Increasing Nurse Knowledge on the Confusion Assessment Method to Detect Delirium in Adult Critically Ill Patients

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Introduction

Background and Significance
- Intensive care unit (ICU) delirium is a common problem among critically ill patients that presents as an altered level of consciousness with accompanied inattention that lasts hours to days. The Confusion Assessment Method for the Intensive Care Unit (CAM-ICU) is a validated tool that is used to detect ICU delirium. It can be performed in less than five minutes. It is highly accurate in detecting delirium. When performed incorrectly, however, it decreases both sensitivity and specificity to <50%.
- Delirium is linked to increased morbidity and mortality, increased risk of physical and cognitive effects, and an increased healthcare cost. Early detection, and thus early treatment, is essential in decreasing poor outcomes.
- Despite these poor outcomes, delirium goes unidentified in 35-75% of patients. Lack of formal education on a designated screening tool shown to contribute to the problem.
- A needs assessment at the chosen study site revealed that nurses were not performing the CAM-ICU properly due to lack of formal education.

Purpose
- The purpose of this project is to increase nurses’ knowledge of delirium and their ability to detect it using the CAM-ICU assessment tool. This was obtained using the following aim and objectives:
  1) Increase the nurses’ knowledge of screening for delirium using the CAM-ICU and will be achieved using the following objectives:
    - Evaluating nurses’ knowledge of delirium and the CAM-ICU with a pre-test and post-objective assessment of the nurse using the CAM-ICU.
  2) Educate the nurses about delirium, the risks and the short- and long-term effects on the patient, caregivers, and hospital
  3) Evaluating nurses’ knowledge of post-intervention using an immediate post-test and post-intervention objective assessment of the nurse using the CAM-ICU
  4) Evaluating nurses’ satisfaction with the education with a survey

Methodology

Design: Quality improvement, pre-test/post-test
Setting: A suburban, Magnet designated, 643-bed, level 1 trauma center in northern New Jersey.
Sample: Convenience sample of the 95 nurses that work in the Surgical and Medical ICU.
- 21 nurses were recruited
- n = 18

Intervention:
- One-hour interactive virtual education session
- CAM-ICU Worksheet posted in every room and at the nurse’s station to aid in performing the assessment.
- Pre- and post-tests as well as Pre- and Post-Objective assessments were evaluated using the Wilcoxon Rank Sum Test. Results for both the tests and objective assessments were found to be statistically significant, p < 0.01.

Analysis
- Each of the measured outcomes will be analyzed using the Wilcoxon Rank Sum Test.
- Pre- and post-tests and attended one of the four educational sessions. Due to some limitations, 14 people were part of the pre-objective assessments, and 15 people were part of the post objective assessments. Those who did not complete the objective assessments were not included in the observational assessment graph shown.
- All 18 participants completed the pre- and post-tests.

Outcomes Measured:
- Knowledge of CAM-ICU pre- and post-education measured by a 15-question test.
- Ability to perform the CAM-ICU assessment correctly measured by a pre- and post-education objective assessment.

Results

- Pre- and Post-Tests as well as Pre- and Post-Objective assessments were evaluated using the Wilcoxon Rank Sum Test. Results for both the tests and objective assessments were found to be statistically significant, p < 0.01. Breakdown of the average test score and results of the objective assessments scores are shown.

Conclusion
The aim of this study was to increase nurse knowledge and ability to use the CAM-ICU assessment tool to detect delirium. This was done by evaluating baseline knowledge and ability to perform the CAM-ICU with a pre-test and post-objective assessment of each participant, and then evaluate the change in knowledge and ability to use the CAM-ICU after an educational session and implementation of a CAM-ICU checklist with a post-test and objective assessment. Both the scores on the test and the objective assessment significantly increased after the interventions were implemented.

Implications for Practice
- The CAM-ICU is a validated tool that is used for screening for delirium with high specificity and sensitivity. However, the full accuracy of the tool is reliant on the ability of the user. Assuring the person using the screening tool is educated about the tool and able to perform it well is important for delirium to be properly detected or ruled out. This project shows evidence supporting the effectiveness of an educational session and posted worksheet as a reminder as ways to ensure staff knowledge and performance using the tool will increase. By increasing early detection by increasing the nurses’ ability to perform the CAM-ICU, delirium intervention can begin earlier, and poor outcomes can be decreased or avoided.

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References