1275

EVALUATION OF PATIENT OUTCOMES FOLLOWING PHARMACIST-DRIVEN ABCDEF BUNDLE PHYSICIAN EDUCATION

Melissa Chudow, Uyen Diep, Alyssa Fixl

Learning Objectives: The ABCDEF bundle was developed by SCCM to improve pain management, decrease delirium, and reduce negative long-term consequences for ICU patients. Previous literature shows use of the bundle daily on interdisciplinary rounds decreases mechanical ventilation days, delirium days, ICU length of stay, and mortality. Implementing the bundle on daily rounds isn't feasible at all institutions due to time constraints, variable service structures, open units, and personnel limitations. This study aimed to assess the impact of targeted physician ABCDEF bundle education on patient outcomes.

Methods: Pharmacist-led ABCDEF bundle education was provided to MICU physicians from January to February 2017. Adult patients admitted to the MICU team, in the ICU for ≥48 hours and mechanically ventilated for ≥24 hours were included. Patients were excluded if they were brain dead or had a RASS goal of -4 or -5. Patients admitted from January to February 2016 and 2017 were included in the pre-education and post-education groups, respectively.

Results: A total of 34 patients were included, 18 in the pre- and 16 in the post-education group. Age, gender, race, admission diagnosis, and SOFA scores didn't differ between groups. Mechanical ventilation (7.5 vs. 8 days, $p = 0.18$), ICU length of stay (9.3 vs. 9.9 days, $p = 0.98$), and ICU mortality (18% vs. 33%, $p = 0.45$) decreased in the post-education group. More patients in the post-education group had an appropriate RASS goal (71% vs. 63%, $p = 0.47$) and RASS scores within goal (86% vs. 69%, $p = 0.40$). Delirium was assessed (88% vs. 61%, $p = 0.13$) and treated (50% vs. 13%, $p = 0.15$) more frequently in the post-education group. Although not statistically significant, many outcomes can be considered clinically significant.

Conclusions: This study suggests that targeted ABCDEF bundle education may improve ICU patient outcomes. The results support the use of bundle education as a method of implementation in institutions where it may not be feasible to round daily or when resources are limited. Future studies with a larger sample size are warranted to confirm these findings.

[1]University of South Florida, Tampa, FL, [2]Tampa General Hospital, Tampa, FL, [3]Tampa General Hospital, PA

1276

ACCURACY AND PRECISION OF NONINVASIVE TEMPERATURE MONITORING DEVICE COMPARED TO PAC IN ADULTS IN ICU

Sandra Siedlecki, Robert Butler

Learning Objectives: To be useful, a thermometer must demonstrate precision and accuracy. One alternative to the use of invasive temperature monitoring that may be more accurate and reliable than either chemical or electronic thermometers is the TempTraq® Thermometer. The TempTraq® thermometer is a thin, single-use, battery-powered skin patch that monitors and records skin temperature. Previous studies have demonstrated that it is reliable and accurate for monitoring temperature in children and in healthy adults. However, it has not been tested in ill adult patients. The purpose of this study was to assess the accuracy of the Temp-Traq thermometer as compared to a gold standard (Core temp measured by Pulmonary Artery Catheter) and to assess the precision of the Temp-Traq thermometer over repeated measures.

Methods: A repeated measures within-group comparative design was used to address the specific aims of this study. A sample of 40 was needed (Power .80) to identify a difference of 0.1 or less. To account for attrition due to repeated nature of the design, 60 patients were enrolled in this trial.

Results: Accuracy was assessed by testing the differences using a two sided paired t-test. The mean of the differences was significantly different from zero ($p < .0001$) and the mean of the differences was in accordance with the Bland-Altman test for bias (-.3). Thus accuracy could not be confirmed. To assess precision, TempTraq and PA data were analyzed separately using repeated measures mixed models, which were regressed against patient variables. The variance of residuals, analyzed with an F-test, is a measure of precision. We found no significant difference ($p = .2$) between the two measures. Thus precision could be confirmed

Conclusions: Accuracy could be improved by adjusting for an offset bias of -.30. Making this adjustment to the TempTraq and then doing a 2-arm trial (N =40) that allows comparison between the adjusted instrument with the original instrument could confirm this offset bias.

[1]N/A, Cleveland, OH, [2]Cleveland Clinic, Cleveland, OH