Management of Delirium in Adult Acute Care Patients: Evidence-Based Systematic Review of Efficacious Interventions

AUTHORS:

KATHRYN CONN, JOHNS HOPKINS UNIVERSITY SCHOOL OF NURSING, BALTIMORE, MD
MIKAELA OLSEN, THE SIDNEY KIMMEL CANCER CENTER, JOHNS HOPKINS HOSPITAL, BALTIMORE MD
GINA SZYMANSKI, THE SIDNEY KIMMEL CANCER CENTER, JOHNS HOPKINS HOSPITAL, BALTIMORE MD
LEE GILLMAN, JOHNS HOPKINS UNIVERSITY SCHOOL OF NURSING, BALTIMORE, MD

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Background: Delirium, as described in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV), is a potentially preventable neuropsychiatric complication that is characterized by disturbance in attention and consciousness that develops in a short period of time (Lundstrom et al., 2005). Delirium is caused by significant physiologic disturbances with multiple etiologies and is associated with increased health care costs, duration of hospitalization, morbidity and mortality (Breitbart & Alici, 2012). Delirium impairs communication and causes significant distress for patients and caregivers. Nursing interventions targeting behavioral, safety, and environmental components of care are essential to the quality of nursing care received by patients with delirium and improving patient outcomes (Breitbart & Alici, 2012).

In 2005, The Sidney Kimmel Comprehensive Cancer Center, at the Johns Hopkins Hospital, wrote an evidence-based "Oncology Delirium Screening and Management Protocol" to assist in the identification and management of patients with delirium. Currently, there is a need to review evidence related to the efficacy of interventions and determine if new management interventions have been established.

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Objective: Revise the oncology delirium protocol to reflect the most recent evidence for efficacious interventions for delirium management.

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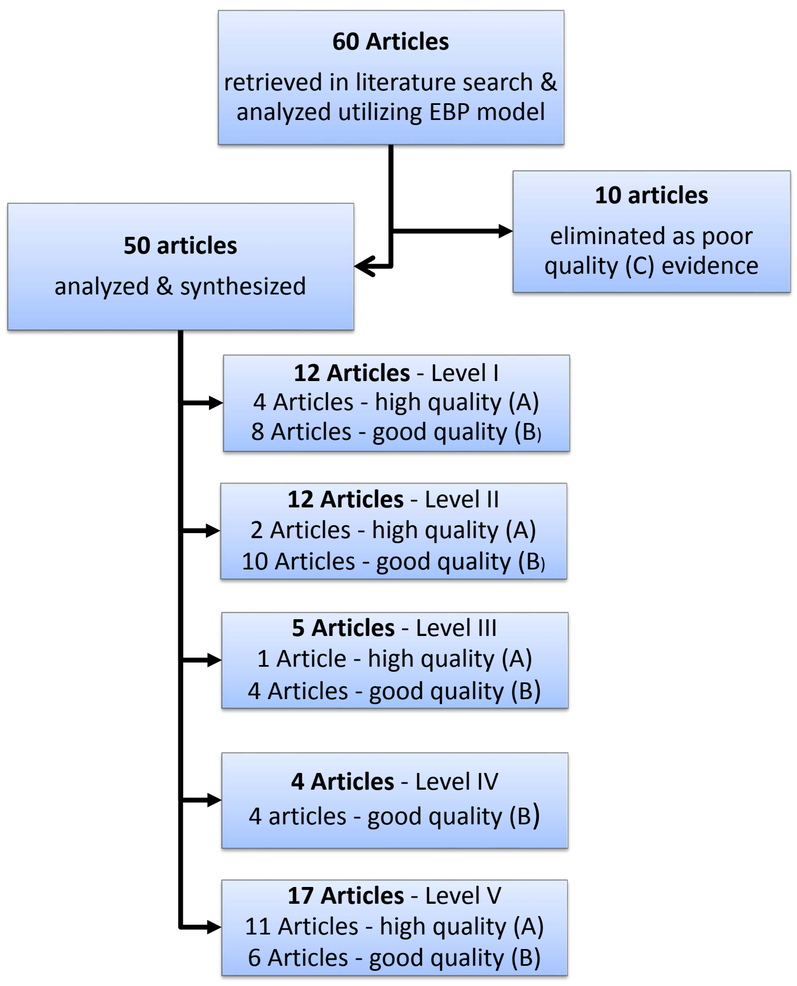
Methods: Applying the Johns Hopkins Nursing Evidence-Based Practice (EBP) model; the guiding practice question is: "What are the most efficacious interventions for management of delirium in adult acute care patients?"

A search of PubMed, CINAHL, Medline and the Cochrane Library using the following keywords: *delirium, delirium/therapy* (Mesh term), *acute care, intervention, therapy, and therapeutics* was completed. Literature was limited to articles published from 2005-2014, English language, and human subjects. Letters and editorials were excluded. A Google Scholar website was utilized with keyword searches related to the topic of study. Finally, key references from included articles were examined. A subsequent literature search was conducted in January 2014.

Titles and abstracts were screened independently by two reviewers. The quality and level of evidence were assessed using the EBP Nursing Model criteria and findings systematically synthesized. Recommendations for changes and support for delirium interventions currently listed in the protocol were made based on the evidence.

Figure 1. Flow chart of research acquisition, level, and quality synthesis



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Results: A search of the literature initially yielded 60 articles ranging from Level I – V with overall good quality (B) evidence. 10 articles were determined to be poor quality (C) evidence and were not included in synthesis of findings. Findings from a total of 50 articles were synthesized and analyzed (Figure 1). Components of the current delirium management protocol and additional interventions were supported by the literature (Table 1). Eight out of 23 total experimental studies include evidence on the effectiveness of non-pharmacological interventions.

Table 1. Non-pharmacological delirium interventions supported in the literature

Components of current delirium protocol	• Re-evaluate causes of delirium • Make appropriate modifications to the treatment plan and discuss and modify treatment plan based on patient's status • Eliminate possible causes of delirium e.g. pharmacologic and metabolic • Reorient the patient to person, place, and time • Reduce or eliminate all unnecessary noise and distractions • Utilize patient corrective devices: glasses and hearing aids • Utilize calendar, clock, and identifier for time, date, patient name and location of hospital (dry erase board)
Additional interventions recommended for revision	• Promote sleep hygiene and maintain sleep-wake cycle • Promote early ambulation and mobilization • Educate the patient and family on patient's delirium status and encourage family involvement in early identification • Nutritional support • Adequate pain management

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Conclusions: Evidence-based research that examines pharmacological and non-pharmacological management of delirium is lacking. Randomized controlled trials for delirium interventions have not been conducted in cancer populations. There is little evidence regarding the effectiveness of non-pharmacological treatment in this patient population. However, non-pharmacological interventions described appeared to be safe, easily integrated into routine care, and should be components of delirium management strategies.

Figure 2. Bedside nurse performing a mini mental status examination

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Future Directives:

- Present EBP findings to interprofessional team and secure recommendations of protocol revision
- Revise the current protocol to highlight the need for patient-and-family-centered care and comprehensive discharge planning
- Introduce delirium intervention bundle to unit staff
- Complete interprofessional education and training

Further research is necessary regarding efficacy of non-pharmacological delirium interventions for adult acute care patients.

References:

Breitbart, W., & Alici, Y. (2012). Evidence-based treatment of delirium in patients with cancer. *Journal of Clinical Oncology, 30*(11), 1206-1214.

Lundstrom, M., Edlund, A., Karlsson, S., Brannstrom, B., Bucht, G., & Gastafson, Y. (2005). A multifactorial intervention program reduces the duration of delirium, length of hospitalization, and mortality in delirious patients. *Journal of the American Geriatrics Society, 53*(4), 622-628.

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