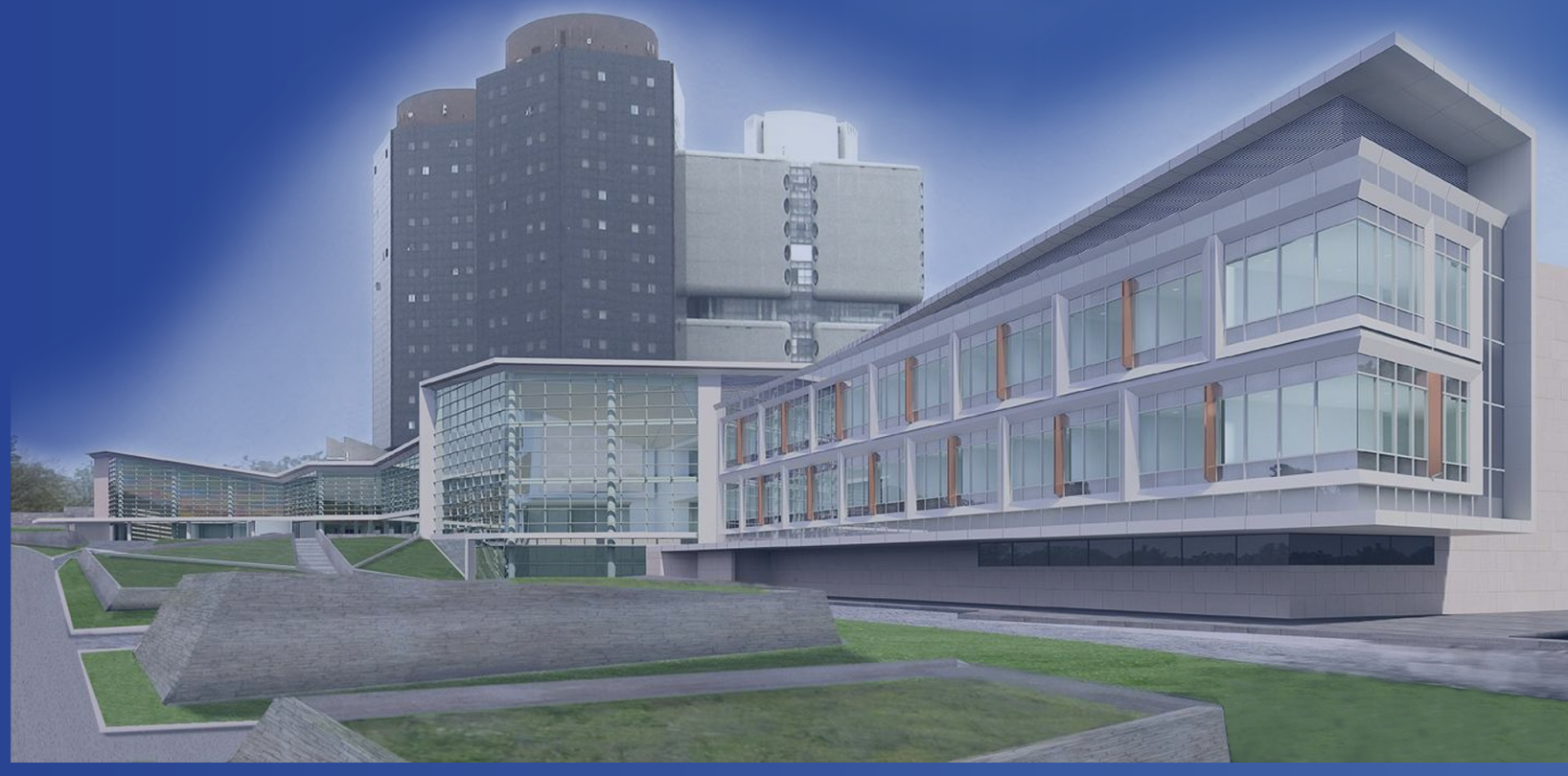


Timely Administration of Sedation After Intubation with Etomidate in the Emergency Department



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Introduction:

- Etomidate is a commonly used sedative to facilitate intubation in the Emergency Department (ED).
- With a duration of action of 4 to 14 minutes, a second sedative should be administered within 14 minutes to ensure continuous sedation, especially in those who are chemically paralyzed.
- We hypothesized that less than half of ED patients intubated with etomidate receive timely administration of a second dose of sedative.

Results:

- 117 patients met inclusion criteria. 42 % were female, 78% were White, and mean age was 60 years (SD=21).
- The most common chief complaints were dyspnea (27/117, 23%), stroke/ICH (24/117, 20.5%), and blunt trauma (23/117, 19.7%).
- In total, 105/117 (90%, 95% CI 0.83-0.94) received a second dose of sedative, however only 38/105 (36%, 95% CI 0.28-0.46) received the second dose within 14 minutes.
- Midazolam (38%), lorazepam (30%), and propofol (21%) were the sedatives most commonly administered after intubation.
- 107/117 (91.5%) received an initial paralytic agent for intubation; succinylcholine was used in 100/107 (93.5%).
- Overall, 58/107 (54%) received a subsequent dose of paralytic after intubation; 55/58 (95%) received rocuronium.
- There was no significant association between timely sedation and receiving a second paralytic.
- Gender, age, race, chief complaint, GCS, depressed level of consciousness, systolic blood pressure, and heart rate were examined for association with timely administration of a second sedative, and none were significant.

Conclusions:

- Less than half of patients intubated with etomidate in our ED received timely administration of a second sedative.
- A second dose of paralytics was frequently administered, suggesting that patients are at risk of paralysis and mechanical ventilation without sedation.

Methods:

Study Design:

Retrospective chart review

Setting:

- Suburban academic ED, annual census 85,000
- May 2009 to May 2010

Subjects:

- All patients 18 years and over who received etomidate for sedation immediately prior to intubation.

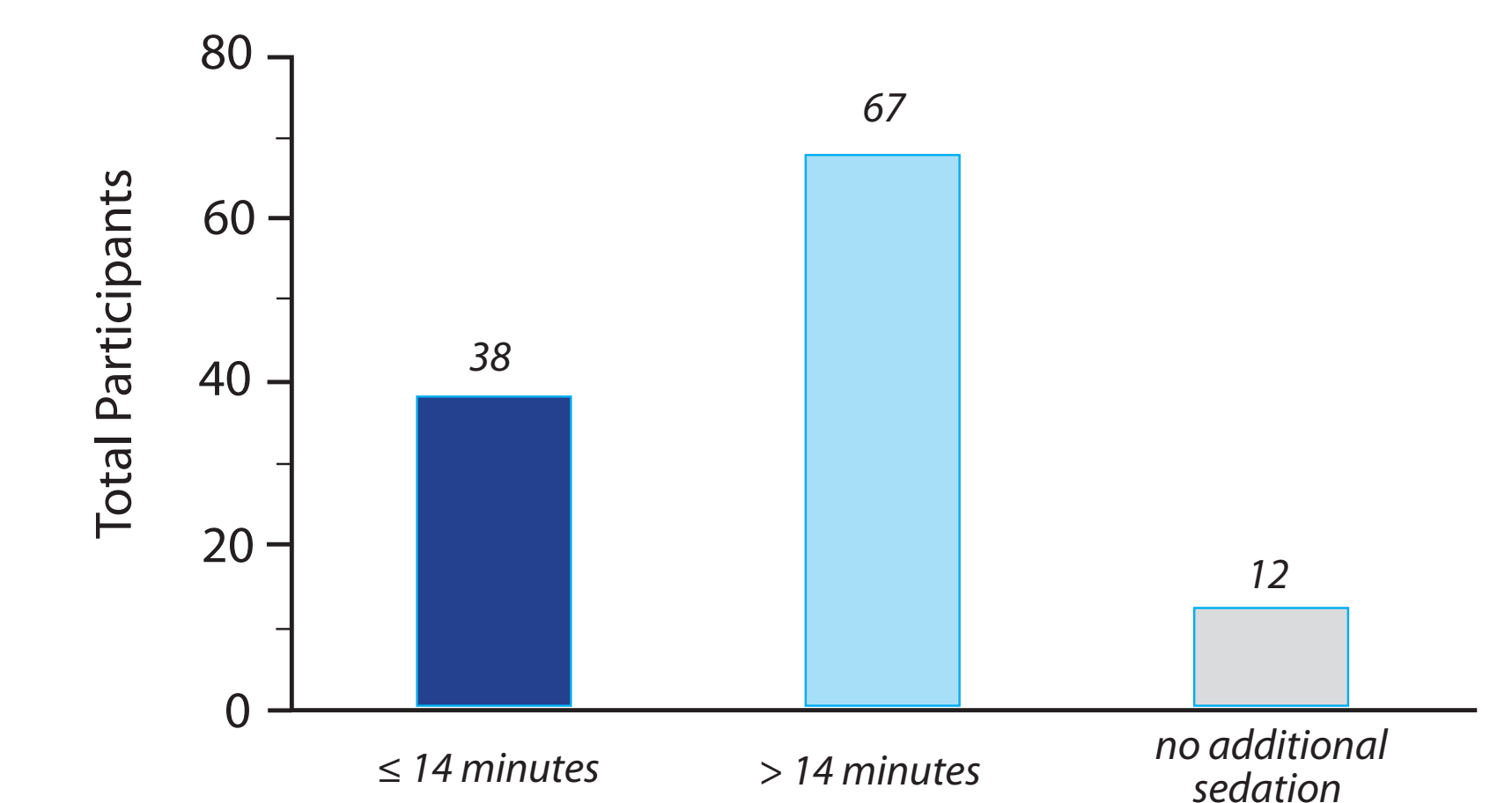
Measures:

- Rate of patients receiving timely administration of a second dose of sedative i.e. within 14 minutes of etomidate.
- Demographics, illness characteristics, vital signs, co-administration of paralytic agents, types of sedatives, and time of sedative and paralytic administrations were also abstracted.

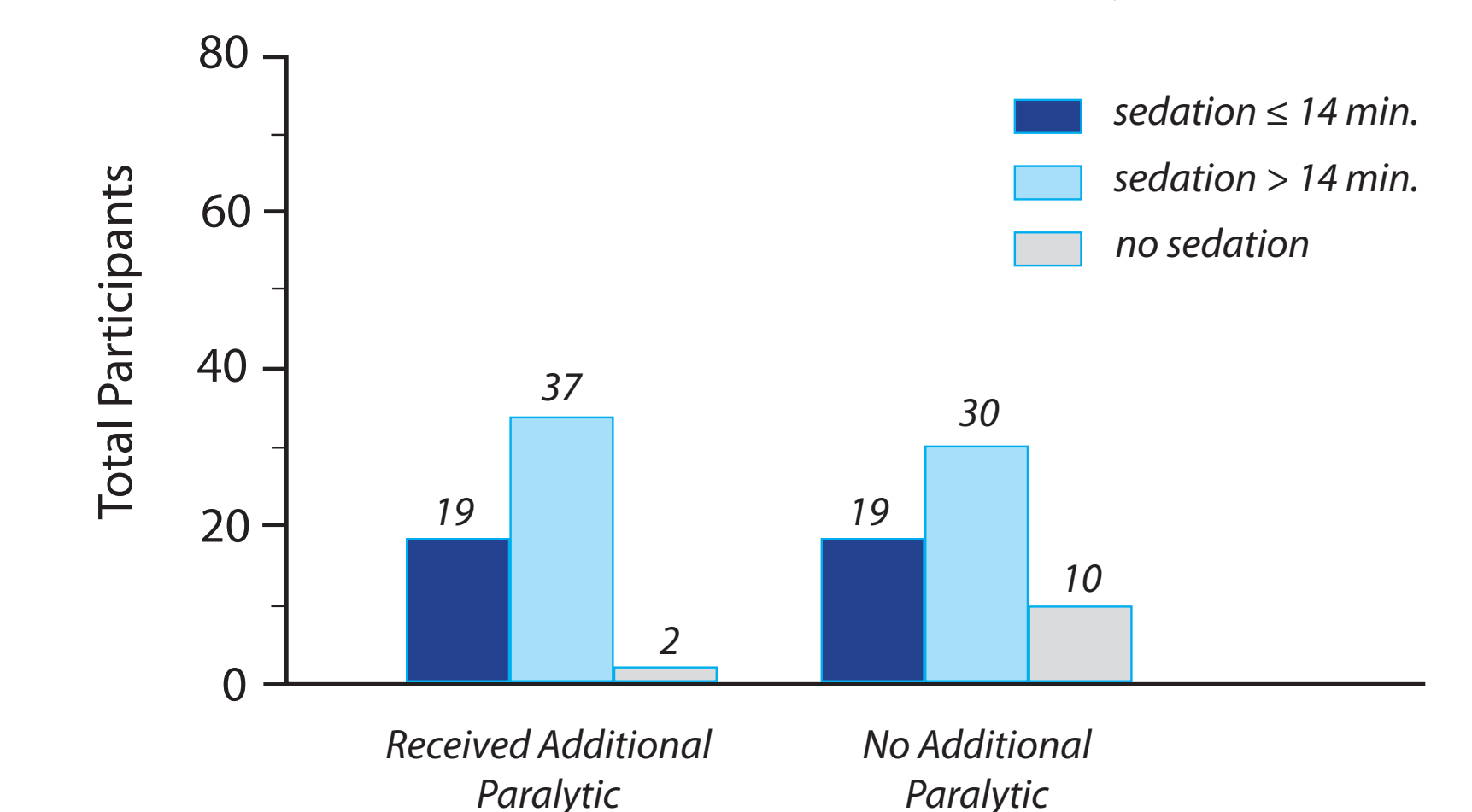
Analysis:

- Descriptive statistics were used to characterize rates.
- χ^2 and student's t tests were used to compare characteristics of those patients who did and did not receive timely administration of a second sedative.

Patients Receiving Additional Sedation



Timely Sedation in Patients Receiving Second Dose of Paralytics



Time to Second Sedative (minutes)

