



Evaluation of a Nurse Driven Sedation Monitoring Policy using RASS Goals within a Community Hospital Intensive Care Unit

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BACKGROUND

Analgo-sedation is commonly required for critically ill patients admitted to the intensive care unit. Under-sedation can cause hypercatabolism, immunosuppression, hypercoagulopathy, increased sympathetic activity, or unintentional extubation. However, over-sedation can lead to longer ICU stay, extended mechanical ventilation, higher risk of nosocomial pneumonia, and neuropsychological dysfunction.¹⁻⁵

The Richmond Agitation-Sedation Score (RASS) is currently the gold standard for assessment of sedation depth in the ICU.⁶ Kaleida Health policy titled "Sedation Protocol for Mechanically Ventilated Patients" requires providers to order an individualized RASS goal for patients every day when initiating sedation. In addition, the nurse is required to assess and document the patient's level of sedation every two hours and as needed using the ordered RASS goal and titrate sedation medications accordingly. Proper titration increments are described within the policy for each medication.

OBJECTIVES

The primary objective was to compare compliance of nursing driven targeted sedation utilizing RASS to achieve the desired level of sedation. Secondary objectives included appropriate use of the institution's ICU sedation order-set, time on mechanical ventilation, and choice of sedation medications.

DESIGN & METHODS

An retrospective chart review was conducted and analyzed patients with RASS scores ordered from April 1st to June 30th, 2019 and from August 1st to November 30th, 2019. Education was completed to ICU providers and nursing staff throughout July 2019. Documented RASS goals were compared to prescribed RASS goals for the 3 months prior to and after policy education was completed. The study was approved by the hospital's Pharmacy and Therapeutics Committee.

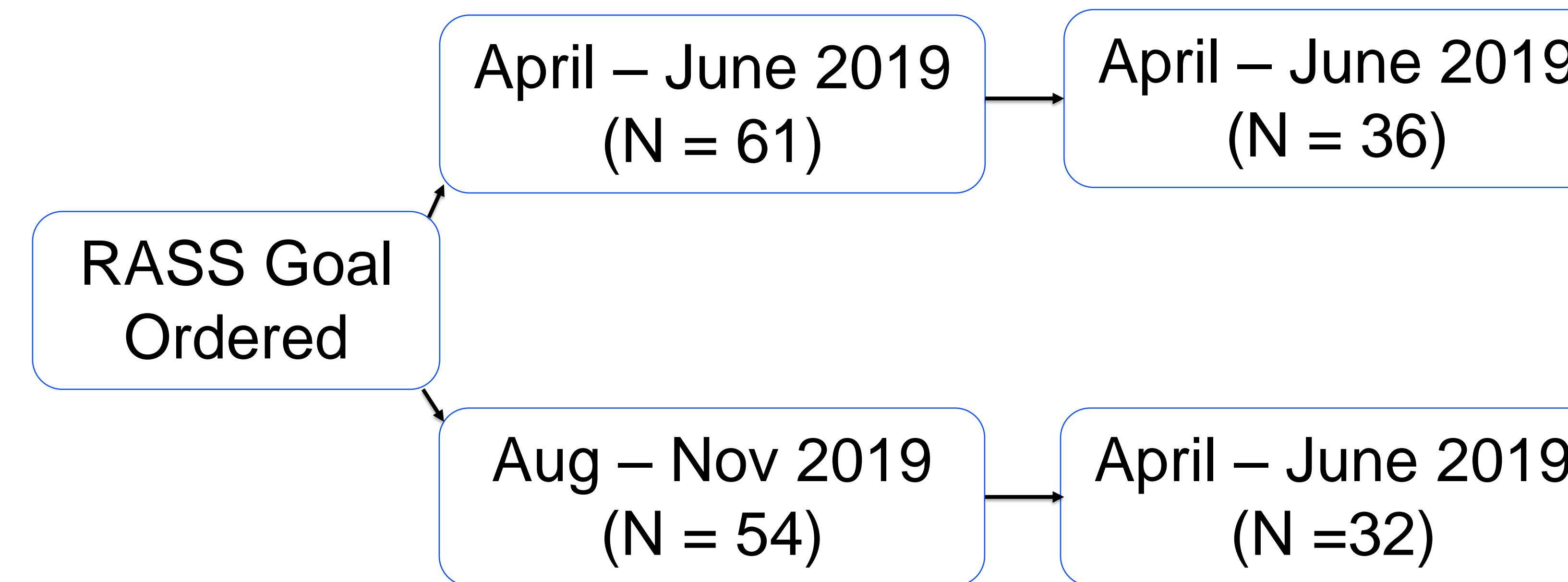
Inclusion Criteria

- Patients admitted to Medical or Surgical ICU
- Patients on Mechanical Ventilation

Exclusion Criteria

- < 18 years of age
- Pregnant patients
- Patients on neuromuscular blockers
- Patients with diagnosed dementia
- Impaired hearing
- Quadriplegia
- Non-English speaking
- Impaired visual acuity
- Admitted for alcohol withdrawal or substance abuse

RESULTS



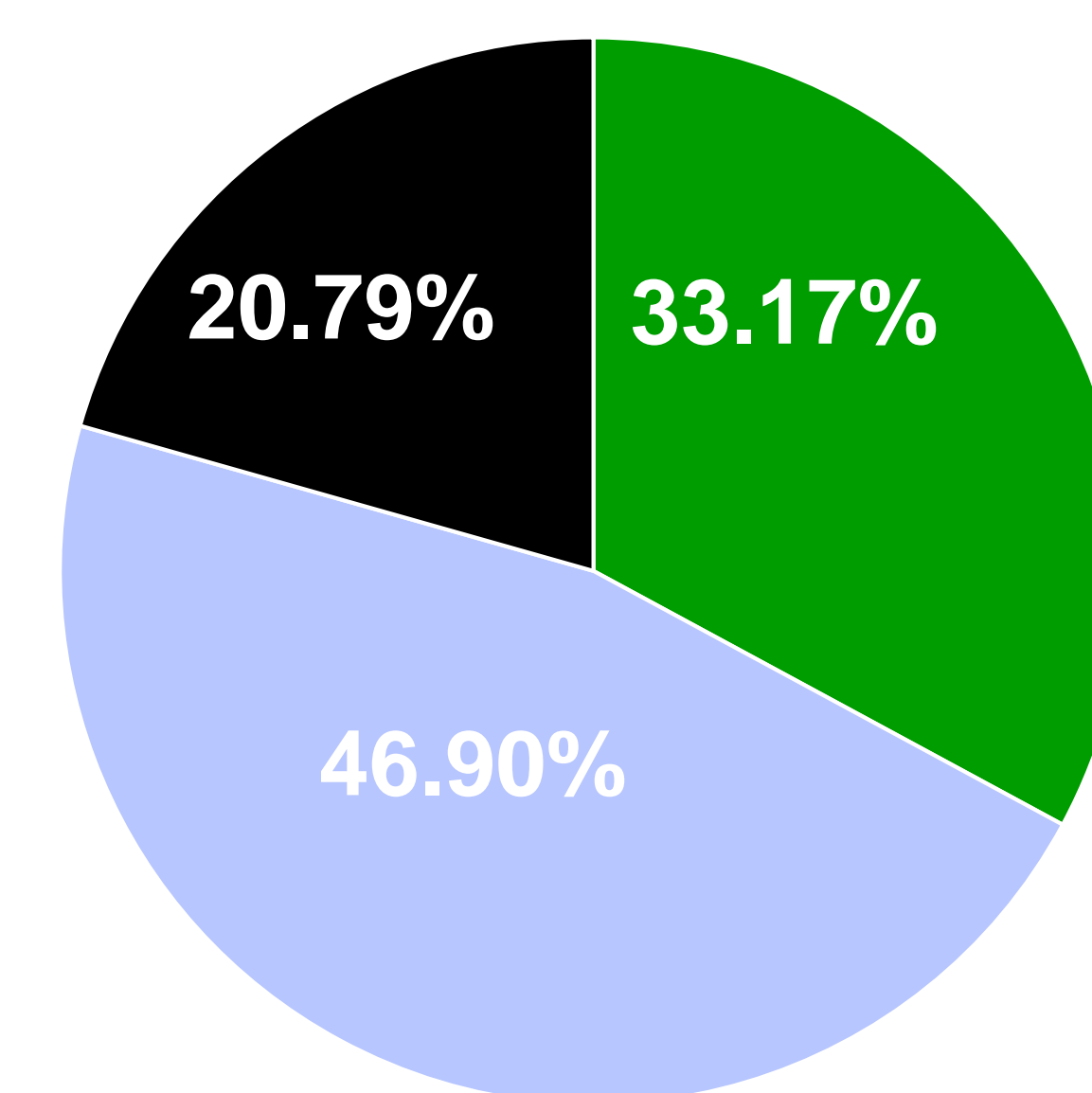
Baseline Characteristics:

Demographics	April - June 2019 n = 36	August - November 2019 n = 32	P Value
Weight (kg), mean ±SD	99 ± 36	95 ±30	0.344
Age (yrs), mean ±SD	68 ±13	70 ±12	0.270
Male, no. (%)	17 (47)	18 (56)	0.258
ICU LOS, median (IQR)	8 (5-14)	7 (4-12)	0.103
Hospital LOS, median (IQR)	17 (10-22)	10 (7-25)	0.103
SOFA, median (IQR)	6 (5-7)	6 (5-7)	0.992

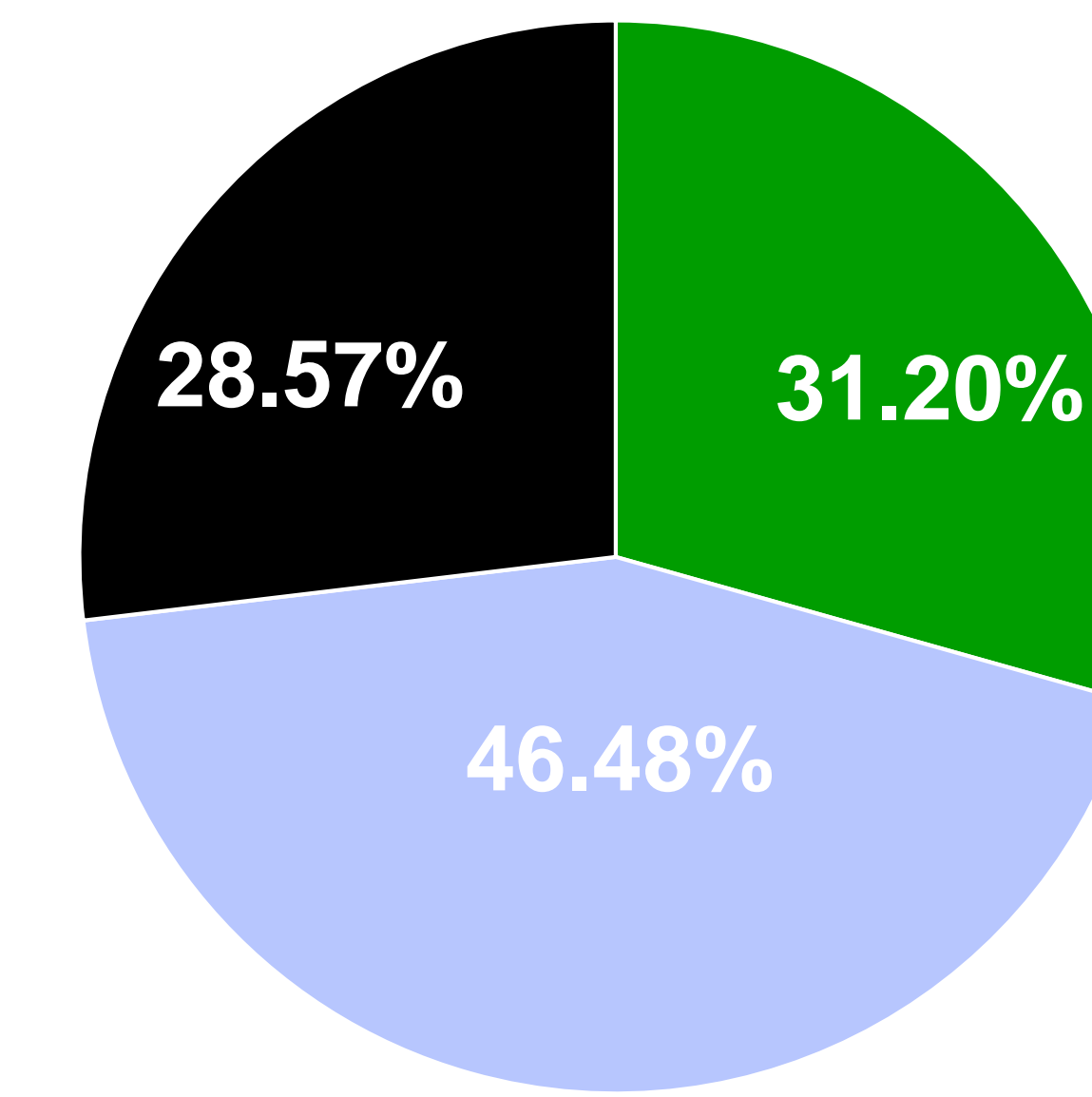
SD = standard deviation. LOS = length of stay

Primary Objective:

April - June 2019
RASS Percentage in First 48 Hours



August - November 2019
RASS Percentage in First 48 Hours



■ At Goal ■ Above Goal ■ Under Goal ■ At Goal ■ Above Goal ■ Under Goal

Percent of Achieved RASS goal did not differ between two time periods (p = 0.395)

RESULTS

Secondary Objectives:

Objective	April - June 2019	August - November 2019	P Value
Order-set Utilized	33%	47%	0.157
Time on Ventilation (days), mean ±SD	6.8 ±5	5.0 ±3.2	0.029

Type of Sedation	April - June 2019	August - November 2019
Morphine equiv. (mg), median (IQR)	90 (50-128)	89 (60-158)
Lorazepam equiv. (mg), median (IQR)	2 (0-7.5)	1.25 (0-3.5)

Continuous Infusions, no. (%)

Fentanyl	9 (25)	10 (31.3)
Propofol	22 (21.1)	13 (40.6)
Dexmedetomidine	23 (63.9)	21 (65.6)
Midazolam	0	1 (3.1)
Lorazepam	0	0
Hydromorphone	0	0
Ketamine	0	0

As needed IV push, no. (%)

Fentanyl	33 (91.7)	28 (87.5)
Hydromorphone	11 (30.6)	14 (43.8)
Morphine	2 (5.6)	6 (18.8)
Midazolam	16 (44.4)	18 (56.3)
Lorazepam	17 (47.2)	8 (25.0)

CONCLUSIONS

Education alone was not effective for appropriate sedation management practices. Additional support such as pharmacist involvement may help achieve sedation targets for mechanically ventilated patients.

Disclosure

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation:

Kelsey Gregoire: Nothing to disclose; James Fenner: Nothing to disclose

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