ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES,

DEPARTMENT OF NURSING AND MIDWIFERY

Knowledge, Attitudes and Practices of Nurses regarding to Post-operative pain management at Hospitals of Arsi zone, Southeast Ethiopia, 2018.

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Title of the study	**Knowledge, Attitudes and Practices of Nurses in Regard to Post-Operative Pain Management at hospitals of Arsi zonal southeast Ethiopia,2018.**
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ACRONYMS & ABBREVIATION

AOR …….…… Adjusted odds ratio

APS ……..…… …. American Pain Society

ASA …….…… …….. American Society of Anesthesiologists

ETB …… …… Ethiopian Birr

KAP …… ……. Knowledge Attitude Practice

NRS …… ……...Numerical Rating Scale

NSAIDs …… ……Nonsteroidal anti-inflammatory diseases

COD …… …… Crud Odds ratio

OR …… ……. Operation Room

PAT …… ……Pain Assessment Tool

PO …… ……. Post-Operative Pain

POPM …… …… … Post-Operative Pain Management

SPSS …… …… Statistical Package for the Social Sciences

WHO …… ……. ……. World Health Organization

SD …… …… Standard deviation

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ABSTRACT

Background: Patients' recovery after surgery is one of the most important health processes in hospital healthcare. Effective pain management requires precise knowledge; attitude and competent assessment skills on practice. Nurses should have a solid foundation of pain knowledge and develop a correct attitude towards post-operative pain management. Little is known about the knowledge and there is no evidence to understand the attitude gaps and nurses practices of post-operative pain management by nurses working at Arsi zone hospitals.

Objective: The aim of this study is to examine the level of knowledge, attitude and practice on postoperative pain management practice among nurses working at hospitals of Arsi zone east [1]. Pain management practices are defined as a set of activities that should be provided by nurses to manage patient care effectively. west,2018.

Methods: A survey was implemented from April to June 2018. The study population was selected from Arsi zonal hospitals with a sample size of 144 nurses. Data was collected using structured self-administered, questionnaire and was verified, coded and entered to Epi Info Software version 3.5.4 and then it exported and analyzed by SPSS version 21 Software. After analysis frequency and percentages were used to summarize the finding and significance of determinant factors were tested using Logistic regression and Odds Ratio & P< 0.05 at 95% CI. Binary logistic regressions were used to see the association or the relationship between dependent and independent variables.

Result: The result of this study showed that, the nurses had good knowledge and had Unfavorable attitude and low practice in regard to post-operative pain management. There is a significant association among sex, age and postoperative management practice with (AOR=1.181,95% CI 0.493,2.834) for age between30-40 yrs($p<0.05$). Age groups between 20-30 (67%) had good knowledge on post-operative pain management. Other variables such as, educational level, total work experience, length of work of experience, work unit not associated knowledge on post-operative pain management.

Conclusion: As the nurses are the most important parts in pain management, their knowledge and attitude make a big difference. So, there is a need for regular in-service education on pain management according to the recommendation of standard.

***Keywords*:** Pain management, nurses', knowledge, Attitude and practice, postoperative pain

CHAPTER ONE: INTRODUCTION

1.1 Background

According to the international association for the study of pain," pain is defined as an unpleasant sensory and emotional experience associated with actual and potential tissue damage[2]. Approximately 79% of the hospitalized patients suffer from it Adequate level of knowledge and positive attitude are essential components in the delivery of post-operative pain management[3].

Patients frequently experience moderate to severe pain in the postoperative period. Although the pain management is an integral and important part of the nursing care, studies suggest that, nursing management of postoperative pain remains inadequate[4]

A study conducted in Addis Ababa on Assessment of postoperative pain management revealed that the prevalence of moderate to severe postoperative pain was found to be 28.6%.This indicates that Postoperative pain was insufficiently managed in this hospital [5].

The American Society of Anesthesiologists (ASA) defined pain in the postoperative setting as pain that is present in a surgical patient because of a preexisting surgical procedure, or a combination of diseased-related and procedure related resources[6].

Incidence of postoperative pain (POP) has been reported to be between 47–100%[7]. It has been repeatedly confirmed by studies in the past 3 to 4 decades that 20 to 80% of patients undergoing surgery suffer from inadequately treated pain and pain is classified as a serious public health problem both in the developed and in developing countries[7].

Insufficient education and training for nurses and patients were amongst the issues reported as poor post-operative pain management. Although studies have shown that pain education programs increase nurses' knowledge and improve attitudes towards pain management, the management of post-operative pain by nurses still remains a problem[3].

Research results indicate that the attitudes and knowledge of nurses regarding pain management have significant impacts on treatment and patient care [6].Numerous studies were done to asses knowledge, attitude and practice of nurses. Mostly what they show were

that in general many nurses lack adequate knowledge and had negative attitude in the treatment and practice of post-operative pain [3, 8, 9].

Therefore, nurses should have a solid foundation of knowledge about post-operative pain management and develop a positive attitude towards it to assess patients' condition and to deliver individualized care to each one so as to reduce discomfort and enhance the quality of life[7].

Unrelieved postoperative pain has been shown to increase the rate of postoperative complications (e.g., atelectasis, pneumonia, thromboembolism, depressed immune function, prolonged hospital stay) and the risk of developing chronic postoperative pain. Numerous studies have revealed that the prevalence of pain remains high in post-operative patients .Unrelieved pain from post-surgery has devastating physiological, psychological, and socio-economic effects[10].

The importance of postoperative pain management has been repeatedly demonstrated in the past two decades. Effective management of post-operative pain can lead to comfort, Better mobility, better recovery, shorter stay in hospital improvement ,Better breathing, Less strain on the heart in mobilization, decreased duration of hospital confinement, reduced hospital costs, and increased level of patient satisfaction.[9].

The aim of this study is to know the level of knowledge, attitude and practice of nurses regarding post-operative pain management.

1.2 Statement of the Problem

Pain is a stressful experience that is considered to be a global health problem, and commonly severe form of pain is expected after surgery. Studies have reported that 55% to 78.6% of inpatients experience moderate to severe pain. There are still inadequacies regarding pain management despite countless training courses, application strategies and multidisciplinary pain teams [11].

Despite the wide use of pain management guidelines and protocols in the surgical field, inadequate assessment and treatment of pain continue to be an issue in the care provided in the healthcare system in Ethiopia. The nurse is a key person who is able to improve the quality of pain management and who can provide nursing care to sufficiently meet the patient's needs. [9] . In clinical settings nurses play a vital role in pain assessment and management, and must be knowledgeable regarding how to best assess and manage the pain[12].

Despite considerable advancements in the field of pain management, many research indicates that a considerable proportion of patients experience extreme levels of pain after surgical intervention. This excessive incidence of postoperative pain has been highlighted consistently in the literature for almost 40 years which illustrates the significance of the problem[8].

Unrelieved pain after surgery is highly prevalent and impacts greatly on the morbidity and mortality of patients. Unrelieved pain can facilitate both short and long-lasting deleterious outcomes for patients asserted .It has been that current pain management practices are sub-optimal[11].

Nurses are the health professionals, who operate in close proximity with the patients in post-operative units and thus have a significant professional responsibility on alleviation of post-operative pain. In the past few decades, numerous studies have shown that nurses' knowledge deficits and negative attitudes related to post-operative pain management can significantly contribute to an inaccurate pain assessment and ineffective pain management[13].

There are still inadequacies of knowledge and attitude regarding post-operative pain management practice despite countless training courses, application strategies and multidisciplinary pain teams[14].

Since there is no evidence to understand the real knowledge, attitude and practice gap in the study area. Besides, it is the nurses who have a frequent contact to care the patients so it is inevitable to understand the knowledge and attitude towards post-operative pain management status.

This study is determining the current nurses' knowledge and attitudes regarding pain management practice and to identify associated factor to achieve optimal post-operative pain management at Hospitals of Arsi zone, Southeast Ethiopia.

1.3 Significance of the study

This study identifies the level of knowledge, attitude and practice of nurses on post-operative pain management and associated factors. This helps to improve the knowledge, attitude and practice of nurses on POPM which used as a base line information for health care intervention from this the patients will receive a quality of care which will satisfy them and finally come up with good recovery from pain. Moreover, it also will specifically suggest information to local as well as national policy makers to revise health policies, Guides hospitals on training toward knowledge, attitude and POPM. In addition to these it will offer insight for stalk holders. Furthermore; it will provide base line information to any interested researcher to conduct further research on issues related to POPM.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter provide information about concept of pain, post-operative pain assessment and management, prevalence of post-operative pain, socio demographic characteristics of the participants, knowledge and attitudes of nurses regarding pain management, practices of nurses related to pain management, factors related to knowledge, attitude and skill of nurses on pain management, documentation of Postoperative Pain and conceptual framework used in this study.

2.2. Concept of Pain

pain is defined as intensive sensation, an alarm reaction of the organism (reflecting abnormality), Unpleasant sensory or emotional experience associated with actual or potential tissue damage and Physiological reaction of the CNS to unpleasant external or internal influences.[15]

It is the most common reason for seeking health care. Pain occurs as the result of many disorders, diagnostic tests, and treatments; it disables and distresses more people than any single disease. Because nurses spend more time with patients in pain than other health care providers do, nurses need to understand the pathophysiology of pain, the physiologic and psychological consequences of acute and chronic pain, and the methods used to treat pain. Nurses encounter patients in pain in a variety of settings, including acute care, outpatient, and long-term care settings, as well as in the home. Therefore, they must have the knowledge and skills to assess pain, to implement pain relief strategies, and to evaluate the effectiveness of these strategies, regardless of setting. [16]

2.2 Post-operative pain assessment and management

The study done at Addis Ababa on nurse's level of knowledge of post-operative pain assessment and managements shows that, (50%),(40%), (10%) which were low, moderate and good respectively[8].

Another study done in Bangladesh, the findings indicated that nurses had very low level of knowledge and negative attitudes regarding post-operative pain management whereas the level of practice was moderate[13].

Nurses with a strong clinical knowledge, attitudes and skills are essential for relieving the suffering of pain in patient's undergoing surgery. After surgery the duration and intensity of pain depends on the site and type of operation, the degree of tissue damage and positioning of the patient during operation may contribute to overall incidence and severity of postoperative pain[17].

2.3. Prevalence of postoperative pain:

Dolin, S, J study finding revealed that 73% of patients in their study experienced moderate to severe pain. Almost ten years later a study established that approximately 58% of patients experienced excruciating pain postoperatively [18]. Out of an estimated 23.9 million surgical procedures performed in the United States of America, 80% of patients' experience moderate to severe pain postoperatively. A number of studies have been undertaken in several countries with the objective of determining the prevalence of pain among hospitalised patients. The findings from these studies are pertinent as they each incorporate the incidence of pain among surgical patients[19].

Postoperative pain is not adequately managed in different parts of the world and its management is different from place to place[20].

2.3. Socio Demographic characteristics of the study participants

A study conducted in Addis Ababa indicates from the total respondents (40.7%) had 5 to 10 years of total work experience and (42.9%) had less than 2 years of experience in postoperative area. Ninety-three (28.7%) of the respondents were working in surgical ward[8].

2.4. Knowledge and attitude of post-operative pain management

Studies among health care professionals has been proven as best way of ensuring proper and effective pain management as these studies help in identifying the problem regarding post-operative pain management.

A study conducted in Bangladesh revealed that the overall level of knowledge and attitudes of nurses was very low and presenting by the total mean score of 59.05% (SD = 5.62) with a minimum and maximum score of 40% and 70%, respectively[13]

A study in Ireland revealed that a considerable number of respondents 62.8% specified that they had formal training in pain management. However, only 18.1% of respondents had informal training in pain management. The majority of respondents in this study (75.5%) rated their knowledge as being good, with 7.4% rating their knowledge as excellent and 17.0% rating their knowledge as average. None of the respondents rated their level of knowledge as being either fair or poor[20].

A study done on Uganda to assess nurses' knowledge and practices related to pain assessment indicates 30.6% had never had any training on pain assessment and management. But Out of those who had received some training, majority 83.9% were not satisfied with the training. The majority of the participants had never had training on; pain assessment methods and tools, practice recommendations/guidelines and physiological consequences of unrelieved pain which were (72.9%), (78.8%) and (60.6%) respectively. Most of the participants, 91.1% had never read any guidelines of pain assessment and management.[21].

A study done in Eastern Ethiopia showed that Majority (94.23%) of all respondents do not use pain assessment tools and (82.69%) of the participants have not documented findings after assessment. About 32.69% of respondents mentioned the patient as the most accurate ways of rating the pain intensity but 78.85% of the respondents said that they do not know about multimodal analgesia. From these study, it can be concluded that there is knowledge gap among health professional towards postoperative pain management [22].

2.5. Nurses Practice of Assessment and Management of Pain

Effective pain management begins with complete and accurate assessment and documentation of findings to help in deciding the treatment options and also to ensure effective and therapeutic communication between health care professionals and between health care provider and patient [21].

The study in Bangladesh nurses reported that they had practiced in pain management for post-operative patients at a moderate level (M = 77.81%, SD = 10.94) by which three-fourths of them indicated that they had practiced in pain management at the moderate (37.9%), high (21.8%), and very high level (16.1%)[13].

According to the study conducted in Ireland, more than half (57.4%) of the sample always used a pain assessment tool (PAT), a further 38.3% used a PAT frequently, with the remaining 4.3% of respondents rarely or occasionally using a PAT. None of the respondents picked the category 'never' use a PAT[20] .

The study conducted in Uganda revealed that, Majority of the participants reported the following as barriers to pain assessment; nursing workload (84.1%), lack of availability of assessment tools (74.1%), lack of education on assessment tools (82.4%), lack of familiarity with tools (78.2%), lack of protocols and guidelines on pain assessment and management (74.1%), poor documentation of pain assessment and management (77.6%) and more than a quarter 29% did not assess for the need for analgesics before wound care[21].

The study done in Addis Ababa showed that the nurse's level of practice of postoperative pain assessment and management. It was calculated first by selecting items which were basic to the practice of POP, then 15 items were selected and each respondent's correct answers were summed and finally based on the operational definition levels of practice were determined. From all study subjects, 283(87.3%) of the respondents practice was low, 21(6.5%) was moderate and only 20(6.2%) of respondents practice was high[8]

2.7. Factors related to knowledge, attitude and skill of nurses on pain management

A study done on Addis Ababa show that, many factors impact nurse's knowledge and attitude as well their pain management practices in the clinical setting. This includes institutional factors, personal factors relating to nurses themselves, and patient related factor. Institutional factor: Hospitals need to have written and established measurable standards of care and pain service in order to achieve optimal pain management as their institutional goal[23].

However, many studies explore that absence of protocols and guidelines, limitation of evaluation tools and un availability of drugs especially opioids. Due to these barriers, Nurses knowledge and attitudes, and pain management practices are still less than optimal level [8, 22, 23].

2.8. Documentation of Postoperative Pain

It has been suggested that the key issue of postoperative pain management (POPM) strategies is to make the pain noticeable. This can be done by accurate pain assessment documentation and monitoring the efficacy of pain treatment and the documentation should also include the patient's satisfaction. For the safety of the patients, documenting daily nursing care in patients' records is vital[17].

Study conducted in Jordanian nurses were revealed that there was no evidence of documentation of pain assessment in 53% of patient's records. In 61% of nurses' notes the location of pain was described, which was the most frequently recorded information for pain assessment. On the other hand, there were 4.3% of the nurses who used the pain scale, and 8.7% of the nursing notes reported the quality of pain[21].

Another study revealed that, of the patients experiencing pain in the last 72 hours, this was documented in only 49% of the nursing progress notes. Moreover, it was only documented in 32% of the nursing care plans. These findings were corroborated in other studies where a large quantity of postoperative patients' charts had no comments pertaining to pain whatsoever[20].

2.8. Conceptual Frame work

This conceptual frame work is based on different literature assessed. It has four main factors: knowledge, attitude, socio demographic and organizational which may influence the practice of postoperative pain management

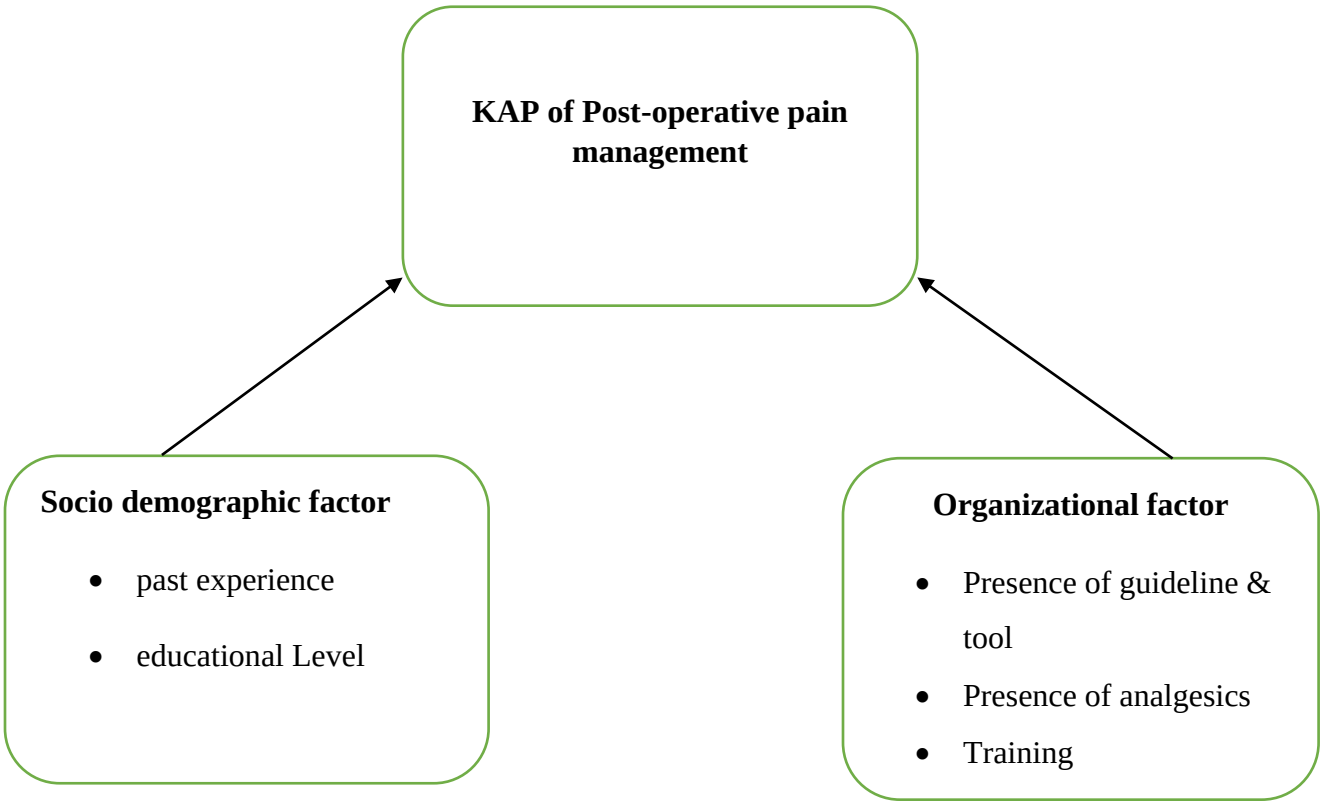

Figure 1**:** Conceptual framework on knowledge attitude and practice of nurses on postoperative pain management [8, 23].

CHAPTER THREE: OBJECTIVE OF THE STUDY

3.1 General Objective

To assess knowledge, attitude and practice on postoperative pain management practice among nurses working at Hospitals of Arsi zone, Southeast Ethiopia, 2018.

3.2 Specific Objectives

1. To determine the level of knowledge of nurses about POP assessment and management
2. To determine the level attitude of nurses on POP assessment and management
3. To determine the level of practice of Nurses POP assessment and management
4. To identify factors related to knowledge, attitude and practices of nurses for pain management.

CHAPTER FOUR: METHODS AND MATERIALS

4.1 Study Area and Period

Arsi zone is one of the zones which is found in Oromia regional states and is located in South East of Ethiopia with area of 21,120.29 Sq. Km.; the zone contains 3,280,154 total populations. Arsi Zone contains 24 Woredas which is classified into 499 rural villages and 58 towns with 1 administrative Town. There are 497 health posts, 97 governmental health centers, 7 governmental Hospitals (Asella referral hospital, Arsi Robe hospital, Abomsa hospital, Gobesa hospital, Kersa hospital, Bele hospital and Bokoji hospital) and 256 private clinics are found in this zone. A total of 514 nurses and midwifes are found in these hospitals[24]. The study was conducted in Arsi zone from March (01-30/ 2018).

4.2 Study Design

Institutional based descriptive cross sectional survey was conducted among Arsi zone hospitals.

4.3 Population

4.3.1 Source Population

All staff nurses working in surgical, OR, obstetrics and gynecology wards at hospitals in Arsi zone.

4.3.2 Study Population

Selected nurses working in surgical, OR, obstetrics and gynecology wards at hospitals in Arsi zone who fulfill the inclusion criteria.

4.3.3 Eligibility criteria

4.3.3.1 Inclusion Criteria

All nurses, who are currently working in the surgical ward, OR, gynecology and obstetrics ward of each hospital.

4.3.3.2 Exclusion Criteria

Nurses inaccessible during data collection; sick and leave. Nurses who are working in the two units during data collection time were excluded from the study.

4.4 Sample size determination& procedure

All staff nurses working in surgical, OR, obstetrics and gynecology wards at Arsi zone hospitals were included in Survey.

Table 1:-The Total numbers of Nurses in each hospitals

Sr.No	**Name hospitals**	**No of Nurses**
1.	Asella referral hospital	74
2.	Bokoji hospital	16
3.	Robe	12
4.	Abomsa	19
5.	Kersa	7
6.	Bele	21
7.	Gobesa	11
	Total	160

4.5 Instrument and Data Collection Procedure

Self-administered structured questionnaire was used to collect the data from study participants. The tool is developed after intense review of literatures. It is prepared in English and the questionnaire contains four parts which include nurses' socio-demographic status, knowledge of POP assessment and management, attitude of POP assessment and management and practice of POP assessment and management.

Data was collected by three BSc nurses who are working at academic of Arsi University. Training was given for three days for data collectors by the principal investigator to make them familiar with the data collection tool. Principal investigator was assisted and coordinated the data collectors as well as the participant nurses during data collection.

Data was collected from nurses that were selected from each ward. The principal investigator took the responsibility of coordinating the nurses and discuss about the purpose of the study. Then based on their willingness to participate, questionnaire was distributed and orientation was given on how to fill the questionnaire and clarification for any difficulties.

4.6 Study Variables

4.6.1 Dependent Variables

- Knowledge, attitude and Practice on pop management

4.6.2 Independent Variables

- Socio-demographic characteristics
  - age,
  - marital status,
  - Educational status,
  - Experience,
  - working area
  - religion
  - gender
- Training on pain management
- Availability of standardized tools
- Availability of pain drugs

4.7. Operational Definitions

Knowledge: means the nurses' perception and understanding of post-operative pain management based on experience**.**

This categorize as good knowledge and low knowledge

Good Knowledge: is the Knowledge Status of nurses when they scored more than the mean.

Low knowledge: is the Knowledge Status of nurses when they scored less than the mean.

Attitude: refer to the nurses' behavior and way of acting towards effective pain management.

This is categorized as Favorable attitude and Unfavorable attitude.

Favorable attitude: is the category of nurses when they scored more than the mean value.

Unfavorable attitude: is the category of nurses when they scored less than the mean value.

Practice: Means the nurses skill on post-operative pain management based on their experience.

Good practice: is the practice Status of nurses when they scored more than the mean.

Low practice: is the practice Status of nurses when they scored less than the mean.

Trained: Nurses who have got at least one training on pain assessment and management either on the job or off the job[25].

4.8 Data analysis procedure

Data was verified, coded and entered to Epi Info Software version 3.4.5 and then it was exported and analyzed by SPSS version 21 Software. It was processed by carrying out simple descriptive statistics (mean and standard deviation) and used for quantitative variables and frequency with percentage distribution for categorized variables. Binary and multiple Logistic regressions was computed to evaluate the association.

4.9 Data quality control

Data quality was controlled by pretest in 5 % of the sample nurses in Hilemariyam Adama hospital. One full day training was given for data collectors regarding the study, the questionnaire and data collection procedure by the principal investigator. The Collected data was checked every day for its completeness and faced Problems was discussed with data collectors overnight. Data was kept in the form of file in secure place where no one can access it. confidentiality was insured by disclosing the names or any personal identity. Uncompleted questionnaires were omitted before data entry.

4.10 Ethical consideration

Ethical clearance was obtained from institutional review board of Addis Ababa University, college of health sciences, department of nursing and midwifery research committee. Official letter was submitted to Arsi zone health office, Asella referral hospital, Arsi Robe hospital, Abomsa hospital, Gobesa hospital, Kersa hospital, Bele hospital and Bokoji hospital and then, permission was obtained from those bodies. Prior to data collection; all participants recruited

to the study was received written information sheet about the study. Respondents were insured about the confidentiality of information obtained and the respondents name were not asked. Then Verbal consents were obtained from each study subjects after explaining the objectives of study and procedures.

4.11 Dissemination and Utilization of Result

The primary objective of this thesis is for partial fulfillment in the requirements to degree of master in adult health nursing; it will be submitted and presented to the department of nursing and midwifery, school of allied health sciences, Addis Ababa University. Afterwards, it will be presented to different scientific conferences. Finally, it will be published in reputable national or international journal to make it accessible to the scientific community.

CHAPTER FIVE: RESULTS

5.1. Socio-demographic characteristics of nurses

A total of 144 structured questionnaires were distributed to both male and female nurses working in postoperative area. Sixteen respondents were excluded from the analysis for gross incompleteness and inconsistency of responses which made a response rate of 90%. Of all respondents 78(54.2%) and 66(45.8%)were male and female respectively. The age range of the participants were between 23 and 45 with the mean age of 30.72years ± 4.749SD. Age category of the respondents' show that 88(61%) were between 20-30 years. Most of the respondents were77(53.5%) orthodox Christian by religion. Majority 105(72.9%) of the respondents were bachelor degree holders. From the total respondents 63 (43.8%) had 2 to 5 years of total work experience and 60(41.7%) had also 2 to 5 years of experience in postoperative area. 44(30.6%) of the respondents were working in obstetric ward (Table 2).

Table 2:- Socio-demographic characteristics of nurses at Hospitals of Arsi zone, Southeast Ethiopia, 2018. (n=144)

Characteristics		Frequency	Percent
Sex	Male	78	54.2
	Female	66	45.8
Age	20-30 yrs	88	61.1
	31-40 yrs	53	36.8
	>=40 yrs	3	2.1
Marital status	Married	68	47.2
	Single	68	47.2
	Divorced	6	4.2
	Widow	1	0.7
	Separated	1	0.7
Religion	Orthodox	77	53.5
	Muslim	40	27.8
	Protestant	27	18.8
Educational level	Diploma	39	27.1
	Bachelor degree	105	72.9
Years of experience	Less than 2 yrs	13	9
	2to 5yrs	63	43.8
	5 to10 yrs	48	33.3
	10 to 15yrs	7	4.9
	15 to 20 yrs	12	8.3
	>20 yrs	1	0.7
Pop work experience	Less than 2 yrs	48	33.3
	2 to 5 yrs	60	41.7
	5 to 10 yrs	24	16.7
	10 to 15 yrs	6	4.2
	15 to 20 yrs	6	4.2
Current area of practice	Surgical	38	26.4
	Recovery	8	5.6
	OR	31	21.5
	Obstetrics	44	30.6
	Gynecology	23	16

5.2. Knowledge of nurses about post-operative pain management

The table 3 show that 128(88.9%) of participants knew Increasing analgesics indicate that the patient is psychologically dependent and 136(94.4%) knew that Pain should be assessed before and after administering pain drugs. It shows that 91(68.1%) knew that respiratory depression can occur in patients receiving opioids and 106(73.6%) knew that The side effects of narcotics should be observed at least 20 minute after administration

Table 3: Knowledge of nurses about postoperative pain management nurses at Hospitals of Arsi zone, Southeast Ethiopia, 2018.

Characteristics	Yes		No	
	No	**%**	**No**	**%**
Increasing analgesics, indicate the patient is psychologically dependent	128	88.9	16	11.1
Paracetamol injection is used in managing surgical pain.	110	76.4	34	23.6
cold and heat compress should be used in the management of surgical pain	109	75.7	35	24.3
Opioids analgesics used to relieve pain in surgical patients	130	90.3	14	9.7
combining analgesics that may result in better pain control with fewer side effects than using a single analgesic agent	49	34	95	66
Pain should be assessed before and after administering pain drugs.	136	94.4	8	5.6
Observation is part of the method used in surgical pain assessment	122	84.7	22	15.3
The side effects of narcotics should be observed at least 20 minute after administration	106	73.6	38	26.4
If the source of pain is not known a pain drug should not be used during the pain evaluation period because this could mask the diagnosis	112	77.8	32	22.2
Based on their cultural and spiritual beliefs Patients may think pain and	36	25.2	107	74.8
Patients should be encouraged to endure as much pain	45	31.3	99	68.8
Pre-surgery injection such as anesthesia is given for pain management	105	72.9	392	27.1
Respiratory depression rarely occurs in patients who have been receiving stable doses of Opioids over a period of months.	98	68.1	46	31.9
Opioids should not be used in patients with a history of substance abuse.	110	76.4	34	23.6
Rating scale ranging from (0) “no pain at all to (10) the worst pain” is essential to adopt in pain assessment	96	66.7	48	33.3
If a patient sleeps with no movement postoperatively, this indicates that patient is not in pain	59	41.3	84	58.7

The mean score for knowledge was 10.78 with standard deviation of 1.817. Study participants who scored less than the mean value were regarded as low Knowledge, whereas participants who scored more than the mean value were regarded as good Knowledge. From the number of 144 participants, 65(45.1%) had low Knowledge and79(54.9%) had good knowledge about post-operative pain management.

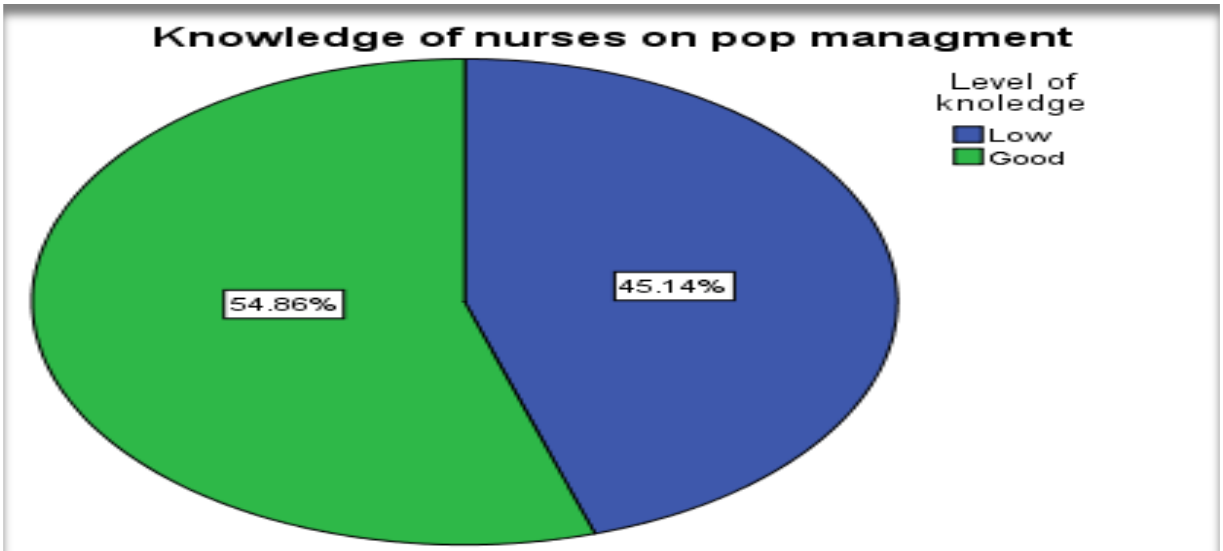

Figure 2: Knowledge of nurses on post-operative pain management at hospitals of Arsi zone southeast Ethiopia,2018

Among, the 144 respondents age groups between 20-30 (67%) and between 30-40(31.7%)were more knowledgeable on effective post-operative pain management. The two age groups are associated with post-operative pain management ($p < 0.05$). Other variables such as sex, educational level, total work experience, length of work of experience, work unit not associated with knowledge on post-operative pain management. In the adjusted odd ratio, the ages are more likely to be knowledgeable (AOR=1.181,95% CI 0.493,2.834) for age between30-40 yrs($p<0.05$).

5.3. Attitude of Nurses towards pain management

Attitude of nurses were asked to score 9 question on a five point Likert scale related to post-operative pain management. The mean score for attitude was 30.62 with standard deviation of 2.681. Respondents who scored more than the mean value were regarded as having Favorable attitude towards post-operative pain management. Nurses who scored less than the mean value were regarded as having unfavorable attitude towards post-operative pain management. Among the 144 respondents nearly half 75(52.1 %) had unfavorable attitude towards pop management.

Table 4: Attitude of Nurses towards pain management

Variable	SA	A	U	NA	SD	Mean
Pain is seen in the patient's behavior	37(25.7%)	94(65.3%)	2(1.4%)	9(6.3%)	2(1.4%)	1.92
Distraction reduces pain intensity	9(6.3%)	85(59.4%)	28(19.6%)	19(13.3%)	2(1.4%)	2.44
Non pharmacological interventions are very effective for mild to moderate pain not sever pain	24(16.7%)	92(63.9%)	11(7.6%)	15(10.4%)	2(1.4%)	2.16
The use of placebo is important in determining if the patient is real pain	22(15.3%)	68(47.2%)	24(16.7%)	27(18.8%)	3(2.1%)	2.45
Surgical patients usually do experience pain more intense than medical patients	31(21.5%)	92(63.9%)	9(6.3%)	9(6.3%)	3(2.1%)	2.03
Using pain assessment tool usually make nursing more complicated and consume time for other ward activities	7(4.9%)	48(33.6%)	26(18.2%)	50(35%)	12(8.4%)	3.08
The nurses personal experience with pain affects the way the nurses manage pain on surgical patients.	24(16.7%)	87(60.4%)	16(11.1%)	17(11.8%)	0	2.18
Observable changes in vital sign must be relied on to verify patient's complain of severe pain	35(24.3%)	90(62.5%)	10(6.9%)	6(4.2%)	3(2.1%)	1.97
Nurses are best judges of the patient's pain intensity because they spent 24 hours with the patients	53(36.8%)	77(53.5%)	5(3.5%)	8(5.6%)	1(0.7%)	1.8

Among the 144 respondents 69(47.9%) had Favorable attitude towards post-operative pain management (figure 3).

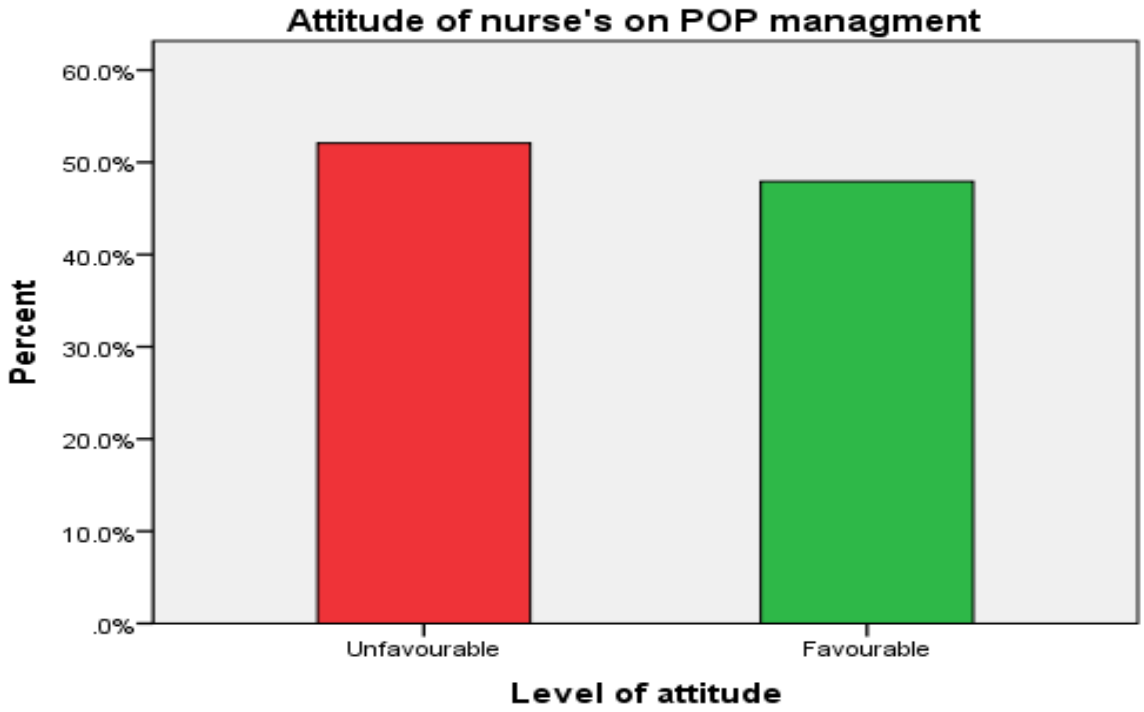

Figure 3: Level of attitude of nurses towards pop management at hospitals of Arsi zone southeast Ethiopia,2018

5.4. Practice of Nurses towards pain management

The mean score for level of practice of post-operative pain management was 4.41 with standard deviation of 1.516. Study participants who scored less than the mean value were regarded as low practice, whereas participants who scored more than the mean value were regarded as good practice.

Table 5: Practice of Nurses towards pain management

Variables	No	%
Do you provide direct nursing care to POP patients? 1-yes	122	84.7
2-no	22	15.3
Do you assess for pain for patient able to communicate? 1-yes	123	85.4
2-no	21	14.6
Do you use a pain assessment tool? 1-yes	45	31.3
2-no	99	68.8
How frequent do you use a pain assessment tool?1-yes	27	18.8
2-No	117	81.3
Type of pain relief selected for the patient should be based on the type of surgery		
1-yes	131	91
2-no	13	9
Are pain scores and management discussed during nurse-to-nurse report?		
1-yes	87	60.4
2-no	57	39.6
Do you always agree with patients' statements about their pain? 1-yes	84	58.7
2-no	59	41.3
How often you read guidelines? 1-usually	16	69.6
2-rarely	7	30.4

From all respondents, 75(52.1%) of the respondents practice was low.

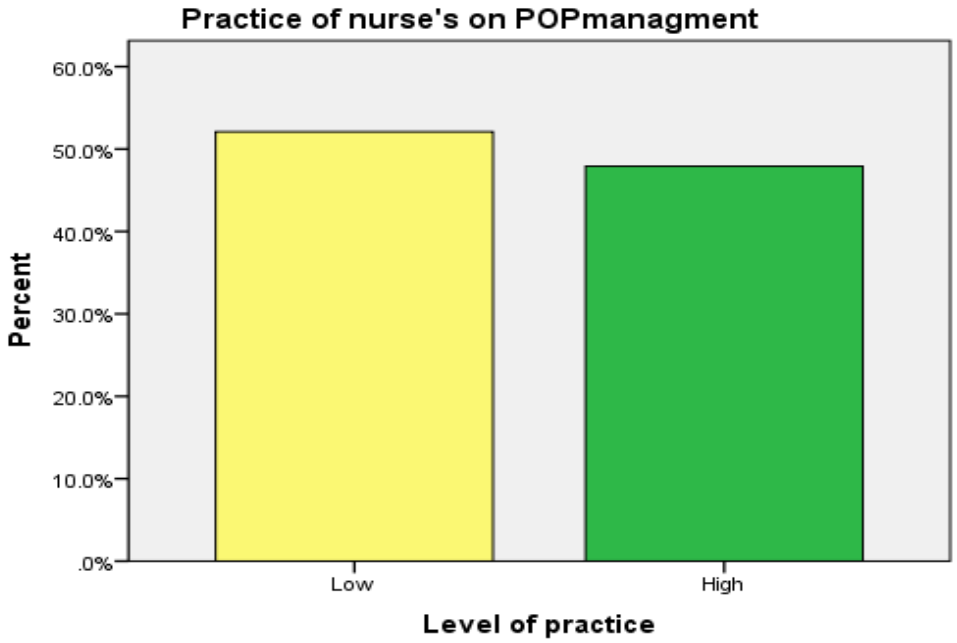

Figure 4: Level of practice of nurses towards pop management at hospitals of Arsi zone southeast Ethiopia,2018

As shown in table 8 below, almost half of male group (50.7%) had good practice on post-operative pain management. From age group 20-30 (65.2%) had good practice than other age groups. Nurses with BSc degree in nursing (80%) had low practice. Among the respondents, those who work in surgical (34.7%) had low practice than other units (Table 8)

As shown in Table 8 below, majority of the participants reported the following as barriers to pain assessment; nursing workload (23.6%), lack of availability of assessment tools (47.2%), lack of education on assessment tools (16 %), lack of familiarity with tools (3.5%), lack of protocols and guidelines on pain assessment and management (8.3%) and no designing area for charting (1.4%).

Training related to pain assessment.

Majority of the participants 88(61.1%) had never had any training on pain assessment and management. Of the144 participants who had received some training 21(14.6%) were lecture ,20(13.9%) were conference,7(4.9%) were conference and 8(5.6%) were workshop.

As shown in Table 6 below, participants who have a pain guideline or standard in there organization25(17.5%), who did not have were89(62.2%)and 29(20.3%) were not sure. 16(69.6%) of the participants usually read any guidelines of pain assessment and management.

Table 6: Distribution of participants by perceived barriers to pop assessment and management at hospitals of Arsi zone southeast, Ethiopia, 2018

Variables	Frequency	Percent
barriers that hinders assessment		
Nursing workload	34	23.6
Lack of availability of pain assessment tool	68	47.2
Lack of education on assessment tools	23	16
Lack of familiarity with assessment tools	5	3.5
Lack of protocols for pain assessment	12	8.3
No designed area for charting	2	1.4
received training related to pop management		
Yes	56	38.9
No	88	61.1
receive training on POP management		
Lecture	21	14.6
Course	20	13.9
Conference	7	4.9
Workshop	8	5.6
Never received training	88	61.1
have a pain guideline in organization?		
Yes	25	17.5
No	89	62.2
Not sure	29	20.3
How often you read guidelines?		
Usually	16	69.6
Sometimes	7	30.4

CHAPTER SIX. DISCUSSION

The research found that genders represented in this sample 78(54.2%)are male and 66(45.8%)are female. This difference show that nursing profession is dominated by males. This may be due to the interest of nursing profession is increasing time to time and also the opportunity to get education is available in Arsi zone The research found that the majority of the participants 88(61%)are aged between 20-30 years old and only 3(2.1%) of the participants are >=40 years old. These findings are similar to the study done by [26] who found that the most respondents in their study were male and young age.

The majority of participants 105 (72.9%) have bachelor's degree and only 39(27.1%) have diploma; this is due to the fact that people are upgrading themselves and majority of the participants were from Asella and Bokoji hospitals which administered by Arsi university since the university criteria to be recruited is bachelor holders.

The mean score for knowledge was 10.78 with standard deviation of 1. 817.From the total number of 144 participants, 65 (45.1%) had low level of knowledge about pop management and79 (54.9%) had good level of knowledge about pop management. This finding of was higher than study conducted in Harari(51.7%)[27] .This might be due to majority of the participants were bachelor degree.

In this study, nurses correctly answered in relation to paracetamol injection is used in managing surgical pain 76.4% of nurses correctly answered that paracetamol injection is not given IM the management of surgical patients. This finding was higher than study conducted in Addis Ababa(49.7%)[8] this might be due to educational background .

The study found that the nurses have unfavorable attitudes towards post-operative pain management and their patients because majority of them thought that their patients over report their pain and also patients being treated with opioid are at high risk of developing addiction. This shows that the patients are undertreated and suffer for their pain because of those misconceptions of the nurses that patients over report their pain and fearing of The prevalence of favorable attitude in this study was 47.9%. This might be due to lack of awareness towards

pop management and personal characteristics of participants. In this study (53.5%) of nurses thought that the most accurate judge of the intensity of the patients were nurses. This finding is lower than study conducted in Addis Ababa(74.8%))[23]

The study also found that nurses have unfavorable attitude towards pain management because majority of them (72.5%)thought that using placebo is important in determining if the patient is in real pain. This shows that the patients are under treated and suffer for their pain because of those misconceptions of the nurses that real pain would not relieve by placebo. This is supported by Bashir A (2015) who found that respondents have negative attitude. [23]
In this study 59.4% of respondents agreed that distraction, for example, by the use of music or relaxation, can decrease the perception of pain and this figure was found to be lesser than similar study done in Addis Ababa showed 68.2%.[8]

The study presented that nurses had low level of practices regarding post-operative pain management, presenting by the mean score of (52.1%). Some factors might contribute to low practices on POPM among nurses in this study. Firstly, there was no adequate training continuing and updating education program on pain topic that has proven helpful in increasing skill in the area of POPM. Secondly, it has been revealed that Arsi zone hospitals do not provide pain assessment tool and the nurses lack availability of pain assessment tool. In this study (47.2%)nurses answered lack of availability of pain assessment tool and (62%)of nurses answered that their organization did not have pain guideline or standard. This finding was lower than the study conducted in Addis Ababa[8]

Concerning training related to POPM this study showed that 38.9% of nurses had training. It indicates that the majority of nurses didn't get training regarding POP assessment and management. It was found similar compared to Addis Ababa and lesser as compared to 69% in Uganda [21]. The present study showed 25.9% of respondents said that pain guideline was available in their organization. This indicates that access of pain guidelines was difficult. But it was higher as compared to a study conducted in Bangladesh 18.3%[13] .

The study found that there was relationship between the gender of the participants (p-value:0.108) and(p-value:0.051) for female and male respectively and their level of knowledge. It also revealed that from level of education bachelors (p-value: .008) had

association on knowledge of nurses related to POPM. This means that the more nurses increase their levels of education, the more they gain knowledge about patients‟ behaviors towards pain management and these findings inform us that knowledge increase through academic education. The study found nurses with current area of work place who are working in recovery and OR had association with (p-value:0.193) and(p-value:0.207) respectively. These findings are supported by study conducted in Rwanda[26]. The study found that there is no relationship between age category, years of experiences and marital status of the participants and their knowledge related to POPM.

The study found that there is relationship between attitude of nurses educational level, post-operative work experience and current area of practice with (p-value:0.154)(p-value:0.176)(p-value:0.054)respectively related to pain management

The study found that there is relationship between educational level (p-value:0.120) with level of practice on POPM.The other sociodemographic characteristics did not have relationship at all. Therefore, further studies are needed to investigate other factors that may be present so that knowledge and attitudes of the /nurses are translated into practices among nurse

Strength of the study

The study conducted on hospitals that have almost similar setting so that the study subjects who participate in this study practiced the same postoperative pain management.

Limitations of the study

The current study mainly focused on examining nurses' knowledge and attitude and practice in relation to post-operative pain management by using closed ended questionnaire.

CHAPTER SEVEN CONCLUSIONS AND RECOMMENDATION

1.1. Conclusions

The present study was aiming at determine the knowledge, attitudes, practices and factors association in POPM among Nurses in Arsi zonal hospitals. The overall results show that nurses have good knowledge related to drugs used in pain management. The results also show that the nurses have unfavorable attitudes regarding patients experiencing pain and the use of placebo. The study found that the practices of nurses related to POPM pain are at low level. These, unfavorable attitudinal beliefs and poor practices found in many key areas of pain management have impact on the provision of effective pain management and optimal care given to surgical patients. Several challenges have been identified in this current research by participants/nurses contributing to ineffective pain management. Among those challenges, there is inadequate knowledge about pain assessment and management, ability to assess the pain, fear of other side effects and addiction, pain management is given low priority among health care professionals, lack of pain management in the curriculum during their studies, shortage of staff that leads to work overload and lack of equipment's for patients‟ monitoring which leads to fear of administering opioids as pain medications. The age was found to be in correlation with the knowledge of the nurses related to drugs used in pain management and the level of education was seen as contributing factor to nurses‟ knowledge related to patients‟ behaviors towards pain management.

were knowledgeable on post-operative pain management. The attitude of nurses regarding post-operative pain management is unfavorable. In this study, gender or sex is associated with knowledge on pop management. Male nurses are more knowledgeable than females. Factors such as age, length of work experience, work unit and training on pain management not associated with knowledge of pop management. As the nurses are the most important parts in the multidisciplinary approach in pain management, their knowledge and attitude make a big difference on practice POPM. So, there is a need for regular in-service education on pop management according to the recommendation of standard.

7.2. Recommendation

Based on the findings this study it is recommended that the hospital administration through the nurse managers should provide training in order to increase their knowledge strength their attitudes and practice towards pop management. Thus, ultimately nurses will improve patients' quality of life. In addition, all hospitals should formulate a Pain Management Protocol to be utilized by all nurses in various work units. Finally, this study recommends further studies which will include in-depth interviews and actual practices of nurses on assessment of post-operative pain management.

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9.ANNEXES

Annex I: consent form

Dear Nurse

As part of the requirements for the Master of Science in Nursing Degree, I am conducting a study about nursing knowledge, attitude and practice about post op pain management. You are being invited to participate in this research study. Before you make a decision to participate, it is important for you to understand what participation consists of and the purpose of this study.

The purpose of this study is to assess the level of knowledge, attitude and practice among registered nurses who care for adult post-operative patients. In order to attain this study objective your good will and kindly participation is needed. Confidentiality is strictly protected and none of your response will be reported separately. Therefore, there is no need to write your names or ID numbers on these questionnaires. It is your right to participate or to refuse in this study. However, your sincere responses will help us to generate valuable information to attain the purpose of the study. So please take a few minutes to answer to the questions.

If you choose to participate, you may withdraw your participation at any time during the survey. Completion of the survey will serve as your consent to participate.

There will be no direct benefits to you for participation in this study. It is my hope that information obtained from this study may be useful to the body of nursing to increase understanding in post op pain management.

Annex II: Questionnaire

Name of your department _ Questionnaire #_____

Date of interview_____

Time of interview_____

Part I: Socio Demographic Characteristics of respondents

Instruction: Please circle the number of your choice

Items	**Questions**	**Response**
101	Sex	1. Male 2. Female
102	How old are you?	_____ Years
103	What is your marital status?	1. Married 2. Single 3. Divorced 4. Widow 5. Separated
104	What is your religion?	1. Orthodox 2. Muslim 3. Protestant 4. Catholic 5. Others (specify)
105	What is your level of qualification?	1. Diploma 2. Bachelor degree 3. Master's degree and above

106	How many years of work experience do you have?	1. Less than 2 yrs. 2. 2 to 5yrs 3. 5 to 10 yrs. 4. 10 to 15 yrs. 5. 15 to 20 yrs. 6. > 20 yrs.
107	How long had you have been Working in postoperative area?	1. Less than 2 yrs. 2. 2 to 5yrs 3. 5 to 10 yrs. 4. 10 to 15 yrs. 5. 15 to 20 yrs. 6. > 20 yrs.
108	Where is your current area of practice?	1. Surgical 2. Recovery 3. OR 4. Obstetrics 5. Gynaecology

Part II: Respondents knowledge to POP assessment and management related questions

Instruction: Please circle the number of your choice

Item No.	Items	response
201	When a patient requests increasing amounts of analgesics to control pain, this usually indicate that the patient is psychologically dependent	1. Yes 2. No
202	Paracetamol injection is used in managing surgical pain.	1. Yes 2. No
203	cold and heat such as warm bath, sitz bath, ice bags compress should be used in the management of surgical pain	1. Yes 2. No
204	pharmacological methods: Opioids analgesic such as pethidine and Pentazocine are used to relieve pain in surgical patients	1. Yes 2. No
205	combining analgesics that work by different mechanisms may result in better pain control with fewer side effects than using a single analgesic agent	1. Yes 2. No
206	Pain should be assessed before and after administering pain drugs.	1. Yes 2. No
207	Observation is part of the method used in surgical pain assessment	1. Yes 2. No
208	The side effects of narcotics should be observed at least 20 minute after administration	1. Yes 2. No
209	If the source of pain is not known a pain drug should not be used during the pain evaluation period because this could mask the ability to correctly diagnose the cause of pain.	1. Yes 2. No
210	Based on their cultural and spiritual beliefs Patients may think pain and suffering are necessary	1. Yes 2. No
211	Patients should be encouraged to endure as much pain as possible before using an opioid.	1. Yes 2. No

212	Pre-surgery injection such as anesthesia is given for pain management	1. Yes 2. No
213	Respiratory depression rarely occurs in patients who have been receiving stable doses of Opioids over a period of months.	1. Yes 2. No
214	Opioids should not be used in patients with a history of substance abuse.	1. Yes 2. No
215	Rating scale ranging from (0) "no pain at all to (10) the worst pain" is essential to adopt in pain assessment	1. Yes 2. No
216	If a patient sleeps with no movement postoperatively, this indicates that patient is not in pain	1. Yes 2. No

Part III: Respondents attitude to POP assessment and management related questions

Instruction: Please click the box you choose

Item no	Questions	Response				
		Strongly agree	Agree	Uncertain	Not agree	Strongly disagree
301	Pain is seen in the patient's behavior					
302	Distraction reduces pain intensity					
303	Non pharmacological interventions are very effective for mild to moderate pain not sever pain					
304	The use of placebo is important in determining if the patient is real pain					
305	Surgical patients usually do experience pain more intense than medical patients					
306	Using pain assessment tool usually make nursing more complicated and consume time for other ward activities					
307	The nurses personal experience with pain affects the way the nurses manage pain on surgical patients.					
308	Observable changes in vital sign must be relied on to verify patient's complain of severe pain					
309	Nurses are best judges of the patient's pain intensity because they spent 24 hours with the patients					

Part IV: Items to assess practice

Direction: Read the questions carefully and circle your choice. For short answer items use the space provided.

S .no	Items	Response
401	Do you provide direct nursing care to POP patients?	1. Yes 2. No
402	Do you assess for pain for patient able to communicate? pain?(If your answer is No please go to item 407)	1. Yes 2. No
403	Do you use a pain assessment tool?	1. Yes 2. No
404	If your answer is yes to item 403, Please, name the tool(s) you use? If No go to item 406.	
405	How frequent do you use a pain assessment tool?	1. Always 2. Frequently 3. Occasionally 4. Rarely 5. Never
406	If you do not use a pain assessment tool, please describe your method of assessing pain for patients able to report pain:	

407	What Was the barriers that hinders you from patient pain assessment? You can choose multiple options.	1. Nursing workload 2. Lack of availability of pain assessment tool 3. Lack of education on assessment tools 4. Lack of familiarity with assessment tools 5. Lack of protocols for pain assessment 6. No designed area for charting
408	Which drugs you use for severe pain Management?	1. NSAIDs 2. Mild Opioids 3. Strong Opioids
409	How do you rate availability of morphine in your Stock?	1. Always available 2. Most of the time 3. Sometimes 4. Not available 5. Not available at all
410	For which procedures you assess the need for administration of analgesia before the procedures are done? You can choose multiple options	1. Patient repositioning 2. Endotracheal suctioning 3. Wound care 4. Drainage removal 5. Invasive line placement 6. Spontaneous breathing

411	Type of pain relief selected for the patient should be based on the type of surgery	1. Yes 2. No
412	Are pain scores and management discussed during nurse-to-nurse report?	1. Yes 2. No
413	Do you always agree with patients' statements about their pain?	1. Yes 2. No
414	How do you rate your current knowledge about pain assessment and management?	1. Excellent 2. Good 3. Average 4. Poor

415	Have you received training related to postoperative pain assessment and management during your professional development?	1. Yes 2. No
416	How do you receive training on POP Assessment and management?	1. Lecture 2. Course 3. Conference 4. Workshop 5. Never received training
417	If yes, are you satisfied with the training?	1. Yes 2. No
418	Do you have a pain guideline or standard in your organization?	1. Yes 2. No 3. Not sure
419	If yes, How often you read guidelines?	1. Always 2. Monthly 3. Quarterly 4. Yearly

Thank you for your cooperation!

Approval / Declaration Sheet

I, the undersigned MSc student, declare that I have submitted my original work on a title Knowledge, Attitudes and Practices of Nurses in Regard to Post-Operative Pain Management in to Asella referral hospital, Arsi Robe hospital, Abomsa hospital, Gobesa hospital, Kersa hospital, Bele hospital and Bokoji hospital, Arsi zone southeast, Ethiopia for the examination.

Submitted by:

_____	_____	_____
Name of student	Signature	Date

This proposal work has been submitted for examination with my approval as an advisor.

Approved by:

1. _____ _____ _____

   Name of Major Advisor Signature Date

2. _____ _____ _____

   Name of Co-Advisor Signature Date