

## Knowledge Regarding Post Operative Pain Assessment and Management among Nurses in Tertiary Hospital, Biratnagar, Nepal

Sabu Pokhrel SN\*, Sushmita Dhakal SN and Rakshya Dahal SN

Department of General Medicine, Koshi Health and Science Campus, Biratnagar, Nepal

### \*Corresponding author:

Sabu Pokhrel SN,  
Department of General Medicine, Koshi Health and  
Science Campus, Biratnagar, Nepal

Received: 16 July 2024

Accepted: 03 Aug 2024

Published: 10 Aug 2024

J Short Name: ACMCR

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### Citation:

Sabu Pokhrel SN, Knowledge Regarding Post Operative Pain Assessment and Management among Nurses in Tertiary Hospital, Biratnagar, Nepal. Ann Clin Med Case Rep. 2024; V13(25): 1-6

### Keywords:

Nurse; Knowledge; Postoperative; Pain

## 1. Abstract

**1.1. Background:** Postoperative pain remains one of the greatest burdens for patients following surgery. Nurses play a vital role in postoperative pain assessment and management following surgery. Therefore, nurses should have adequate knowledge about to carry out such responsibilities.

**1.2. Methods:** A descriptive cross-sectional study was conducted to assess the nurse's knowledge regarding postoperative pain assessment and management among 50 respondents in NCMH, Nepal. Non-probability convenience sampling technique was used to select subject of the study. A self-prepared structured interview questionnaire was used to collect needed data. Ethical consideration was maintained to reduce biasness. Statistical Package of Social Science (SPSS) 21 was applied for data analysis.

**1.3. Results:** The study showed that majority of participants, twenty-six (52%) of respondents were the aged group of 20-24 year. It reported that 17.6% of the participants had low level of knowledge regarding postoperative pain management while 17.6% had medium level of knowledge, 64.7% had high level of knowledge. It was seen that knowledge regarding pain assessment was significantly higher than knowledge regarding management of pain ( $P=0.04$ ).

**1.4. Conclusion:** However, majority of participants had high level of knowledge regarding postoperative pain management, nurse's professional development, training, or in service education should be arranged to enhance knowledge of nurse regarding postoperative pain management

## 2. Introduction

Post-operative pain is an inevitable consequence following surgical procedure. Post-operative pain remains a major concern in routine surgical procedure despite the use of new analgesic medication in modern age. Numerous studies have showed that the predominance of pain remains high in all patients after surgery [1, 2]. Inadequate postoperative pain relief is described even the availability of many pre, intra and post operative intervention and management methods for reducing and managing postoperative pain [3]. Devastating physiological, psychological and socio-economic effects can develop if post-surgical pain is unknown [4]. Pain relief is a universal objective amongst all health workers. Management of postoperative pain is a team work. Nurses are the main health professionals, who are always close with the patients in post operative unit. Numerous studies have reported that shortage of nurse's knowledge associated to post operative pain management where it significantly contributes to a faulty pain assessment and inadequate pain management [5]. Some study reported that nurses still the study provided that nurses still undervalued pain of postsurgical patients and did not utilize available proper pain assessment tool [6]. Similarly, some study described that Nurse administered less amount of analgesic than prescribed one [7]. Nurses play a vital role in Post Operative Pain management and so they need adequate knowledge and skill for the management of Post Operative Pain [8]. Nurses authorize the biggest population of the health workforce and have 24-hour direct contact with patients [9]. So,

they have significant professional responsibility on relief of post-operative pain. Nurses are well placed to manage pain in the post-operative unit. That's why; pain management is now regarded as an important patient outcome when evaluating the effectiveness of nursing care. Similarly, assessment of pain is the first step in proper pain relief, an important goal in patient's care following surgery [10, 11]. Poorly managed pain can impact negatively on physical and psychological consequences for patients and their cares [12]. Therefore, nurses should have proper knowledge as well as professional and ethical responsibility to ensure effective pain relief for their patients. Pain management by nurses is widely researched in developed countries [13]. However, in countries like Nepal neither this aspect is given much importance nor any active research is done. Most of time knowledge among nursing staff also is inadequate so that their practices as well decisions cannot be relied upon. Therefore, it becomes important to analyze level of knowledge relating to pain assessment as well treatment of pain in scientific way. The finding of this study might help to assess the knowledge as well as to improve knowledge of nurses for post operative pain management. Therefore, this study was designed to determine nurses' knowledge towards post operative pain management among nurses at Tertiary Hospital.

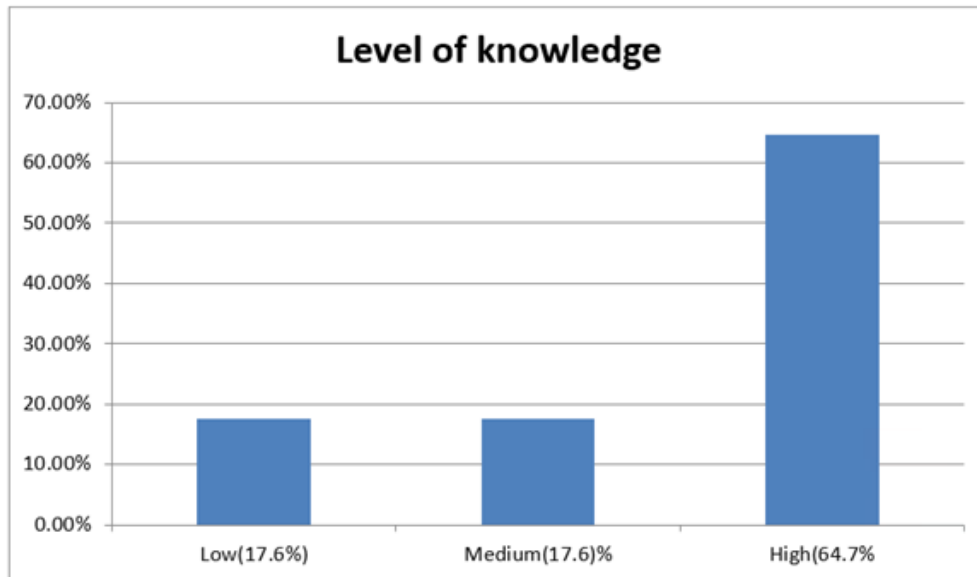
### 3. Method and Materials

Quantitative descriptive cross-sectional study was used for this study. All nurses working surgical ICU and postoperative ward of tertiary care hospital of Biratnagar, Nepal was the study population. Sample size was estimated to be 50 registered nurses. Nurses who were willing to participate in this study and who were available at the time of data collection were included in our study. Data were collected through a self-developed questionnaire. The questionnaire was developed through reviewing the related literature following the questionnaire development guidelines. The content validity was done through the review of literature, by consulting subject expertise, research guide, bio-statistician and colleagues to enhance its effectiveness of questionnaire. Permission for data collection was obtained from nursing co-coordinator nursing crevice and tertiary hospital before collecting data. Then questionnaires were distributed among the participants. Investigators stayed with the participants till they filled the questionnaires. Collected data was analyzed by using descriptive statistical method and SPSS version 21, software was used to for calculating P value. Interpretation of data was done by using tables. Frequencies and percentages were calculated for categorical variables and Chi-square was

used for finding association between variables. P value <0.05 was defined as significant value.

### 4. Results

Data was collected from 50 respondents with the help structured questionnaire. All data were analyzed and interpreted on the basis of objectives. SPSS version 21 was used in analysis data where frequency, percentage were used for the result output. Data were presented using table, graphs. All 50 respondents completed the questionnaire with a response rate of 100%. Twenty-six (52%) of respondents were the aged group of 20-24 year. Among the respondents, twelve (24%) were married and thirty-eight (76%) were unmarried. Majority forty-six (92%) of respondents were Hindu. Professional experience of 56 % participants was between one and three years in hospital. Similarly, twelve (24%) of respondents were working in each general ICU and orthopedics ward and thirteen (26%) of respondents were working in each neuro ICU and postoperative ward. Majority (33; 66%) of respondents were junior nursing staff (Table 1). All the participants, fifty (100%) knew exact meaning of pain. The majority of participant 39(78%) knew the vital are accurate and reliable indicator for assessing the intensity of pain. Similarly, majority of participant 49(98%) knew that pain should be assessed before and after administer anti-pain drug but only 26 (52%) of participants knew that side effect of opioids should be observed at least (20-30) minutes after administration. Forty-three (86%) of participants knew that both benefit and side effect of analgesic /opioids should be knew before administration and 38(76%) of participants knew that most serious side effect of opioids (Morphine) was respiratory depression (Table 2). Level of knowledge was divided into low (<50%), medium (50-70%) and high level of knowledge (>70%). The percentage score of knowledge showed that 17.6% of the participants had low level of knowledge regarding postoperative pain management while 17.6% had medium level of knowledge, 64.7% had high level of knowledge. The overall result is shown in (Figure 1). Pain management has two distinct aspects-first is knowledge in assessment of pain and second knowledge in post operative pain management. The questionnaire which is used has components for analyzing regarding both. Pain assessment questions were 9 in number and treatment questions were 8. (Table 3) shows the percentage of total responses to each of the two aspects. It was seen that knowledge regarding pain assessment was significantly higher than knowledge regarding management of pain (Chi-square test, P value=0.04).



**Figure 1:** Graphical presentation regarding level of nurse’s knowledge about postoperative pain management

**Table 1:** Socio-demographic characteristics of nurses at Tertiary Hospital (n=50).

Age in years	<20	5	10
	20-24	26	52
	25-29	19	38
	>30	0	0
Marital status	Unmarried	38	76
	Married	12	24
	Divorce/separated	0	0
	Widow	0	0
Religion	Hindu	46	92
	Muslim	1	2
	Buddhist	3	6
	Christian	0	0
Total year of professional experience	<1 year	7	14
	1-3year	28	56
	3-5year	10	20
	>5year	5	10
Current working Unit	General ICU	12	24
	Orthopedics	12	24
	Neuro ICU	13	26
	Neuro postoperative ward	13	26
Duration of service in present Unit	<1 year	16	32
	1-2 years	15	30
	2-3 year	7	14
	>3year	12	24
Current Designation	Staff nurse	33	66
	Senior staff nurse	17	34
Had any training /workshop on pain management?	Yes	11	22
	No	39	78

**Table 2:** The knowledge of nurses of about assessment and management of postoperative pain at Tertiary Hospital (n=50)

S.N.	Knowledge Questions	Answer	
		TRUE (%)	False (%)
1	Pain is an unpleasant sensory and emotional or experience associated with actual or potential tissue damage	50(100%)	0
2	What are three main categories of pain?	20(40%)	30 (60%)
3	Where did you hear about pain management?	42(84%)	8(16%)
4	Have you heard about pain assessment tool?	50 (100%)	0
5	What tools can be used to identify patient's pain level?	48(96%)	2(4%)
6	Which is correct method of objective pain assessment?	31(62%)	19(38%)
7	Do you think the management of uncomfortable feelings such as aching, stabbing, throbbing and pinching is management of pain?	20(40%)	30(60%)
8	What is the most accurate and reliable indicator for assessing the intensity of patient's pain?	39(78%)	11(22%)
9	When should we assess pain during pain management?	49(98%)	1(2%)
10	What can be given to assess the pains if he/she is genuinely is pain or not?	23(46%)	27(54%)
11	What are the methods that may decrease the perception of pain?	42(84%)	8(16%)
12	What are factors influencing knowledge level regarding pain management?	35(70%)	15(30%)
13	After administering analgesic /opioids drugs it's side effect should be observed at least after 20-30 minutes	26(52%)	24(48%)
14	Why shouldn't we administer analgesic during pain evaluation if source of pain is unknown?	37(74%)	13(26%)
15	Which is fatal side effect of opioid analgesic (Morphine)?	38(76%)	12(24%)
16	What are necessary things that nurse should know while giving analgesic/opioids?	43(86%)	7(14%)
17	What are role of nurses during pain management?	42(84%)	8(16%)

**Table 3:** Correctness of response on type of knowledge-based questions

Type of knowledge based Questions	Response		Total	P value
	No. correct response	No. incorrect response		
Treatment of pain	286(71.5%)	114(28.5%)	400	0.04*
Assessment of pain	349(77.5%)	101(22.5%)	450	

\*Chi -square test

## 5. Discussion

Postoperative pain is major concern after any surgical procedure where nurses have major role for POP management because they have more patient contact around 24hours. Unfortunately, some literature reports these professionals as failing in effective POP management. This study sought to examine the knowledge of nurses on POP management in Tertiary Hospital Biratnagar, Nepal.

Inadequate knowledge, education and training for nurses were reported as poor post operative pain management [14, 15]. The management of post operative pain by nurses still remains a problem however some studies have described that pain education programs increase knowledge of nurses on postoperative pain

management [16, 17]. Most of nurses are still depending on their personal thoughts about patient's pain rather than utilizing assessment tool to assist them to choose appropriate Analgesic drugs and its doses. Therefore, it may cause insufficient postoperative pain management [18, 19]. Unrelieved post operative pain may also be harmful and adversely affect the quality of life amongst post operative patient [20,21].Pain management has been an essential part of nursing practice even there are still too many lack the basic knowledge necessary to manage pain appropriately.

Our study reported that 39 (78%) of respondents knew the vitals are reliable indicator for assessing intensity of pain, and 38(76%) of respondents knew the most side effect of opioids (morphine)

is respiratory depression. Similarly, A study done in Ethiopia, by Getahun found that 105 (70%) of respondents knew that vital sign are always reliable indicator of the intensity of postoperative pain, and 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 minute) after administration [22]. Our study noted that 26(52%) the respondents have knowledge about the effects of analgesic / opioids which should be assessed at least (20-30 minute) after administration. Contrary to our study, Hossain MS described that only 26.9% knew the changes in vital sign are reliable indicator of intensity of patient's pain [23]. That indicates poor assessment and management of postsurgical pain which may lack observable vital sign changes. A cross-sectional study done in Pakistan reported that 95% of all respondents knew that Pain is an unpleasant sensory and emotional or experience associated with actual or potential tissue damage [24] which is lesser than this present study where 100% of respondents knew about it. In this study, 42(84%) of all respondents agreed that distraction, and by use of relaxation or music can decrease the perception of pain. It was found to be lower than similar study done in Nigeria [25] showed 92.6% as well as higher than similar studies done in South Ethiopia[22] and Weteran Ethiopia [26] showed 62% and 78.1% respectively. A study done by Getahun et al [22] mentioned 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. It 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 also showed that only 23(46%) of all respondents were aware about use of placebo to determine the patient is real pain or not which are lesser than similar study done by Aurang Zeb et al [24] where 80% had idea about use of the placebo.

In this study, 17.6% of the participants had low level of knowledge regarding postoperative pain management while 17.6% had medium level of knowledge, 64.7% had high level of knowledge. Which is not alarming even it was not desirable. These findings differ from other studies who found inadequate knowledge of nurses regarding postoperative pain management [13,27]. A study done by Rupa Devi thapa et al reported that only 14.9% respondents had low level of knowledge and 85.1% had moderate level of knowledge regarding postoperative pain management[28]. Similarly, another study done in Thailand by Basak who described that 44.8% had very low level of knowledge,54.1% had low level of knowledge and 1.1 had moderate level of knowledge [29]. A positive correlation between assessment of pain and management of pain was found ( $P<0.05$ ) in our present study.

Majority of the respondents in our present study, 39(78%) of respondents agreed that they did not get training or workshop on pain management while a study performed in Pakistan has also revealed that 83.3% of participants had no education on post-operative pain management [24]. 66% of respondents were staff nurse and 34% were bachelor nursing in this study. So, proper training on pain management as well as further education need to be done to increase the knowledge of nurses regarding postoperative pain management

## 6. Conclusions

Our study reported that that majority of nurses had very good level of knowledge. Adequacy of knowledge was seen more with respect to assessment of pain compared to that of management of pain. Organization should arrange training workshop for nurses on postoperative pain management and staff nurses also need higher education to increase their knowledge regarding postoperative pain management. A comparative study can be conducted between different tertiary hospitals so that findings of the study can be generalized.

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