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A comparative study to assess the level of pain during nursing procedures in ventilated, unconscious and/or sedated patients

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Abstract

Introduction: Pain is developed, when there is certain illness or injury. Patients under mechanical ventilator commonly experience pain, which is often overlooked. Factors such as stage of illness, invasive-procedures, and surgical interventions often aggravate pain in critical patients. **Objective:** The objective of this study was to assess pain levels among mechanically ventilated patients during routine nursing procedures by using the behavioral pain scale (BPS). **Method:** Non-experimental study was conducted among 30 mechanically ventilated patients admitted in ICU (Intensive Care Unit), in Down Town hospital Guwahati, Assam during different nursing interventions, fifteen patients were assessed during turning and fifteen patients were assessed during endotracheal tube suctioning. Purposive sampling technique was used to obtain the sample. Biological parameters and the standardized tool: Behavioral Pain Scale (BPS) was used to measure the study variables. **Results:** The findings revealed that majority nine (93.3%) of the patients experienced moderate pain, whereas the remaining one (6.7%) experience no pain during turning. During endotracheal tube suctioning, the findings revealed that majority twelve (80%) of the patients experienced moderate pain, whereas the remaining three (20%) experience no pain. The study also showed that there was no significant difference between the level of pain experienced during turning and endotracheal tube suctioning ($p < .05$). There was a significant association of pain with endotracheal (ET) intubation. **Conclusion:** It was concluded that patients under mechanically ventilator experienced pain during routine nursing procedures. Pain levels were associated with method of intubation.

Key words: Behavioural pain scale, pain, ventilated, unconscious, sedated patients

Introduction

Pain according to the International Association for the Study of Pain (IASP) defines as “An unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage.” Patients who are critically ill often experienced pain with known or unknown cause. Patients admitted in ICUs encounter different levels of pain ranging from

mild to severe pain. Different painful procedures such as medical examination, investigations and nursing procedures often aggravate pain. Turning the patient has been reported by patients, to be the most painful procedure. Though it is known that critically ill patients undergo a lot of pain, but it is little known about the associated causes. Young, Siffleet, Nicoletti, and Shaw (2006) conducted a study on the use of a BPS to assess pain in ventilated, unconscious, and/or sedated patients and the researchers concluded that BPS was found to be valid and reliable tool in the assessment of pain in the unconscious sedated patient. Validity and reliability of BPS in patients with low level of consciousness due

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to head trauma hospitalized in ICU, reported that BPS in patients with low level of consciousness due to head trauma has strong reliability and validity (Hamideh, Hussein & Akram, 2014). Therefore, this scale can be used to assess the level of pain in patients admitted in ICU. A literature review on unrecognized and undertreated pain in ICU suggested around 70% of ICU patients have unrecognized or undertreated pain. Pain has serious impact in physical and psychological well-being and can impair patient's fast recovery and discharge. This study has also recommended that different tools can be used for pain assessment in patients, who are able to communicate verbally and nonverbally. The BPS is one of the tools that have been developed and validated for assessment of non-verbal patients, who are critically ill. Since pain in ICU patients were being unrecognized and undertreated, the researcher felt the importance of pain recognition in critically ill patients admitted in ICU (Alderson & McKechnie, 2013).

Objectives

1. To assess the level of pain during painful procedures (ET suctioning and position changing)
2. To compare the level of pain experience during ET suctioning and position changing
3. To find out the association of pain with selected biological parameters.

Materials and Methods

A non-experimental approach and an exploratory research designs were used in the present study to accomplish the objectives. Purposive sampling technique was used to obtain the samples. The sample comprised of thirty (fifteen each in different procedures i.e. turning and endotracheal suctioning respectively) patients with mechanical ventilator, admitted in ICU in Down Town hospital, Guwahati, Assam. The inclusion criteria included patients with any medical or surgical diagnosis presence of surgical wound may make a difference in the pain levels and patients with pain medication may also influence 'no pain effect' that tamper the findings under mechanical ventilator, who were sedated or not sedated.

Tools for data collection

Tool 1: Biological parameters: It included age, sex, medical/surgical diagnosis, heart rate, blood pressure, respiratory rate, oxygen saturation, duration of ventilation, methods of intubation, mode of ventilation, Glasgow coma scale, and sedation.

Tool 2: Behavioural Pain Scale (BPS): BPS was developed by Payen in 2001. This tool is used for assessing the level of pain during painful nursing procedures. The BPS includes three observational items (facial expression, upper limbs, and compliance with ventilation) that are scored from 1 to 4 with higher numbers indicating higher levels of discomfort. The total BPS score can range from 3 (no pain) to 12 (severe pain).

Procedure for data collection

For conducting the study, ethical approval was obtained from the Institute's ethical committee of Assam Down Town University Panikhaiti, Assam, and from the Executive Director of Down Town Hospital, Guwahati. Biological parameters of the patients were collected from the patient's file. Levels of pain assessed using BPS. Fifteen patients were observed for level of pain experienced during turning and fifteen patients while ET suctioning.

Results

The findings (Figure 1) revealed that majority 9 (93.3%) of the patients experienced moderate pain, whereas the remaining 1 (6.7%) experience no pain during turning. During endotracheal tube suctioning, the findings (Figure 2) revealed that majority 12 (80%) of the patients experienced moderate pain, whereas the remaining 3 (20%) experience no pain.



Figure 1. Bar diagram showing Level of Pain during Painful Nursing Procedures i.e., Turning

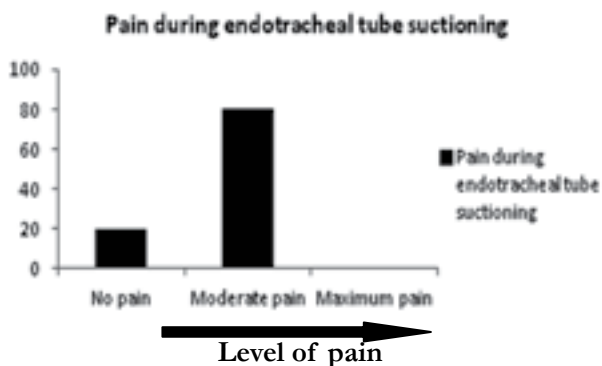


Figure 2: Bar diagram showing Level of Pain during Painful Nursing Intervention i. e. Endotracheal Tube Suctioning

Table 1: Comparison of Level of Pain between Samples during Turning and Endotracheal Tube Suctioning

| Procedure | Mean Difference | SD | 't' value | p value |
|--------------------------------------|-----------------|------|-----------|---------|
| Turning (n= 15) | | | | |
| Endotracheal tube suctioning (n= 15) | 0.7 | 0.19 | 0.16 | < .05 |

The associated findings (Table 1) showed a significant association between the level of pain and selected biological parameter i.e. endotracheal intubation, where the calculated value (5.37) was greater than the standard tabulated value i.e. 3.84.

Discussion

The present study showed that there was no significant difference between the level of pain experienced during turning and endotracheal tube suctioning. There are no significant study findings to support the findings of the present study.

The present study showed a significant association between the level of pain and selected biological parameters i.e. endotracheal tube intubation, which is supported by the findings of Manal et al., where they found that pain levels were associated with age, heart rate, and diastolic BP.

Conclusion

This study concluded that majority nine (93.3%) of the patients experienced moderate pain, whereas the remaining one (6.7%) experienced no pain during turning. During endotracheal tube suctioning, the findings revealed that majority twelve (80%) of the patients experienced moderate pain, whereas the remaining three (20%) experienced no pain. From the present study, it shows that patient experienced more pain during endotracheal tube suctioning than position changing. Nurses play a very important role in assessment of pain in critical patients, as pain is one of the unpleasant sensations experienced by critically ill patients. It is highly concerned that nurses should be vigilant enough and should not neglect pain.

References

Alderson, S. M., & McKechnie, S. R. (2013) Unrecognized, undertreated, pain in ICU: Causes, effects, and how to do better. *Open Journal of Nursing*, 3, 108-113.

Hamideh, D., Hossein, T., & Akram, G. (2014) Validity and reliability of Behavioral Pain Scale in patients with low level of consciousness due to head trauma hospitalized in Intensive Care Unit. *Archives of Trauma Research*. 3(1), e18608.

Lewis, S, L., Heitkemper, M. M., Dirksen, S. R., O'Brien, P. G., & Bucher, L. (2011). *Medical Surgical Nursing: Assessment and Management of Critical Problems*. Haryana: Elsevier.

Manal, M., Sutari, A., Maysoon, S., Abdalrahim, Ayman. M., Hamdan, M., Shahnaz, M., & Ayasrah. (2014). Pain among mechanically ventilated patients in critical care unit. *Journal of Research in Medical Science*. 19(8), 726-732.

Young, J., Siffleet, J., Nicoletti, S., & Shaw, T. (2006). Use of a Behavioural Pain Scale to assess pain in ventilated, unconscious, and/or sedated patients. *Intensive Critical Care Nursing*. 22(1), 32-9.