Section: Critical Care Medicine

Original Research Article

CRITICAL CARE NURSES KNOWLEDGE REGRADING PAIN ASSESSMENT IN INTUBATED PATIENTS IN CRITICAL CARE UNITS

Dinesh Gautam[1], Rajesh Kumar Sharma[2], Nand Kishore[3], Sanchita Pugazhendi[4]

[1]Nurse Practitioner's in Critical Care, Mahant Indresh Hospital, Dehradun, India
[2]Professor, Head of Critical Care Nursing Department, Himalayan College of Nursing, Swami Rama Himalayan University, Dehradun, India.
[3]Associate Professor, Department of Critical Care Medicine, Himalayan Institute of Medical Sciences, Swami Rama Himalayan University, Dehradun, India.
[4]Principal, Himalayan College of Nursing, Swami Rama Himalayan University, Dehradun, India.

Received : 29/12/2023
Received in revised form : 20/02/2024
Accepted : 05/03/2024

Keywords:
Pain assessment, Intubated patients, Critical Care Nurses.

Corresponding Author:
Dr. Nand Kishore,
Email: drnanda2010@hotmail.com

DOI: 10.47009/jamp.2024.6.2.103

Source of Support: Nil,
Conflict of Interest: None declared

Int J Acad Med Pharm
2024; 6 (2); 476-479

Abstract

Background: Appropriate pain assessment is the first key step to provide adequate relief to patients. Nurses can improve the quality of pain assessment and management if they have been equipped with further inter-professional education on pain assessment tools and strategies for intubated patients. This study will focus on critical care nurses knowledge regrading Pain assessment in intubated patients in Critical Care Units. It has been established that nurses use the tools infrequently and lack confidence in a critical care unit for pain assessment of intubated patients. Aim and Objective: The aim of the study was to find out the knowledge & effectiveness of structured teaching program regarding pain assessment in intubated patient by the critical care nurses in critical care units. **Materials and Methods:** A Quasi-experimental study with one group pre- and post-test research design with convenient sapling technique was followed to include 115 study participants in Himalayan hospital, Dehradun, Uttarakhand. Demographic information and structured knowledge questionnaire was used to gather data to check the knowledge & effectiveness of planned teaching program. **Result:** The findings of this study shows that there was statistically significant difference seen in post-test and pre-test knowledge scores as their $p<0.001$. There was greater post-test (15.63 ± 2.821) mean knowledge score than pre-test (10.56 ± 2.971) mean knowledge score. Results showed effective knowledge enhancement of nurses after giving STP regarding pain assessment in intubated patients. There was no statistically significant association between pre-test knowledge score and socio-demographic variables. **Conclusion:** It is concluded that a purposeful effort is needed to enhance knowledge of nurses through health teaching and training program in the context of knowledge regarding pain assessment and benefits of pain assessment in intubated patients.

INTRODUCTION

One of the major stressors, or experiences, that alter patient's comfort in the critical care unit is pain in whatever intensity: mild, moderate or severe. The pain perception in patients is diverse and may be altered by factors such as culture, environment, mood, pathology and experience.[1] Critical care unit admitted 40–77% patients experience pain because of the painful interventions and routine daily care procedures with a prevalence rate of nearly 30% of patients experience pain at rest, while the percentage increases to 50% during nursing procedures.[2]

A survey of 14,447 inpatients in the National Health Service (NHS) trusts in England (2020), reported 67% of patients experienced pain whilst in hospital, despite relief efforts.[2,3] According to data reported by the Centers for Disease Control and Prevention, approximately 100 million surgical procedures are performed in the United States each year; of these, 40% are in an inpatient setting. Data suggest that 88% of those receiving inpatient surgery, experience pain postoperatively in critical care unit or ward. A study reported that 73% of medical inpatients had unrelieved pain of moderate to severe intensity even after appropriate pharmacological management.[4]

The International Association of the Study of Pain IASP (2020) notes that patients unable to communicate verbally are not nullified from experiencing pain.[5] The contributing factors to pain

are illnesses, injuries, surgery, anxiety, invasive and non-invasive procedures.[1] The unique role of the nurse is to care for the patient to achieve comfort, around the clock, to recovery. Relieving pain by adequate management is of one the many roles the nurse advocates for the patient to obtain optimal comfort. Critical care nurses have the responsibility of ensuring pain is adequately assessed and managed. Appropriate pain assessment is the first key step to provide adequate relief.[6]

Nurses may want to improve the quality of pain assessment and management but might be hindered by the health system, as prescription in most countries is done by doctors.[7,8] Literature recommends that critical care nurses should be provided with ongoing knowledge on pain management courses8 and the need for further inter-professional education on pain assessment tools and strategies for intubated patients.[7] However, little is known regarding critical care nurses' knowledge and current practices during pain assessment in the provision of pain management in the intubated patients. It has been established that nurses use the tools infrequently and lack confidence in a critical care unit for pain assessment of intubated patients.[7]

MATERIALS AND METHODS

A Quasi-experimental study with one group pre- and post-test research design was conducted among the nurses caring intubated patients in critical care units of selected hospital in Dehradun district of Uttarakhand. Total one hundred fifteen (115) critical care nurses were selected by non-probability convenient sampling technique. A structured knowledge questionnaire was developed with the following components: 1. Baseline demographic data. 2. Structured Knowledge based questionnaire on pain assessment in intubated patients after validation and reliability of tools. After obtaining the permission from the research committee, Institutional Ethical Committee and administrative permission from chief medical superintendent, informed consent was obtained from all study subjects, data were collected by using the Knowledge Questionnaire. A structured educational package was administered to improve the knowledge on pain assessment in intubated patients among critical care nurses.

RESULTS

[Table 1] Shows that nearly half 59 (51.3%) of nurses were in the age group between 26-30. Majority 78 (67.8%) of nurses were female. Majority 64 (55.7%) of nurses were GNM. Majority 65 (56.6%) of nurses had total nursing experience of 1-5 years. Majority 65 (56.6%) of nurses had ICU experience of 1-5 years. Majority 70 (60.9%) of nurses did not attend any previous education programme regarding pain assessment in intubated patients however 45 (39.1%) of nurses attended education programme regarding pain assessment in intubated patients previously.

Comparison of knowledge score before & after STP program

[Figure 1] Shows that in post-test knowledge group majority 88(76.5%) while in pre-test knowledge group 22(19.1%) of nurses had good knowledge. In pre-test knowledge group majority 76(66.1%) while in post-test knowledge group 27(23.5%) of nurses had average knowledge and in pre-test knowledge group 17(14.8%) of nurses had poor knowledge.

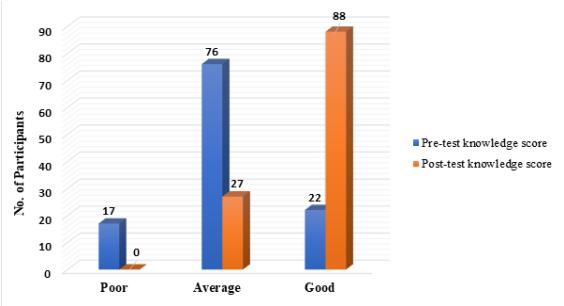

Figure 1: shows the comparison of frequency distribution of nurses according to pre-test and post-test knowledge score.

[Table 2] Shows the comparison of before and after knowledge scores. There was statistically significant difference seen in post-test and pre-test knowledge scores as their $p<0.001$. There was greater post-test (15.63 ± 2.821) mean knowledge score than pre-test (10.56 ± 2.971) mean knowledge score. Results showed effective knowledge enhancement of nurses after giving STP regarding pain assessment in intubated patients. Hence, the research hypothesis (H1) was accepted and null hypothesis (H0) was rejected.

Table 1: Frequency and percentage distribution of demographic characteristics of critical care nurses caring intubated patients. N=115

S. No.	Demographic variable	Frequency (f)	Percentage (%)
1.	Age of critical care nurses		
	21-25	38	33.0
	26-30	59	51.3
	31-35	9	7.8
	36-40	6	5.2
	41-45	2	1.7
	> 45	1	.9
2.	Gender		
	Male	37	32.2
	Female	78	67.8
3.	Education level		

ISSN (O): 2687-5365; ISSN (P): 2753-6556

	GNM	64	55.7
	B.Sc. Nursing	40	34.8
	Post Basic B.Sc. Nursing	7	6.1
	M.Sc. Nursing	4	3.5
4.	Total Nursing Experience		
	More than 3 months and less than 1 year	16	13.9
	1-5 years	65	56.5
	6-10 years	27	23.5
	11-15 years	5	4.3
	16-20 years	1	.9
	> 20 years	1	.9
5.	Nursing Experience of ICU		
	More than 3 months and less than 1 year	33	28.7
	1-5 years	65	56.5
	6-10 years	17	14.8
6.	Previous education program attended		
	Yes	45	39.1
	No	70	60.9

Table 2: Comparison of pre-test and post-test of knowledge score N-115

Knowledge Score	Mean ± SD	Mean Difference	t-test	d.f	P-value
Pre-test	10.56 ± 2.971	5.07	17.318	114	0.000**
Post-test	15.63 ± 2.821				

Association between pre-test knowledge score with socio-demographic variables

Table 3: Association between pre-test knowledge score with socio-demographic variables of critical care nurses caring intubated patients in Critical care units. N=115

S. No.	Demographic variable	Knowledge Score			Chi-square value	d.f	P-value*
		Poor (1-7)	Average (8-13)	Good (14-20)			
1.	Age of critical care nurses						
	21-25	6	24	8	8.675	-	0.532
	26-30	8	40	11			
	31-35	3	3	3			
	36-40	0	6	0			
	41-45	0	2	0			
	> 45	0	1	0			
2.	Gender						
	Male	6	22	9	1.208*	2	0.547
	Female	11	54	13			
3.	Education level						
	Diploma	10	44	10	5.865	-	0.366
	B.Sc. Nursing	7	12	11			
	Post Basic	0	7	0			
	M.Sc. Nursing	0	3	1			
4.	Total Nursing Experience						
	More than 3 months and less than 1 year	2	12	2	6.078	-	0.872
	1-5 years	9	42	14			
	6-10 years	6	15	6			
	11-15 years	0	5	0			
	16-20 years	0	1	0			
	> 20 years	0	1	0			
5.	Nursing Experience of ICU						
	More than 3 months and less than 1 year	5	25	3	4.842	-	0.296
	1-5 years	8	42	15			
	6-10 years	4	9	4			
6.	Previous education program attended						
	Yes	7	30	8	0.104*	2	0.949
	No	10	46	14			

[Table 3] Shows that there was no association found between pre-test knowledge score and socio-demographic variables hence, the null hypothesis (H0) was rejected.

DISCUSSION

The findings of the study are discussed as below

Comparison of pre-test and post-test of knowledge score

Present study findings shows that there was statistically significant difference in post-test and

ISSN (O): 2687-5365; ISSN (P): 2753-6556

pre-test knowledge scores as their p<0.001. There was greater post-test (15.63 ± 2.821) than pre-test (10.56 ± 2.971) mean knowledge score. Results showed effective knowledge enhancement of nurses after giving STP regarding pain assessment in intubated patients. Similar studies from other part of the world shows that Nurses had significant improvement in their pain knowledge in the experimental group who received the pain education programme.[9] Another similar study findings also shows that post-Test mean knowledge score (70.67% ± 2.067) increased after implementation of Structured Teaching programme among respondents in experimental group and there was a significant improvement in the knowledge of staff nurses regarding pain assessment with t=26.557, P=<0.005.[10]

Association between pre-score knowledge and demographical variable of participants

Present study findings shows that there was no association found between pre-test knowledge score and socio-demographic variables. Similar study from other part of the world shows that there was no significant association seen between pre-CME and socio demographic variables among study participants.[11] Another similar study also shows that there was no statistically significant association seen between selected demographic variables and knowledge scores of the participants.[10]

CONCLUSION

It is concluded that educational package for upgrading the effectiveness led to nursing knowledge towards pain assessment in intubated patients is considered as an effective tool that implicated change. It is concluded that a purposeful effort is needed to enhance knowledge of nurses through health teaching and training program in the context of knowledge regarding pain assessment and benefits of pain assessment in intubated patients. Regular practice of pain assessment throughout treatment may be helpful in reducing discomfort and pain of the patient, contributing to an optimal treatment for the disease with minimal long-term effects.

Acknowledgments

I would like to express my deepest appreciation to the Dr. Sanchita Pugazhendi, Principal, Himalayan College of Nursing for granting the necessary permission and constantly encouraging throughout the research project. In addition, I would like to express my gratitude to university statistician for her constant support in analyzing the project. In Last I would to thanks my all study participants (Critical Care Nurses) for their full support & cooperation during my study.

Ethical Clearance

This study was approved by the Research and Ethical Committee of Himalayan College of Nursing & Swami Rama Himalayan University respectively and permission was obtained from Principal of Himalayan College of Nursing. Proper permission was obtained from authorities of Himalayan Hospital & Critical Care Units and written consent from participants of the study. There was no monetary benefit provided to the participants of the study.

REFERENCES

1. Morton, P. & Fontaine, D. Essentials of critical care nursing: a holistic approach. 10th edition, Lippincott Williamson Wilkins, 2013.
2. Subramanian, P., Allock, N. & James, V., et al., Challenges faced by nurses in managing pain in a critical care setting. Journal of Critical Care Nursing, 2011. vol.21, no.9-10, pp.1254-1262.
3. National Health Service (NHS), England. 2020. Adult Inpatient Survey Results. Adult inpatient survey 2020 | CQC Public Website
4. Marks R.M, Sachar E.J., Undertreatment of medical inpatients with narcotic analgesics' Ann Intern Med, 78 (1973), pp. 173-181
5. The International Association for the Study of Pain (IASP). 2020. Pain terminology: A list with definitions and notes on usage. Changes in 2020. Pain, pp.209-214. International Association for the Study of Pain | IASP (iasp-pain.org)
6. Gelinas, C., Fortier, M. & Viens, C., et al. 2004. Pain assessment and management in critically ill intubated patients: a retrospective study. American association of critical – care nurses, vol.13, no.2, pp.126-136
7. Rose, L., Haslam, L. & Dale, D., et al. 2011. Survey of assessment and management of pain for critically ill adults. Critical and Critical Care Nursing, vol.27, pp.121-128. 32
8. Wang, H. & Tsai, Y. 2010. Nurses' knowledge and barriers regarding pain management in Critical Care Units. Journal of Clinical Nursing, vol.19, no.21-22, pp.3188-3196.
9. Zhang Hua C., Hsu, Zou, Bi-Rong; Li, et al Effects of pain education program on Nurses' Pain Knowledge, attitudes and pain assessment practices in China: Journal of 35 pain and symptom Management, ISSN: 0885-3924, Vol :36, Issue:6, Page :616-627 https://doi.org/10.1016/j.jpainsymman.2007.12.020
10. Sharma K., Kaur S., K.V. Shridhar, A study to assess the effectiveness of structured teaching program on knowledge regarding pain assessment and management among staff nurses working in Adesh Hospital Bathinda, Punjab, International Journal of Health Sciences and Research, Vol.10; Issue: 5th May 2020
11. Bakshi, Sumitra G; Jain, PN; Kannan, S1. An assessment of basic pain knowledge and impact of pain education on Indian Anesthesiologists - a pre and post questionnaire study. Indian Journal of Anesthesia: Mar–Apr 2014 - Volume 58 - Issue 2 - p 127-131 Doi: 10.4103/0019-5049.130805. http://DOI:10.4103/0019-5049.130805

ISSN (O): 2687-5365; ISSN (P): 2753-6556