

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



MICHELLE MEAKO, MED., RN
ADULT/OLDER ADULT NP STUDENT
SCHOOL OF NURSING
UNIVERSITY OF WASHINGTON



Acknowledgements



- **Mentor:** Hilaire Thompson, PhD, RN, CNRN, FAAN
- **Committee Member:** Barbara Cochran, PhD, RN, FAAN
- Rheba de Tornyay and the de Tornyay Center for Healthy Aging
- Phyllis Christianson, MN, ARNP
- Sarah Kagan, PhD, FAAN, RN
- Sheryl Ward
- Irene Peters

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.