



Nurses Knowledge Regarding Pain Management among Patients in Critical Care Units

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Abstract

Introduction: Pain management in critical care units has been a concern for long to be addressed. Unalleviated pain is the most common ailments among critical patients that may seriously affect their wellbeing, health outcomes and quality of life. The purpose of this study was to assess the knowledge of nurses regarding pain management in critically ill patients.

Material and methods: Descriptive cross sectional study design was used to carry out the study. A total of 196 nurses were recruited from the public sector hospitals in Lahore and Islamabad. Non-probability convenience sampling technique was used for the selection of the participants with premeditated inclusion criteria. A self-administered questionnaire was used to collect the required data after the written consent was secured. The data were analyzed for descriptive and inferential statistics using SPSS.

Results: Majority of the nurses (74%) showed the cryptogram of poor knowledge regarding pain management, 23% were found as having average knowledge, and only 1.5% was reported to have good knowledge. In addition a very scare percentage of 0.5% among nurses demonstrated excellent knowledge regarding pain management according to the proposed data collection instruments

Conclusion: The level of knowledge of the nurses working in critical care units was not up to the required standards. Therefore, there is a dire need to motivate and facilitate nurses for continuation of professional education programs to prepare them for the proper training of pain management that in turn will help to vanish the miseries of patients resulting in terms of having pain.

Keywords: Knowledge; Attitude; Critical care units; Nurse; Patients; Pain managements

Introduction

It has been reported that around 5 million patients are getting admission to the critical care unit each year around the globe, and an estimated 77% of these patients complaint of having pain during their stay in the critical care units. Among these patients 32% report severe while 60% report moderate to severe pain [1]. The nature of this pain is usually associated with certain conditions and procedures like endotracheal tube insertion, tracheostomy, incision, drainage, positioning, suctioning, intravenous cannulation and wound dressing etc. contribute to 80 % of the pain [2]. Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage that affect an individual, both physically and psychologically [3]. It is often classified into two major types acute and chronic which is further sub classified as nociceptive (in response to any impending tissue injury) and neuropathic (direct injury to nerves) [4]. Whatever is the type of pain, it leads a patient to the unpleasant sensation and discomfort, therefore, pain in critical care units' patients' needs optimum knowledge of nurses working in these units [5].

Critical Care Unit is one of the specialized and mechanized departments of the health care facility exclusively designed, equipped and staffed with skilled personnel, who use innovative approaches to

the provision of effective and sophisticated care among critical care patients [6]. Providing care to patients in intensive care units requires an empowered nursing workforce who is equipped with contemporary knowledge, vigilance and expertise [7]. Critical care nurses are persistently confronted with the challenges of managing pain therefore they need to be effectively trained in this regard to bring innovation in care [8].

Most of the patients in the critical care unit are usually on mechanical ventilation and are not oriented properly or they are comatose, that in turn the make them unable to communicate their concerns and desolations regarding pain [9,10]. Managing pain in sedated, comatose and unconscious patients make it more difficult for the health care workers to assess the exact nature of pain [11]. Therefore it becomes essential for the nurses to be skilled effectively to understand the pain, assessment tools, its nature and the consequences resulting in its prevention [7]. Nurses need to be keen assessors in their knowledge and attitudes even for getting the non-verbal responses of the patients in terms of their irritating behaviour, expression and unstable body posture [12]. Standardized pain assessment tools and management should be planned as a practice regimen when caring for the patients in critical care units [13].

Such different levels of expertise and training make nurses more knowledgeable and confident to deal with the pain of patients in critical care unit [14]. Having proficiency and expertise of pain assessment could have a successful pain management and lead to

promote health, prevent illness and complications, and reduce sleep deprivation and suffering [15]. There is dearth of studies on nurses knowledge regarding pain management from Pakistani context, therefore this study was aimed to assess nurses' knowledge regarding pain management in critical care units of public sector tertiary care hospitals of Lahore and Islamabad, Pakistan.

Material and Methods

Descriptive cross sectional descriptive study design was used to conduct this study. A sample of 196 nurses was taken from 6 tertiary care hospitals of Lahore and Islamabad with predefined inclusion and exclusion criteria by following non probability convenience sampling. Informed voluntary written consent was secured from all the participants. The study was approved by IRB. A self-administered questionnaire was used to collect the required data. The questionnaire comprised of 29 multiple choice questions with one best answer on nurses' knowledge of pain management in critically ill patients. The scores were graded as excellent knowledge as greater than 80%, good knowledge as 65-80%, average knowledge as 50-65% and poor knowledge as less than 50%.

Results

Demographic details of the participants showed that majority 29% participants (56) were from SZH, 26% (50) were from PIMS and 23% (45) nurses from PIC in Lahore. Similarly, 10% (20) nurses were from BB Hospital, 8% (15) from Jinnah Hospital whereas only 4% (10) participants were from PC Islamabad. Majority of the participants (89%) were in the age range of 20-39 years. Additionally, most of the participants had diploma qualification (67%) diploma (67%) as their qualification. Out of total 196 participants 25% had work experience of 5-7 years and 31% had more than 7 years of age experience. None of the participants had attended any in-service pain management training. Table 1 shows basic demographic details of participants.

| Distribution of respondents according to hospital | | |
|---|-----|--------|
| Polyclinic | 10 | 5.10% |
| Benazir Bhutto Hospital | 20 | 10.20% |
| PIMS hospital Islamabad | 50 | 25.51% |
| Jinnah hospital Lahore | 15 | 7.65% |
| Sheikh Zaid Hospital Lahore | 56 | 28.57% |
| Punjab institute of Cardiology | 45 | 22.96% |
| Age group | | |
| 20-29 | 88 | 45% |
| 30-39 | 86 | 44% |
| 40-49 | 14 | 7% |
| 50-59 | 8 | 4% |
| Qualification | | |
| Diploma | 132 | 67% |
| Generic BScN | 15 | 7.60% |
| PostRN BScN | 5 | 2.50% |

| Post Basic specialty | 44 | 22.44% |
|-------------------------------------|-----|--------|
| Experience | | |
| 1-3 years | 38 | 19.38% |
| 3-5 years | 49 | 25% |
| 5-7 years | 49 | 25% |
| >7 years | 60 | 30.61% |
| In service pain management training | | |
| Yes | 0 | 0 |
| No | 196 | 100% |

Table 1: Basic demographic characteristics of participants.

The analysis of the data of all the questions on questionnaire has been plotted in figure-1. The participants were assessed by a questionnaire that included 29 questions. The lowest correct response was noted for question 19 which was about the recommended route of administration of opioid analgesics for patients with persistent pain. The highest correct response (75%) was recorded for the question 20 which was about the intravenous rout of the opioid analgesic administration. The remaining questions showed variations and was collectively summarized in the given percentages as shown in Figure 1.

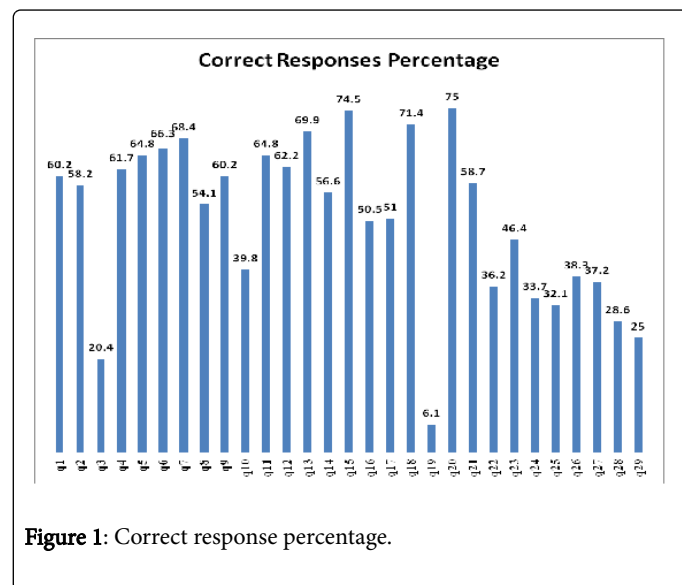


Figure 1: Correct response percentage.

The mean knowledge score of the respondents was 12.755±2.938 (SD). The minimum knowledge score was 6 and the maximum score was 27 out of a total score of 29 as shown in Table 2.

| | No. | Standard Error of Mean | Minimum | Maximum | Mean | S.D |
|---------------|-----|------------------------|---------|---------|--------|--------|
| Score | 196 | 0.20992 | 6.00 | 27.00 | 12.755 | 2.938 |
| Total Percent | 196 | 0.7239 | 20.68 | 93.10 | 43.978 | 10.134 |

Table 2: Distributions of participants score.

According to preset criteria of indicators of level of knowledge regarding pain management, most of the participants n=146 (74.5%) showed poor knowledge i.e. less than 50% correct response rate. A very low number of participants that is only (0.5%) exhibited excellent knowledge i.e. >80% correct response rate, whereas 46 participants (23.5%) responded with average knowledge the level i.e. 50-65%. Overall only 3 (1.5%) nurses possessed good knowledge of pain management i.e. 65-80% as shown in Figure 2.

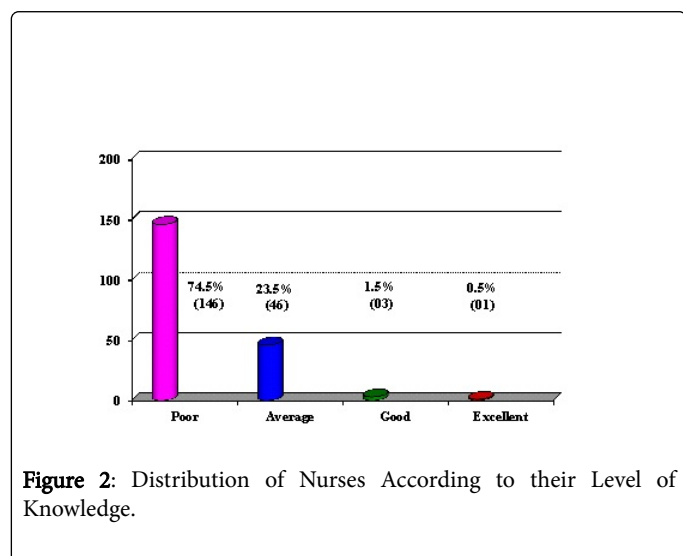


Figure 2: Distribution of Nurses According to their Level of Knowledge.

| Test Statistics | |
|-----------------|-----------------|
| | Knowledge level |
| Chi-Square | 282.408a |
| df | 3 |
| Asymp. Sig | 0.000 |

Table 3: This table provides the actual result of the Chi-Square that is goodness-of-fit test.

This Table 3 provides the actual result of the Chi-Square that is goodness-of-fit test. The test finds out whether the proportions of responses in the categories conform to a particular pattern and whether the sample distribution of this study differs significantly from the distribution claimed. The sampling method was Convenient Sampling and variables under study were categorical. Moreover, the expected value of the number of sample observations in each level of the variable was at least 5. The value of P is less than 0.05 which means that probability of these results is less than one in 20 times. Greater differences between expected and actual data produce a larger chi square value .When this value is larger it means the probability is greater and there is really a significant difference. This table shows that this test statistic was statistically significant ($\chi^2=282.4$, $P<.05$). Therefore this study concludes that there are statistically highly significant differences in different levels of knowledge.

Discussion

The main objective of the study was to assess nurse’s knowledge regarding pain management in critical care patients and the results revealed that majority of the nurses in existing study scored poorly on

knowledge scale. The overall knowledge of critical care nurses in this study was found as poor regarding pain assessment and management. None of the standardized pain assessment scale was found in the selected hospitals to address the pain properly in terms of its management. These findings are consistent with a study reported by Young Horton and Davidhizar [16] which concluded that the main obstacle in pain management is not using proper pain management scale by critical care nurses [16]. The current study also noted that there was no in-service pain management training course for these nurses which are similar to the study reported by Al-Shaer et al. [17]. Their study concluded that nurses had no opportunities during their service to update their knowledge about pain assessment and pharmacological intervention [17]. Moreover, Lui, et al. [18], also contended that appropriate pain assessment education appears to be a compulsory ingredient towards proper pain intervention [18]. Pain assessment should be documented and conducted routinely.

The results of current study were again well supported by previous research studies where the majority of the critical care nurses in this study verified unsatisfactory knowledge in pain management [1,10,17,18]. Yildirim [19] also reported nurses’ knowledge in a study conducted in Turkey which showed poor results about knowledge level of nurses that was calculated as 35.41% [19]. Furthermore, the findings of the present study are also comparable to a study reported by Tsai et al., [10], which concluded that critical care nurses in Taiwan responded to the correct responses as only 53.4 % which is not a high proportion [10].

Conclusion

The present study notes that critical care nurses working in public sector tertiary care hospitals of Lahore and Islamabad have insufficient knowledge regarding pain management. The study findings suggest the need for in-service training of nurses regarding pain management. There is also a need for standard operating policies for managing pain in critically ill patients in intensive care units of the public sector tertiary care hospitals of Peshawar. Critical care nurses must be equipped with up-to-date knowledge to assess and manage pain.

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