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Knowledge of postoperative pain management among nurses in a tertiary hospital Uttara Kannada, Karnataka

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Abstract
Background: POP management, like other aspects of healthcare, is a teamwork. In most health-care settings, nurses constitute the biggest health workforce and have round the clock contact with patients. Many a time knowledge among nursing staff also is inadequate so that their practices and decisions cannot be relied on. So it becomes important to analyse the scenario in a scientific way.
Method: This was a cross-sectional study done on Nursing staff working in tertiarty hospital attached to KRIMS for a period of two months. Nursing staff working at KRIMS Hospital i.e, 86 Nurses formed the study sample. An adapted version of the Knowledge and Attitudes Survey Regarding Pain instrument was used to test the knowledge of nurses.
Results: 64% nurses had adequate knowledge on POP management. It was seen that knowledge regarding pain assessment was significantly lesser than knowledge regarding practise (chi square: 43.66, P<0.05).
Conclusion: Nurses in this study self-reported inadequacy of knowledge but not alarming considering to other countries.

Keywords: Nurses, knowledge, postoperative, pain

Introduction

Post-operative pain (POP) is an unavoidable consequence of any surgical procedure. Even in modern day practice with use of newer analgesic medications as well as techniques, POP remains an area of concern in routine surgical practice. Despite the availability of many pre-, intra- and postoperative interventions and management strategies for reducing and managing POP, inadequate POP relief is reported many a time [1].

It is a well known fact that inadequate pain relief adversely affects overall physical and psychological wellbeing as well as the physiology of various organ systems [2]. Hence pain relief is a universal goal amongst all health practitioners. This is all the more relevant in a post-op setting since pain is an expected consequence and so is adequate pain relief. More so, inadequate pain relief contributes to systemic side effects, worsening the final outcome after any surgical procedure. Half the number of postoperative patients still report inadequate pain management despite efforts from worldwide authorities in creating awareness on the effects of inadequate POP management [3].

POP management, like other aspects of healthcare, is a teamwork. In most health-care settings, nurses constitute the biggest chunk of the health workforce and have round the clock contact with patients [4]. Nurses play as good a role in managing POP as the treating physician and are well-placed for the same, being the first point-of-contact for the patient. Hence it is of utmost importance that they have adequate knowledge and skill in practising the same [5]. Also, since pain is a subjective sensation and pain management has to be thoroughly individualised, individual beliefs and attitude of nurses also matter a lot.

Pain management by nurses is widely researched in developed countries [6]. However in countries like India, neither this aspect is given much importance nor any active research is done. Many a time knowledge among nursing staff also is inadequate so that their practices and individual decisions cannot be relied upon. Thus it becomes important to analyse the precise scenario in a scientific way. This shall provide evidence based data that are necessary for further development of nursing curricula for the under- and postgraduate nursing programs as well as in-service education in hospitals. Hence the present study was conducted.

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Methodology

This was a cross-sectional study conducted among Nursing staff working in tertiatry hospital attached to KRIMS Karwar for a period of two months (September-october 2019). All the nursing staff working at KRIMS Hospital i.e, 90 Nurses (data from MS office) formed the study sample. Nursing staff who had work experience of *at least* 6 months in any of the surgical department and an eligible degree of nursing were considered for the study. Written consent was obtained from nurses who agreed to participate in the study. Respondents who agreed to take part in the study were assured of confidentiality as they were required not to provide any form of identification on the questionnaire. Nurse who did not wish to participate in the study and those nurses who were on leave for the period during the data collection were excluded from the study.

Each of the questionnaires had an informed consent form attached for respondents to fill out before participation. An adapted version of the Knowledge and Attitudes Survey Regarding Pain (KASRP) [7] instrument was used to test the knowledge of nurses. Multiple choice questions within original KASRP instrument were modified into true or false questions to make it easier for respondents to complete. Some questions that were found in literature to be important in Indian setting was added to the original KASRP instrument. The Author of the questionnaire has allowed the questionnaire for public use as whole or as a part. Hence the modification have been done to the questionnaire [7]. Ethical Clearance is taken from Institutional Ethical Committee.

Results

A total of 86 Nurses participated in the study of which 78 of them were females and 8 males. Majority of them i.e. 31% were between 31-40 years. Around 61% of the nurses had more than 5 years of experience. Diploma in nursing was the qualification of majority of them i.e. 76.7%. (Table 1)

Table 1: Demographic details of the respondents

Determinants	Frequency (%)
Gender	
Males	8 (9.3%)
Females	78 (90.7%)
Age	
20-30	22 (25.5%)
31-40	27 (31.3%)
41-50	21 (24.4%)
51-60	16 (18.6%)
Experience	
<1 year	13 (15.1%)
1 to 5 years	21 (24.4%)
5 to 10 years	25 (29.1%)
>10 years	27 (31.4%)
Qualification	
Diploma Nursing	66 (76.7%)
BSc. Nursing	10 (11.6%)
PBBSc. Nursing	8 (9.3%)
MSc. Nursing	2 (2.32%)

Table 2: Knowledge regarding post-operative management

Knowledge questions	Responses True (%)	Responses False (%)	Right Answer
1. Vital signs are always reliable indicators of the intensity of a patient's pain.	65 (75.5)	21 (24.5)	F
2. Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences	19 (18.6)	67 (81.4)	F
3. Patients who can be distracted from pain usually do not have severe pain.	75 (87.2)	11 (17.8)	F
4. Patients may sleep in spite of severe pain.	25 (29)	61 (71)	T
5. Acute pain lasts for 20 to 30 days	22 (25.5)	64 (74.5)	T
6. Pain assessment includes onset, duration, variability, location, and intensity of pain.	81 (94.1)	5 (5.9)	T
7. Combining analgesics that work by different mechanisms (e.g., combining an NSAID with an opioid) may result in better pain control with fewer side effects than using a single analgesic agent.	78 (90.6)	8 (9.4)	T
8. Glasgow Coma Scale is a pain assessment tool	41 (47.6)	45 (52.4)	F
9. Untreated POP delays recovery	72 (83.7)	14 (16.3)	T
10. Opioids should not be used in patients with a history of substance abuse	31 (36)	55 (64)	F
11. Elderly patients cannot tolerate opioids for pain relief	12 (13.9)	74 (86.1)	F
12. Effective analgesia is an essential part of POP management.	80 (93)	6 (7)	T
13. Children less than 11 years old cannot reliably report pain so clinicians should rely solely on the parent's assessment of the child's pain intensity	51 (59.3)	35 (40.7)	F
14. Using pain management assessment tool is not integral in POP management	19 (22)	67 (78)	F
15. After an initial dose of opioid analgesic is given, subsequent doses should be adjusted in accordance with the individual patient's response	11 (12.7)	75 (87.2)	T
16. Analgesics for POP should initially be given around the clock on a fixed schedule	55 (63.9)	31 (36.1)	T
17. Anticonvulsant drugs such as gabapentin (Neurontin) produce optimal pain relief after a single dose	27 (31.3)	59 (68.7)	F
18. Benzodiazepines are not effective pain relievers unless the pain is due to muscle spasm	44 (51.1)	42 (48.9)	T
19. Naloxone antagonizes (reverses) all opiates, but its effect quickly wears off	59 (68.6)	27 (31.4)	F

Participants who scored 10 or less out of a total score of 19 were considered as having inadequate knowledge and a score of 11 or above were considered as having adequate knowledge on POP management. It was seen that 55 of them, i.e. 64% nurses had adequate knowledge on POP management. Seven questions (Questions 2, 6, 7, 9, 11, 12, 14) were most frequently answered correctly. Five questions (Questions 1, 3, 4, 5, 15, and 19) were most frequently answered incorrectly.

Table 3: Correctness of response on type of knowledge questions

Type of knowledge based question	Correctness of response No. of Correct response	Correctness of response No. of incorrect response	Total
Assessment of Pain	374 (48.3%)	400 (51.7%)	774
Treatment of Pain	555 (64.5%)	305 (35.5%)	860

The chi-square statistic is 43.6608. This result is significant at $p < .05$.

Pain management has two distinct aspects – first is assessment and second is the pain-relief practice. The questionnaire which is used has components for analysing knowledge regarding both. Pain assessment questions were 9 in number and pain relief practice questions were 10 in number. Table 3 shows the percentages of total responses to each of the two aspects. It was seen that knowledge regarding pain assessment was significantly lesser than knowledge regarding management of pain (chi square: 43.66, $P<0.05$).

Discussion

Management of pain including POP is one of the essential ward-duties of a healthcare team. Nurses play an important role in the same. Hence their knowledge regarding POP management should be adequate. Unfortunately there is insufficient data pertaining to knowledge assessment amongst nurses in developing countries like India. Thus this study was sought to be conducted as preliminary step to bring about change for better POP management.

Study hospital like most other hospitals in India has a deficiency in Bachelor prepared nurses. Meanwhile evidence shows that clinical outcomes are maximized with degree prepared nurses [8]. In a study by Rafati *et al.*, researchers found that bachelor prepared nurses had good pain management practices because they administered opioids to patients better than nurses with lower qualifications [9]. Thus, a strong case must be made for degree nursing in our country.

This study was conducted in a tertiary-care hospital setting which included nursing staff from medical college also. It was expected that majority of them had adequate knowledge regarding POP since it is hospital's policy to have nurses perform various duties on rotation. Our results showed that 64% staff had adequate knowledge which isn't alarming, though definitely less than desirable. These findings differ from other studies conducted [10] who found inadequate knowledge of nurses in POP management [11]. Several reasons could be linked to this finding. As our study was conducted in a medical college hospital access to training programs on pain management is more frequent and also nursing students are posted in the hospitals under the nurses for training. In addition, most nurses who answered the questionnaire had more than 5 years' experience and this could have impacted positively on their knowledge. The fact that the nurses in the hospital are rotated in different clinical departments through the year and with an equal mix of senior and junior nurses could have brought about better knowledge among them.

Conclusion

Nurses in this study self-reported inadequacy of knowledge but not alarming considering to other countries. Inadequacy of knowledge was seen more with respect to assessment of pain compared to that of management of pain. Nurses must be empowered through continuous development programs to keep updated with changing trends pertaining to pain management postoperatively. It also recommends for a supportive environment for proper and continued use of tools, protocols and charts.

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