

Knowledge, Attitude and Practice of Nurses towards Post-operative Pain Management in Wolaita Sodo University Teaching Referral Hospital, Ethiopia, Institutional Based Cross-sectional Study

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ABSTRACT

Background: Patient 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 in practice.

Objective: To assess knowledge, attitude, and practice toward postoperative pain management among Nurses staff of Wolaita Sodo University Teaching referral Hospital from May 13-28, 2019.

Method: Across sectional-study design was carried out in Wolaita Sodo University Teaching referral Hospital. All nurses who were provided postoperative patient care were included. Data were collected using a pre-tested and structured questionnaire by trained data collectors and then coded and entered into Epi data 3.5.1 and exported to SPSS version 25 for cleaning and analysis. Descriptive statistics like frequency tables and graphs were used for data presentation.

Results: Most of nurses have good knowledge related to post-operative pain management, but they are poor in opioid related side effect. The findings of these studies revealed that there were several obstacles, which leads inadequate postoperative pain management, and there were deficiencies concerning postoperative pain management through providing pharmacological and non-pharmacological pain management. In this study unavailability of sufficient pain medication in the ward, lack of protocol, and poor communication pain assessment were the three highest barriers perceived by nurses in postoperative pain management practice.

Conclusion: Inadequate post-operative pain management is the result of several obstacles (barriers) that identified by nurses rather than knowledge, attitude, and practice which includes unavailability of enough pain medication in the ward, lack of specific pain management protocol and guidelines, poor communication pain assessment, and absence of non-pharmacological pain management methods and materials to provide non-pharmacological pain management.

Keywords: Pain; Post-operative care; Pain management

List of Abbreviation: IV: Intra Vascular; MMA: Multi Modal Analgesia; PCA: Patient Controlled Analgesia; POP: Postoperative Pain; POPM: Postoperative Pain Management; SICU: Surgical Intensive Care unit; SNNPR: South Nation Nationalities and Peoples Region; WSU: Wolaita Sodo University; WSUCHSM: Wolaita Sodo University Collage of Health Science and Medicine; WSUTRH: Wolaita Sodo University Teaching Referral Hospital

INTRODUCTION

According to the International Association for the Study of Pain; Pain as “Unpleasant sensory and emotional experience

associated with actual or potential tissue damage, or described in terms of such damage.” Postoperative pain is a type of acute pain. The American Society of Anesthesiologists (ASA) defined

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Received: June 20, 2020; **Accepted:** July 10, 2020; **Published:** July 17, 2020

Citation: Dendir G, Sintayehu A, Anmut W (2020) Knowledge, Attitude and Practice of Nurses Towards Post-operative Pain Management in Wolaita Sodo University Teaching Referral Hospital, Ethiopia, Institutional Based Cross-sectional Study. J Anesth Clin Res. 11:958. DOI: 10.35248/2155-6148.20.11.958

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pain in the postoperative present in a surgical patient because of a preexisting surgical procedure, or a combination of disease-related and procedure-related resources [1,2].

Pain management is now considered an important patient outcome when evaluating the effectiveness of nursing care. Pain assessment is the first step in proper pain relief, an important goal in patient's care [3,4].

Ineffective postoperative pain management has numerous disadvantages. This not only increases the patient's pain but also leads to delayed postoperative recovery; dis-improved sleep, decreased mobility, decreased parental satisfaction, and led to longer hospitals stay. There are also many readmissions to hospital, and there is an increased need for post-discharge support [5-8].

The perception of pain is influenced by individuals' age, gender, genetic makeup, cultural factors, fear, anxiety, and experience of pain; so nurses when providing care to a patient dealing with pain in their practice must consider this factor [9,10].

It has been suggested that the key issue of postoperative pain management strategies is to 'make the pain visible' [11,12]. This can be done by accurate pain assessment documentation as well as monitoring the efficacy of pain treatment, and the documentation should also include the patient's satisfaction [13,14].

Clinicians' (nurses inclusive) knowledge and practice of principles related to assessment and management of pain for critically ill patients constitute the core and essential elements of controlling the complex experience. Therefore, examining these elements is a paramount step in constructing Foundations for better strategies in effective management of pain, ensuring patient comfort and ultimate improvement of nursing practice [15].

Optimal pain relief through appropriate prescribing of analgesia is reliant on systematic assessment, and regular documentation of pain by nurses. This implies that nurses are integral to the effective inter professional management of pain, and this has made pain assessment and management an important outcome when evaluating the effectiveness of nursing care.

METHODS

Study setting

Study was conducted in WSUTRH from May 13-28, 2019. The University is located in Sodo town. Sodo, located in south region of Ethiopia, is 315Km away from Addis Ababa.

Study design

A cross-sectional study design was carried-out in WSUTRH.

Study subjects

This study was confined to nurses working in WSUTRH. Those Nurses working in hospitals and had willingness to participate, regardless of their year of experience were recruited. However,

nurses who were sick and on annual leave during data collection time were excluded.

Sample size determination

All nurses (150) who were provided postoperative patient care were included.

Data collection instrument/procedures

Data were collected using pretested, structured a self-administered questionnaire that consists of socio-demographic information, knowledge questions, Attitude and Practice of nurses on post-operative pain management by reviewing related literatures in the English version. Data were collected by a trained data collector after being briefed on the purpose of the study and on how to fill adequate information on the questionnaire.

Data analysis

The collected data were first checked manually for completeness, missed values, unlikely responses, and then coded, entered using Epi data version 3.5.1. Then, cleaned and analyzed using SPSS version 25. Descriptive statistics were computed to determine frequencies and summary statistics (mean, standard deviation, and percentage) to describe the study population in relation to socio-demographic and other relevant variables. Data were presented using tables, graphs, and figures.

Data quality control

Training was given to the data collector for one day for the purpose of the study, data collection tools and procedures, handling ethical issues, and maintaining confidentiality, and privacy. The questionnaire was pre-tested on 5% of the calculated sample size out of the study area before two weeks of the main data collection.

Operational definitions

Attitude: Respondents who answered >50% of the total attitude question had positive an attitude and <50% had a negative attitude toward POPM.

Knowledge: Is the awareness of the nurse about the key principles related to pain assessment and management.

Practice: Is the performance of interventions based on principles related to pain assessment and management among nurses.

Post-op period: From the time of admission to RR to the time, the patient is going to home or a referral clinic.

RESULTS

Socio demographic characteristics of nurses

All 150 respondents completed the questionnaire with a response rate of 100%. Sixty-seven (44.67%) of the respondents were the aged group between 25-29 years. Majority 78(52%) of

respondents were diploma. Among the respondents, 59(39.33%) were male and 91(60.67%) female (Table 1).

Table 1: Socio-demographic characteristics of nurses at WSUTRH, South Central Ethiopia, 2019 (n=150).

Variables	Frequency(N)	Percentage (%)
Age in years	<20	-
	20-24	6
	25-29	67
	30-34	34
	35-39	26
	40-44	11
	45-49	6
	≥ 50	-
Gender	M	59
	F	91
Marital status	Married	65
	Single	76
	Divorced	8
	Widowed	1
Religion	Orthodox	57
	Muslim	15
	Protestant	60
	Catholic	12
	Other	6
Education level for Nurse	Diploma	78
	Degree	69
	Msc	3
Duration of nursing experience	<1	9
	1-5	67
	5-10	53
	10-15	18
	15-20	-
	>20	3

Duration of service in surgical experience	<1	70	46.67
	1-5	59	39.33
	5-10	16	10.67
	10-15	4	2.67
	15-20	1	0.67
	>20	-	-
	Current area of practice	Medical	25
ICU		7	4.67
Obgyn		17	11.33
Pediatrics		14	9.33
Recovery		10	6.67
Orthopedic		15	10
OR		21	14
Emergency		13	8.67
Surgical		28	18.67
Is there pain management content included in nursing practices.	Yes	130	86.67
	No	20	13.33
	Not sure	-	-
Is there any pain standards (protocol) in your hospitals	Yes	44	29.33
	No	106	70.67
	Not sure	-	-

Knowledge of nurses regarding postoperative pain management

The majority of participants 142“(94%)” knew that appropriate assessment of pain is the first priority for effective pain management in the postoperative period, and 138“(92%)” knew that the most side effects of opioids (morphine) was respiratory

depression. It shows that 137“(91.33%)” knew that pain should be assessed before and after administer anti-pain drugs but only 73“(48.67%)” knew that side effects of opioids should be observed at least “(20-30)”minutes after administration (Table 2).

Table 2: Knowledge of nurses about postoperative pain management at WSUTRH, South Central Ethiopia, 2019.

Knowledge statement of POP	F(N)	%
The most accurate judge of the intensity of the patient’s pain is the patient	102	68
During postoperative period, patient may cry for many causes, not only from surgical wound	113	75.33
Pain should be assessed before and after administering anti-pain drugs	137	91.33

It may often be useful to give a placebo to a patient in pain to assess if he is genuinely in pain.	103	68.67
Each patient will have specific postoperative pain differently	117	78
The patient should be advised to use non-drug techniques along with pain medication.	136	90.67
Distraction, for example, by the use of music or relaxation, can decrease the perception of pain	93	62
Nurse knowledge and understanding of postoperative pain management can make them be able to better manage the pain	102	68
Side effects of opioids should be observed at least (20-30) minutes after administration.	73	48.67
combining analgesics that work by different mechanisms may result in better pain control with fewer side effects than using a single analgesic agent	103	68.67
During caring of patient, providing comfort and positioning may help to reduce muscle tension which in turn, can reduce pain	104	69.33
Appropriate assessment of pain is first priority for effective pain management in postoperative period.	142	94.67
After operation, if the patient has severe pain, they may show abnormality in vital signs	115	76.67
After the initial recommended dose of opioid analgesics, subsequent doses should be adjusted according to the individual's patient's response	118	78.67
The most side effects of opioids (morphine) is respiratory depression	138	92
previous pain experience cannot increase patient's current postoperative pain	136	90.67
The usual duration of action of IV morphine is 1-2 hours.	74	49.33
Nurse role during postoperative pain management is to follow the doctors order only.	75	50
Usually female perceive pain less than male	70	46.67
Vital signs are always reliable indicators to assess the intensity of postoperative pain.	105	70
If the source of pain is unknown; pain drug should not be used during the pain evaluation period, because this could mask the ability to correctly diagnose the cause of pain	99	66
Non drug interventions (egg heat, music; touch are very effective for mild-moderate pain control but are rarely helpful for severe pain	75	50

Attitude of nurses towards pain management

Eighty-seven (58%) and 30(20%) respondents had constantly to (observing changes in vital sign must be relied on to verify patient complaints for severe pain and the use of placebo is important in determining if the patient has real pain, respectively) (Table 3).

Practice of respondents in WSUTRH, South Central Ethiopia, 2019.

Even though 129(86%) nurses assessed pain for patients able to communicate, only 68(45.33%) used a pain assessment tool

during postoperative pain management. Almost half of the respondents who assessed pain 74(49.33%) document findings after pain assessment (Table 4).

Barrier/factors of post-operative pain management

The Majority of respondents reported the following barriers to pain assessment and management. Unavailability of sufficient pain medication in ward 138(92%), lack of protocol 135(90%), poor communication of pain assessment 133(88.67%), and lack of specific protocol/guidelines 111(74%) (Table 5).

Table 3: Attitude of nurses towards pain management at WSUTRH, South Central Ethiopia 2019 GC.

Attitude post-operative pain management practice	Constantly		Frequently		Occasionally		Rarely		Never	
	F	%	F	%	F	%	F	%	F	%
Pain is seen the patient’s behaviours	52	34.67	17	11.33	26	17.33	48	32	7	4.67
Distraction reduces pain intensity	13	8.67	25	16.67	32	21.33	38	25.33	42	28
Non pharmacological interventions are very effective for mild to moderate pain not for sever pan	64	42.67	10	6.67	35	23.33	35	23.33	6	4
The use of placebo is important in determining if the paint have real pain	30	20	19	12.67	26	17.33	36	24	39	26
Surgical patients usually do experience pain more intense than medical patients	72	48	10	6.67	32	21.33	26	17.33	10	6.67
Using pain assessment tool usually make nursing more complicate and consume time for other ward activities	16	10.67	16	10.67	24	16	39	26	54	36
The nurses personal experience with pain affects the way the nurses manage pain on surgical patients	71	47.33	13	8.67	9	6	42	28	15	10
Observable changes on vital sign must be relied on to verify patient complain for sever pain	87	58	12	8	19	12.67	28	18.67	7	4.67
Nurses are best judges of the patients pain intensity because they spent 24 hours with the patients.	5	3.33	10	6.67	14	9.33	25	16.67	96	64

Table 4: Proportion of respondents who correctly respond to practice questions regarding POPM in WSUTRH South Central Ethiopia, 2019.

Statement of practice on post-operative pain management	F	%
Do you provide direct nursing care to pop patients	148	98.67
Do you asses pain for patient able to communicate	129	86
Do you use pain assessment tool	68	45.33
Type of pain relief selected for patient should be based on the type of surgery	97	64.67
Are pain scores and management discussed during nurse to nurse report	74	49.33
Do you always agree with patients statements about their pain	98	65.33
Have you ever used pain assessment tools	70	46.67

Table 5: Factors of post-operative pain management at WSUTRH, South Central Ethiopia 2019.

Barrier/factors of post op pain management	Yes	
	F	%
Shift rotation affects pain management	96	64

Patient inability to communicate	53	35.33
Lack of protocol	135	90
Low priority of pain	60	40
Poor communication pain assessment	133	88.67
Specific protocol/guideline	111	74
Sedation interfering	89	59.33
Availability of drug	138	92
Education level	85	56.67
Language barrier	74	49.33

DISCUSSION

This study found that 142(94%) of participants knew that appropriate assessment of pain is the first priority for effective pain management in the postoperative period, and 138(92%) knew that the most side effect of opioids (morphine) is respiratory depression. Only 73(48.67%) knew that side effects of opioids should be assessed at least (20-30 min) after administration. Contrary to our study Bangladesh study showed that nurses had a high level of knowledge, attitude, and practice (score >80%) on pain management. These include the side effects of opioids observed at least 20 minutes after administration (93.5%) [16]. This discrepancy may be due to socioeconomic differences, and sample size variation (Figure 1).

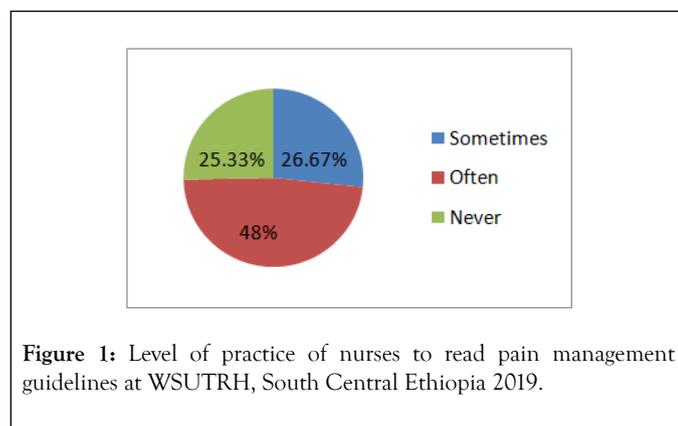


Figure 1: Level of practice of nurses to read pain management guidelines at WSUTRH, South Central Ethiopia 2019.

In this study, 93(62%) of respondents agreed that distraction, for example, by the use of music or relaxation, can decrease the perception of pain. This figure was found to be lower than similar studies done in western Ethiopia and Nigeria showed 78.1% and 92.6% respectively [17,18].

Our study revealed that 87(58%) of nurses said vital signs are always reliable indicators of the intensity of a patient’s pain as compared to 26.9% in Bangladesh [16]. This indicates that poor assessment and management pain which lacks observable vital sign changes.

The study also found that nurses had an unfavorable attitude toward pain management because the majority of them

111(74%) thought that using placebo is important in determining if the patient is in real pain. This shows that the patients are under treatment and suffer from their pain because of the misconceptions of the nurses that real pain would not relieve by placebo. Our study was in line with Bashir A found that respondents have a negative attitude [19].

This study illustrated that 129(86%) nurse’s assessed pain for patients able to communicate pain. This result was lower as compared in studies in Nigeria (95.8%), and Uganda (90%) [18,20]. This might be due to workload and knowledge deficit regarding postoperative pain assessment. Among those who assessed pain, 68(45.33) used a pain assessment tool and was higher than that in a study in Uganda 4% and Ireland 57.4% [20,21]. This may be due to unfamiliarity with the pain assessment tool and lack of availability of a pain assessment tool.

This study showed that 74(49.33%) respondents documented the findings after pain assessment. This indicates that documentation of the findings of POP assessment and management outcomes was poor. This figure was consistent with a similar study conducted in Jordan “48.7%” [22]. This may be related to the lack of knowledge of the importance of documentation. It has been suggested that the key issue of postoperative pain management strategies is to “make the pain visible”. This can be done by accurate pain assessment documentation as well as monitoring the efficacy of pain treatment, and the documentation should also include the patient’s satisfaction. For patient safety of the patients, documenting daily nursing care in patients’ records is vital. The primary purpose of documentation is to communicate patient’s care among health team members and to provide legal evidence of the delivered care. Postoperative pain assessment and management should be documented routinely in a systematic format. It can be documented as part of the vital signs record form [13,14].

This study also revealed that unavailability of sufficient pain medication in ward 138(92%), lack of protocol 111(74%) and poor communication pain assessment 135(90%) were the most common barriers to effective pain assessment and management. This is supported by the Journal of Clinical Nursing, the most

common barrier to effective pain management is incorrectly assessment of pain by health professionals; Ineffectiveness of pain relief measures and lack of knowledge on pain management and assessment [17,23].

The study clearly points to the fact that nurse knowledge and attitudes regarding postoperative pain the management depend on certain factors. Thus, the length of service and experience, availability of drugs, presence of protocol, and appropriate assessment tool in management of pain are very important for nurses to improve their knowledge and skills in providing care for postoperative patients.

CONCLUSION

The findings of the study show that inadequate post-operative pain management is the result of several barriers that are identified by nurses rather than nurse knowledge, attitude, and practice. The several obstacles that identified by nurses that create barriers to optimal pain management include unavailability of sufficient pain medication in the ward, lack of specific protocol and guidelines, poor communication pin assessment, and absence of non-pharmacological pain management method and material and to provide non-pharmacological pain management.

ETHICS APPROVAL

Ethical clearance and approval letter to conduct the study was obtained from Wolaita Sodo University institutional review board, and a letter of cooperation was taken from collage of health science, and medicine and an Official letter was written from the Department of Anesthesia. Written and verbal consent was obtained from each participant after a thorough explanation of the purpose.

CONSENT FOR PUBLICATION

Not applicable.

AVAILABILITY OF DATA AND MATERIALS

The datasets used and analyzed during the current study are available from the corresponding author upon reasonable request. The findings of this research will be freely available to any scientist wishing to use them for noncommercial purposes, without breaching participant confidentiality.

COMPETING INTERESTS

The authors declare that they have no competing interest

FUNDING

This research was not funded.

AUTHOR'S CONTRIBUTIONS

GD was involved in the conception, design, analysis, interpretation, and report writing. WA, and AS involved in interpretation, manuscript and report writing. All authors have read and approved the final manuscript.

ACKNOWLEDGEMENTS

We would like to express our deepest heartfelt thanks to Wolaita Sodo University for allowing us to conduct this study. We would like to acknowledge Wolaita Sodo hospital administrative office for their positive responses to facilitate this study. Our special thanks also go to study participants and data collectors.

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