

ORIGINAL RESEARCH ARTICLE

NURSES' KNOWLEDGE, ATTITUDE AND PRACTICE REGARDING POSTOPERATIVE PAIN MANAGEMENT AT SELECTED HOSPITALS, BHARATPUR, NEPAL

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ABSTRACT

**Background:** Acute and severe pain after surgery is the major concern of operated patients and health professionals where the vital responsibilities goes to the nurses for managing pain satisfactorily. Hence, the nurses require to have adequate knowledge, attitude and practice (KAP) to carry out such responsibilities.

**Methods:** A descriptive cross-sectional study design was used to find out the nurses' KAP regarding postoperative pain (POP) management. Total 74 nurses of postoperative wards were selected from four hospitals at Bharatpur with non-probability enumerative sampling technique. Data were collected with the structured self-administered questionnaire for knowledge, five-point Likert scale for attitude and observation checklist for practice. Data were analyzed by using descriptive statistics for levels of KAP; Chi-square for association between levels of KAP with selected variables and spearman rank correlation to determine relationship among KAP regarding POP management.

**Results:** The study showed that 85.1% nurses had low level of knowledge, 55.4% had satisfactory level of attitude and 52.7% had low level of practice. Statistically significant association was found between level of practice and age ( $p=0.010$ ) of nurses and with professional qualification ( $p=0.002$ ). There was no statistically significant relationship among KAP scores regarding POP management.

**Conclusions:** Majority of the nurses had low level of knowledge, more than half had satisfactory level of attitude but low level of practice regarding POP management. The age and the professional qualifications of the nurses found to be associated with the practice of POP management.

INTRODUCTION

Pain is regarded as a fifth vital sign which demands continuous assessment and management on time. It is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.<sup>1</sup> Pain management is an integral part of every healthcare professionals' practices in the hospitals.<sup>2</sup> Pain after surgery is so much distressing to patients and is a significant problem in postoperative ward. Ineffective pain management in the postoperative period can prolong the patient's length of stay in hospital which may lead to complications and increased cost of care. Hence, nurses, as important members of the health team, have unique opportunities to assess continuously and involve in pain management.<sup>3,4</sup> Thus for effective pain management, nurses must be well-educated and knowledgeable about pain and perform the activities properly.<sup>5</sup>

Postoperative pain management refers to comprehensive actions in relieving pain after surgery by both pharmacological intervention that is with use of analgesics and non-pharmacological approaches which is without use of analgesics.<sup>6</sup> So, post-operative pain management strategies should focus on

combining use of medicines and other comfort measures to ensure maximum pain relief for each patient.<sup>7</sup> The nurses' holistic approach with an adequate knowledge, positive attitude and competent practice on postoperative pain management can minimize the patients' discomfort caused by pain in the postoperative period and have a satisfactory recovery without complications and optimal patient outcomes.<sup>8,9</sup> So the study was conducted to assess the nurses' knowledge, attitude and practice regarding postoperative pain management at selected hospitals, Bharatpur.

METHODS

A descriptive, cross-sectional research design was used in the study to find out the nurses' knowledge, attitude and practice regarding postoperative pain management. The study was carried out at four hospitals located at Bharatpur 10, Chitwan of Nepal. The hospitals were College of Medical Sciences Teaching Hospital (CMSTH), Chitwan Medical College Teaching Hospital (CMCTH), Bharatpur Government Hospital and Narayani Samudayik Hospital. The study population were all the nurses who were working in postoperative wards in those four hospitals.

Non-probability, enumerative sampling technique was used in

the study for data collection. The total respondents were 74 nurses. Ethical approval was taken from Chitwan Medical College (CMC) Institution Research Committee (CMC-IRC). The data were collected from 25<sup>th</sup> June to 22<sup>nd</sup> July, 2017.

Structured self-administered questionnaire was used to assess the knowledge and five-point Likert Scale to assess the attitude of nurses regarding post-operative pain management. The tools regarding knowledge and attitude were modified pattern of the standard tool 'Knowledge and Attitude Survey Regarding Pain' developed by Betty R. Ferrell and Margo McCaffery (2014)<sup>10</sup> after their ethical permission.

Structured observation checklist was used to assess practice which was developed on the basis of in-depth literature reviews. For the reliability of knowledge related instrument, item analysis of the questionnaire was done. The internal consistency of the attitude scale was tested by calculating Cronbach's alpha. The obtained value was within acceptable range (0.75). Likewise, the internal consistency of practice related observation checklist was tested by using Kuder-Richardson 20 (KR 20) formula. The value was obtained within acceptable range (0.77).

The purpose of data collection was explained and written informed consent was obtained from each nurse. The practice of the nurses regarding postoperative pain management was observed for four to six hours after receiving patients from operation theatre. After observing practice, self-administered questionnaire related to knowledge and attitude were distributed to the nurses to fill up before leaving duty which required 25-30 minutes. The distributed forms were collected immediately after the completion of filling entirely.

The collected data were reviewed, checked for completeness and organized daily for their accuracy and consistency. Then the data were entered into Statistical Package for Social Science (SPSS) version 20 for analysis.

Data were analyzed using descriptive statistics such as frequency, percentage, mean, median and standard deviation to identify the nurses' socio-demographic and professional related variables as well as the levels of knowledge, attitude and practice; Chi-square for association between level of knowledge, attitude and practice with selected variables and spearman rank correlation to determine relationship among knowledge, attitude and practice regarding postoperative pain management.

## RESULTS

Table 1 shows that out of 74 nurses, 51.4% nurses were 21 to 23 years of age, 67.5% were Brahmin/Chhetri whereas 85.1% were Hindus and 73.0% were unmarried. Regarding nurses' self-experience of operation, 14.9% had self-experience and 60.8% nurses' family members had experience of operations.

**Table 1: Socio-demographic characteristics of nurses**

n=74

Variables	Frequency (%)
<b>Age (years)</b>	
≤20	10 (13.5)
21-23	38 (51.4)
≥24	26 (35.1)
<i>Median age ±S.D=22±3.87, Min19, Max 47</i>	
<b>Ethnic group</b>	
Brahmin/Chhetri	50 (67.5)
Other	24 (32.5)
<b>Religion</b>	
Hindus	63 (85.1)
Non Hindus	11 (14.9)
<b>Marital Status</b>	
Married	20 (27.0)
Unmarried	54 (73.0)
<b>Self-experience of operation</b>	
Yes	11 (14.9)
No	63 (85.1)
<b>Family members' experience of operation</b>	
Yes	45 (60.8)
No	29 (39.2)

*Other ethnic group=Janajati and Madhesi*

*Non Hindus=Buddhists, Christians*

**Table 2: Professional related characteristics of nurses**

n=74

Variables	Frequency (%)
<b>Working hospital</b>	
Teaching Hospitals	35 (47.3)
Non-Teaching Hospitals	39 (52.7)
<b>Professional qualification</b>	
Proficiency Certificate Level of Nursing	60 (81.1)
Bachelor in Nursing	14 (18.9)
<b>Professional designation</b>	
Staff nurse	62 (83.8)
Senior staff nurse	12 (16.2)
<b>Experience in nursing profession</b>	
≤2 years	50 (67.6)
>2 years	24 (32.4)
<i>Median±SD=1.76±1.97, Max 12.42, Min 0.17</i>	
<b>Experience in postoperative ward</b>	
≤2 years	58 (78.4)
>2 years	16 (21.6)
<i>Median±SD=1.76±1.97, Max 12.42, Min 0.17</i>	
<b>Training/In-service education on pain management</b>	
Yes	10 (13.5)
No	64 (86.5)

*Teaching Hospitals= CMCTH, CMSTH*

*Non-Teaching Hospitals=Bharatpur Government Hospital, Narayani Samudayik Hospital*

Table 2 represents that 52.7% nurses were working at Non-Teaching Hospitals, 81.1% nurses had proficiency certificate level of nursing and 83.8% nurses were working as staff nurses.

Nurses who had  $\leq 2$  years of experience in nursing profession were 67.6%. Regarding experience in postoperative ward, 78.4% nurses had  $\leq 2$  years of experience and only 13.5% nurses had received training or in-service education on pain management.

**Table 3: Nurses' level of knowledge, attitude and practice regarding postoperative pain management n=74**

Level	Frequency (%)
<b>Knowledge</b>	
High level of knowledge= $\geq 80\%$ i.e. $\geq 19.2$ )	0 (0.0)
Moderate level of knowledge (70.00-79.99% i.e. 16.8-19.1)	11 (14.9)
Low level of knowledge ( $<70\%$ i.e. $<16.8$ )	64 (85.1)
<b>Attitude</b>	
Satisfactory attitude ( $\geq$ Median i.e. $\geq 52$ )	41 (55.4)
Unsatisfactory attitude ( $<$ Median i.e. $<52$ )	33 (44.6)
<b>Practice</b>	
High level of practice ( $\geq 80\%$ i.e. $\geq 27.2$ )	15 (20.3)
Moderate level of practice (70.00-79.99% i.e. 23.8-27.1)	20 (27.0)
Low level of practice ( $<70\%$ i.e. $<23.8$ )	39 (52.7)

Table 3 represents that 85.1% nurses had low level of knowledge, 14.9% had moderate level of knowledge, none had high level of knowledge whereas 55.4% nurses had satisfactory level of attitude and 52.7% nurses had low level of practice.

**Table 4: Association between nurses' level of practice regarding postoperative pain management and socio-demographic characteristics n=74**

Variables	Level of Practice			$\chi^2$	p-value
	High No.(%)	Moderate No.(%)	Low No.(%)		
<b>Age (Years)</b>					
$\leq 20$	1(10.0)	3(30.0)	6(60.0)	13.191	0.010#
21-23	3(7.9)	10(26.3)	25(65.8)		
$\geq 24$	11(42.3)	7(26.9)	8(30.8)		
<b>Ethnic group</b>					
Bramin/Chhetri	10(20.0)	14(28.0)	26(52.0)	0.075	0.963#
Other	5(20.8)	6(25.0)	13(54.2)		
<b>Religion</b>					
Hindus	13(20.6)	18(28.6)	32(50.8)	0.721	0.697#
NoHindu	2(18.2)	2(18.2)	7(63.6)		
<b>Marital status</b>					
Married	6(30.0)	6(30.0)	8(40.0)	2.158	0.340#
Unmarried	9(16.7)	14(25.9)	31(57.4)		
<b>Self-experience of operation</b>					
Yes	3(28.3)	4(36.3)	4(36.4)	1.392	0.499#
No	12(19.0)	16(25.4)	35(55.6)		
<b>Family members' experience of operation</b>					
Yes	8(17.8)	13(28.9)	24(53.3)	0.508	0.776
No	7(24.1)	7(24.2)	15(51.7)		

Significance level at 0.05

#Likelihood Ratio

Table 4 reveals that there was statistically significant association between nurses' level of practice regarding postoperative pain management and age of the nurses ( $p=0.010$ ). It shows that as the age is increased the level of practice is also increased. However, there was no significant association between nurses' level of practice regarding postoperative pain management and ethnic group, religion, marital status, self-experience of operation and family member's experience of operation.

**Table 5: Association between nurses' level of practice regarding postoperative pain management and professional related variables n=74**

Variables	Level of Practice			$\chi^2$	p-value
	High No.(%)	Moderate No.(%)	Low No.(%)		
<b>Working hospital</b>					
Teaching hospital	7(20.0)	11(31.4)	17(48.6)	0.694	0.707
Non-Teaching hospital	8(20.5)	9(23.1)	22(56.4)		
<b>Professional qualification</b>					
PCL nursing	7(11.7)	18(30.0)	35(58.3)	12.263	0.002#
Bachelor in nursing	8(57.1)	2(14.3)	4(28.6)		
<b>Professional designation</b>					
Staff nurse	10(16.1)	17(27.4)	35(56.5)	3.802	0.149#
Senior staff nurse	5(41.7)	3(25.0)	4(33.3)		
<b>Experience in nursing profession</b>					
$\leq 2$ years	9(18.0)	14(28.0)	27(54.0)	0.483	0.785#
$> 2$ years	6(25.0)	6(25.0)	12(50.0)		
<b>Experience in postoperative ward</b>					
$\leq 2$ years	10(17.2)	16(27.6)	32(55.2)	1.448	0.485#
$> 2$ years	5(31.2)	6(25.0)	7(43.8)		
<b>Training/in-service education on pain management</b>					
Yes	3(30.0)	4(40.0)	3(30.0)	2.432	0.296#
No	12(18.8)	16(25.0)	36(56.2)		

Significance level at 0.05

#Likelihood Ratio

Table 5 depicts that there was statistically significant association between nurses' level of practice and professional qualification ( $p=0.002$ ). It represents that if the professional qualification is high, the level of practice regarding postoperative pain management is also high. However, there was no significant association between the nurses' level of practice and working hospital, professional designation, experience in nursing profession, experience in postoperative ward and training or in-service education on pain management.

**Table 6: Correlation among nurses' knowledge, attitude and practice scores regarding postoperative pain management**

Score	Knowledge score	Attitude score	Practice score
Knowledge score	1	-	-
Attitude score	0.141 (p=0.232)	1	-
Practice score	0.047 (p=0.693)	-0.063 (p=0.591)	1

Significance level at 0.05

Table 6 represents that there was no relationships among knowledge and attitude score ( $r=0.141$ ) including knowledge and practice score ( $r=0.047$ ) and no correlation between practice and attitude score ( $r=-0.063$ ). So it shows that there was no statistically significant relationships among knowledge, attitude and practice scores of the nurses regarding postoperative pain management.

## DISCUSSION

In this study, 14.9% nurses had moderate level of knowledge and 85.1% had low level of knowledge. It is similar to a study by McCaffery and Farell who had found inadequate knowledge of nurses on postoperative pain management<sup>11</sup> and also similar to the study by Basak who found that 44.8% had very low level of knowledge, 54.1% had low level of knowledge and 1.1% had moderate level of knowledge.<sup>4</sup> It also revealed that 55.4% had satisfactory level attitude and 44.6% had unsatisfactory level of attitude. It is contrasted with the study by McCaffery and Farell who had found negative attitude toward postoperative pain management.<sup>11</sup> It is similar to Yava et. al who had found that the nurses had inadequate knowledge but positive attitude for pain management.<sup>12</sup> Similarly, a study by Ho, Choy and Rozainie had found positive attitude towards postoperative pain management among 78.5% nurses.<sup>13</sup> Likewise, only 37% had moderate level of practice which is similar to the study by Basak where 37.9% nurses had moderate level of practice.<sup>4</sup>

The study revealed no significant association between nurses' knowledge and attitude with socio-demographic characteristics which is similar to the study by Shakya and Shakya.<sup>14</sup> However there was statistically significant association be-

tween nurses' practice level and age ( $p=0.010$ ) and professional qualification ( $p=0.002$ ) which is similar to Basak.<sup>4</sup>

The study found positive but weak correlation between knowledge score of nurses and attitude score ( $r=0.141$ ) as well as with practice score ( $r=0.047$ ). It also found that there was negative correlation of practice score with attitude score ( $r=-0.063$ ). Overall, it revealed that there was no statistically significant relationship among knowledge, attitude and practice scores of the nurses regarding postoperative pain management. The finding is contrasted with the study by Darjee, Dungpaeng and Masingboon who had found that there was a positive correlation among nurses' knowledge ( $r=0.161$ ), attitude ( $r=0.274$ ) and self-efficacy (0.427) on postoperative pain management.<sup>6</sup>

## CONCLUSION

It was concluded that majority of the respondents had low level of knowledge and practice regarding postoperative pain management although more than half of the nurses had satisfactory level of attitude. The age and the professional qualifications of the nurses was found to be associated with the practice of postoperative pain management. Hence, it was recommended for the provision of nurses' professional development, training or in-service education and hospital protocol related to postoperative pain management to enhance the nurses' knowledge, attitude and practice on postoperative pain management.

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**CONFLICT OF INTEREST:** None

**FINANCIAL DISCLOSURE:** None

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