Effect of a Multicomponent Non-Pharmacological Strategy for Delirium Prevention in Hospitalized Older Adults

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Introduction

Delirium

- Acute change in mental status
- Multifactorial etiology
  - Interaction between predisposing and precipitating risk factors
- Common and preventable iatrogenic complication

Multicomponent Non-Pharmacological Strategy

- Supported by the American Geriatrics Society (AGS) for delirium prevention (2015)
- Strategies include:
  - ❑ Screening for delirium
  - ❑ Ensuring sensory aids are available
  - ❑ Frequent reorientation
  - ❑ Encouraging family involvement in care
  - ❑ Providing cognitive stimulation
  - ❑ Providing diversionary materials
  - ❑ Normalize sleep and wake cycles
  - ❑ Avoiding restraints and tethers
  - ❑ Promoting safe and early mobility

Background and Significance

Older Adults

- Overall population worldwide is aging
- Older age is a risk factor for delirium
- About 40% of all hospital admissions nationwide are older adults (Mattison, 2019; Tullman et al., 2016)
- Between 11% to 42% of hospitalized older adults will develop delirium (Mattison, 2019; Tullman et al., 2016)
- Most common complication in hospitalized older adults is delirium

Adverse Outcomes of Delirium

- Increased length of stay
- Irreversible functional and cognitive decline
- Increased mortality
- Increased need for nursing home or long-term care
- Distressing for patients and families

Clinical Question

Does the implementation of a multicomponent non-pharmacological strategy in an orthopedic unit reduce delirium incidence in hospitalized older adults compared to usual care?

Aims

To reduce delirium incidence in older adult patients, age 65 years to 100, admitted in an orthopedic unit in a 300-bed urban hospital in Hudson County. The primary endpoint is a reduction in delirium incidence in this unit.

Methods

Project Design

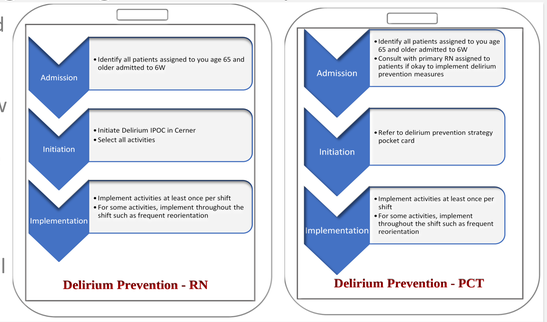
- Quality improvement project
- Retrospective and prospective chart review

Setting	Study Population	Sample
• 300-bed acute care urban hospital in Northern New Jersey • 35-bed orthopedic unit	• Total of 34 nurses and 19 patient care technicians (PCTs) in the orthopedic unit • Charts of older adult patients	• Convenience sample of 7 nurses and 1 PCT • Recruitment through e-mails, flyers, and verbal interaction

Intervention

- One-hour educational module about delirium
- Delirium module from Nurses Improving Care for Healthsystem Elders (NICHE) program
- Implementation of a multicomponent non-pharmacological strategy through change in workflow process

ID badge pocket card given to nurse and PCT study participants to follow the workflow process. The reverse side of each pocket card outlines the multicomponent non-pharmacological strategies



Data Collection

- 10-question pre- and post-test, and one-week follow up test scores
- Electronic chart review pre- and post-intervention
  - Screening for timeliness of delirium IPOC initiation
  - Specific delirium ICD-10 codes

Data Analysis

- Delirium incidence rate pre and post intervention
- RN participant test scores pre test, post-test, and follow-up test scores
- Descriptive statics for sample population characteristics

Evaluation

- Survey monkey
  - Participant demographics
  - Likert-scale and open-ended questions

Results

RN Participant Pre and Post-test Scores

RN Participant	Pre-test	Post-test	Follow-up Test
RN 1	40	90	100
RN 2	80	100	100
RN 3	90	90	95
RN 4	70	90	79
Mean	**70**	**92.5**	**93.5**

Delirium incidence rates

	Delirium		Incidence
	Yes	No	Rate
Pre-intervention	18	123	**14.63%**
Post intervention	10	168	**5.95%**

Common Themes from Participant Evaluation

- More participants could have improved the study results
- The shift from delirium treatment focus to delirium prevention with non-pharmacological interventions
- Insufficient time to assess patient's needs due to workload assignment

Discussion

Key Findings

- Reduction in delirium incidence rates after intervention
- Increase mean score in delirium knowledge from pre-test to immediate post-test and sustained knowledge improvement in second post-test

Implications

Clinical Practice

- Support the need for delirium prevention in older adults

Policy

- Change policy to include delirium prevention measures

Quality and Safety

- Delirium incidence rates are suggested to become a quality-of-care measure at the project site

Education

- Support the need for delirium education for nursing staff

Economics

- Delirium prevention strategies to reduce the economic burden of delirium

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References