

Abstract

Title: Effects of SBS and CAPD scores on sedation and delirium in the PICU

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Introduction: Critically ill children often require respiratory support and adequate sedation, which may prolong mechanical ventilation and precipitate delirium. Validated scoring systems assess sedation efficacy and delirium presence in critically ill pediatric patients. This study aims to observe the impact of implementing SBS (State Behavioral Scale) and CAPD (Cornell Assessment of Pediatric Delirium) sedation and delirium scoring systems on clinical control of sedation and delirium in the pediatric intensive care unit (PICU).

Methods: This prospective observational study with comparative historical cohort was conducted at a single children's hospital, including pediatric patients on mechanical ventilation and continuous sedation from 7/1/2016 through 4/30/2020. The primary outcome was days free from sedation in patients assessed in the historical cohort with the COMFORT score compared to patients assessed with SBS and CAPD scoring systems. Secondary outcomes included days free from mechanical ventilation and percentage of patients receiving delirium treatment with antipsychotic medications. Analysis occurred with t-test for continuous data, and Fisher's exact test for categorical data.

Results: The historical cohort included 15 patients and the prospective cohort included 7 patients. The difference in days free from sedation between the COMFORT and SBS/CAPD groups was not statistically significant [2.53 vs 2.29; $p=0.503$; (95% CI -3.05-1.53)]. There were no statistically significant differences observed in secondary outcomes.

Conclusions: Compared to using COMFORT, utilizing SBS and CAPD scoring systems did not result in significant improvement in days free from sedation in critically ill children. However, due to the limited number of patients assessed, this topic requires further research with larger trials.