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Medical Floor CAM Implementation and Assessment of Risk Factors

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Background: Fifty percent of older hospitalized patients experience delirium. This translates into an estimated cost of \$164 billion per year worldwide. Early identification of patients at risk for developing delirium allows for implementation of specific interventions to mitigate the adverse effects of delirium. **Purpose:** The purpose of the quality improvement project was to initiate the use of the Confusion Assessment Method (CAM) screening tool and analyze potential risk factors for the development of delirium. **Methods:** First, 24 Medical floor nurses at a 302- bed community hospital participated in a 90-minute multifaceted educational intervention. Didactic delirium information was interspersed with video demonstrations, case scenarios, and administration of CAMs using standardized patients. Administration of a delirium knowledge pretest and posttest occurred at the beginning and end of the educational intervention. This information provided knowledge acquisition scores. Second, within one week of the educational intervention the nurses began administration of CAMs on the medical unit. Nursing staff administered 1057 CAMs to 208 consecutively admitted patients during the 3-month study period. Additionally all 208 patients were screened for five potential risk factors of delirium from the multifactorial model of delirium. **Outcomes:** Based on the educational intervention, overall mean scores improved significantly from pretest to posttest: 6.83(\pm 1.7) vs 10.33(\pm 1.09); $t(23) = -8.06$, $p = 0.000$. Nurses identified delirium and subsyndromal delirium in 25% of the 208 consecutively admitted patients to the medical unit. A year previously, only 1% of all patients admitted hospital-wide were identified as having delirium and no patients were identified with subsyndromal delirium. Consistent with the literature, patients who had a urinary catheter ($R = -0.175$; $p < 0.05$) and/or experienced an iatrogenic event ($R = -0.218$; $p < 0.002$) were more likely to develop delirium. Additionally, Benzodiazepine administration had a statistically significant correlation with the development of delirium ($\chi^2 = 8.55$, $p < 0.003$). **Conclusions:** The results of this quality improvement project suggest that delirium education combined with the use of the CAM is effective in identifying delirium accurately in medical floor patients. Future studies will analyze the integration of the CAM into the electronic medical record and quantify the impact of delirium on patients, hospital staff, and hospital expenditures.

Title:

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Keywords:

Delirium, Education and Gerontology and Health Promotion/Illness Prevention

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Abstract Summary:

Delirium affects patient outcomes, nursing care, and costs an estimated \$164 billion per year worldwide. Identification of delirium significantly increased after education and implementation of the Confusion Assessment Method screening tool. Delirium education combined with the use of the CAM is effective in identifying delirium accurately in medical floor patients.

Content Outline:

1. Introduction
 1. Impact of Delirium

1. Worldwide issue
 2. Significant cost and downstream complications
 2. Significance of the Research
 1. The key issues
 2. Little research on medical/surgical units
2. Review of the Literature
 1. Delirium detection via nursing assessment
 1. Lack of delirium knowledge
 2. Poorly detected especially in the non-ICU population
 2. Delirium screening tools
 1. Review of tools (mostly for ICU population)
 2. CAM highest specificity and sensitivity
 1. Improved detection by nurses with CAM education
 3. Risk assessment literature
 1. Significant number of risk factors
 2. Risk factors vary with population
3. The Project
 1. The purpose and questions
 1. Provide quality delirium education
 2. Implement CAM into routine assessment
 3. Identify risk factors in study population
 2. Methodology/Design
 1. Quality Improvement Project
 3. Participants and Sample Size
 1. 24 RNs attended 90 minute multifaceted education intervention
 2. 208 patients consecutively admitted
 4. Data Collection/Instruments
 1. Confusion Assessment Method screening tool
 2. Delirium risk factor checklist
4. Findings and Recommendations
 1. Nursing Staff
 1. Completed delirium knowledge pre- and post test
 1. Overall mean scores improved significantly
 2. Administered 1057 CAMs
 1. Identified delirium in 25% of patients admitted during study period
 2. Previously only 1% of hospitalized patients were identified
 2. Patients (CAM Administration)
 1. Demographic data
 2. Statistically significant correlation between having a catheter and delirium status
 3. Statistically significant correlation between having an iatrogenic event and delirium status
 4. Statistically significant correlation between benzodiazepine use and delirium status
 3. Recommendations
 1. Provide nursing education
 2. Determine population specific risk factors
5. Conclusion
 1. Importance of education
 2. Nurses can successfully administer the CAM
 3. Nurses can identify delirium
 4. Risk factors are population dependent

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Author Summary: Michaelynn Paul is an associate professor of Nursing at Walla Walla University, where she has worked since 2000. Incidentally, she also graduated with her Bachelor's Degree from the same University in 1987. She completed her DNP project/dissertation in November of 2017 from Walden University. Her focus was on providing delirium education which allowed nurses to identify patients with delirium. Bedside nurses with a passion for improving patient outcomes were the motivation for this project.