

Improving ICU nurse adherence to sedation titration goals via education of the Richmond Agitation Sedation Scale

Marcia Hodge, MSN, RN, CCNS; Mojgan Azadi, DNP, Ph.D, RN-C

Background

Global level: Adherence to sedation protocols by clinicians remains an area of opportunity.

National level: 300,000 people are mechanically ventilated each year & sedation drips are used to manage critically ill patients.

ICU nurses lean towards deeper sedation to prevent patient self-extubation & invasive line removal.

Local level: Adherence to light sedation goals (RASS 0 to -2) is an area of opportunity for ICU nurses.

Significance of the Problem

Lack of **adherence** to sedation titration goals by clinicians caring for critically ill patients has been associated with delirium, prolonged intubation time, extended length of ICU stay, and even mortality when deep sedation with drugs like Propofol and Midazolam was prolonged.

Purpose and Aims

Purpose: This nurse-led QI project sought to determine the effect of a one-hour online educational module **“Sedation Management of the Mechanically Ventilated Patient in the ICU”** on the adherence of ICU nurses when titrating sedation drips using the prescribed Richmond Agitation Sedation Scale (RASS) goal to guide their practice.

- Aim 1:** Assess SICU RNs baseline adherence rate to sedation titration goals.
- Aim 2:** Measure knowledge of the ICU RNs on sedation management of vent patients.
- Aim 3:** Measure RN adherence rate post educational intervention.

Methods

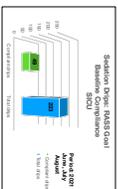
- Design:** Pre/Post-test design
- Setting:** 12-bed Surgical ICU in a 700 + bed academic teaching hospital
- Sample:** SICU RNs (n=25)
- Intervention:** Online educational module
- Data Collection:** 12 weeks (January – March 2022)
- Data Analysis:** Paired 2-tail t-test, chi-squared test, and descriptive statistics

Contact information: marcia.hodge@jhmi.edu; mojgan.azadi@jhmi.edu

Results

Aim 1: Assess SICU RNs baseline adherence rate to sedation titrations

Format: Chart Reviews (June, July, August 2021)
Data Analysis: Descriptive statistics (counts and percentages)
Compliance: 22%



Aim 2: Measure knowledge of the ICU RNs on sedation management of vent patients

Format: 14 question pre-test/post-test

Content covered:

- Stress of mechanical ventilation
- The agitation triad
- Need for sedation
- Lesson 2: Sedation of the Ventilated Patient
- Sedative agents/indications/trends
- Consequences of under- and over-sedation
- Is current practice evidence-based?
- Lesson 3: Best Practice Recommendations
- Patient-and goal-directed management
- Following protocols
- Communicating sedation indications
- Initial and daily evaluation of goals
- Patient assessment
- Meaning strategy

NB: HealthStream sedation education module awarded 1.0 contact hour accredited by the American Nurses Credentialing Center’s Commission on Accreditation

Data Analysis: Paired 2 tail t – test

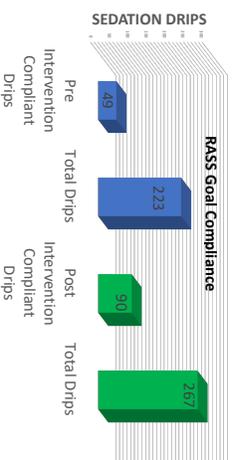
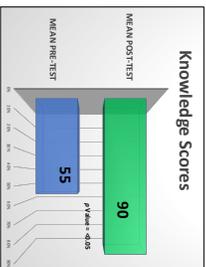
$t = 8.73$ $df = 17$ $p = <0.05$

Aim 3: Measure RN adherence rate 12 weeks post educational intervention

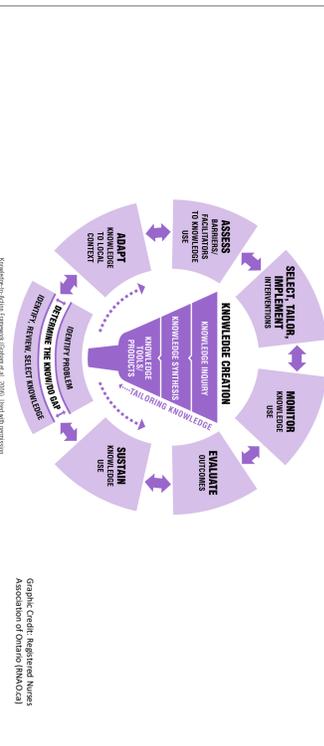
Format: Electronic daily RASS Compliance Reports

Data Analysis: Chi-square test $\chi^2 = 8.23$ $p = 0.0041$

Compliance: 34%



Translational Framework



Limitations

- Staffing challenges due to the COVID-19 Pandemic → increased RN: Patient ratio
- Missing data: 18/25 RNs completed pre-test, educational intervention and post-test
- Lack of protected time for RNs to complete sedation educational module

Sustainability

- Partnership with Nursing Education Department
- Annual RN Skills Fair to include sedation adherence
- Daily Safety Huddles include sedation management
- Monthly chart reviews by frontline RNs
- Nursing Quality Committee– frontline RNs present unit data
- Informatics compliance report emailed daily to ICU
- Hospital Quality dashboard monthly presentation
- Pharmacy/physician/nursing continued partnership
- Joint Commission Readiness Team monthly RASS compliance report helps ensure visibility and continued work to sustain adherence practices

Conclusion

- Adherence to sedation goals was increased by 50% from baseline using educational intervention
- Task clarification – knowledge, and auditing with *timely* feedback to practitioner help promote adherence
- Patient outcomes are improved with effective sedation management
- Behavior change theory looks at prediction of behavior vs prediction of behavior change. Thus, to increase adherence amongst nurses, we need to understand what factors may prevent behavior change

Key References

1. Hodge, M., Azadi, M., Hodge, M., & Hodge, M. (2022). Effectiveness of pre- and post-test adherence to sedation titration goals in a surgical ICU. *Journal of Intensive Care Medicine*, 37(1), 1-10. <https://doi.org/10.1177/08850666211021111>
2. Hodge, M., Azadi, M., Hodge, M., & Hodge, M. (2022). The effect of pre- and post-test adherence to sedation titration goals in a surgical ICU. *Journal of Intensive Care Medicine*, 37(1), 1-10. <https://doi.org/10.1177/08850666211021111>
3. Hodge, M., Azadi, M., Hodge, M., & Hodge, M. (2022). The effect of pre- and post-test adherence to sedation titration goals in a surgical ICU. *Journal of Intensive Care Medicine*, 37(1), 1-10. <https://doi.org/10.1177/08850666211021111>

