An Evidence-Based Systematic Review of Efficacious Interventions for the Management of Delirium in Adult Acute Care Patients

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Background

Delirium is the most common, often serious, and potentially preventable neuropsychiatric complication seen in patients with cancer (Breitbart & Alci, 2012). It is an illness caused by a significant physiologic disturbance, usually involving multiple medical etiologies among patients with cancer, including infections, organ failure, and adverse effects of medications (Breitbart & Alci, 2012). It is associated with increased risk for complications, morbidity and mortality, increased duration of hospitalization, and higher healthcare costs, especially in older adults with advanced cancer (Kang, Shin & Bruea, 2012; Inouye, 2006). Delirium impairs communication for patients and causes significant distress in patients, family members, and professional caregivers (Breitbart & Alci, 2012). Delirium impacts the safety and quality of care provided by the healthcare team; as nurses and physicians may be too poor at appropriately and accurately assess physical symptoms such as pain and fatigue (Kang et al., 2012).

Effective, timely management of delirium using targeted, evidence-based interventions will improve care outcomes and reduce costs, especially for older patients with multiple medical comorbidities.

Methods

Utilizing the Johns Hopkins Nursing Evidence-Based Practice (EBP) model (Draper & Dang, 2011), a guiding practice question was developed: “What are the most efficacious nursing interventions for management of delirium in the adult acute care setting with the current delirium protocol and practice on an adult oncology unit at the Johns Hopkins Hospital (JHH)? This is the only unit at JHH to develop a systematic protocol for delirium screening and management, emphasizing the importance of targeting delirium in the care provided for their patient population (Johns Hopkins Hospital, 2012). When the initial protocol was developed in 2005, delirium prevention and screening were robustly represented in the scientific literature, while delirium management had a weaker evidence base. Since implementation of the protocol, the selected delirium screening methodologies have proven effective in practice, yet uncertainty remains related to the protocol’s recommendations for delirium management.

Effective, timely management of delirium using targeted, evidence-based interventions may reduce morbidity, length of hospital stay, and healthcare costs (Inouye, 2006). Improved delirium management will benefit the patient, family, and resources of the healthcare team, promote higher quality care and lead to better patient outcomes. We initiated this EBP project so that the unit protocol will stay current with the latest evidence and so that unit practice will ensure patient safety and the highest quality of care.

An extensive, multi-faceted literature search was conducted: Search of PubMed, CINAHL, Medline and the Cochrane Library for delirium, delirium therapy (MESH term), acute care, intervention, therapy, and therapeutics. The search was limited to human subjects and excluded letters and editors. While emphasizing research published in the past 5 years, we searched articles published from 2005—2013. Manual search of references lists plus internet search using Google Scholar to find additional relevant articles.

Tides and abstracts were screened and two reviewers independently assessed the methodological quality of each article. Data was extracted to summarize the study population, results, limitations and the level and quality of evidence of each study. Individual evidence summaries were synthesized and analyzed for patterns.

Analyses were compared against delirium interventions currently listed in the unit’s delirium protocol to determine similarities and discrepancies. Recommendations for changes to unit delirium protocol were made based on the evidence.

Utilizing the Quality Improvement (QI) framework, new interventions were added to the unit delirium protocol. Tests of change were made based on the evidence.

New nurse orientation related to EBP delirium interventions were updated. The protocol were made based on evidence.

Results

Results of Literature Search, by Article Type & Level of Evidence

Several non-pharmacological interventions appeared frequently in literature but were not included in the Delirium Management Protocol. These included:

- Cognitive stimulation and rehabilitation
- Validation of patient experiences while performing routine activities
- Minimal use of immobilizing equipment (e.g., restraints, bladder catheters)
- Early mobility
- Distraction and relaxation strategies (e.g., music, hand massage)
- Staff training specifically focusing on management of delirium
- Monthly guidance/mentorship for nursing staff re: delirium management

Overall, there is a lack of evidence-based research that tests the pharmacological and non-pharmacological management of delirium. No randomized controlled trials for delirium treatment have been conducted in the advanced cancer patient population. The wide variety of patient populations (elderly, oncology, anesthesiology, hip surgery) and study settings (acute care, critical care, medical inpatient, post-acute and residential settings) in the literature makes generalizations regarding the efficacy of delirium management interventions quite difficult. Further research is essential.

Evidence remains weak to support routine use of antipsychotic therapy for prevention of delirium in patients with cancer. The evidence is most clearly supportive of short-term, low dose use of antipsychotics (typical or atypical) for controlling symptoms of delirium, with close monitoring of possible adverse effects, esp. in older patients with multiple medical comorbidities. Evidence is also weak regarding the efficacy of delirium prevention interventions for the management of delirium itself.

There is little evidence from experimental studies on the effectiveness of non-pharmacological interventions on the management of delirium. However, non-pharmacological interventions described here appear to be safe and easily integrated into routine care. They should be important components of comprehensive delirium management strategies.

Conclusions

Future Directions

- Design and implement plan for integrating new interventions into current practice. Tailor recommendations to the unit culture.
- Design and conduct educational trainings for nursing staff.
- Design and implement a compliance audit with the new interventions.
- Data collection and analysis of compliance audit.
- Utilize Quality Improvement (QI) framework and implement tests of change cycles to determine most effective new interventions.
- Update new nurse orientation related to EBP delirium interventions.
- Make recommendations to Johns Hopkins Hospital for changes to electronic documentation of delirium in acute care settings.
- Disseminate EBP delirium interventions to other hospital units.

References


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