Does the use of the CAM-ICU for delirium assessment improve identification of delirium in adults in the ICU?

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Introduction

Delirium, as defined by DSM-IV, is an acute disturbance of consciousness along with the inability to focus, sustain or shift attention, as well as a change in cognition or development of a perceptual disturbance, which is caused by physiologic condition, intoxication, medications or a combination of the above. Delirium is prevalent among both patients in the Intensive Care Unit, as well as post-operative patients. The incidence of delirium has been shown to be as high 57% among post-coronary artery bypass graft patients (Brooks et al., 2014). Length of stay, cost of care and mortality are all increased in patients diagnosed with delirium (Barr et al., 2013).

Barr et al., 2013, reports only 25-59% of intensivists routinely screen for delirium. Without routine testing, a study by Vasilevskis et al., 2011, states up to 72% of delirium is missed ; Brooks et al., 2011, estimates up to two-thirds cases of delirium are unidentified by medical and nursing staff. In patients diagnosed with delirium, early identification correlates with better outcomes (Brooks et. al., 2014)

PICO Question

Population: Adult patients in ICU
Intervention: CAM-ICU delirium assessment tool
Comparison: Use of the CAM-ICU tool versus ICDSC and clinician judgment
Outcome: Increased identification of appropriate patients identified with delirium

Question: Does the use of the CAM-tool for delirium assessment improve identification of delirium in adults in the ICU?

Methods

A search of the literature was conducted using CINAHL, PubMed, and E-Journals available via the Harrell Library, between March and May 2014 with the following key terms:

- Delirium
- Intensive Care Unit
- Cardiac Surgery
- Post-operative
- Assessment
- Best Practice

Four articles were selected and outlined below.

Results

ARTICLE	METHODS	SIGNIFICANT FINIDINGS
Tomasi, et. al (2012)	Level of Evidence: III Prospective Cohort Study • 162 patients admitted to ICU for >24 hours included in study • Evaluated twice a day with the CAM-ICU and ICDSC • Exclusion criteria: CNS disease, depression, dementia, schizophrenia, and patients with RASS of 4-5 for >3 days.	**CAM-ICU > ICDSC** • In 14 patients CAM-ICU was negative while ICDSC was positive for delirium. The outcomes of those 14 patients were similar to the outcomes of patients without delirium. CAM-ICU predicted delirium more accurately in patients with higher mortality.
Van Eijk, et. al (2009)	Level of Evidence: III Prospective Cohort Study • 135 patients admitted to ICU included in study • Patients were evaluated with CAM-ICU, ICDSC, and ICU physician • Test results compared with DSM-IV • Exclusion criteria: deeply sedated patients and comatose patients	**CAM-ICU > ICDSC** **CAM-ICU > Clinician judgment** • CAM-ICU sensitivity 64%, negative predictive value 83% • ICDSC sensitivity 43%, negative predictive value 75% • Physician judgment sensitivity 29%
Barr et. Al (2013)	Level of Evidence: I Clinical Practice Guideline • Revises guidelines published in 2002 • 20 person task force to formulate questions, review literature and interpret data .	• 5 assessment tools compared: CAM-ICU and ICDSC most reliable • Routine screening should occur at least once per shift by nursing staff.
Shaughnessy (2012)	Level of Evidence: IV Observational Study • 108 patients audited and delirium score, documentation and treatment plan were reviewed daily	Implementation of bundle improved: • Recognition of Delirium • Quality of Care

Current Practice

Current Hershey Medical Center Policy regarding assessment of delirium reads: ***"Delirium will be screened at least once daily in the ICU using the CAM-ICU…Some patients may not be appropriate to assess a CAM-ICU due to over sedation, neuromuscular blockade, underlying organic brain disease or traumatic brain injuries."***

(PC-80HAM)
Despite the current policy, not only are patients not screened daily, many are not screened at all for delirium during their stay in the ICU.

Conclusion

- CAM-ICU is a superior assessment tool for detecting ICU delirium in comparison to the ICDSC and clinician judgment.
- Assessment should be completed q 8-12 hours on all ICU patients

Recommendations

As a result of reviewing the literature on best practice for assessing delirium in the ICU setting, our recommendations for Hershey Medical Center are the following:

-Revise Policy PC-80HAM to require an assessment using the CAM-ICU be done on every ICU patient every shift
-Design a task force to identify barriers to the implementation of the above policy as well as ways to overcome those barriers
-Address physician buy-in

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