Lorestan University of Medical Sciences
Faculty of Khorramabad Nursing &Midwifery

A Thesis

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Degree of Master of Sciences

In Medical-Surgical Nursing

Title:

Effect of analgesia-sedation protocol on pain, agitation and cardiovascular response of trauma patient in the surgical intensive care unit

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Abstract

Background and Aim:

A large proportion of patients in the intensive care unit are traumatized. They often experience pain, restlessness and stress. Most ICU patients are unable to report their pain due to low level of consciousness, mechanical ventilation, neuromuscular obstruction, or profound sedation. this study was performed to determine the effect of analgesic-sedation protocol on pain, restlessness and cardiovascular response of trauma patients admitted to the surgical intensive care unit.

Materials and Methods:

The present study is a clinical trial. A total of 70 trauma patients were randomly divided into intervention and control groups. The intervention included the design and implementation of a nurse-centered protocol for pain and restlessness management, focusing on a comprehensive study of pain and the administration of analgesics and sedatives to the intervention group. The control group received routine ward care. Outcomes of the study included pain, restlessness, and cardiovascular response, respectively, using pain intensity scales (BPS, BPS-NI, NRS), Richmond Restlessness (RASS), and monitoring vital signs recording twice daily, as well as delirium. Confusion was measured once a day for 4 days in the intensive care unit (ICU-CAM). Data analyzed using SPSS software version 25, statistical tests, chi-square, chi-square with Monte Carlo simulation, Fisher's exact test, Mann-Whitney test, analysis of variance and regression.

Results:

There was no statistically significant difference between the intervention and control groups in terms of frequency distribution of personal-social and clinical-therapeutic characteristics (P >0.05). The main findings showed that the main effect of intervention (P = 0.002), the main effect of time factor (P <0.001) and the interaction of intervention and time factor on pain intensity were significant (P = 0.003). Also, the main effect of time factor (P <0.001) on the status of receiving analgesic drug was significant.. The main effect of intervention (P = 0.253) the main effect of time factor (P = 0.086), the interaction effect of intervention and time factor on the level of restlessness was not significant (P = 0.358). The main effect of time factor (P <0.001) and the interaction effect of intervention and time factor on receiving sedatives were significant (P = 0.003). The main effect of time factor (P = 0.024) and the interaction effect of intervention and time factor on delirium status was significant (P = 0.048). The main effect of time factor on receiving anti-delirium was significant (P = 0.006). The main effect of time on mean systolic (P = 0.023) and diastolic (P = 0.030) blood pressure was significant. The effect of time factor on mean heart rate (P <0.001) and mean number of breaths (P = 0.043) was significant. There was no statistically significant difference between the two groups in terms of mean days connected to the ventilator (P = 0.152) and days of hospitalization in the intensive care unit (P = 0.309).

.Conclusions:

Findings showed that the use of a comprehensive protocol of nurse-centered pain management-sedation can be effective in reducing pain, delirium, reducing the use of narcotic analgesics and sedatives in trauma patients admitted to the surgical intensive care unit. It is suggested that in the future, the effectiveness of these protocols be studied with respect to other drugs and in other intensive care units.

Key words: Trauma, pain management, restlessness, delirium, cardiovascular response, analgesic protocol, sedation, intensive care unit.