Educating Nurses to Screen for Postoperative Delirium Utilizing the 4AT

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Background

- The population of **older adults aged 65+ is growing rapidly** and expected to represent a quarter of the population in the U.S. by 2060[1]
- More than 40% of all surgeries are performed on patients that are 65 and older[2]
- The **most common surgical complication** among older adults is postoperative delirium[3] and often results in **increased length of stay, functional decline and increased rates of death**[4]
- Estimated daily costs for patients with delirium are **2.5x higher** than patients without[4]
- In 2020, nearly **500 older adult patients** underwent surgical interventions at the project site
- Insight into delirium prevention in **non-ICU settings** is equally important

Project Aims

The purpose of this project is to educate nurses regarding postoperative delirium and assess the use of the validated screening tool, the 4AT, in postoperative patients

Aim 1: Nurse Knowledge
- Increase staff nurses' knowledge of delirium in postoperative patients through an education program measured by a pre- and post-assessment tool provided by the Nurses Improving Care for Healthsystem Elders (NICHE) Geriatric Resource Nurse (GRN) curriculum

Aim 2: Utilization of 4AT
- Evaluate the utilization of the 4AT Delirium Screening Tool among nurses as part of their patient assessment by EMR reports over 11 weeks

Methods

Design: Single sample, pre-post design
Setting: 24-bed medical-surgical unit of Mid-Atlantic community hospital
Sample: convenience sample of 30 licensed nursing staff permanently assigned to unit

Pre-Implementation	Implementation	Post-Implementation
• GRN Curriculum access obtained from NICHE • Educational In-services advertised • Baseline Delirium Knowledge Assessment Questionnaire	• Educational in-service • 30-minute Power Point presentation adapted from GRN Delirium Educational Module • Focus on delirium significance, risk factors, subtypes, assessment	• Delirium Knowledge Assessment Questionnaire post-test • Analysis of pre- and post-test scores • Measurement of 4AT screening tool utilization

Intervention

- Developed by NICHE, the **Geriatric Resource Nurse Curriculum** is a validated tool for improving nurses' knowledge of delirium and currently used in over 500 health systems[5,6]

- Use of a **screening tool** has been shown to increase early identification of patients at risk of developing postoperative delirium[7]

- Advantages of the **4AT** include ease of use, high sensitivity and specificity, and no required specialized training to use[8]

Figure 1: the 4AT Delirium Screening Tool

Demographics

Characteristic	n n=30	
Age, mean (SD)	41	(12.68)
Gender Identity, n (%)		
Male	8	(26.7)
Female	22	(73.3)
Non-binary	0	(0.0)
Primary Shift, n (%)		
Day	16	(53.3)
Night	11	(36.7)
Rotating	3	(10.0)
Years of RN Experience, n (%)		
Less than 1 year	1	(3.3)
1-5 years	12	(40.0)
6-10 years	6	(20.0)
10+ years	11	(36.7)
Years of RN Experience on Unit, n (%)		
Less than 1 year	4	(13.3)
1-5 years	18	(60.0)
6-10	2	(6.7)
10+ years	6	(20.0)
Highest Degree Earned, n (%)		
Associates	4	(13.3)
Bachelors	18	(60.0)
Masters	8	(26.7)
Doctorate	0	(0.0)

SD = standard deviation

Average age 41 years Majority female on day shift

Small majority had 1-5 years of overall nursing experience and majority had 1-5 years of unit experience

Majority held bachelor's degrees

Results

Figure 2: Delirium Knowledge Test Scores

Pre-Test Scores   Post-Test Scores
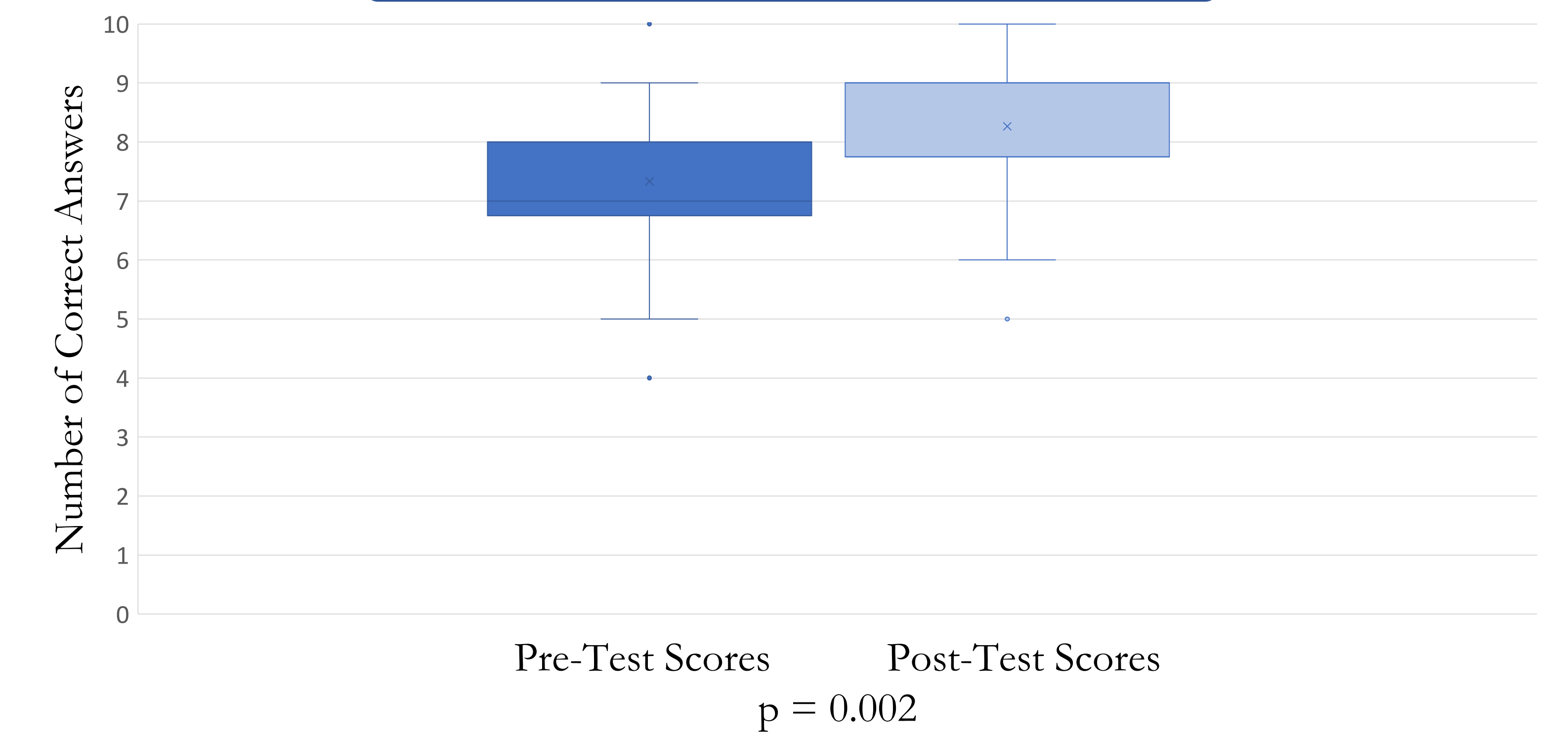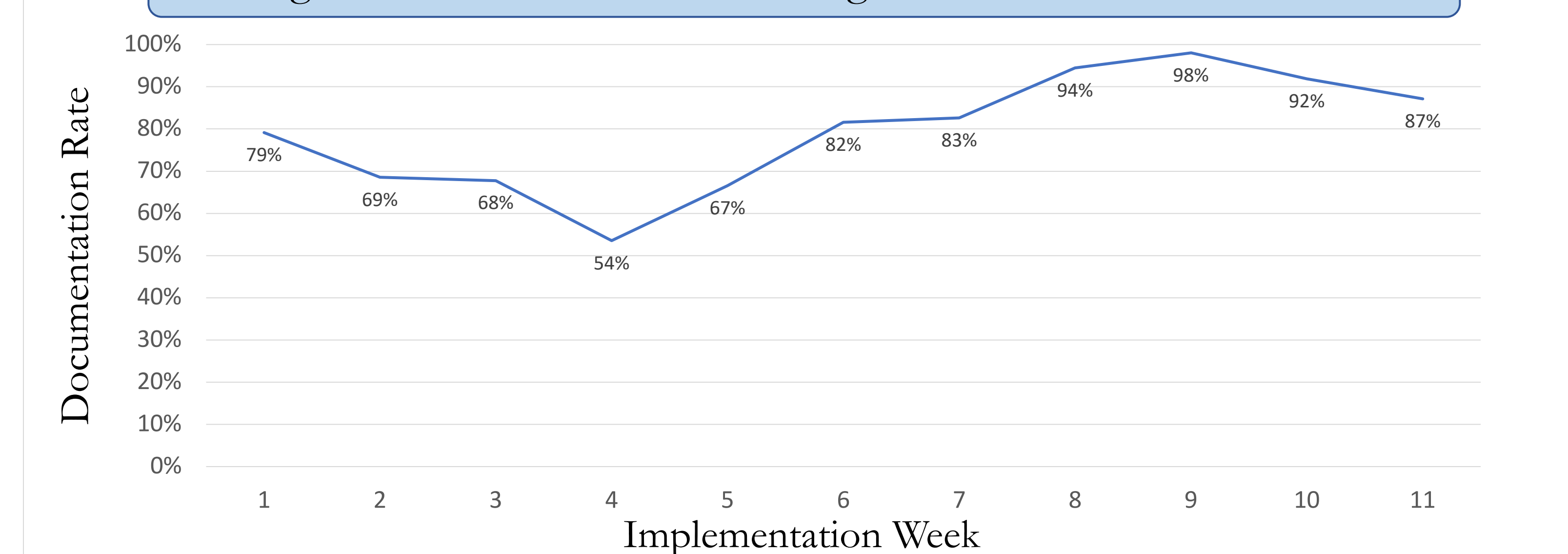p = 0.002

Figure 3: 4AT Delirium Screening Tool Documentation Rate

Conclusion

- Significant improvement in nurses' knowledge of delirium were found after the educational intervention
- Adds to body of evidence that in-person education supports nurses' understanding and comprehension
- Fluctuating staffing needs may have affected delirium screening tool utilization and documentation
- Measurement of screening tool utilization at future intervals and measurement of nurse confidence in patient assessments may provide further insight

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