



Original Article

Knowledge and Attitude of Nurses on Pain Management in a Tertiary Hospital of Nepal

Abstract:

Introduction: Pain is regarded as a fifth vital sign. Nurses have an important role in pain assessment and management. Under treatment of pain due to inadequate knowledge is a significant clinical problem leading to inappropriate and inadequate pain practices.

Objectives: Objective of the study was to assess the knowledge and attitude on pain management among the nurses of a tertiary hospital.

Methods and Materials: A hospital based descriptive study was carried out among 85 nurses working in male and female surgical wards, orthopedic ward, plastic surgery and burn ward, postoperative ward, recovery room and Intensive Care Unit (ICU) of Tribhuvan University Teaching Hospital, Maharajgunj, Kathmandu, Nepal. Census method was used to select the participants, in which all the nurses working in the selected wards who agreed to participate in the study were selected. Data was collected by distributing structured self administered questionnaire which was a modified form of a standard tool, that is, Nurses' Knowledge and Attitude Survey Regarding Pain (NKASRP) developed by Ferrel and McCaffery.

Results: It was revealed that the mean knowledge and attitude score of the nurses was 15.72 ± 3.308 with majority (61%) having less than 50% correct response rate. Out of 32 items, 14 items have less than 50% correct response rate. However, except for experience on pain management, there was no statistically significant relation between knowledge and attitude with other demographic characteristics like age, education, rank, working area etc.

Conclusion: It can be concluded that there is inadequate knowledge and attitude of nurses regarding pain management, which shows that there is a need for inclusion of pain management in nursing curriculum and organization of regular in-service education for nurses.

Key Words: Pain, Knowledge, Attitude, Nurses, Tertiary Hospital

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Introduction

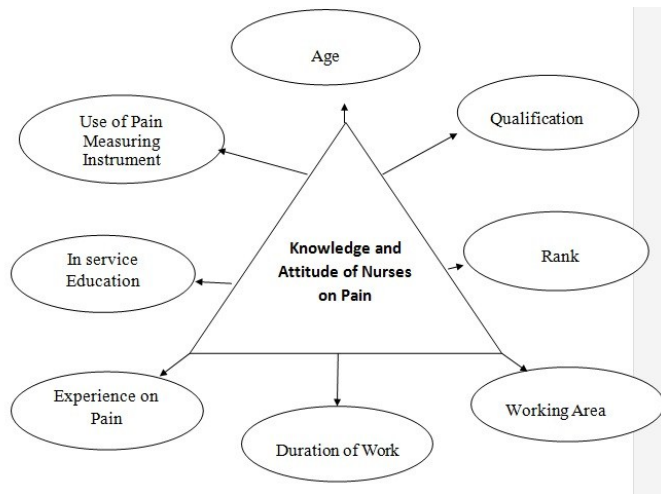
Pain is one of the most common symptoms that bring patient to the hospital.¹ It is defined as unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.² In simple words, whatever the patient says it is and it exists whenever the patient says it does.³ It is the fundamental human right for patients to have freedom from pain. Pain is regarded as fifth vital sign.⁴ Every effort should be made to diagnose cause and treat pain. Multi-professional team is involved in the management of pain. Nurses are the most important parts in assessment and management of pain as they spend more time with patients. They are involved in identification of those in pain, frequent

assessment of pain, offer treatment options, documentation and follow up. They should be able to coordinate with the physician regarding patient's pain in an understanding manner. For this, the nurse should have adequate knowledge.

Despite the advances in the medical field, under treatment of pain is a significant clinical problem. Nurses are found to have knowledge deficit and incorrect beliefs about assessment and management of pain. This leads to inappropriate, incorrect and inadequate pain practices.^{5,6} Myth about addiction is also one of the significant barriers to effective pain management.⁷ Those nurses with strong foundation in pain management can make significant difference.⁸

Pain is still being ignored in the developing countries. This has led to mismanagement in pain treatment. There are few studies in developing countries in regard to pain. So the aim of the study was to assess the knowledge and attitude of nurses of a tertiary hospital regarding pain management.

Conceptual Framework



Methodology

A hospital based descriptive cross sectional study design was applied for assessing knowledge and attitude of nurses on pain management. The study site was Tribhuvan University Teaching Hospital (TUTH), Maharajgunj, Kathmandu. This is one of the tertiary and large hospitals of Nepal. The selected wards for the study were male and female surgical wards, orthopedic ward, plastic surgery and burn ward, postoperative ward, recovery room and Intensive Care Unit (ICU). These wards were selected purposively as the nurses working in these areas have to deal more often with pain management. All the nurses working in the selected wards who agreed to participate in the study were selected. The total number of nurses working in the selected wards was 89. However, as few nurses refused to participate in the study, the total sample size was 85.

The data was collected through distribution of self-administered questionnaire. The instrument comprised of pre-designed structured questionnaire which included general information, 20 true/false questions, 10 multiple choice questions and two case studies. The standard tool was used, that is, Nurses' Knowledge and Attitude Survey Regarding Pain (NKASRP) by Ferrel and McCaffery.⁹ Content validity has been established by review of pain experts. The content of the tool is derived from current standards of pain management such as the American Pain Society, the World Health Organization, and the Agency for Health Care Policy and Research. The questionnaire was

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modified after literature review and discussion with the experts as well as considering the national context. The tool's test-retest reliability was $r = 0.80$ and the internal consistency reliability was $\alpha r = 0.70$. The tool was pre tested in the medical ward of TUTH.

Each correct answer was scored 1 and there was no negative marking for wrong answer. The scores were categorized in three levels i.e. >70%, 50-70% and <50%.¹⁰ All the ethical aspects were taken into consideration throughout the study.

The collected data were entered in Epidata 3.1 version and then exported to Statistical Package for Social Sciences (SPSS) version 21. Mean, frequency and percentage were used in descriptive analysis whereas Kruskal Wallis H test and Mann Whitney U test were used to assess relationship between knowledge and attitude and selected variables like age, education, experience etc. p value was considered at 0.05.

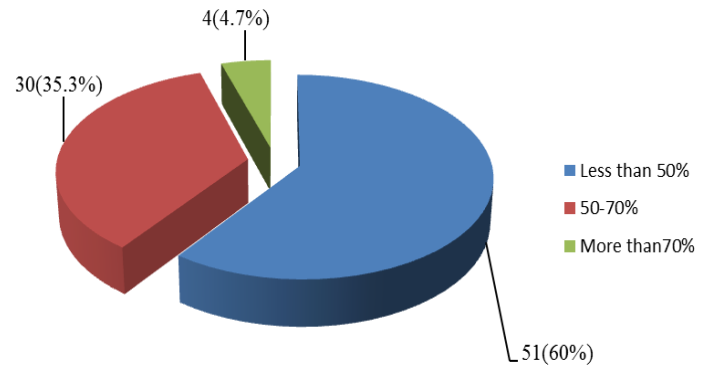
Result

Table 1: Demographic and Professional Characteristics of the Respondents n=85

Characteristics	f	%
Age (in years)		
20-24	21	24.7
25-29	35	41.2
30-34	10	11.8
35-39	5	5.9
40-44	5	5.9
45 and above	9	10.6
Mean age=30.09±8.329 years		
Educational Level		
Certificate Nursing	39	45.9
BN	36	42.4
B.Sc.Nursing	7	8.2
Masters in Nursing	3	3.5
Post		
Staff Nurse	74	87.1
Supervisor	4	4.7
Nurse Incharge	7	8.2

More than half of the nurses (63.5%) mentioned that they used pain measuring instrument. Most of them (87.1%) had experience on pain management. However, only 35.3% had attained training or in service education.

Figure2: Knowledge and Attitude Score



The mean knowledge and attitude score was 15.72±3.31 out of 32, ranging from 10-14. Nearly two third (60%) of the nurses had less than 50% score, while only 4.7% had more than 70% score.

Table 3: Items Receiving More than 70% Correct Response Rate

n=85				
Rank	Item No.	Item content (correct answer)	Correct Responses	
			f	%
1	28	Time to peak effect for morphine given IV	78	91.8
2	24	Analgesics for post-operative pain should initially be given	75	88.2
3	19	Narcotic/opioid addiction is defined as a chronic neurobiologic disease, characterized by behaviors that include one or more of the following: impaired control over drug use, compulsive use, continued use despite harm, and craving	73	85.9
4	23	Which of the following analgesic medications is considered the drug of choice for the treatment of prolonged moderate to severe pain for cancer patients	71	83.5
5	13	Elderly patients cannot tolerate opioids for pain relief	70	82.4
6	14	After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response	66	77.6
7	16	Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months	64	75.3
8	8	Combining analgesics that work by different mechanisms (e.g., combining an opioid with an NSAID) may result in better pain control with fewer side effects than using a single analgesic agent	61	71.8
8	25	The most likely reason a patient with pain would request increased doses of pain medication	61	71.8

Table 1 contd...

Characteristics	f	%
Work Experience (in years)		
<1	4	4.7
1-4	29	34.1
5-9	24	28.2
10-14	10	11.8
15-19	4	4.7
20-24	5	5.9
25-29	6	7.1
30-34	3	3.5
Mean duration of work experience=9.23±8.62 years		
Ward		
ICU	19	22.4
Recovery Room	8	9.4
Post Operative Ward	13	15.3
Male Surgical Ward	12	14.1
Female Surgical Ward	15	17.6
Orthopaedic Ward	11	12.9
Plastic and Burn Ward	7	8.2

Majority of the respondents (41.2%) were of age group 25-29 years. Nearly half of them (45.9%) had completed certificate nursing and were working as staff nurse (87.1%). Majority (22.4%) were working in ICU. About 39% of them had been working for less than 5years in the institution.

Table 2: Experience and Training on Pain Management n=85

Characteristics	f	%
Availability of Pain measuring instrument		
Yes	54	63.5
No	31	36.5
Experience in Pain Management		
Yes	74	87.1
No	11	12.9
Training Received		
Yes	30	35.3
No	55	64.7

Table 4: Items Receiving 50-70% Correct Response Rate n=85

Rank	Item No.	Item content (correct answer)	Correct Responses	
			f	%
1	5	Patients' spiritual beliefs may lead them to think pain and suffering are necessary	58	68.2
1	22	The recommended route of administration of opioid analgesics for patients with brief, severe pain of sudden onset such as trauma or postoperative pain	58	68.2
2	9	Patients should be encouraged to endure as much pain as possible before using an opioid	57	67.1
3	27	The most accurate judge of the intensity of the patient's pain	54	63.5
4	18	Benzodiazepines are not effective pain relievers unless the pain is due to muscle spasm	52	61.2
5	2	Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences	49	57.6
6	11	Opioids should not be used in patients with a history of substance abuse	47	55.3

Table 5: Items Receiving Less than 50% Correct Response Rate n=85

Rank	Item No.	Item content (correct answer)	Correct Responses	
			f	%
1	6	Children less than 11 years old cannot reliably report pain so nurses should rely solely on the parent's assessment of the child's pain intensity	36	42.4
2	17	Anticonvulsant drugs such as gabapentin produce optimal pain relief after a single dose	35	41.2
3	10	The usual duration of analgesia of 1-2 mg morphine IV is 4-5 hours	32	37.6
3	12	Morphine has a dose ceiling	32	37.6
3	3	Patients who can be distracted from pain usually do not have severe pain	32	37.6
4	15	If the source of the patient's pain is unknown, opioids should not be used during the pain evaluation period	30	35.3
5	1	Vital signs are always reliable indicators of the intensity of a patient's pain	25	29.4
6	20	Aspirin and other non steroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases	22	25.9
7	26	Which of the following is useful for treatment of cancer pain	19	22.4
8	29	The time to peak effect for morphine given orally is	17	20
9	32	Case Study 2	12	17.6
10	7	Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real	14	16.5
11	31	Case Study 1	14	14.1
12	21	The recommended route of administration of opioid analgesics for patients with persistent cancer-related pain	11	12.9
13	4	Patients may sleep in spite of severe pain	9	10.6
14	30	Following abrupt discontinuation of an opioid, physical dependence is manifested by	6	7.1

Table 3, 4, 5 shows that only 8 items had more than 70% score, whereas 6 items had 50-70% mean score and 14 items had less than 50% mean score.

Table 6: Association of Educational Status with Knowledge and Attitude n=85

Characteristics	f	Mean	SD	Median	p value
Age (in years)					
20-24	21	16.10	±4.39	15.00	0.344*
25-29	35	16.31	±2.99	17.00	
30-34	10	14.50	±2.12	15.00	
35-39	5	13.80	±2.17	14.00	
40-44	5	15.00	±4.18	13.00	
45-49	9	15.33	±2.4	15.00	
Educational Level					
Certificate Nursing	39	15.36	±3.54	15.00	0.916*
BN	36	16.03	±2.99	16.00	
B.Sc.Nursing	7	16.29	±4.19	15.00	
Masters in Nursing	3	15.33	±2.52	15.00	
Post					
Staff Nurse	74	15.77	±3.41	16.00	0.624*
Supervisor	4	15.75	±2.87	14.50	
Nurse in-charge	7	15.14	±2.73	15.00	
Ward					
ICU	19	16.79	±4.02	17.00	0.236*
Recovery Room	8	16.38	±2.07	16.50	
Post Operative Ward	13	15.54	±2.63	16.00	
Male Surgical Ward	12	16.17	±4.2	16.00	
Female Surgical Ward	15	14.80	±2.78	15.00	
Orthopaedic Ward	11	16.00	±3.35	16.00	
Plastic and Burn Ward	7	13.14	±1.46	14.00	
Availability of Pain Measuring Instrument					
Yes	54	15.58	±3.32	15.50	0.899**
No	31	15.80	±3.33	16.00	
Training Received					
Yes	30	15.83	±4.19	15.00	0.800**
No	55	15.65	±2.76	16.00	
Experience in Pain Management					
Yes	74	15.96	±3.37	16.00	0.035**†
No	11	14.09	±2.34	14.00	
Duration of Work					
<1	4	20.75	±5.25	23.00	0.060*
1-4	29	14.97	±3.32	15.00	
5-9	24	15.83	±2.65	16.50	
10-14	10	16.90	±3.35	17.00	
15-19	4	13.25	±0.96	13.50	
20-24	5	15.60	±4.16	14.00	
25-29	6	16.00	±2.45	16.00	
30-34	3	14.33	±0.58	14.00	

*Kruskall Wallis H test

**Mann-Whitney U test

†p significant at <0.05

There is no any significant relationship of knowledge and attitude score with age, education, rank, work area, duration of work, use of pain measuring instrument and training received. However, significant difference was found between experience on pain management and mean knowledge and attitude score ($p=0.035$).

Discussion

The study revealed that nurses obtained less knowledge and attitude score about pain management. The nurses' mean score for the entire knowledge and attitude scale was 15.72 (± 3.308) out of 32 maximum score, that means 49.13%. This finding is consistent with that of the study conducted in Turkey¹⁰ which showed the mean number of correctly answered questions was 15.86 (± 7.33) out of 40. Inadequate knowledge and attitude on pain management in this study might be due to less emphasis on pain education to the nurses. Similarly, another study among Jordanian nurses shows that the mean score was 16.94 ± 8.58 ¹¹. Health personnel including nurses are traditionally trained to show more concern on patient's disease rather than pain and suffering. However, contrast to these findings, a study conducted in Washington DC showed a mean score of 72.25%, which was regarded as less satisfactory.¹²

This study revealed that the nurses have less knowledge in using the pain scale. Most of them (63.5%) knew that the most accurate judge of the intensity of pain is the patient himself. However, majority incorrectly rated the scale i.e, 86.9% (case 1) and 83.4% (case 2). This shows that the nurses were more influenced by patient's behavior rather than his/her statement of pain. This is supported by the studies done by Bernardiet al¹³ and Omran et al¹¹. The patients' own statements should be accepted as the single most reliable indicator of the presence and intensity of pain.¹⁴

One of the important steps in pain management is to recognize the pain. This study revealed that nurses could not recognize the patient in pain properly. The nurses rely on vital signs and patient's behavior to recognize pain. The other commonest mistake that the nurses made is that they tend to inject sterile water to assess whether the pain is real or not. This is shown in the study as the correct response rate on this is very low (16.5%). This is consistent with the study in Turkey (10.2%).¹⁰

The knowledge on cancer pain is also very low. The reason might be lack of specialized oncology ward in the hospital and thus less exposure to cancer pain management. It is important to know the pharmacological features of opioid to use them safely.

This study shows that the sound knowledge about opioid is also lacking. Most of the nurses were found to have less knowledge peak effect of oral morphine (20%) and duration of action (37.3%) of opioids. The studies conducted by Bernardi et al¹³ and Lui So & Fong⁸ also showed that nurses knowledge on opioids is inadequate. Therefore, they should be well oriented on pharmacology and safe use of opioids.

The addiction and dependence are two different terms which are important in case of opioid medication. The study shows conflicting findings on nurses' knowledge regarding this. The questions on addiction show correct response rate of 85.9%. However, the correct response rate on dependence is only 7.1%. This shows that nurses are confused between addiction and dependence.

Regarding association of knowledge of nurses with different demographic characteristics, there was no statistical significant relation between knowledge and attitude with age, education, rank, working area and duration of work. This is consistent with the studies by Luet al⁸ and Glajchen M & Bookbinder M¹⁵ which shows that education was not significantly associated with knowledge and attitude. However, the findings are not supported by a study done by Ayla Y et al¹⁰ who found that nurses with higher degree have significantly better knowledge ($p=0.001$).

In the current study, significant association was shown between knowledge and attitude of nurses and experience on pain management ($p<0.05$). This is supported by a study conducted by Lai et al¹⁶, Tse & Chan¹⁷ and Lui et al⁸. According to Cate¹⁸, learning happens when the learner acquires knowledge of a topic through processing information by listening, reading, thinking, memorizing, analysing and application. Knowledge is acquired not only from books or lectures, but also from daily practice. Contrast to these findings, Ayla Y et al¹⁰ in their study did not find a statistically significant difference between the knowledge and attitude scores according to years of nursing experience.

The strengths of the study were:

- A standard tool was used in the study, which increases the validity of the tool.
- The researcher got information about the knowledge and attitude of the nurses working in a tertiary hospital of Kathmandu regarding pain management.
- The possible bias were predicted beforehand and avoided as far as possible.
- All the respondents exhibited good response and cooperated during data collection.

Conclusion

The current study shows that there is inadequate knowledge and attitude of nurses regarding pain management. As the nurses are the most important parts in the multidisciplinary approach 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 WHO and American Pain Society.⁹

Recommendations

Authors recommends that:

- Similar studies might be done in several tertiary hospital nurses of Nepal.
- Comparative studies might be done among nurses of different hospitals.
- Nurses dealing with pain management should be trained on way of using pain measuring instruments.
- The concerned authority of the hospital should organize regular in-service training for nurses on pain management.

Legal issues

The Formal permission for the study was taken from the concerned authority of the selected hospital. Ethical approval was obtained from the Institutional Review Board (IRB) of TUTH. Similarly, written informed consent was taken from the respondents prior to data collection. None of the respondents were forced to participate in the study. The respondents were clearly informed about their right to voluntarily withdraw from the study at any time. Anonymity and confidentiality were maintained throughout the study.

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