

A Sleep Hygiene Bundle to Reduce Sleep Aid Medication Use in Hospitalized Patients

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PROBLEM STATEMENT

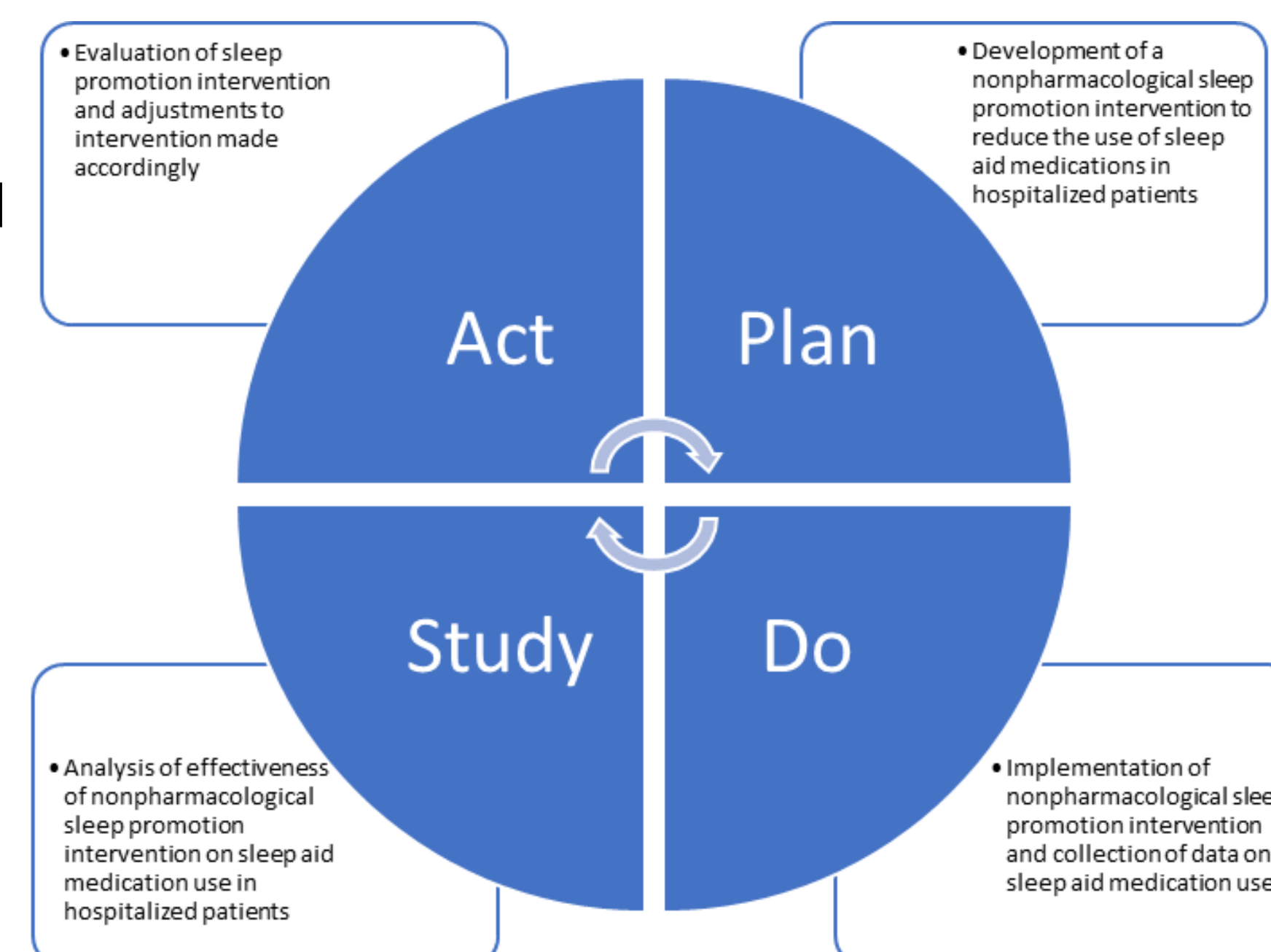
- Pharmacological interventions continue to be frequently used for the management of poor sleep quality in hospitalized patients despite a significant risk of preventable harm (Soong et al., 2019) and minimal improvement in sleep quality (Kanji et al., 2016).
- Sedative hypnotic-medications are classified as high-risk medications and are associated with an increased risk for falls, fractures, and delirium in hospitalized patients (Brandt & Leong, 2017).
- Nonpharmacological interventions for poor sleep quality in hospitalized patients lead to improved sleep quality during hospitalization as well as decreased inpatient use of sedative-hypnotic medications (Soong et al., 2019).

PROJECT PURPOSE

- Purpose: To identify barriers to quality sleep in adult patients on a medical/surgical unit and implement quality improvement interventions for sleep promotion and improved sleep quality.
- Aim: To reduce the use of sleep aid medications in hospitalized, adult patients.
- Clinical question: In hospitalized adult patients, will implementation of a sleep hygiene bundle lead to a reduction in overall use of sedative-hypnotic medication and/or a reduction in initiation of sedative-hypnotic medication use in patients who were not prescribed sedative-hypnotic medication prior to hospital admission over 12 weeks?

MODEL/NURSING THEORY

- Planning and execution of project based on The Model for Improvement and testing changes through Plan-Do-Study-Act (PDSA) cycles
- Underlying framework guided by Florence Nightingale's environmental theory



METHODS

Subjects (Participants)

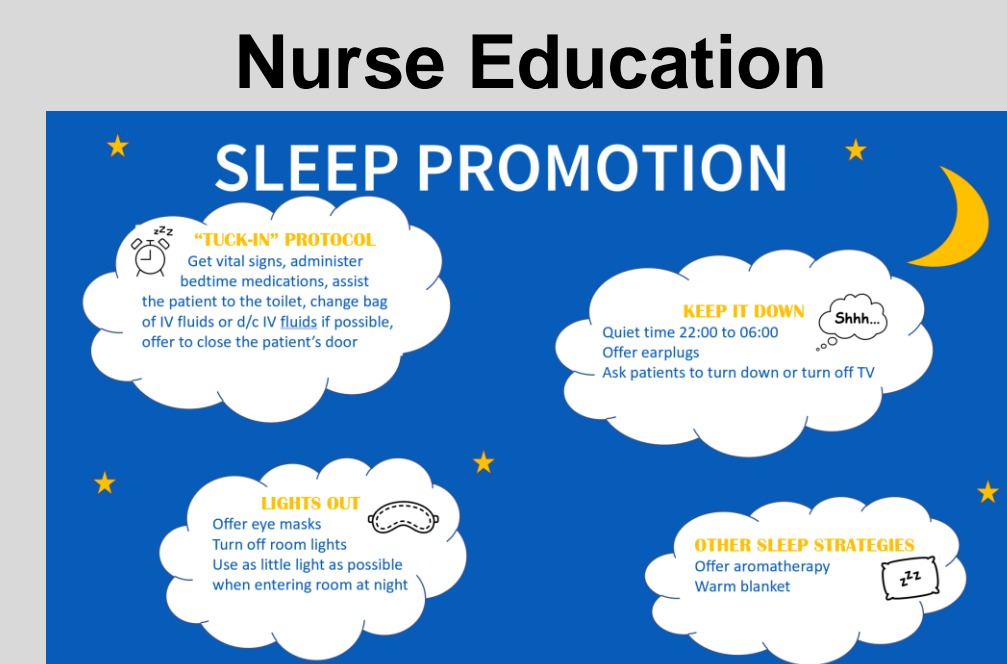
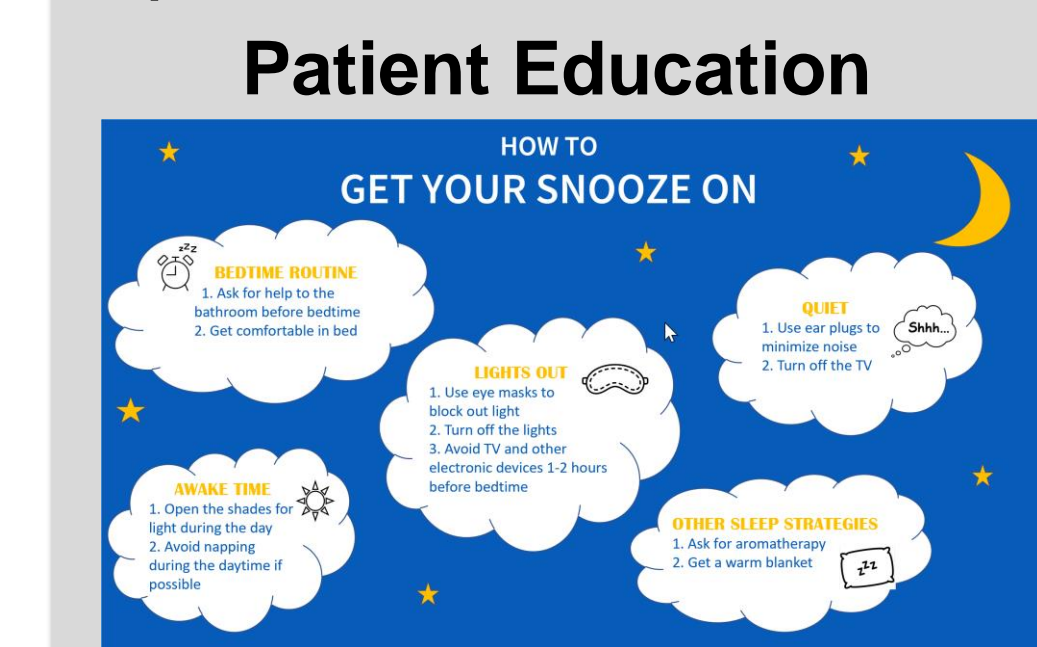
- Patients age 18-years-old or older admitted to a single medical/surgical unit for at least one full night (10:00pm to 6:00am).
- Patients with total blindness, total deafness, or cognitive impairment excluded

Setting

- A single, 40-bed medical/surgical unit of a large urban hospital.

Intervention and Data Collection

- Preintervention participants previously admitted to unit prior to implementation of intervention (n=560) and postintervention participants admitted to the same unit following intervention implementation (n=384).
- Intervention consisted of staff education/promotion, patient education, environmental modification, and sleep promotion tools.
- Environmental modifications included lights off in patient rooms, lights dimmed wherever possible in hallways, minimal sound, and clustering of care to reduce nighttime disruptions.
- Sleep promotion tools included eye masks, ear plugs, and aromatherapy.
- Frequency of sedative-hypnotic medication administration for 12 weeks prior to implementation of the sleep hygiene bundle compared to 12 weeks following intervention implementation.



RESULTS

- No significant difference in the use of sleep aid medications between the two groups for patients with no prior history of sleep aid medication use [$\chi^2 (1, N = 904) = 2.22, p = .14$].

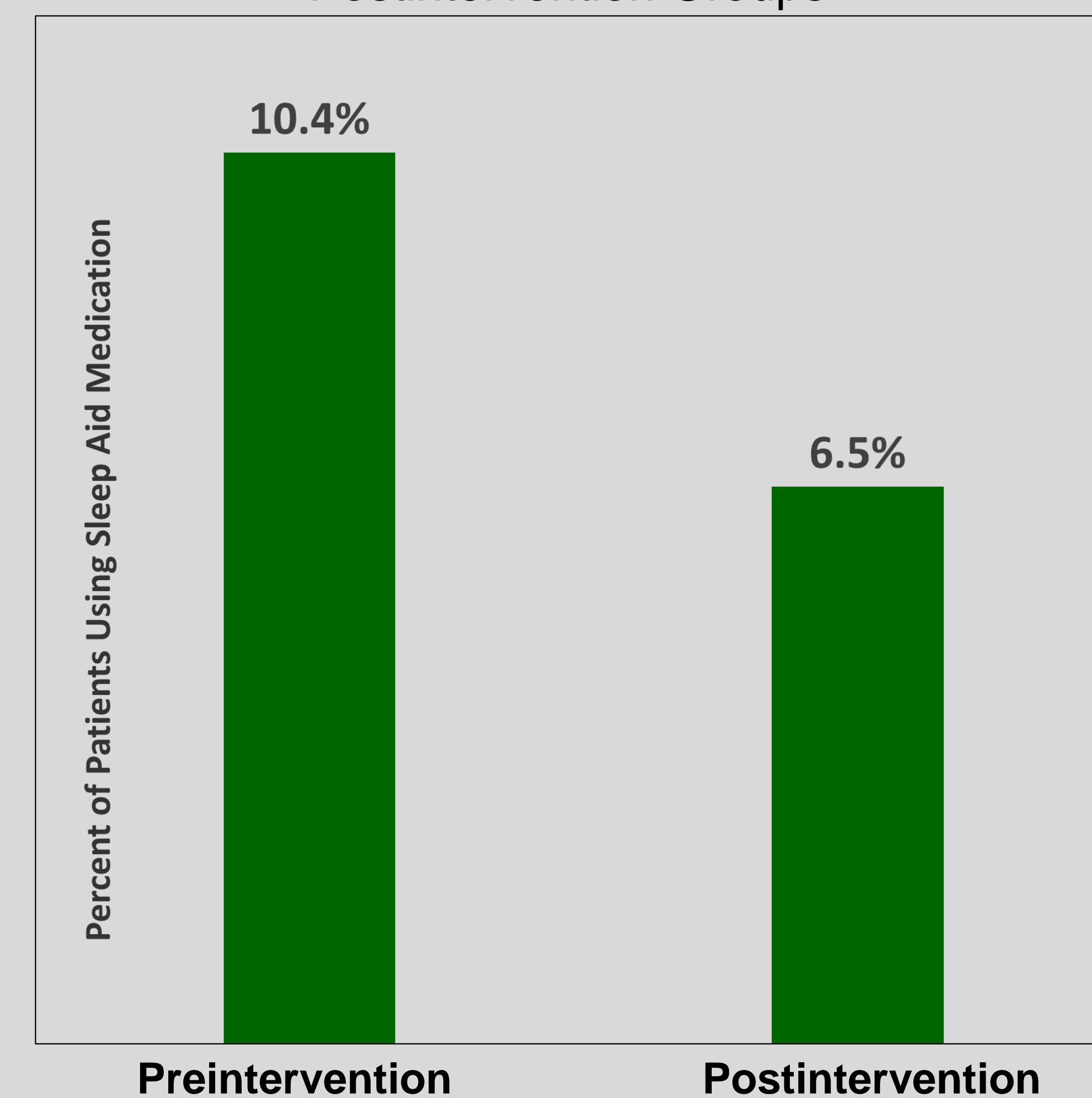
RESULTS

Chi Square Analysis

	Sleep Aid Medication Use	No Sleep Aid Medication Use
Preintervention	58	502
Postintervention	25	359
Total Participants	83	861

- Statistically significant decrease in the use of sleep aid medications in the postintervention group compared to the preintervention group [$\chi^2 (1, N = 944) = 4.20, p < .05$].

Percentage of Patients Using Sleep Aid Medication During Hospitalization in Preintervention and Postintervention Groups



DISCUSSION

- Implementation of a nonpharmacological sleep promotion intervention resulted in a significant reduction in the use of sleep aid medications in hospitalized, adult patients.
- Clinical significance of the benefits of shifting the way care is implemented for hospitalized patients experiencing sleeping difficulty or insomnia.

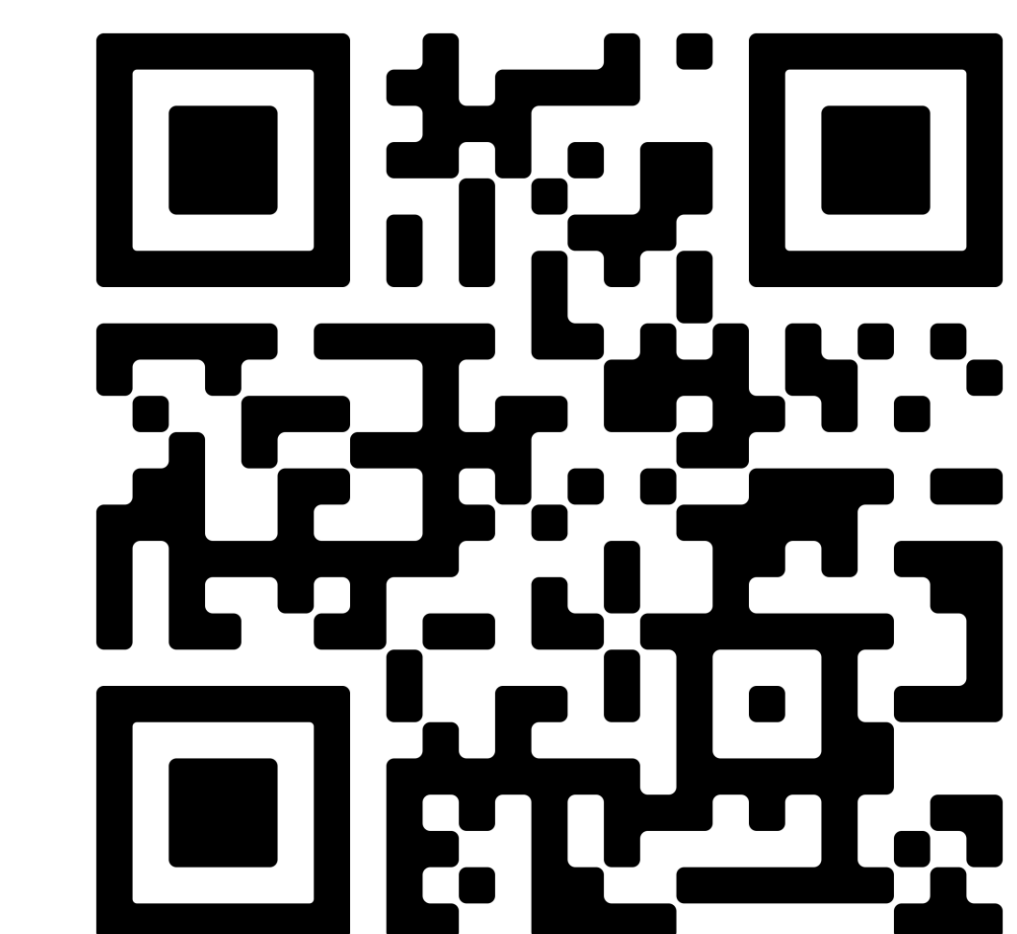
IMPLICATIONS FOR ADVANCE PRACTICE NURSING

- Demonstrates the ability of the advanced practice registered nurse to identify barriers to quality sleep in hospitalized adult patients and implement evidence-based interventions for sleep promotion and improved sleep quality.
- Highlights the role of the advanced practice registered nurse in the implementation of sleep promotion strategies to reduce the use of sedative-hypnotic medications in hospitalized adult patients with difficulty sleeping or insomnia.

SUSTAINABILITY

Adoption and expansion of the sleep hygiene bundle throughout the hospital and potentially across the organization can be achieved through partnership with the organization's performance improvement department.

REFERENCES



A nonpharmacological sleep hygiene bundle can effectively reduce sleep aid medication use in hospitalized patients.