AN EXPLORATION OF PAIN ASSESSMENT FOR THE INTUBATED PATIENT IN THE ICU

Ilana Shafir, RN, BS, CCRN; Michael Purnell, RN, BSN, CCRN
El Camino Hospital
Ilana_Shafir@elcaminohospital.org; Michael_Purnell@elcaminohospital.org

Purpose

The aim of this investigation is to evaluate a pain assessment tool designed for use with intubated and sedated patients who are unable to verbalize their pain, and improve the accuracy of pain assessment.

PICO

For intubated and sedated adult patients in a medical surgical critical care unit, how does a nonverbal pain assessment tool compare to the patient's self-report of pain and to existing pain assessment measures?

Background and Evidence Review

Critically ill patients experience pain; however, it can be a difficult and complicated process to assess their pain level when they are not able to effectively communicate. While the NRS (Numeric Pain Rating System) is considered the gold standard in pain assessment, not all patients are capable of self-reporting when they are sedated. The PAINAD (Pain Assessment in Advanced Dementia Scale) is another assessment tool in our current pain documentation; however the PAINAD requires scoring of verbal responses. Could a scale that takes into consideration changes in the patient's vital signs and ventilator compliance, without evaluation of verbal responses, provide a better pain assessment when verbal responses are compromised?

Methods (IRB approval May 2010)

Nurse observers assessed patient pain using the Adult Nonverbal Pain Scale (NVPS, Strong Memorial Hospital, and University of Rochester Medical Center, New York, 2004.) while concurrently using the PAINAD scoring tool and the Numeric Pain Rating System. Inclusion criteria were all intubated and mechanically ventilated patients in the ICU receiving standard nursing pain assessment evaluation with a RASS (Richmond Agitation and Sedation Score) of +1 to -2. For patients who were moderately or heavily sedated, the study was conducted during a routine "Daily Awakening Trial" ("Sedation Vacation"), when patients are more awake and responsive. The investigators observed and scored the patients using the NVPS and the PAINAD as the primary nurses turned and /or performed endotrachial suctioning. After the painful stimuli, nurses asked the patient to indicate their pain level on a scale of 0 -10 (NRS).

Results

The study is still in progress with a goal of 64 observations. Based on preliminary results, the post-painful stimuli NVPS was equal to the "Gold Standard" NRS in 9 of 13 observations (69%), compared to 2 of 13 PAINAD observations (15%). The Mean (absolute value) variation from the "Gold Standard" NRS was 0.6 units for the NVPS and 1.6 units for the PAINAD.

Conclusion

The preliminary results indicate that the NVPS may prove to be a better pain assessment tool for intubated and sedated patients in the CCU. Some challenges encountered and moving forward are changes in sedation agents, and the logistics of ongoing observations. If the end results will sustain the interim conclusion, we hope to implement the NVPS in our electronic medical charting to support our goal to effectively treat and manage pain, especially for this group of patients who are intubated and therefore not able to effectively communicate pain levels verbally. Exploring the use of the NVPS in other units such as the NICU or during conscious sedation procedures may be worthwhile.

Selected References:

Kabes, A. M., et al. (Feb. 2009). "Further Validation of the Nonverbal Pain Scale in Intensive Care Patients", Critical Care Nurse, Vol 29, No. 1: 59 – 66.

Odhner, M., et al. (Nov./ Dec. 2003). "Assessing Pain Control in Nonverbal Critically Ill Adults", Dimensions of Critical Care Nursing, Vol 22, No. 6: 260 – 267.

Ahlers, S. JGM., et al. (Feb. 2008), "Comparison Of Different Pain Scoring Systems In General ICU", Critical Care, Vol 12, No 1: 1 – 8.

Key words: pain assessment in ICU