

St. Catherine University

**SOPHIA**

---

Doctor of Nursing Practice Projects

Nursing

---

5-2020

## Effectiveness of a Delirium Prevention Initiative on an Inpatient Neuroscience Unit

Teresa Cyrus

*St. Catherine University*

Brenda Hall

*St. Catherine University*

Rebecca Wenthold

*St. Catherine University*

Follow this and additional works at: [https://sophia.stkate.edu/dnp\\_projects](https://sophia.stkate.edu/dnp_projects)

---

### Recommended Citation

Cyrus, Teresa; Hall, Brenda; and Wenthold, Rebecca. (2020). Effectiveness of a Delirium Prevention Initiative on an Inpatient Neuroscience Unit. Retrieved from Sophia, the St. Catherine University repository website: [https://sophia.stkate.edu/dnp\\_projects/118](https://sophia.stkate.edu/dnp_projects/118)

This Doctor of Nursing Practice Project is brought to you for free and open access by the Nursing at SOPHIA. It has been accepted for inclusion in Doctor of Nursing Practice Projects by an authorized administrator of SOPHIA. For more information, please contact [sagray@stkate.edu](mailto:sagray@stkate.edu).

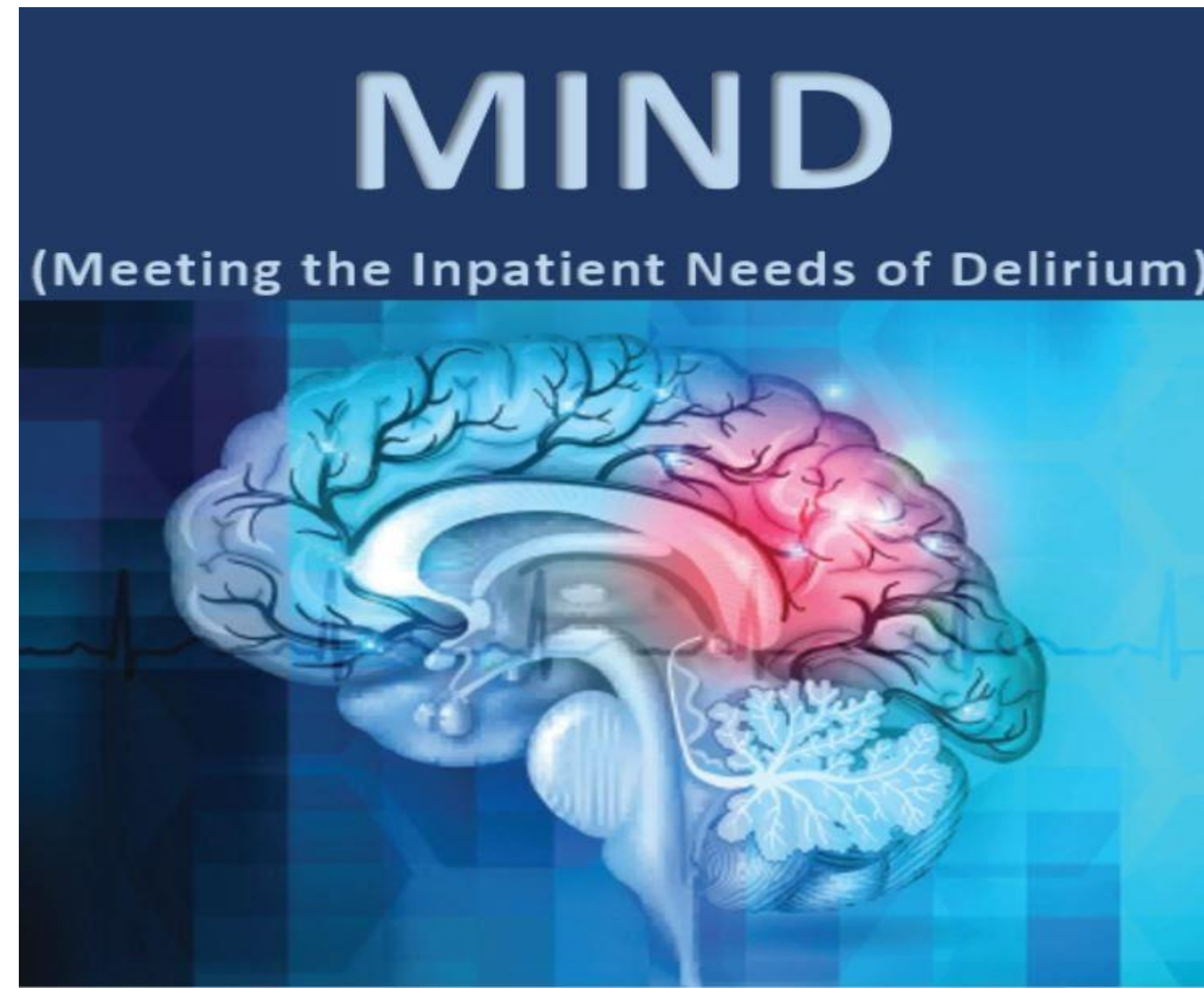


## Introduction

- Neuroscience patients are at an increased risk for developing delirium and there is a paucity of evidence supporting the effectiveness of prevention strategies within this patient population.
- An estimated 30-40% of cases of delirium are preventable (Fong et al., 2009) with strong evidence to support multicomponent non-pharmacological interventions (Abraha et al., 2015).
- Multicomponent, non-pharmacological interventions may include frequent orientation, early mobilization, minimizing psychoactive medications, promoting sleep-wake cycles, providing sensory adaptive equipment (glasses and aids), and preventing dehydration (Kalish et al., 2014).
- Other effective strategies to prevent delirium include the use of trained volunteers to implement multicomponent interventions for at risk patients (Yue et al., 2014), and health care staff education (Fong et al., 2009; Abraha et al., 2015).

## Objectives

- Increase nurses' knowledge of delirium prevention and improve their confidence in identifying delirium
- Design a volunteer program to assist health care staff in preventing delirium
- Establish an ongoing monitoring approach for ensuring continued improvement in preventing delirium



## Sample and Setting

### Sample and Setting

- 46-bed neuroscience unit at a 631 staffed bed quaternary hospital located in upper Midwest
- 636 patients in sample (304 Control, 333 Intervention)
- The sample consisted of inpatient, outpatient, and observation status patients with a provider coded diagnosis of delirium who spent less than 24 hours in the ICU.



## Methods

### Assessing Knowledge and Confidence/Delirium Education

- Baseline knowledge and confidence was obtained by having nurses complete a survey.
- 18 Delirium education sessions were presented to nurses, topics included:
  - Definition of delirium
  - Predisposing and precipitating risk factors
  - Symptoms of hypoactive, hyperactive, and mixed delirium
  - Delirium prevention intervention strategies.
- Immediately following the education session, nurses completed an identical post-survey
- Patient and family education handouts updated

### Volunteer Program

- The MIND initiative was adapted from a nationally recognized program named Hospital Elder Life Program (HELP) and was supported through this hospital's volunteer office
- Local volunteers were recruited through volunteer services and trained in implementing delirium prevention strategies by staff nurses
- MIND volunteers regularly round on at risk patients every day of the week

## Results

- 80% of nurses attended delirium education
- Nursing Confidence Increased in Identifying Delirium on Post-Survey ( $p < 0.0005$ )
- Nursing knowledge increased after the education session, when compared to pretest ( $p < .0005$ )
- Nurses rated preventing delirium as important on pre-test and there was not a statistical difference on post-test ( $p = .317$ )
- Nurses believed delirium screening to be part of their role on pretest and there was not a statistical difference on post-test ( $p = .680$ )

Type of MIND Volunteer Intervention	No. of Times Implemented
Meaningful Conversation (focusing on current events, patient hobbies, family, and discussing current care)	50
Meal Time (assist in ordering meals, cut food, open container lids, offer conversation during meal)	14
Assist with reading or audio material (help change TV channels, turn on/watch news, offer books)	15
Ensure sensory devices working (hearing aids, clean glasses, amplifier, magnifying glass)	0
Appropriate environment (lights on during day, blinds open, room temperature to comfort, blinds shut and lights off at night)	5
Cognitive activities (puzzle, paint, coloring, word finds, crosswords, seek and find toys)	5
Games (card and board games)	1
Therapeutic/comfort items (twiddle muff, warm blanket, ice pack, stuffed animal, fidget toys)	6
Physical activity (walk with patient, push wheelchair, visit solarium)	2
<b>Total Interventions</b>	<b>99</b>

3 Individual knowledge questions demonstrated a statistical difference on post-test when compared to pre-test using the Related Samples McNemar Change Test		
Which are prevention strategies for delirium (select all that apply)?	<input type="checkbox"/> Orientation exercises <input type="checkbox"/> Early mobilization <input type="checkbox"/> Treatment with anticholinergic medications <input type="checkbox"/> Thorazine <input type="checkbox"/> Haldol <input type="checkbox"/> Benzodiazepines	$p = 0.013$
What are the core features of delirium (select all that apply)?	<input type="checkbox"/> Acute change in mental status that fluctuates throughout the day <input type="checkbox"/> Disorientation to the environment (person, place, and time) <input type="checkbox"/> Inappropriate behavior <input type="checkbox"/> Inappropriate communication <input type="checkbox"/> Only happens in patients with dementia <input type="checkbox"/> Most commonly present with delusions and/or hallucinations <input type="checkbox"/> Delayed responsiveness	$p = 0.021$
True/False: Gender has no effect on the development of delirium.	<input type="checkbox"/> True <input type="checkbox"/> False	$p < 0.0005$



## Conclusions/Nursing Implications

- Delirium education was successful in increasing the nurses' knowledge of and confidence in preventing and treating delirium.
- Training specific volunteers in delirium prevention strategies was found to be successful in implementing non-pharmacological interventions for at-risk patients in order to support nursing staff.
- Further research into delirium prevention and early recognition may be helpful to identify opportunities and challenges specific to the neuroscience population.
- Longer measurement periods with consistent volunteer visits are needed to determine the true effect of these interventions on delirium rates.

## An Interprofessional Evidence-Based Clinical Scholar Program Collaborative Project

**Contact**  
 Teresa Cyrus: tcyrus664@stkate.edu  
 Becky Wenthold: rebecca.wenthold@Allina.com  
 Brenda Hall: bkhall699@stkate.edu

## Selected References

- Abraha, I., Trotta, F., Rimland, J., Cruz-Jentoft, A., Lozano-Montoya, I., Soiza, R., . . . Cherubini, A. (2015). Efficacy of Non-Pharmacological Interventions to Prevent and Treat Delirium in Older Patients: A Systematic Overview. The SENATOR project ONTOP Series. PLoS One, 10(6), E0123090.
- Fong, T. G., Tulebaev, S. R., & Inouye, S. K. (2009). Delirium in elderly adults: diagnosis, prevention and treatment. Nature Reviews. Neurology, 5(4), 210-220.
- Kalish, V.B., Gillham JE., & Unwin BK. (2014). Delirium in older persons: evaluation and management. American Family Physician, 1;90(3):150-158.
- Yue, J., Tabloski, P., Dowal, S., Puella, M., Nandan, R., & Inouye, S. (2014). NICE to HELP: Operationalizing National Institute for Health and Clinical Excellence Guidelines to Improve Clinical Practice. Journal of the American Geriatrics Society, 62(4), 754-761.