

Improving Nurse Confidence Working in an Epilepsy Monitoring Unit (EMU)

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Introduction & Background

Introduction

- Early identification of seizure activity is key in managing EMU patients.
- Inconsistent nursing assignments lead to infrequent use of specialized skill sets.
- Access to on-going educational opportunities have shown to improve nurse confidence.

Background

- Epilepsy affects nearly fifty million individuals globally.¹
- More than 470,000 (13%) children are affected in the US.²
- An estimated 70% of patients with epilepsy could live without seizures with proper diagnosis and treatment.³
- Risk of premature death from a seizure is three times higher than the general population.³

Purpose

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To design and critique the effects of an evidence-based education program to determine if it results in improved nurse confidence performing neurological assessments and managing seizures in an epilepsy monitoring unit (EMU).

Aims

1. To determine whether nurse competency and confidence managing seizures and performing complete neurological assessments in the EMU improved from pre- to post-intervention following an evidence-based blended education program.
2. To determine if there was an increase in nursing satisfaction and self-confidence working in the EMU.

Methods

- **Design:** Pre- to post-intervention design of process improvement
- **Setting:** EMU on a medical/surgical pediatric unit at a large urban academic medical center
- **Intervention:** Blended education program presented over 12-weeks including EMU relevant resources and rapid-cycle deliberate practice (RCDP) scenario.
- **Measures:**
 - Aim 1: Nursing Assessment Rating Scale
 - Aim 2: Student Satisfaction and Self-Confidence in Learning survey
- **Sample:** Pediatric nurses (N = 42)

Results

Aim 1 Outcome:

- Median nursing assessment rating scale sum score increased from 15.5 pre-intervention to 18.0 post-intervention.
- Wilcoxon-Signed Rank Test ($z = -5.12, p < 0.001$).

Aim 2 Outcome:

- Median satisfaction sum score increased from 20 to 23; Wilcoxon-Signed Rank Test ($z = -4.7, p < 0.001$).
- Median self-confidence sum score increased from 34 to 38; Wilcoxon Signed Rank Test ($z = -5.2, p < 0.001$).

Table 1: Demographic characteristics	(N = 42)
Age, mean (SD)	31.9 (9.3)
Sex, n (%)	
Female	42 (100)
From Novice to Expert, n (%)	
Expert	7 (16.3)
Proficient	14 (32.6)
Competent	3 (7.0)
Advanced beginner	9 (20.9)
Novice	9 (20.9)
Years of Nursing Experience, mean (SD)	7.9 (9.0)
Nursing Role, n (%)	
Bedside Nurse	33 (78.6)
Clinical Nurse Specialist	4 (9.5)
Nurse Educator	4 (9.5)
Nurse Manager	1 (2.4)
PALS, n (%)	
Yes	15 (34.9)
No	27 (63.1)
Highest Nursing Degree, n (%)	
ASN	1 (2.3)
BSN	37 (88.2)
MSN	4 (9.5)
Certifications such as CPN, n (%)	
Yes	10 (23.8)
No	32 (76.2)
SD=standard deviation	

Table 1. Nurse Demographic Characteristics.

Results

“Learning Data Set: The data analyzed in this project were created for the purposes of learning and are not from actual project participants.”

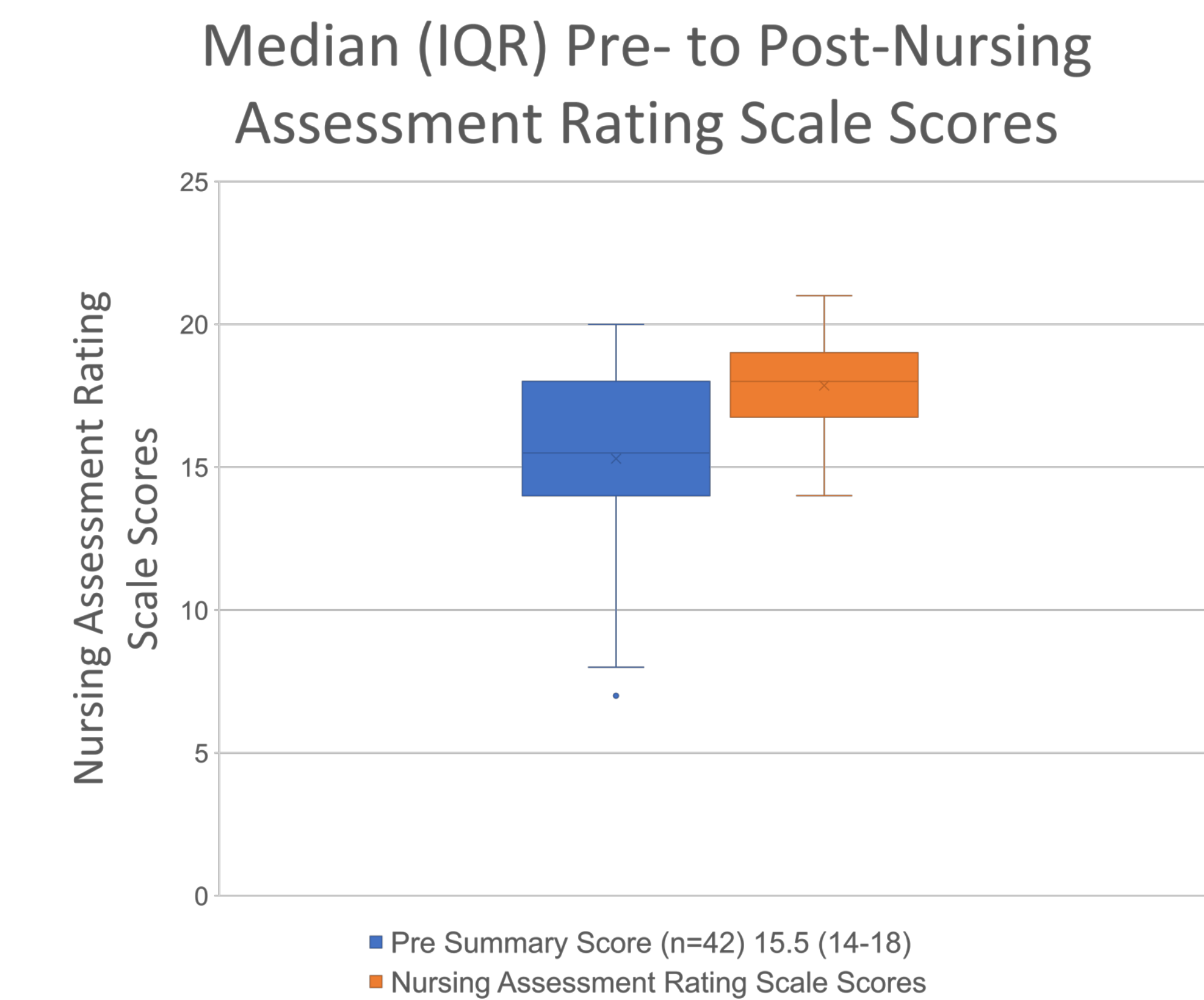


Figure 1. Aim 1: Pre- to Post-Scale Scores Comparison.

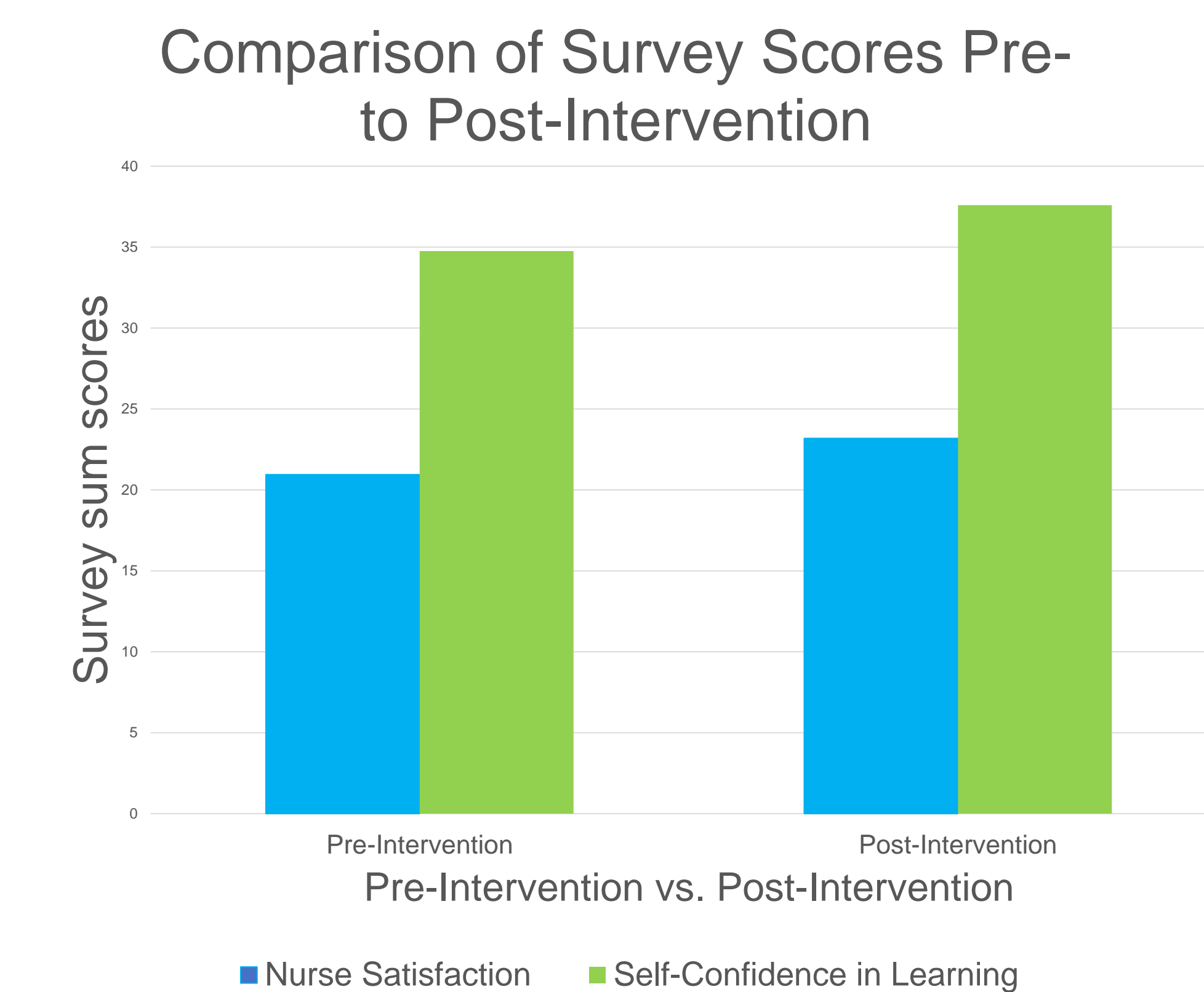


Figure 2. Aim 2: Pre-to Post-Survey Scores.

Conclusion & Dissemination

- A blended education program improved nurse confidence working in the EMU as evidenced by the higher summary scale score post-intervention by all 42 nurses.
- Provides an on-going educational framework for seizure management and neurological assessments in the EMU.
- Dissemination to unit-based competency committee for approval of integration into yearly unit competencies.
- Sustainable practice through Microsoft Teams classroom creation.

References:

1. Centers for Disease Control and Prevention (CDC). (2019). *Epilepsy data and statistics*. Retrieved from <https://www.cdc.gov/epilepsy/data/index.htm2.1>
2. National Association of Epilepsy Centers (NAEC). (2020). *Guidelines for centers*. Retrieved from <https://www.naec-epilepsy.org/wp-content/uploads/GuidelinesEpilepsia.pdf>
3. World Health Organization. (2019, June 20). *Epilepsy*. <https://www.who.int/news-room/factsheets/detail/epilepsy#:~:text=Global%2C%20an%20estimated%20five%20million,as%20139%20per%20100%20000>