Abstract

Objective
This quality improvement project sought to evaluate, develop and implement
an educational tool to increase bedside nurse's compliance to pulse oximetry (SpO2) alarm
parameter customization and modification to consequently decrease non-actionable, false or
clinically insignificant SpO2 alarms, within an inpatient pediatric acute care unit in an academic
research hospital.

Methods
This project utilized a 1-group pretest-posttest design comparing SpO2 and Heart rate (HR)
frequencies before and during the intervention. The intervention was an educational bundle
customized to the project sites' acute care setting and pediatric population.

Results
A total of 44 participants who met the inclusion criteria were recruited from the project site.
Fourteen participants were lost to follow-up, and 18 reviewed the educational bundle for
nursing education credit. Statistical significant improvement was demonstrated among the final
sample (n=30) in the number of high HR alarms that went off post intervention (p=0.021), with
a 51% decrease in average number of HR high alarms. Median summary scores of alarm fatigue
decreased post-intervention compared to pre-intervention (37 vs 39; IQR: 3.0 vs 5.25).
Increases in SpO2 alarms post intervention did not demonstrate statistical significance.

Conclusion
Project results were consistent with the evidence found in the literature, suggesting education
on the alarm customization in efforts to reduce alarm fatigue were effective in improving
bedside nursing alarm fatigue.