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ORIGINAL ARTICLE

Early recognition of delirium in trauma patients

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Summary
Objective: Evaluate change in practice and beliefs regarding delirium among nurses, pharmacists, respiratory therapists and physicians in a trauma intensive care unit.
Methodology/design/setting: Descriptive pre and post-design at a Level One Trauma Center. Education on causes of delirium, risk factors, strategies to prevent delirium and routine screening.
Outcome measures: Change in practice and beliefs regarding delirium.
Results: McNemars test measured the differences between pre- and post-questionnaires comparing the proportion of staff changed their responses in one direction to those who went in the opposite direction. Changes in ''Delirium is largely preventable'', were statistically significant ($p = 0.035$). Haldol was the medication of choice for treating delirium, with an increase in use ($p = 0.062$) post-intervention. The majority of participants believed a high percentage of patients experience delirium in a trauma intensive care. The two most frequent medical complications associated with delirium pre-questionnaire was over sedation 8 (22%) and falls 9 (24%) and in post-questionnaire, over sedation 12 (26%) and falls 13 (28%).
Conclusions: An educational intervention emphasising the importance of screening for delirium, risk factors for delirium and approaches to decrease the incidence of delirium can improve identifying and correctly treating delirium in a critical care setting. An educational program had concrete results in respondents' knowledge about delirium.

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Implications for Clinical Practice

- Delirium often goes unnoticed due to its varying course, dementia related presentation, lack of formal cognitive assessment, and failure to consider this diagnosis important.
- There is a need to educate health care teams on delirium screening, risk factors for delirium and approaches to decrease the incidence of delirium.
- Assessing a health care team's beliefs and knowledge about delirium at baseline can provide concrete results in the respondent's knowledge about delirium.

Introduction

Delirium is a neurobehavioral syndrome characterised by alteration in consciousness, attention, cognition, and perception (Kalaria and Mukaetova-Ladinska, 2012; Mattar et al., 2013). The highest rate of delirium occurs in hospitalised adults (Inouye et al., 2014; Nouwen et al., 2012; Witlox et al., 2010). Delirium often goes unnoticed by physicians and nurses due to its varying course, dementia related presentation, lack of formal cognitive assessment, and failure to consider this diagnosis important (Inouye et al., 2014). Identification of risk factors and assessing for delirium are strategies for early detection and prevention of delirium (Sendelbach and Guthrie, 2009). As primary care givers in an ICU setting it is imperative that nurses be educated on risk factors and signs of delirium among patients for delirium prevention. In the United States alone, the population of adults aged 65 years and older is projected to grow to 55 million in 2020, and 72.1 million by 2030 (Administration on Aging, 2008). The ''oldest old'' age group is projected to increase from 8.7 million in 2030 to 19 million in 2050, with adults aged 85 and older accounting for 4.3% of the U.S. population, compared to 2.3% in 2030 (Administration on Aging, 2008). Delirium prevention has recently been emphasised in national safety reports and as a health care quality indicator (Field and Wall, 2013; Inouye et al., 2014) and is clearly of significant importance when addressing the care of older adults.

Literature review

The incidence of delirium in critically ill surgical or medical patients can be influenced by the patient's severity of illness and lack of a screening process for delirium (Skrobik, 2011). With delirium presenting as a multi-factorial disorder with varied clinical manifestations that differ based on patient population and hospital setting, early detection of delirium may not occur (Fong et al., 2009; Inouye et al., 2014). Without early detection, symptoms of delirium are not identified and treated, leading to further decline, resulting in persistent functional and cognitive loss (Fong et al., 2009). Ramaswamy et al. (2010) assessed knowledge and confidence of 58 registered nurses about delirium identification in a 32-bed acute care of elders (ACE) unit in a community hospital. They found a significant knowledge deficit in preventing, identifying, or managing delirium. An educational intervention was provided, including delirium prevention, recognition and management of delirium. Post-education surveys revealed a significant improvement in the identification of delirium ($p < 0.001$) (Ramaswamy et al., 2010). Devlin et al. (2008) conducted a survey of 601 ICU staff nurses employed in 16 intensive care units at five acute care hospitals to identify current practices and perceptions regarding sedation protocols that included a delirium assessment. Assessing for delirium was less common than assessing for sedation (47% vs 98%, $p < 0.001$). Assessing for delirium was more common among nurses who were employed in medical intensive care units (55% vs 40%, $p = 0.03$). The confusion assessment method was only used 36% of the time to assess for delirium. Nurses who failed to assess routinely for delirium were more likely to show gaps in knowledge about delirium, that delirium was under diagnosed, that hypoactive delirium was more prevalent in ICU settings, and that non-pharmacological modalities should be considered before antipsychotic therapy. Three major barriers identified by nurses in assessing for delirium included difficulty in evaluating delirium in patients who were intubated, inability to complete a delirium assessment in sedated patients, and use of delirium assessment tools that were too complex (Devlin et al., 2008). Patel et al. (2009) conducted a survey among 1384 intensive care unit healthcare providers, nurses, respiratory therapists, pharmacists, physicians and nurse practitioners in 41 acute care hospitals to assess behaviours and attitudes regarding delirium. A large percentage of respondents (86%) agreed with the statement that delirium was an underdiagnosed syndrome in ICU patients, delirium in the ICU prolonged hospital stay (96%), and 59% reported using a screening tool for delirium identification (Patel et al., 2009). Glynn and Corry (2015) conducted a descriptive quantitative survey design with registered nurses who were employed in an ICU setting. Their purpose was to explore ICU nurses' opinions about delirium in an ICU setting and evaluate current practices of delirium monitoring. They found that nurses understood that delirium was underdiagnosed in the ICU setting. The majority of nurses were not aware of a tool that could be used to assess for delirium. Barriers reported by the nurses in this study were similar to other international studies. They reported the reason why delirium monitoring was not occurring was due to lack of knowledge by the registered nurses on the importance of delirium assessments and how to conduct a delirium assessment (Glynn and Corry, 2015).

A screening assessment tool for delirium can be accomplished through the use of the confusion assessment method for the intensive care unit (CAM-ICU). The CAM-ICU is an adaptation of the CAM for use in ICU patients (Ely et al., 2001). The CAM defines delirium in terms of four diagnostic features; (1) acute change or fluctuating course of mental status during the past 24 hours, (2) inattention, (3) altered level of consciousness (current Richmond Agitation and Sedation Scale (RASS) level), and (4) disorganised