66.2%), less expensive 353 (64.9%) and doesn't need expert and saves time were answered by nurses.

**Table 5: Benefits of using non-pharmacological pain management therapies in West Gojjam, Amhara region, Ethiopia, April 2014 (n=544).**

Benefits listed	Frequency(n)	Percentage (%)
Less side effects than medication	449	82.5
More patient control	380	69.9
Less medication needed	360	66.2
Less expensive	353	64.9
Relaxing	333	61.2

**Knowledge of nurses regarding non pharmacological pain management methods**

From total of 544 nurses 281(51.7%) of nurses were at a satisfactory level of knowledge and the rest were at good and poor level of knowledge 299 (42.1%) and 34 (6.3%) respectively.

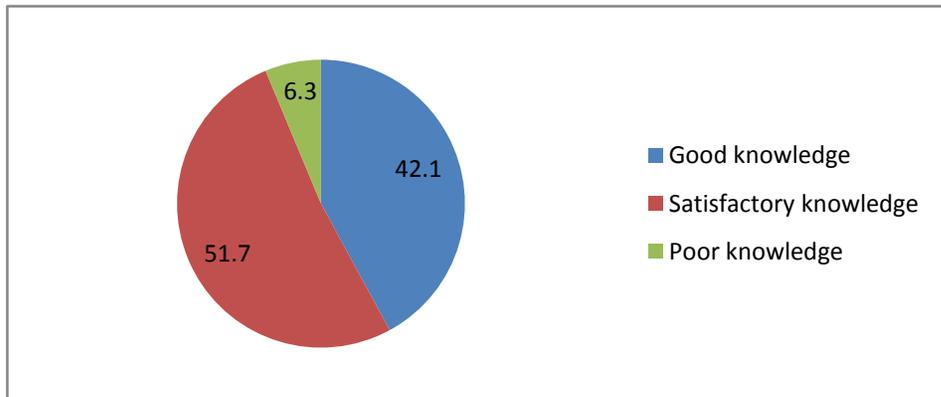


Figure 3: Percentages distributions of nurses' knowledge scores regarding non-pharmacological methods of pain management therapies in West Gojjam, Amhara, Ethiopia April 2014.

### Attitudes of nurses regarding non pharmacological pain management methods use

A majority of subjects have had a positive attitude of (Willingness to prepare the patient to the procedure, teaching the patient about the methods, encouraging the patient to use the methods, (80%, 79% and 75.5% respectively) and had a negative attitude on family involvement in pain management programs and environmental decoration (54.7% and 52% respectively).

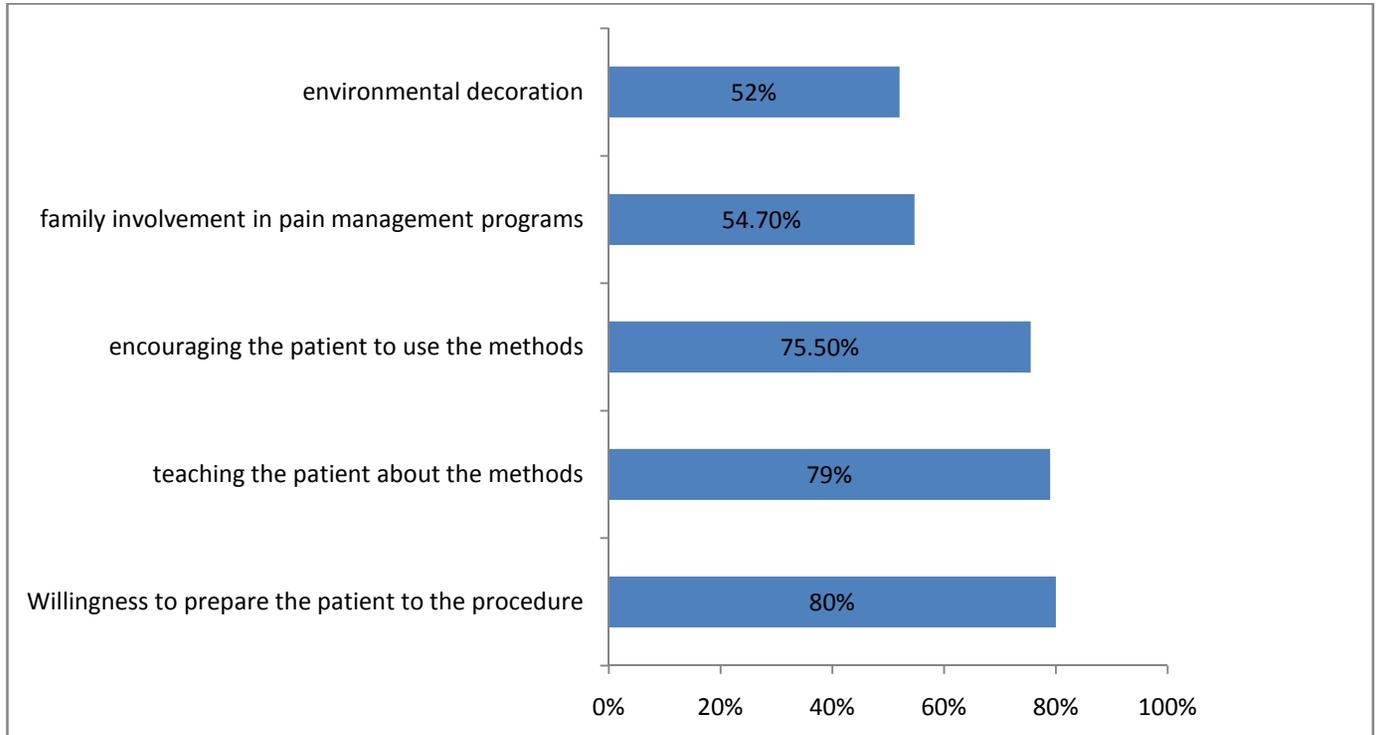


Figure 4: Percentages distributions of nurses' attitude scores regarding non-pharmacological methods of pain management therapies in West Gojjam, Amhara, Ethiopia, April 2014.

### Practices of nurses regarding non pharmacological pain management methods

Nurses show unsatisfactory level of practice in (position change, massage, distraction, touch, and environmental comfort (58.3%, 57.6%, 55%, 54%, and 53% respectively) and satisfactory level in thermal regulation, heat/cold application (64% and 61.5% respectively). Twenty-two percent of nurses used position changes 'nearly always' or 'always' to relieve pain, and 34.4% used massage 'sometimes.' Thermal regulation was used 56.6% of the time 'sometimes' and heat/cold application was used 53.7% of the time 'sometimes.' The nurses also used advice, helping with daily activities; however, the environmental decoration and touch were used less often and were less well known.

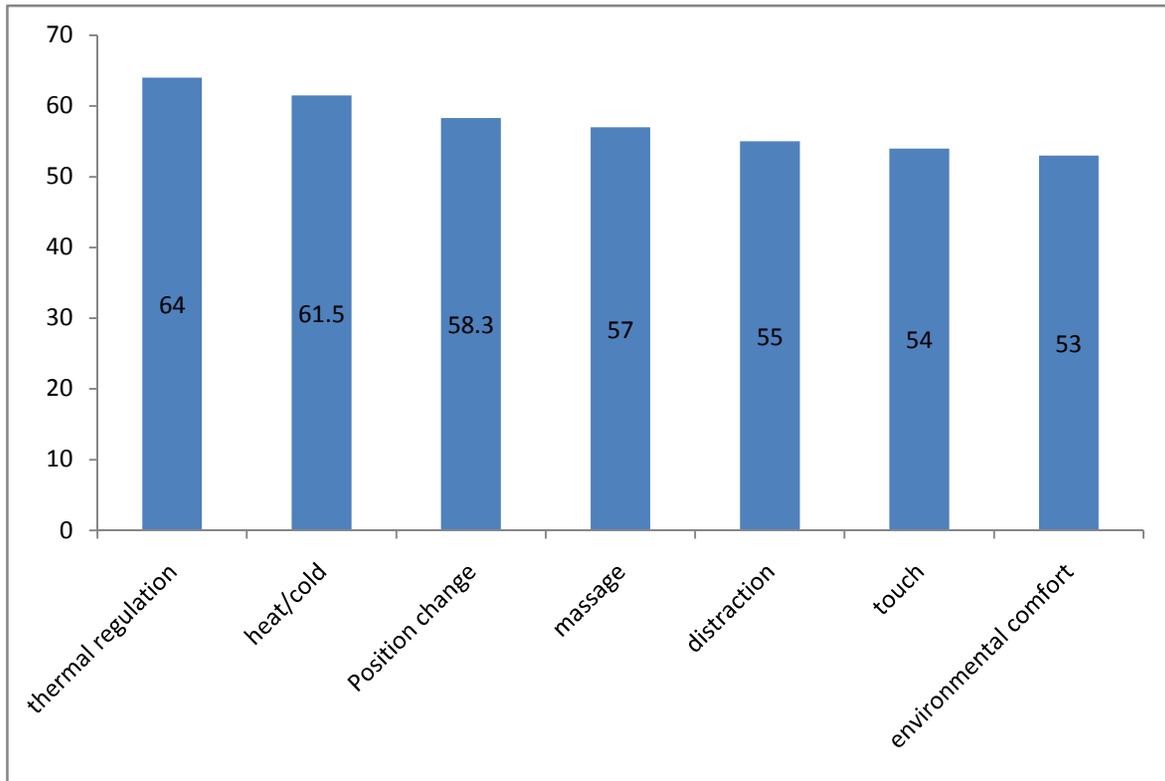


Figure 5: Percentages distributions of nurses' practice scores regarding non-pharmacological methods of pain management therapies in West Gojjam, Amhara, Ethiopia, April 2014.

### **Barriers to Using Non-pharmacological Therapies**

Participants were asked an open-ended question to identify the barriers they perceived to using non-pharmacological pain management therapies. Ninety percent of the nurses answered this question and their responses were grouped to find common themes. The largest barrier identified by 210 (38.6%) of the nurses responding was lack of time, patient unwilling 177 (32.5%), lack of equipment 71 (13.1%), family/patient needs pill 54(9.9%) and lack of attention, lack of knowledge and age of the patient were other barriers listed by nurses.

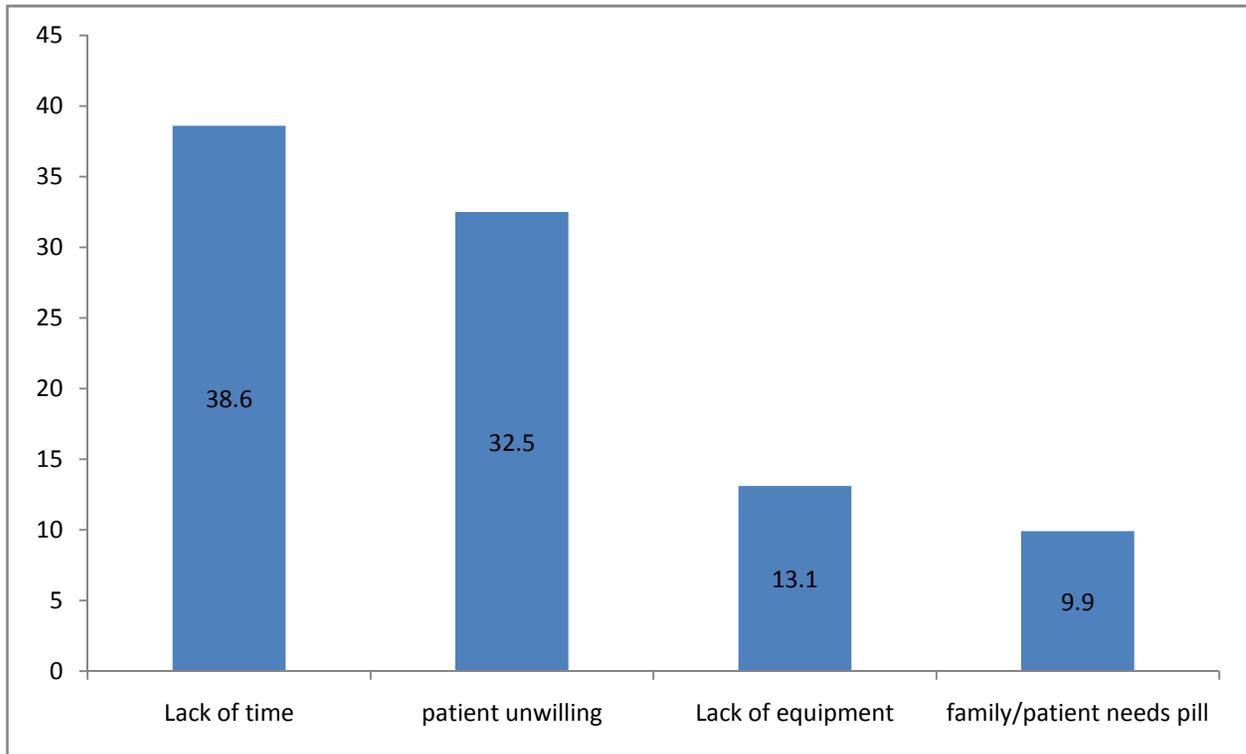


Figure 6: Percentages distributions of main barriers that prevent nurses' from practice of non-pharmacological methods of pain management therapies in West Gojjam, Amhara, Ethiopia, April 2014.

## 5.2. Inferential statistics

In this section, the overall results given above are further analyzed to elicit possible associations that will contribute to making inferences.

In binary regression analysis age, level of education, work experience, non-pharmacological education, knowledge and attitude were found statistically associated with nurses' practice of non-pharmacological pain management methods with P –value <0.05 (Table 6).

**Table 6: Binary logistic regression of factors and non pharmacological pain management practice of nurses in West Gojjam, Amhara region, Ethiopia, April 2014 (n=544).**

Variables	Practice		p-value	Odds ratio	95.0% C.I. for EXP (B)		
	Unsatisfactory	satisfactory			Lower	Upper	
Age	20 or below	48 (16.3%)	15 (6.0%)		1.00	1.00	1.00
	21-29	125 (42.4%)	77 (30.9%)	.039	1.971	1.034	3.759
	30-39	59 (20.0%)	66 (26.5%)	.000	3.580	1.817	7.050
	40-49	38 (12.9%)	61 (24.5%)	.000	5.137	2.532	10.420
	50+	25 (8.5%)	30 (12.0%)	.001	3.840	1.750	8.427
Work experience	0-9	262 (88.8%)	167 (67.1%)		1.00	1.00	1.00
	10-19	24 (8.1%)	67 (26.9%)	.000	4.380	2.643	7.257
	20-29	9 (3.1%)	15 (6.0%)	.026	2.615	1.119	6.111
Level of education	Diploma	236 (80.0%)	224 (90.0%)		1.00	1.00	1.00
	Baccalaureate	59 (20.0%)	25 (10.0%)	.002	1.446	1.270	2.738
Non pharmacological education	No	106 (35.9%)	56 (22.5%)		1.00	1.00	1.00
	Yes	189 (64.1%)	193(77.5%)	.001	1.933	1.321	2.829
Knowledge	Poor	30 (10.2%)	4 (1.6%)		1.00	1.00	1.00
	Satisfactory	153 (51.9%)	128 (51.4%)	.001	6.275	2.154	18.281
	Good	112 (38.0%)	117 (47.0%)	.000	7.835	2.674	22.955
Attitude	Negative	192 (65.1%)	57 (22.9%)		1.00	1.00	1.00
	Positive	103 (34.9%)	192 (77.1%)	.000	6.279	4.292	9.185

### 5.3. Multivariate analysis

The next step in the analysis was to examine the importance of the variables in multiple logistic regression analysis. The results of logistic regression are presented in terms of adjusted odds ratios. Adjusted odds ratio close to 1.0 indicates that the variable has the minor importance for practice. Adjusted odds ratio over 1.0 indicates a positive association (i.e. a higher a variable is scored the stronger is the practice) and below 1.0 a negative association to practice (i.e. a higher a variable is scored, the lesser is practice).

In multivariate logistic regression analysis, only those variables which were associated with practice of any variable p-value <0.05 were entered. After adjustment age, work experience category two, level of education, non-pharmacological education, good knowledge, and attitude, were significantly associated to nurses' practice of non pharmacological methods. In multiple logistic regressions age, work experience category two, level of education and non – pharmacological class were significantly associated to practice from the socio-demographic characteristics of nurses. Nurses who had age 21-29years 2.172 times more likely to practice than nurses that 20 or less year old (P- .040, 95% C.I. 1.038-4.548) and nurses who had age 50+ 4.363 times more likely to practice than nurses that less or equal to 20 year old (P- .002, 95% C.I. 1.738-10.948). Nurses who had work experience of 10-19 years 7.563 times more likely to practice than nurses who had work experience of 0-9years (p- .000, 95% C.I. 3.775-15.151). Work experience of 20-29 year was not significantly associated with practice. Level of education was significantly associated with practice (P-.000, 95% C.I.1 .143-2.497). Nurses who had baccalaureate degree had 1 .267 times more likely use non pharmacological methods as compared to nurses who had diploma. Similarly non pharmacological class was significantly associated with practice (P- .003, 95% C.I. 1.274-3.210). Nurses who had non pharmacological class in their previous time had 2.022times more likely to practice as compared to nurses who had no class.

Good knowledge also significantly associated to practice (p- .042, 95%C.I., 1.047-11.878). Nurses who had good knowledge 3.526 times points more likely to use the method as compared to nurses who had poor knowledge. Satisfactory level of knowledge was not significantly associated with practice. The study findings also indicate a significant association between attitude and nurses' practice (P-.000, 95% C.I., 4.921-12.070). Nurses who had positive attitude 7.707 times points more likely to practice as compared to nurses who had negative attitude.

**Table7: Factors associated with practice of nurses in West Gojjam, Amhara region, Ethiopia, April 2014 (n=544).**

Variables	Practice		p-value	AOR	95.0% C.I. for EXP(B)		
	Unsatisfactory	Satisfactory			Lower	Upper	
Age	20 or below	48 (16.3%)	15 (6.0%)		1.00	1.00	1.00
	21-29	125 (42.4%)	77 (30.9%)	.040	<b>2.172</b>	1.038	4.548
	30-39	59 (20.0%)	66 (26.5%)	.006	<b>3.099</b>	1.387	6.926
	40-49	38 (12.9%)	61 (24.5%)	.000	<b>6.365</b>	2.767	14.642
	50+	25 (8.5%)	30 (12.0%)	.002	<b>4.363</b>	1.738	10.948
Work experience	0-9	262 (88.8%)	167 (67.1%)		1.00	1.00	1.00
	10-19	24 (8.1%)	67 (26.9%)	.000	<b>7.563</b>	3.775	15.151
	20-29	9 (3.1%)	15 (6.0%)	.317	1.732	.591	5.079
Level of education	Diploma	236 (80.0%)	224 (90.0%)		1.00	1.00	1.00
	Baccalaureate	59 (20.0%)	25 (10.0%)	.000	<b>1.267</b>	1.143	2.497
Non pharmacological class	No	106 (35.9%)	56 (22.5%)		1.00	1.00	1.00
	Yes	189 (64.1%)	193 (77.5%)	.003	<b>2.022</b>	1.274	3.210
Knowledge	Poor	30 (10.2%)	4 (1.6%)		1.00	1.00	1.00
	Satisfactory	153 (51.9%)	128 (51.4%)	.061	3.179	.947	10.673
	Good	112 (38.0%)	117 (47.0%)	.042	<b>3.526</b>	1.047	11.878
Attitude	Negative	192 (65.1%)	57 (22.9%)		1.00	1.00	1.00
	Positive	103 (34.9%)	192 (77.1%)	.000	<b>7.707</b>	4.921	12.070

## **Chapter 6: Discussion**

Discussion of the findings will cover five main areas. First, the socio-demographic characteristics of the group under study and nurses' assessment regarding use of non-pharmacological methods of pain management.

Second, nurses' knowledge regarding use of non-pharmacological methods of pain, Third attitudes regarding use of non-pharmacological methods of pain, Fourth, practices as reported by nurses regarding the use of non-pharmacological methods for pain management, Fifth the barriers that prevent nurses from use of non-pharmacological methods of pain management.

First, the socio-demographic characteristics of the studied sample and nurses' assessment regarding use of non-pharmacological methods of pain management:

The results of the current study revealed that the most common age group among subjects of the study sample was 21-29 years and more than half of respondents (53.1%) were female.

These findings were congruent with an earlier study done at Makkah El-Mukarramah (39) which reported the demographic characteristics of the participating nurses comprised a majority who were 20 to 30 years old, and most of whom (72.5%) were female. In addition, the study showed that the largest percentage of the study sample had between 0-9 years of experience. These results were congruent with a previous study in BroMenn Regional Medical Center (8) which reported that most of the members studied had fewer than 10 years' experience (55.3%). With regard to the level of education, the current study shows that all of the subjects in the study have Diplomas or Bachelor degrees. There was no record of Masters or PhD degree. These results were congruent with a previous study done in Makkah El-Mukarramah (39) which reported that most of the subjects in the study have diplomas (70%) or Bachelor degrees (52.5%). Only a very small number of subjects in the study held a Masters degree. This study found that Seventy percent of the participants have had some classes on non pharmacological pain management. Most (42.1%) respondents had 0-5 hours of non pharmacological education in the last 2 years. These results were congruent with a previous study done in BroMenn Regional Medical Center (8) which reported that most (57.8%) nurses responding had only zero to five hours of pain education. And (59%) of nurses received the knowledge in nursing practice since graduation and 61 (11.2%) from formal nursing school education. Of the (29.8%) of nurses that said they did not have any classes on non

pharmacological pain management, (29.7%) of them wished they had more education in this area. This study were also congruent with a study done in BroMenn Regional Medical Center(8) which reported that 80.4% said they received the knowledge in nursing practice since graduation as opposed to formal nursing school education and (77%) of the participants have had some classes on non-pharmacological pain management. Of the 32.6% of nurses did not have any classes on non-pharmacological pain management, 26% of them wished to have more education in this area. Among all of the nurses that completed the survey only (29.7%) said there is a pain assessment tool available on their unit, and (15.3%) of them said they use it. These findings were incongruent with a research done at BroMenn Regional Medical Center (8)which reported that all of the nurses that completed the survey said there is a pain assessment tool available on their unit, and all of them said they use it. The possible explanation may be due to; economical deference and also this study included both the hospital and health center nurses. The inclusion of health center may increases the absence of pain assessment tools and decreases the use of tools.

The results of the current study revealed that the most common therapy mentioned by nurses were heat/cold (73.2%), distraction (55%), change of position (54%) and Massage were cited by (53.7%), of the nurses filling out the survey. Nurses listed many other non pharmacological therapies that could be used to relieve pain like advice, helping daily activities and favorite food. This study was congruent with the study done in BroMenn Regional Medical Center (8)which reported the most common therapy mentioned was change of position (53.2%). Massage, distraction, and heat/cold were cited by 51.1 % of the nurses filling out the survey. The result of this study found that Forty-three percent of nurses said they used non pharmacological pain management therapies' once a month.' Seventeen percent of nurses answered 'never.' This study was incongruent with a study (8)which reported that Forty-two percent of nurses said they used non pharmacological pain management therapies' at least 3 times a week.' No one answered 'never.' This is may be; due to cultural difference, lack materials and lack of knowledge.

The results of this study revealed that the benefits listed by participants were; fewer side effects (82.5%), more patient control (69.9%), relaxing (61.2%), less medication needed (66.2%), less expensive (64.9%) and doesn't need expert and it saves time. This was congruent with the study done in the previous (8) which reported that fewer side effects were listed as the most

prominent benefit (40.4%). Other popular responses that nurses wrote related to the benefits were: more patient control (19.1 %), less medication needed (12.8%), and more one on one time with the patient (10.6%). It is also congruent with a study done in Australia (12) which reported as a unique opportunity to develop a therapeutic relationship with the patient, pain relief while waiting for a drug to work, more control over their pain, and distraction during painful procedures.

Second, nurses' knowledge regarding use of non pharmacological methods of pain management:

In relation to the level of knowledge, the results of this study showed that (51.7%) of nurses were at a satisfactory level of knowledge and the rest were at good and poor level of knowledge (42.1%) and (6.3%) respectively. This was incongruent with a study done at Makkah EI-Mukarramah in 2013 (39) which reported as the level of knowledge of nursing staff were in the satisfactory and good level (12.5% and 87.5% respectively). This is may be due to curriculum difference regarding non pharmacological pain management.

Third, Attitudes of nurses regarding non pharmacological pain management methods use Results of this study showed that a majority of subjects have had a positive attitude of (Willingness to prepare the patient to the procedure, teaching the patient about the methods, encouraging the patient to use the methods (80%, 79%, 75.5% and respectively) and had a negative attitude on family involvement in pain management programs and environmental decoration (54.7% and 52% respectively). This study was congruent with a research (39) regarding Willingness to prepare the patient to the procedure, encouraging the patient to use the methods, teaching the patient about the methods which reported as majority of subjects have achieved a satisfactory level inpatient's preparation, massage, distraction, thermal regulation and (85%, 80%, 77.5%, 72.5%) and incongruent regarding touch and environmental comfort which reported as 100%, and 95% respectively. This is may be due to cultural difference and lack of knowledge.

Fourth, Practices of nurses regarding non pharmacological pain management methods In this study nurses show unsatisfactory level of practice in (position change, massage, distraction, touch, and environmental comfort (58.3%, 57.6%, 55%, 54%, and 53% respectively) and satisfactory level in thermal regulation, heat/cold application (64% and 61.5% respectively). This was incongruent with the study (39) which reported as the nurses show an

unsatisfactory level in thermal regulation and environmental comfort (52.5%,42.5% respectively) and a satisfactory level in distraction, massage, patient's preparation and touch, (92.5%, 67.5%,65%,60%respectively). This is may be due to cultural, economical and curriculum difference. Twenty-two percent of nurses used position changes 'nearly always' or 'always' to relieve pain, and 34.4% used massage 'sometimes.' Thermal regulation was used 56.6% of the time 'sometimes' and heat/cold application was used 53.7% of the time 'sometimes.' The nurses used advice, helping with daily activities; however, the environmental decoration and touch were used less often and were less well known. This result is congruent with study done in Finland (33) regarding thermal regulation and incongruent regarding position change and massage which reported as ninety- eight percent of nurses used position changes 'nearly always' or 'always' to relieve pain, and 72% used massage 'sometimes.' Thermal regulation was used 63% of the time 'sometimes.' The nurses used emotional support, helping with daily activities, and creating a comfortable environment routinely; however, the cognitive behavioral and physical methods like relaxation, distraction, and massage were used less often and were less well known

Fifth, barriers to using non-pharmacological therapies the largest barrier identified by (38.6%) of the nurses responding was lack of time, patient unwilling (32.5%), lack of equipment (13.1%), family/patient needs pill (9.9%) and lack of attention and age of the patient were other barriers listed by nurses. This study was congruent with the study(8) reported as the largest barrier identified by 27.7% of the nurses responding was that the patient is unwilling to try non pharmacological methods of pain relief. Lack of time, lack of knowledge, and efficacy were three other barriers listed by nurses and it is also congruent with a study done in Australia (12)which reported as use of these not considered as standards of practice and lack of resources and knowledge to implement them.

In this study many of the socio-demographic variables were significantly associated with nursing practice. But work experience of 20-29year was not statistically associated with practice. This is may be due to; when nurses become more experience they become more reluctant to use the methods. The results of this study show a positive relationship between age, educational level, years of experience, and attendance on training courses with the practice of nursing staff. This was congruent with a study (37) which reported as nursing education,

professional activity, and years of clinical experience contribute to the knowledge necessary for competency in pain management.

The current study revealed a positive relationship between knowledge and practice of nursing staff regarding non-pharmacological methods. This finding was congruent with (45) which reported as a lack of knowledge regarding non pharmacological methods resulted in poor nursing practice.

The current study revealed a positive relationship between attitude and practice of nursing staff regarding non-pharmacological methods. This finding was congruent with (39) which reported as a positive attitude is the key to successful pain management.

## **Chapter 7: Strength and Limitation**

### **Strength**

1. The sample includes both the hospital and health center nurses.
2. This study is the first in its kind in the area and could generate new ideas about the factors affecting using of non pharmacological pain management methods.
3. The sample size procedure and analysis methods utilized were appropriate to the study and considered as one of the strength of the study

### **Limitation**

1. There are other factors that were not assessed in this study but they may affect nurses' use of non-pharmacological methods
2. Lack of similar study in the country to compare results.
3. The data of this study were collected through questionnaire only. Therefore, accuracy of the feedback is dependent on the voluntary cooperation of the respondents

## **Chapter 8: Conclusion and Recommendation**

### **8.1. Conclusion**

In this cross-sectional study, socio demographic factors, knowledge, attitude contributing to nurses' non-pharmacological practice were analyzed. , socio demographic factors, knowledge and attitude were found significantly associated with nurses' practice. The most common barrier to applying non pharmacological methods was lack of time. The findings reveal a positive relationship between ages, educational level, years of experience, and attendance on training courses with practices and positive relationship between knowledge and attitude with practices of nursing staff regarding implementation of non-pharmacological methods.

### **8.2. Recommendations**

Although the results of a single survey cannot in themselves be considered as a solid foundation for making decisions.

This study recommends:

1. A training should provide to encourage nurses to educate patients about benefits of non-pharmacological methods to relieve pain so they can accept these methods
2. Further study should be conducted in other hospitals and health centers to gain additional information on the level of knowledge, attitude and practice of nurses regarding non-pharmacological methods of pain management.
3. Efforts to improve application of non-drug interventions should focus on innovative educational strategies, using problem solving to secure support, and development and testing of new delivery methods that require less time from busy staff nurse
4. Ministry of health should develop protocol for non pharmacological pain management
5. Top managements should consider organizational-related factors such as lack of pain assessment tools
6. The university should review the curriculum for better preparation of nursing students in non pharmacological pain management
7. West Gojjam zone health bureau should organized in-services training to enhance nurse' competence on pain management

### **8.3. Implications for Nursing**

In this study the factors affecting practice of nurses were assessed. Therefore, the research could increase understanding of the complex issues affecting nurses' practice. All nurses have the responsibility to prevent patients from having unrelieved pain. These responsibilities are outlined in standards of practice, best practice guidelines, and institutional policies and procedures. The implications for nursing from this study include an emphasis of the need for nurses to manage patients' pain. This can be accomplished through regular assessments, using pain intensity ratings and comfort goals along with appropriate interventions and documentation of these findings, in accordance with the standards of practice and institutional policies. Nurses must continue to expand their knowledge of pain management and provide their patients with best pain management methods. Administrators of clinical organizations must ensure proper pain management to their patients and to the community. The primary focus of today's healthcare administrators is to deliver cost-effective care and ensure patient satisfaction. Therefore, non-pharmacological pain management methods are vital to deliver cost-effective.

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## ANNEXES

### Annex I: participant Information Sheet

Good morning/ afternoon?

My name is \_\_\_\_\_. Currently I am a graduate student at Addis Ababa University, college of allied health science department of Nursing and Midwifery. I am conducting a research to assess the nurses' knowledge, attitudes and use of non-pharmacological pain management therapies and techniques.

**Title of the research:** Nurses' Knowledge, Attitudes and Use of Non-pharmacological Pain Management Techniques and Therapies in Selected Government Health Institutions; West Gojjam Zone, Amhara Regional State, Ethiopia, 2014.

**Objective:** To assess the nurses' knowledge, attitudes and use of non-pharmacological pain management techniques and therapies in selected government health institutions; West Gojjam Zone, Amhara Regional State, Ethiopia, 2014.

**Participants:** Nurses working at randomly selected woredas in West Gojjam.

**Potential Risks:** There are no risks associated with this study.

**Benefits:** No financial benefits are associated with this study. By participating in this study you will be increasing knowledge and develop positive attitude to use non-pharmacological pain management methods.

I would like to ask you few questions. Your honest response to the questions can make the study to achieve its' goals. All the information you give will be treated confidentiality, and your anonymity will be maintained at all times. You are kindly requested to respond voluntarily and you can withdraw from the study without supplying any reason. If you have question you can contact me by the following addresses.

Sitotaw kerie: can be reached through a call at 0910325473/ 0913838368

E-mail: [sitkere5@gmail.com](mailto:sitkere5@gmail.com)

[dagnewamare@gmail.com](mailto:dagnewamare@gmail.com)

**Annex II: Informed consent**

Addis Ababa University

College of Allied Health Science

Department of Nursing and Midwifery

I here with declare that:

The objectives of this study are explained to me

The contents of the consent are informed and explained to me to participate in the study.

I understand that participation in this study is completely voluntary and that I may withdraw from it at any time and without supplying reasons. I agree to participate in this study to fill the relevant questionnaire, provided my privacy is guaranteed. When signing this consent form to partake in the study I under take to answer in an honest manner to all reasonable questions and not provide any false information or in any other way purposely mislead the researcher.

Signature of the participant \_\_\_\_\_ date \_\_\_\_\_

Signature of the investigator \_\_\_\_\_ date \_\_\_\_\_

### **Annex III: Questionnaire, English Version**

Addis Ababa University

College of Allied Health Science

Department of Nursing and Midwifery

This questionnaire will gather information about non-pharmacological pain management. It is a standardized questionnaire.

**Instruction: This questionnaire has 5 sections and all questions should be answered accordingly.**

#### **Section I: Socio-Demographic Characteristics of the Participants**

**Please put mark (√) on your own.**

1. Sex                      Male                                            Female
2. Age in years  
                                    20 or below                                            40-49                        
                                    21-29                                            50-59                        
                                    30-39                                            60 or over
3. Marital status:  
                                    Married                                            Divorced                        
                                    Single                                            Widowed
4. Level of education:  
                                    Associate Diploma                                            Master's                        
                                    Baccalaureate                                            PhD

5. Work experience in year:

0-9	<input type="checkbox"/>	30-39	<input type="checkbox"/>
10-19	<input type="checkbox"/>	40	<input type="checkbox"/>
20-29	<input type="checkbox"/>		

**Say YES or NO in the space provided below:**

——1. Have you had any class in non pharmacological pain management in either nursing school or continuing education since graduation?

2. If you answered YES to number 1 about how many hours did you have? Put (√) on yours.

0-5 hours	<input type="checkbox"/>	11-15 hours	<input type="checkbox"/>
6-10 hours	<input type="checkbox"/>	More than 15 hours	<input type="checkbox"/>

3. If you answered YES number 1 when did you attain this education?

In nursing practice since graduation

In formal nursing school education

4. If you answered NO to number 1, do you wish had more education involving non pharmacological pain management? Yes, No

5. Is there a pain assessment tool available for evaluating patient's pain on your unit? If YES what \_\_\_\_\_

e.g. happy and sad face, visual analog scale, 0-10 scale...

6. If you answered YES to number 5, do you use the tool?

7. Have you ever use non pharmacological pain management therapies?

8. If you answered YES to number 7, what are they? Please put the mark (√) on that you are using.

Position change

Distraction

Massage

Heat/cold

Others, what? Please list \_\_\_\_\_

9. How often do you use any of the above therapies?

Every day

At least 3 times a week

Once a month

Once a week

Never

Once every other week

10. What are some benefits of using non-pharmacological pain management therapies?

Fewer side effects than medications

Less medication needed

More patient control

Less expensive

Relaxing

Others, what? Please list, \_\_\_\_\_

**Section II: knowledge question**

**Mark ✓ on the space provided for true or false questions**

- |  | <b>T</b> | <b>F</b> |
|--|----------|----------|
| 1. Provide a suitable room temperature and good air condition can alleviate pain                           | _____    |          |
| 2. Provide the patient with a possibility to rest by minimizing noise can alleviate pain.                  |          | _____    |
| 3. Including family members in the pain management regimen can increase patient's ability to manage pain.  | _____    |          |
| 4. Use of non pharmacological pain management therapies has no value to the patient                        |          | _____    |
| 5. Try to focus a patient's thoughts/ attention away from pain can decrease pain                           |          | _____    |
| 6. Asking the patient to suggest ways to relive his/her pain can increase patient's ability to manage pain | _____    |          |
| 7. Patients who can be distracted from pain usually do not have severe pain.                               |          | _____    |
| 8. Non drug interventions (e.g heat, music, imagery etc) are effective only for mild pain control.         | _____    |          |

**Section III. Attitude questions**

**Answer the following questions by putting (√) for YES or NO questions on the space provided below. There is no correct or incorrect answer rather to evaluate your opinion.**

**Agree      disagree**

1. Do you think that non pharmacological therapies should be given to sick people?      \_\_\_\_\_
2. Do you think that information on issues related to non pharmacological methods should be given for patient's family?      \_\_\_\_\_
3. Are you willing to provide information on issues related to non pharmacological methods to sick people?      \_\_\_\_\_
4. Are you willing to provide non pharmacological methods to people who have pain?      \_\_\_\_\_
5. Do you agree with that, patient should be advised to use non pharmacological means with pain medications?      \_\_\_\_\_
6. Do you think that preparing a patient carefully for a procedure by telling him/her about what will be done, can decrease pain?      \_\_\_\_\_
7. Are you willing to encourage the patient to think about / imagine pleasant and positive matters when s/he feels pain?      \_\_\_\_\_
8. Do you agree with that, teaching the patient the correct breathing technique can alleviate his/her pain?      \_\_\_\_\_
9. Do you encourage the patient by rewarding s/he verbally (say that s/he has done well so far) when h/ she feels pain?      \_\_\_\_\_
10. Do you think that encourage the patient to relax different parts of his/ her body can alleviate the sensation of pain?      \_\_\_\_\_
11. Do you think that interior decoration of the unit (colors, lighting, furniture...) affects patient's ability to manage pain?      \_\_\_\_\_
12. Are you willing to encouraging family members to bring some of the patient's belongs to the unit (pictures, pillows...)      \_\_\_\_\_

**Section IV: Practice questions**

The following statements pertain to the use of non-pharmacological methods in pain management among your patients. In each item circle the reply alternative that best represents your own actions. Answer each item, unless otherwise mentioned (eg. if you do not use one of the listed methods, circle the alternative 1 = not at all.)

Also circle one of the alternatives 1-5 in the open-ended question (other, what).

**Reply alternatives**

1= not at all

2 = very seldom

3= sometimes

4 = nearly always

5 = always

1. I use thermal regulation as a method of pain relief. 1, 2, 3, 4, 5  
2. I use cold application to relive pain. 1, 2, 3, 4, 5

What \_\_\_\_\_ (Cold pad, warm bandages...)

3. I use heat application to relive pain. 1, 2, 3, 4, 5

What \_\_\_\_\_ (Heating pad, warm bandages...)

4. I use massage to relive pain. 1, 2, 3, 4, 5  
5. I spend time with the patient when s/he feels pain. 1, 2, 3, 4, 5  
6. I alleviate the patient's pain by position changes. 1, 2, 3, 4, 5  
7. I use touching as a method of pain relief  
(Stroke the patient's head, hold his/her head) 1, 2, 3, 4, 5

**Section V:** What are the barriers that prevent you from using non-pharmacological methods? Please put the mark (√) on that you know.

Patient unwilling

Lack of time

Lack of equipment

Family/ patient want pill

Others, what? Please list, \_\_\_\_\_

\_\_\_\_\_

**Thank you for your honest feedback!!!!!!!!!!!!!!**

**Annex IV: የተሳታፊዎች መረጃ መስጫ ቅጽ-በአማርኛ**

**እንደምን አደሩ/ዋለ?**

ስጦታው ቀሬ እባላለሁ። በአዲስ አበባ ዩኒቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ፣ ነርሲንግና ሚድዌይፍሪ ትምህርት ክፍል በአዋቂዎች ጤና የ2ኛ ዓመት የማስትሬት ድግሪ ተመራቂ ተማሪ ነኝ። በአሁኑ ሰዓት በምዕራብ ጎጃም ዞን ውስጥ በተመረጡ ወረዳዎች ውስጥ የሚሰሩ ነርሶች ህመምን ያለ መድሀኒት ስለ ለማከም ያላቸውን እውቀት፣ አመለካከት እና አጠቃቀም በማጥናት ላይ ነኝ ።

የጥናቱ ርዕስ:- ያለመድሀኒት ህመምን ለማከም የነርሶች እውቀት፣ አመለካከት እና አጠቃቀም በምዕራብ ጎጃም ዞን፣ አማራ ብሄራዊ ክልላዊ መንግስት፣ ኢትዮጵያ፣ 2006 ዓ.ም።

የጥናቱ ዓላማ:- ነርሶች ህመምን ያለመድሀኒት ስለማከም ያላቸውን እውቀት፣ አመለካከት እና አጠቃቀም ማወቅ።

ተሳታፊዎች:- በተመረጡት ወረዳዎች ውስጥ ባለ የጤና ተቋማት በመስራት ላይ የሚገኙ ነርሶች

የጎንዮሽ ጉዳት:- በዚህ ጥናት መሳተፍ ምንም አይነት ጉዳት የለውም።

ጥቅማ ጥቅም:- በዚህ ጥናት መሳተፍ ምንም አይነት ገንዘብ አያስገኝም። ነገር ግን በዚህ ጥናት በመሳተፍ ያለ መድሀኒት ህመምን ስለማስታገስ እውቀት፣ አዎንታዊ አመለካከት እና አጠቃቀም ያገኛሉ ወይም ያለዎትን ያዳብራሉ።

ስለዚህ የተወሰኑ ጥያቄዎችን ልጠይቅዎት እወዳለሁ። የእርስዎ በእውነት ላይ የተመሰረተ መልስ ለዚህ ጥናት መሳካት አስተዋፅኦ ያደርጋል። እርስዎ የሚሰጡት መረጃ ከአጥኚው በስተቀር በማንኛውም መልኩ ለሌላ 3ኛ ወገን ተላልፎ አይሰጥም። በሙሉ ፈቃደኝነት እንዲሳተፉ እየጠየቅሁ ያለመሳተፍ ወይም በማንኛውም ጊዜ ራስዎን ከጥናቱ የማግለል ሙሉ መብት አለዎት። ማንኛውም ጥያቄ ካለዎት በሚከተለው አድራሻዬ ማግኘት ይችላሉ።

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ጤና ሳይንስ ኮሌጅ  
ነርሲንግ ዲፓርትመንት  
ድህረ ምረቃ ፕሮግራም

**Annex V: የስምምነት መግለጫ ፎርም - በአማርኛ**

እኔ ስሜ ከዚህ በታች የተገለፀው፣ የዚህ ጥናት ዓላማ በደንብ የተብራራልኝ ሲሆን የጥናቱንም ዓላማ ተረድቻለሁ።

በዚህ ጥናት ላይ መሳተፍ በሙሉ ፈቃደኝነት ላይ የተመሰረተ መሆኑን በሚገባ የተረዳሁ ሲሆን በማንኛውም ጊዜ ከጥናቱ ራሴን የማግለል መብት እንዳለኝ አውቄአለሁ። ስለሆነም የምሰጠው መረጃ እስከተጠበቀ ድረስ በዚህ ጥናት ለመሳተፍ ተስማምቻለሁ። በዚህ ጥናት ለመሳተፍ ስምምነቴን ስገልፅ ለምጠየቀው ጥያቄ በእውነት ላይ የመሰረተ መልስ ለመስጠት የተስማማሁ መሆኔን አረጋግጣለሁ።

የመረጃ ሰጪው ፊርማ \_\_\_\_\_ ቀን \_\_\_\_\_

የአጥኝው ፊርማ \_\_\_\_\_ ቀን \_\_\_\_\_

**Annex VI: መጠይቅ በአማርኛ**

አዲስ አበባ ዩንቨርሲቲ፣ ጤና ሳይንስ ኮሌጅ የነርቪንግ እና ሚድዋይናሪ ትምህርት ክፍል።

ይህ መጠይቅ የተዘጋጀው ነርቶች ህመምን ያለመድሐኒት ለማስታገስና ለማከም ስለአላቸው እውቀት፣ አመለካከት እና አጠቃቀም መረጃ ለማሰባሰብ ነው።

**ትዛዝ:-** መጠይቁ 5 ክፍሎችን የያዘ ሲሆን በትእዛዙ መሰረት መመለስ አለባቸው።

**ክፍል 1:- የስነ ሕዝብ ና ማህበራዊ ጉዳዮች**

እባክዎ የ(✓) ምልክት ሳጥኑ ውስጥ በማድረግ ይመልሱ።

1.ጾታ ወንድ  ሴት

**2.እድሜ**

20 ዓመት ወይም በታች	<input type="checkbox"/>	40-49 ዓመት	<input type="checkbox"/>
20-29 ዓመት	<input type="checkbox"/>	50-59 ዓመት	<input type="checkbox"/>
30-39 ዓመት	<input type="checkbox"/>	60 ዓመት ወይም በላይ	<input type="checkbox"/>

**3. የጋብቻ ሁኔታ**

ያገባ/ች	<input type="checkbox"/>	የፈታ/ች	<input type="checkbox"/>
ያላገባ/ች	<input type="checkbox"/>	የሞተች/በት/ባት	<input type="checkbox"/>

**4.የት/ት ደረጃ**

ዲፕሎማ	<input type="checkbox"/>	ማስተርስ	<input type="checkbox"/>
ዲግሪ	<input type="checkbox"/>	ፒኤችዲ	<input type="checkbox"/>

**5.□□□ □□□**

0-9	<input type="checkbox"/>	30-39	<input type="checkbox"/>
10-19	<input type="checkbox"/>	40+	<input type="checkbox"/>
20-29	<input type="checkbox"/>		

**እባክዎ የሚከተሉትን ጥያቄዎች (✓) በማድረግ ይመልሱ::**

1. ህመምን ያለመድሃኒት ስለማካም በትምህርት ቤት ቆይታዎ ወይም ከተመረቁ በኋላ ተምረው ያውቃሉ?  
 አዎ  አይደለም

2. ለተራ ቁጥር 1 መልስዎ አዎ ከሆነ ለምን ያህል ሰዓት ተማሩ?  
 0-5 ሰዓት  10-15 ሰዓት   
 5-10 ሰዓት  ከ15 ሰዓት በላይ

3. ለተራ ቁጥር 1 መልስዎ አዎ ከሆነ መቼ ነው የተማሩት?  
 ከምርቃን በኋላ በስራ ላይ   
 በነርስ ትምህርት ቤት ቆይታ ጊዜ

4. ለተራ ቁጥር 1 መልስዎ አይደለም ከሆነ ህመምን ያለመድሃኒት ስለማስታገስ ዘዴዎች መማር ይፈልጋሉ?  
 አዎ  አይደለም

5. በምትሰሩበት/ሪበት ክፍል ውስጥ ህመም መኖሩን ለመለየት የሚያገለግሉ መሣሪያዎች አሉ?  
 አዎ  አይደለም   
 መልሶ አዎ ከሆነ የትኛውን ይጠቀማሉ?

ለምሳሌ:- ፊትን በመመልከት፣ የቁጥር ስኬልን በመጠቀም ...  
 ሌላ ካለ ይጥቀሱ:: \_\_\_\_\_

6. ለተራ ቁጥር 5 መልስዎ አዎ ከሆነ መሣሪያውን ይጠቀሙበታል?  
 አዎ  አይደለም

7. ህመማችንን ያለመድሃኒት የማከሚያ ዘዴዎችን ተጠቅመው ያውቃሉ?  
 አዎ  አይደለም

8. ለተራ ቁጥር 7 መልስዎ አዎ ከሆነ ምን ምን ናቸው? እባክዎ የሚጠቀሙባቸውን የ(✓) ምልክት በማድረግ ይመልሱ::  
 ህመማችንን ማገልበጥ  ሀሳቡን መበተን   
 ማሸት  ሙቀት / ቀዝቃዜን መጠቀም

ሌሎች ካሉ እባክዎ ይዘርዝሩ :: \_\_\_\_\_

9. ከላይ በተራ ቁጥር 8 የተዘረዘሩትን ምን ያህል ጊዜ ይጠቀማሉ?  
 ሁል ጊዜ  በየሁለት ቀኑ   
 ቢያንስ በላምንት 3 ጊዜ  በወር አንዴ   
 በላምንት 1 ጊዜ  መቼም ተጠቅሜ አላውቅም

10. ህመምን ያለመድኃኒት ማስታገሻ ዘዴዎች መጠቀም ጥቅሙ ምንድን ነው?

ሀ/ የጎንዮሽ ጉዳቱ መድኃኒት ከመጠቀም ያነሰ ነው

ለ/ በአብዛኛው ሕሙማን እራሳቸውን ማከም ይችላሉ  ሠ/ የመድኃኒት ብዛትን ይቀንሳል

ሐ/ ዘና ያደርጋል

መ/ እርካሽ ነው  ሌሎች ካሉ እባክዎን ይዘርዝሩ -----

**ክፍል 2 እውቀትን የሚመዘኑ መጠይቆች**

እባክዎት ክፍት ቦታው ላይ የ (✓) ምልክት በማድረግ ይመልሱ ::

1. ምቹ ሙቀት እና የአየር ጸባይ ህመምን ያስታግሳሉ? እውነት  ሐሰት

2. ህሙማንን ጸጥታ በሰፊነበት ቦታ እንዲያርፉ ማድረግ ህመማቸውን ያስታግስላቸዋል?  
እውነት  ሐሰት

3. ሕመምን በማከም ፕሮግራም ውስጥ የቤተሰብ አባላትን ማሳተፍ የሕሙማንን የህመም መቆጣጠር አቅም ይጨምራል:: እውነት  ሐሰት

4. ሕመምን ያለመድኃኒት ማከም ና ማስታገስ ለሕሙማን ምንም አይነት ጠቀሜታ የለውም ::  
እውነት  ሐሰት

5. ህሙማንን ስለህመማቸው እንዳያስቡ ማድረግ የህመሙን ስሜት ይቀንሳል::  
እውነት  ሐሰት

6. ህሙማንን ስለህመማቸው የማስታገሻ መንገዶች መጠየቅ የህሙማንን ህመም የመቆጣጠር ችሎታ ይጨምራል:: እውነት  ሐሰት

7. የህሙማንን ሐሳብ በተለያዩ መንገዶች ስለህመሙ እንዳያስቡ ማድረግ ከፍተኛ የህመም ስሜት እንዳይሰማቸው ያደርጋል:: እውነት  ሐሰት

8. ያለመድኃኒት ህመምን ማከሚያ ዘዴዎች ማለትም እንደ ሙቀት፣ ሙዚቃና ምስሎች የሚጠቅሙት መካከለኛ ሕመምን ብቻ ለማከም ነው :: እውነት  ሐሰት

**ክፍል 3 አመለካከትን የሚመዘኑ መጠይቆች**

**ትእዛዝ:-** የሚከተሉትን ጥያቄዎች በማንበብ አዎ ወይም አይደለም በማለት በተሰጠው ሳጥን ውስጥ የ(√) ምልክት በማድረግ ይመልሱ። ለዚህ ጥያቄ ትክክለኛ ወይም ትክክለኛ ያልሆነ መልስ የለውም አላማውም የእርስዎን አመለካከት ለመመዘን ብቻ ነው ።

1. ህመምን ያለመድሀኒት የማከሚያ ዘዴዎች ለህመማን መሰጠት አለባቸው ብለው ያስባሉ?  
አዎ  አይደለም
2. ህመምን ያለመድሀኒት የማስታገሻ የማከሚያ ዘዴዎች ጋር የተያያዙ መረጃዎችን ለህመማን ቤተሰቦች መሰጠት አለባቸው ብለው ያስባሉ?  
አዎ  አይደለም
3. ስለህመም ያለመድሀኒት ማስታገሻ ዘዴዎች ለህመማን መረጃ ለመስጠት ፍቃደኛ ነዎት?  
አዎ  አይደለም
4. ህመማንን የሚሰማቸውን የህመም ስሜት ያለመድሀኒት ለማከም ፍቃደኛ ነዎት?  
አዎ  አይደለም
5. ህመማን መድሀኒትን እና ያለመድሀኒት ማስታገሻ ዘዴዎችን ባንድ ላይ እንዲጠቀሙ የምክር አገልግሎት መሰጠት አለበት በሚለው ሀሳብ ይስማማሉ?  
አዎ  አይደለም
6. ህመማን ስለሚሰጣቸው የህክምና ዘዴዎች ቀድመን መንገር የሚሰማቸውን የህመም ስሜት ይቀንሰላቸዋል ብለው ያስባሉ?  
አዎ  አይደለም
7. ህመማን ህመም ሲሰማቸው የተለያዩ የደስታ ምንጮችና አዎንታዊ ነገሮች እንዲሰጡ ህመማንን ለማበረታታት ፈቃደኛ ነዎት?  
አዎ  አይደለም
8. ህመማንን ስለ ትክክለኛ ያተነፋፈሰ ስልት ማስተማር ህመምን ሊቀስ ይችላል በሚለው ሀሳብ ይስማማሉ?  
አዎ  አይደለም
9. ህመማን ህመም በሚሰማቸው ጊዜ በፊት የሰሩትን መልካም ስራዎች በቃላት በማንሳትና በማሞገስ ህመማንን ያበረታታሉ?  
አዎ  አይደለም
10. ህመማንን የተለያዩ የሰውነት ክፍሎችን ዘና እንዲያደርጉ ማበረታታት የህመም ስሜትን ይቀንሳል ብለው ያስባሉ?  
አዎ  አይደለም
11. የመኝታ ክፍሎችን በቀለም፣ በመብራት ና በተለያዩ ቁሳቁሶች ማስዋብ የህመማን የህመም መቆጣጠር አቅም ላይ ተፅኖ አላቸው ብለው ያስባሉ?  
አዎ  አይደለም
12. የህመማን ቤተሰቦች የተለያዩ ቁሳቁሶችን ማለትም ስዕሎችን እና ትራስ ለበሽተኛው እንዲያቀበሉ ያበረታታሉ?  
አዎ  አይደለም

**ክፍል4. አጠቃቀምን የሚመዘኑ መጠይቆች፡፡**

**4.1 የሚ ከተሉት ግርፋተ ነገሮች ህመምን ያለመደሀኒት የማስታገሻ ዘዴዎችን የያዙ ሲሆኑ ከተሰጡት የመልስ አመራሮች መካከል የእርስዎን ድርጊት ሊገልፅ የሚችለውን በማክበብ ይመልሱ፡፡ ከተሰጡት አማራጮች ውጭ ካሉ ይዘርዝሩ፡፡**

- የመልስ አማራጮች፡-
- 1= መቼም አለመጠቀም
  - 2 = እብዛም አለመጠቀም
  - 3 = አልፎ አልፎ መጠቀም
  - 4 = አብዛኛውን ጊዜ መጠቀም
  - 5 = ሁል ጊዜ መጠቀም

- 1. እኔ ህመምን ለማስታገስ የሙቀት ማስተካከያን አጠቀማለሁ፡፡ 1 2 3 4 5
- 2. እኔ ህመምን ለማስታገስ ቅዝቃዜን እጠቀማለሁ፡፡ 1 2 3 4 5  
ምን ----/ ቀዝቃዛ፣ ጋራ፣ ጋራ.../
- 3. እኔ ህመምን ለማስታገስ ሙቀትን እጠቀማለሁ ፡፡ 1 2 3 4 5  
ምን ----- /ሙቀት ጋራ፣ ቀዝቃዛ ጋራ --/
- 4. ማሽትን ህመምን ለማስታገስ እጠቀማለሁ፡፡ 1 2 3 4 5
- 5. ህሙማን ህመም በሚሰማቸው ጊዜ ከጎናቸው በመሆን አሳልፋለሁ ፡፡ 1 2 3 4 5
- 6. ህሙማንን በማገልገል ህመምን አስታግሳለሁ፡፡ 1 2 3 4 5
- 7. መንካትን እንደ ህመም ማስታገሻነት እጠቀማለሁ፡፡ 1 2 3 4 5

**ክፍል5. ህመምን ያለመደሀኒት የማከሚያ ዘዴዎችን ላለመጠቀም የሚያግዱ ምክንያቶች ምንድን ናቸው? እባክዎ የሚያውቁትን የ(✓) ምልክት በማድረግ ይመልሱ፡፡**

- የህሙማኑ ፊቃደኛ አለመሆን
  - የጊዜ እጥረት
  - የመሣሪያ አጥረት
  - የቤተሰብ ወይም የህሙማኑ መድሀኒት መፈለግ
- ሌሎች ካሉ እባክዎ ይዘርዝሩ -----

## **Annex VII: Curriculum Vitae of Principal Investigator**

### **1. PERSONAL DETAILS**

Name: Sitotaw kerie

Sex: Male

Date of Birth: 07/11/1979 E.C

Place of Birth: West Gojjam

Marital Status: Single

Nationality: Ethiopian

Health Status: Excellent

Address: Telephone +251 910 325473

+ 251 913838368

Email: [sitkere5@gmail.com](mailto:sitkere5@gmail.com)

[dagnewamare@gmail.com](mailto:dagnewamare@gmail.com)

### **2. EDUCATIONAL BACKGROUND**

Masters Fellow in AAU in Adult Health Nursing

Bachelor Science [BSc] in clinical nursing from Addis Ababa University on July 7/2002 E.C

Preparatory School: Merawi Preparatory school (1998-1999)

Secondary School: Yismala secondary School (1996-1997)

Elementary School: Yismala Elementary School (1994-1995)

Belen Elementary School (1988-1993)

### **3. LANGUAGE**

	Amharic	English
Speaking	Fluent	Excellent
Reading	Excellent	Excellent
Writing	Excellent	Excellent
Listening	Excellent	Excellent

### **4. WORK EXPERIENCE**

From Sep. 01/2003 E.C up to Sep.0 1/2004 E.C I have worked in Black Lion Hospital as a staff nurse.

From Sep.10/2004 E.C up to Sep.21/2005 E.C I have worked in Mizan Tepi University as a graduate assistant lecturer.

### **5. TRAININGS AND ADDITIONIONAL COURSES**

Post exposure prophylaxis [PEP]

Provider initiated testing and counseling [PITC]

Palliative care and Prevention with positives

TB/HIV Collaboration

This all trainings taken from JHU – Tsehay project in collaboration with AAU in 2002 E.C

### **6. HOBBIES**

Reading medical books to know about people's health problems and their solutions

Visiting historical and spiritual places

Sharing my knowledge to others

Helping people in any possible way when their need arises

## **7. OTHER ABILITIES**

Good team work and communication skill

Decent and friendly approach to people

## **8. REFERENCES**

Addis Ababa University Telephone No 011 12 39 800

Amare Belachew Telephone No 0913838368

**Thank you!**

**Sitotaw Kerie**

**Annex X: Declaration**

I the undersigned declare that this M.Sc. thesis is my original work and it has not been presented for a degree in any other university. All source materials used for the thesis have been duly acknowledged.

Investigator: Sitotaw Kerie (Bsc, Msc Candidate)

Signature: \_\_\_\_\_ Date of submission: \_\_\_\_\_

Advisor: Ato Zeleke Argaw (RN, Bsc, Msc)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_