

# Nurses' knowledge about delirium and related risk factors in older hospitalized orthopedic patients



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# Acknowledgements



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# Incidence of Delirium in Hospitalized Older Adults

## HOSPITAL SETTING

- $\geq 50\%$  in patients age 65 and older
- **70% of cases go undiagnosed**

## ORTHOPEDIC PATIENTS

- Elective orthopedic surgery: 13-41%
- Non-elective orthopedic surgery: 26-61%
- For hip-surgery patients alone: 43-61%

# Consequences of Delirium

- Increased mortality
- Increased use of restraints
- Increased post-operative complications
- Longer hospital stays
- Functional decline
- Long-term cognitive decline
- Higher rates of nursing home placement following hospitalization
- Increased healthcare costs

# Study Aims



1. Describe orthopedic nurses' baseline knowledge about delirium and delirium risk in orthopedic patients, particularly those over the age of 65
2. Test the effectiveness of an educational intervention based on nationally recommended nursing competencies for delirium education
3. Describe factors associated with differences in:
  - a) Nurses' baseline knowledge about delirium and associated risk factors
  - b) The effectiveness of the educational intervention

# Methods



- Developed an educational intervention and test questions based on national educational recommendations and competencies
- Pretest-posttest design
- Conducted pilot of the intervention with nursing panels
  - Test questions reviewed by two experts in geriatric nursing
  - Intervention piloted with three members: BSN student, RN, Geriatric NP

# Methods



- Obtained approval to conduct study from UW IRB and research department at the participating hospital
- Presented educational intervention 6x over two days at participating hospital

# Sample



- Registered Nurses working on Orthopedic Unit in NICHE Hospital in the Northwest
- 23 out of a possible 40 eligible nurses participated
- **Years of experience:** ≤1 year to 50+ years
- **Education:**
  - 52% Bachelor's prepared
  - 33% ADN prepared
  - 14% Diploma prepared

# Results



- **Pretest Scores:** range of 3-7 (Max 10), mean score of 5.48
- **Post-test Scores:** change in score of 2-7 points, mean change score of 3.4 points, mean score of 8.87
  - 0-2 years of experience had highest mean change score= 5
- **Types of questions most frequently missed:**
  - Medications contributing to delirium
  - Delirium risk factors, predisposing vs. precipitating

# Results



- Each participant's score moved in a positive direction
- Significant difference in score from pretest to post-test
  - Paired t-test [ $t(22) = 11.57$ ,  $p < .0005$ ]

# Conclusions & Implications



- Educational intervention was effective for all RNs
  - **IMPLICATIONS:** useful and valid intervention, use in other hospitals
- RNs with <2 years of experience had the most improvement in test score
  - **IMPLICATIONS:** RNs who could most benefit from the educational intervention, need for curriculum changes
- Baseline knowledge deficits identified: recognition of delirium, medications, and types of risk factors
  - **IMPLICATION:** Targeted education of staff on orthopedic units.