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ORIGINAL RESEARCH ARTICLE

KNOWLEDGE REGARDING PAIN MANAGEMENT AMONG NURSING STUDENTS OF BUTWAL SUB-METROPOLITAN CITY OF RUPANDEHI DISTRICT, NEPAL

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ABSTRACT

Background: Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. Pain management is an important aspect of patient care and nurses play a significant role in the acute care setting in pain assessment, treatment and management. The study was designed to find out knowledge regarding pain management among nursing students.

Methods: A descriptive cross-sectional study was conducted among 199 nursing students, selected by using non-probability enumerative sampling technique. A validated and pre-tested semi-structured self-administered questionnaire was used and collected data were analyzed by using descriptive and inferential statistics with Statistical Package for Social (SPSS) Software Version 20.0.

Results: This study revealed that 77.9% of the respondents had knowledge regarding meaning of pain. About21.1%, 34.7% and 70.9% of the respondents had knowledge regarding group of drug used for mild, moderate and severe pain respectively. And about 66.3%, 30.2%, 17.1%, 14.1% and 4.5% of the respondents had knowledge regarding distraction, relaxation, heat and cold application, imaginary meditation and TENS as non-pharmacological measures used for pain management respectively. The findings of the study revealed that 47.7% had low knowledgeregarding pain management.

Conclusions: Nearly half of the students had low knowledge regarding pain management. It is recommended to nursing colleges to give more emphasis on assessment of pain and its management and increase practical exposure.

INTRODUCTION

Pain is defined as 'An unpleasant sensory and emotional experience associated with actual or potential tissue damage'.[1] Prolonged pain leads to a huge personal, social and financial burden.[2]Pain management is an important aspect of patient care and nurses play a significant role in the acute care setting in providing pain assessment, treatment and management.[3]It is the most important component of nursing care process and it is crucial to have a good level of knowledge on pain management.[4]

Globally, it is estimated that the incidence of pain among adults between the ages of 18 and 25 years is approximately 14% and among those above 75 years is 62%.[5] Poorly controlled pain has debilitating effect and significantly interferes on both physical and psychological well-being of the patient that may potentially change the patient's quality of life.[6]Several studies such as study conducted in Ontario, Canada[7], Ghana[8] had found that nursing students did not had adequate knowledge and positive attitudes related to pain and its management. Another study conducted in Palestine also found that nurses had inadequate knowledge regarding pharmacological and non-pharmacological management and as well as inadequate knowledge in treating patient pain.[9]Similarly another study of Jordan showed that nursing student have inadequate knowledge regarding pain and its management.[10]

The nurses are the first who comes in the contact with patient's and thus, have a vital role in decision-making process regarding pain management. The present nursing students are the future register nurse, responsible to take care of patient. Thus the purpose of the study was to find out knowledge regarding pain management among nursing students.

METHODS

Institutional based cross-sectional study was conducted among nursing students in all nursing colleges located at Butwal Sub-metropolitan City of Rupandehi district, Province-5, Nepal. There are altogether 199 third year nursing students of Proficiency Certificate Level (PCL) in Butwal Sub-metropolitan City.

All of them were recruited in the study by using total enumerative sampling method.Data were collected from March 17 to March 29, 2019 using semi-structured self-administered questionnaire. Questionnaire was prepared based on reviewing previous

literatures. Prepared questionnaireswere translated into Nepali and again retranslated into Englishlanguage and correction was done. The questionnaireswere pretested among 10% of total sample of Advanced Study of Health Sciences, Tilotama-2, Shankanagar,Rupandehi district, Province-5. Data was collected by trained BSC Nursing 4th year student in respective nursing college.

Ethical approval was obtained from Institutional Review Committee of Universal College of Medical Sciences (UCMS/IRC/012/19).Prior to data collection approval was obtained from concerned authority of nursing colleges of Butwal Sub-metropolitan City. Written informed consent was obtained from each respondent by explaining the objectives of the study. The inclusion criteria were those student nurses studying PCL third year in nursing colleges of Butwal Sub-metropolitan City and who are available during the data collection period. The exclusion criteria were those who were not willing to participate. The collected data were entered and analysis was done by using descriptive (frequency, percentage, mean and standard deviation) and inferential statistics (chi square) with Statistical Package for Social Sciences (SPSS) version 20.0.

RESULTS

Regarding socio-demographic variables 71.4% of respondents were of 17-19 years, 50.3% of respondents were Brahmin/Chhetri, 85.4% of respondents were Hindu and 13.6% of respondents have family member suffering from chronic pain (Table 1).

Table 1: Respondents' socio-demographic characteristics (n=199)

Variables	Frequency (%)
Age in years	
17-19	142 (71.4)
20-22	57 (28.6)
Mean age±SD= 18.95±1.109	
Caste	
Brahmin/Chhetri	100 (50.3)
Others (Janajati, Thakuri, Dalit and Madhesi)	99 (49.7)
Religion	
Hindu	170 (85.4)
Others(Buddhist and Christain)	29 (14.6)
Family members suffering from chronic illness	
Yes	27 (13.6)
No	172 (86.4)

More than three-fourth (77.9%) of respondents answered unpleasant sensory and emotional experience is the meaning of pain. Regarding the general concept of pain nearly about three-fourth (74.9%) of the respondents answered intramuscular analgesics should be avoided especially for older adult similarly more than two-third (68.8%) of the respondents answered analgesics should be administered as scheduled to relieve chronic pain effectively. Regardingassessment of pain 74.4% of respondents answered history taking as subjective assessment and 58.8% answered behavioral effect as objective assessment for pain assessment (Table 2).

Table 2: Respondents' knowledge regarding meaning, general concept and pain assessment(n=199)

Variables	Frequency (%)
Meaning of pain	
Unpleasant sensory and emotional experience	155 (77.9)
General concepts	
Pain is fifth vital sign	155 (57.4)
Route of medication act quicker to relieve pain in Intravenous	102 (51.3)
Intramuscular analgesics avoided especially for older adult	149 (74.9)
Vital sign are not reliable indicator for intensity of pain	102 (51.3)
Analgesics should be administered as schedule to relieve chronic pain	137 (68.8)
Subjective pain assessment	
History taking	148 (74.4)
Numerical rating scale	78 (39.2)
Verbal rating scale	126 (63.3)
Visual analogue scale	54 (27.1)
Objective pain assessment	
Behavioral effects	117 (58.8)
Wong-Baker FACES pain rating scale	113 (56.8)

Table 3: Respondents' knowledge regarding pharmacological and non-pharmacological measures (n=199)

Variables	Frequency (%)
Pharmacological measures as Group of Drugs According to World Health Organization 3-step Ladder	
Non-opioids ± adjuvant for mild pain	42 (21.1)
Mild opioids ± non-opioids for moderate pain	69 (34.7)
Strong opioids ± adjuvant for severe pain	141 (70.9)
Overall knowledge on 3-step Ladder	82(42.23)
Drugs used as pharmacological measurer	
Diclofenac	61 (30.7)
Paracetamol	54 (27.1)
Flexon	43 (21.6)
Morphine	38 (19.1)
Buscopan	34 (17.1)
Tramadol	33 (16.6)
Ibrufen	32 (16.1)
Pethidine + Phenargan	20 (10.1)
Ketrolac	16 (8)
Non pharmacological measures	
Distraction	132 (66.3)
Relaxation	60 (30.2)
Heat and cold application	34 (17.1)
Imaginary meditation	28 (14.1)
Transcutaneous Electrical Nerve Stimulation (TENS)	9 (4.5)

Regarding group of drugs according to World Health Organization 3-step ladder 21.1% of the respondents answered Non-opioids ± adjuvant as group of drug used for mild pain, 34.7% of the respondents answered mild opioids ± non opioids as group of drug used for moderate pain and 70.9% of the respondents answered strong opioids ± adjuvant as group of drug used for severe pain. Likewise, regarding drugs 30.7% of the respondents answered diclofenacwhereas, 8% of the respondents answered ketorolac are drugs used for pain management. Similarly regarding non pharmacological measures 66.3% of the respondents answered distraction and 4.5% of the respondents answered TENS as non-pharmacological measures for pain management (Table 3).

Out of total score 23, mean score is 13.21. On the basis of mean score, 52.3% had high knowledge and 47.7% had poor knowledge regarding pain management (Table 4).

Table 4: Respondents' overall knowledge regarding pain management (n=199)

Level of knowledge	Frequency (%)
High	104 (52.3)
Low	95 (47.7)

Table 5: Association between respondents' socio-demographic variables and knowledge level regarding pain management (n=199)

Variables	Level of knowledge		χ^2	p- value
	Low f (%)	High f (%)		
Age in years				
17-19	68(47.9)	74(52.1)	0.004	0.947
20-22	27(47.4)	30(52.6)		
Caste				
Brahmin/Chhetri	46(46.0)	54(54.0)	0.244	0.622
Others (Janajati, Thakuri, Dalit and Madhesi)	49(49.5)	50(50.5)		
Religion				
Hindu	79(46.5)	91(53.5)	0.752	0.386
Others(Buddhist and Christain)	16(55.2)	13(44.8)		
Family members suffering from chronic illness				
Yes	17(63.0)	10(37.0)	2.902	0.088
No	78(45.3)	94(54.7)		

**Significant level at p <0.05*

DISCUSSION

The present study attemptedto assess the knowledge regarding pain management among nursing students. The finding of this study revealed that slightly more than half of the respondents had high level of knowledge regarding pain management, however in contrast to this study another study conducted among undergraduate nursing students in Upper Egypt found that less than half of the respondents had satisfactory level of knowledge and attitudes regarding pain management. This differences might be due to previous study found level of attitude along with the level of knowledge.[11]The study showed that more than three-fourth of the respondents had knowledge that unpleasant sensory and emotional experience as meaning of pain which is inconsistent with the study conducted in Nigeria which showedhigher proportion of the respondents had knowledge that unpleasant sensory and emotional experience as meaning of pain.[12] The present study revealed that 57.8% of the respondents had knowledge that pain is a fifth vital sign. The findings is inconsistent with the study conducted in Nigeria which showed higher proportion of the students had knowledge that pain is a fifth vital sign.[12] This might be due to the study setting and respondents of previous study was final year university nursing students. The present study showed more than half of the respondents had knowledge that vital sign are not always reliable indicators of the intensity of a patient's painhowever in contrast to this study another study done in Turkey foundlower proportion of the respondents had knowledge that vital sign are not always reliable indicators of the intensity of a patient's pain.[13] This might be due to different study setting. The present study found that around half of the respondents had knowledge that intravenous as route of medication act quicker to relieve pain which is in line with the study conducted in Saudi Arabia.[14] The present study showed nearly three-fourth of the respondents had knowledge as intramuscular analgesics should be avoided for older adult which is inconsistent with the study in Turkey showed less than two-third of the respondents had knowledge that intramuscular analgesics should be avoided for older adult.[13] This might be due to different study setting. This study showed that more than two-third of the respondents had knowledge that analgesic should be administered as scheduled to relieve chronic pain effectivelywhich is in line with another study conducted in Turkey.[13] However thisfinding is inconsistent with study in Saudi Arabia which shows that less than two-fifth of the respondents had knowledge that analgesic should be administered as scheduled to relieve chronic pain.[14] This might be due to the advancement in time and modern technology. The present study showed that more than one-third of the respondents had knowledge that numerical rating scale is used as subjective assessment for pain management which is supported by the study in Bhutan.[4]

The findings of the present study revealed that nearly two third of the respondents had knowledge that verbal rating scale is used as subjective assessment for pain management. The findings is inconsistent with study conducted in Iran which showed that few percentages of the respondents had knowledge that verbal rating scale is used as subjective assessment for pain management.[15] This might be due to the advancement in time and different study setting of two studies. The findings showed that more than one-fourth of the respondents had knowledge that visual analogue scale is used as subjective assessment for pain management, however in contrast to this study another study conducted in Brazil showed lower portion of the respondents had knowledge about it.[16] The study showed that more than half of the respondents had knowledge that behavioral effect and Wong-Baker FACES pain rating scale are used as objective assessment for pain management which is inconsistent with the study conducted

in Brazil which showed lower portion of the respondents had knowledge about it.[16] This might be due to different study setting and time advancement.

The present study revealed that less than half of the respondents had overall knowledge on 3-step Ladder which is line with the another study conducted in Western Turkey.[17] This study showed that 27.10%, 19.10%, 16.60%, 16.10% and 8.0% of the respondents had knowledge that paracetamol, morphine, tramadol, ibuprofen and ketorolac respectively are drugs used as pharmacological measures for pain management which is inconsistent with the study conducted in Mexico where respondents had more knowledge on all the above 5 drugs used as pharmacological measures for pain management.[18] This difference might be due to the higher educational level and experience of the respondents in another study, as the respondents of the Mexico study were specialized pediatric nurses and universities' nursing student. The result of the present study showed that 10.10% of the respondents had knowledge that Pethidinecombined withPhenergan is drug used as pharmacological measures for pain management. However in contrast to this study another study conducted in Western Turkey found higher proportion of the respondents had knowledge about the same.[17] This difference might be due to, study participants of previous study were the higher (bachelor) level nursing student.

The findings showed that 66.3%, 30.2%, 17.1%, 14.1% and 4.5% of the respondents had knowledge that distraction, relaxation, heat and cold application, imaginary meditation and TENS are the non-pharmacological measures used for pain management respectively which is inconsistent with study conducted in Zimbabwe where respondents had more knowledge on all non-pharmacological measures used for pain management.[19] This differences might be due to the level of respondents in two different studies. The respondents of the previous study were registered nurses who had better knowledge and experience than the present study.

The findings revealed that majority of respondents had high knowledge regarding painmanagement. The findings is inconsistent with the study conducted in Jordan which shows majority of the respondents had low knowledge regarding pain management.[20] This might be due to different study setting, methodology adopted and advancement in time.The present study showed that there was no statistically significant association between respondents level of knowledge regarding pain management and age in years which is similar with the study conducted in Saudi Arabia.[14]The findings of this study showed that there was no statistically significant association between respondents knowledge regarding pain management and religion which is in line with the study conducted in Nigeria.[12]

Study population is confined to student nurses of nursing colleges of Butwal Sub-metropolitan City of Rupandehi district, Province-5, Nepal and the study is limited to 199 respondents. Therefore, the findings may not be generalized to other settings. Self-administered questionnaire was used for the data collection in the study.Thus in depth information from the respondent cannot be obtained.

CONCLUSION

The study concluded that more than half of the students have high level of knowledge regarding pain management. The related factorsage, caste, religion and family member suffering from chronic pain does not influence on students' knowledge regarding pain management.

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CONFLICT OF INTEREST: None

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