Introduction

Background
• Alarm fatigue develops when a person is exposed to an excessive number of alarms and can lead to sensory overload and desensitization.
• Alarm fatigue phenomenon resulting in delayed or missed response to alarms. 2,6,7,12,13,14,15
• The Joint Commission has received reports of alarm related events that have resulted in patient deaths, permanent loss of function and increased length of hospital stay. 14
• Alarm fatigue a National Patient Safety Goal defined by The Joint Commission. 14

Purpose
• Describe the effects of implementing a nurse driven evidence-based patient customized monitoring bundle on alarm fatigue.

Materials and Methods

Design
• Exploratory non-randomized pre- and post-test one group quasi-experimental without comparators design to describe the difference in pre- and post-measures following implementation of the CEASE Bundle, a nurse driven evidence-based patient customized monitoring bundle.

Intervention
• Nurse driven evidence-based patient customized monitoring bundle based on AACN guidelines was taught to 76 RNs on a 36 bed ICU/SDU. 1 (Fig. 1 & 2)

Measurement
• Number of alarms and duration of alarms pre and post intervention
• Nurses’ perception of alarms pre and post intervention by a Healthcare Technology Foundation survey (Fig. 4) 2,15,13
• Staff adherence to bundle. (Fig. 6)
• Inter-rater reliability between auditors.

Abstract

Excessive alarms in an environment of complex patient care needs, may lead to sensory overload which can cause healthcare providers to become desensitized to the alarms. Consequently, the response to alarms can be delayed, or alarms may be missed altogether. If alarms can be adjusted to signify critical patient needs rather than denote noise or nuisance alarms, nurses can appropriately respond. 1,15

Using a set of recommended guidelines from the American Association of Critical Care Nurses (AACN) may assist nurses in the management of alarms that can benefit patient safety. These guidelines can aid nurses caring for monitored patients and mitigate the alarm fatigue phenomenon. 3 The purpose of this study is to describe the effects of implementing a nurse driven evidence-based patient customized monitoring bundle on alarm fatigue in a 36 bed critical care mixed patient population unit. The CEASE bundle places an emphasis on communication, daily ECG electrode changes, removing monitoring parameters when no longer ordered, customizing alarms, and ongoing patient monitoring education. How does implementing this monitoring bundle lead to less alarm fatigue as measured by number of monitoring alarms, duration of alarms, and nurse perceptions of alarms? 1

Preliminary Data

Alarms
• 119,000 lines of data or about 58,000 alarms.
• 58,169 alarms sounded in a 30 day period with > 40% SpO2. (Fig. 3)

Nurse Perception Survey
• Pre-intervention 94% of nurses agree or strongly agree that nuisance alarms occur frequently. (Fig. 4 & 5)
• Post intervention data will be collected 2016.

Discussion

Discussion
• The AACN published an evidence-based alarm management practice alert. 1
• No literature is available that measures the effects of the AACN recommendations in its entirety.
• Portions of the guideline have been reported to decrease the number of clinical alarms, 2,7,8,11,12,16
• No studies could be found conducted in a mixed Intensive Care Unit and Step Down Unit community hospital setting.
• Research is lacking on customized alarms for individual patients.

Confounding Environmental Factors
• Unit monitor tech moved to telemetry unit (Fig. 7)
• Addition of monitors in the alcoves in the ICU/SDU.

Literature Cited


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