



Alarm Fatigue, a very real nursing phenomenon!

Andrea Rountree RN, FHNS
Nursing Inquiry for the RN, NURS 446
Fort Hays State University, Department of Nursing



Introduction

Alarm fatigue is a very real phenomenon for nursing staff in many hospital settings. This can lead to desensitization of nursing staff to respond to patient's needs.

Research Question

In acute inpatient telemetry units, what is the effect of a nurse-driven patient monitoring bundle on alarm fatigue compared to no monitoring bundle?

Purpose

Describe the effect of implementing CEASE, a nurse-driven, evidence-based, patient-customized monitoring bundle on alarm fatigue in ICU's and SDU's (Lewis, 2019).

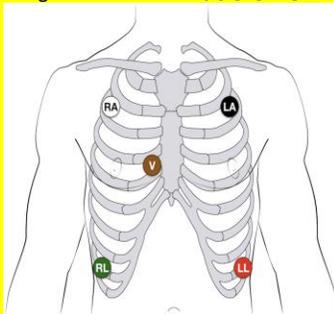
Conceptual Framework

Hildegard Peplau's theory states "An interpersonal process of therapeutic interactions between an individual who is sick or in need of health services and a nurse especially educated to recognize, respond to the need for help." This helps nurses and healthcare providers develop more therapeutic interventions in the clinical setting (Wayne, 2020).

Methods

The number of auditory monitoring alarms was counted. The duration of an alarm was measured in seconds and was the time elapsed from the start and stop time. Start time was when the alarm initially began, and end time was when the alarm was recorded to have stopped on the download from the monitoring system. The ICU/SDU staff nurse perception of alarm fatigue was measured by the Healthcare Technology Foundation Clinical Alarms Survey (Lewis, 2019). Education was provided on proper lead placement see Fig A. Checklists were provided to ensure proper use of CEASE see Fig B.

Fig A.



This Photo by Unknown author is licensed under CC BY-SA-NC. CEASE electrode placement.

Fig B

Referral/Order	Date	Referral/Comments
Champion Signature	Date	
Reference Skill		
Communication		
<ul style="list-style-type: none"> • State important phone numbers: ICU tele tech & Hospital tele tech. • State RN may consider using the pause and silence button on the monitor for cases that affect vital signs, but not all alarm silencing is indicated. • Place monitor on standby when taking patient off monitor for approved cases. • Staff that are responsible for answering all alarms. Alert primary RN if you answer an alarm and complete an intervention. • Phones are an asset to communication. 		
Intake		
<ul style="list-style-type: none"> • Change ECG electrodes daily or more if needed. • Demonstrate site preparation: <ul style="list-style-type: none"> o Examine skin should be clipped. o Skin should be clean and dried with a towel before electrode application. • Demonstrate ideal lead placement. Respiratory rate monitoring depends on the lead placement for the RA and LA and how it examines the patient's rise and fall of the chest. • Change lead polarity unless as needed. • When the adhesive wears off, it is time for a new sensor. • Check lead integrity under table sensors several daily. 		
Appropriate Care		
<ul style="list-style-type: none"> • We use sensor telemetry monitoring when a patient has orders for the floor critical alerts. • We place and respond to all the actual types of the patient. Also consider the needs of other monitoring measures. W. Do you need continuous CVP or ECG monitoring? 		
Medication orders		
<ul style="list-style-type: none"> • Examine patient's rhythm and vital signs to adequately assess alarms (ie, patient's HR is high. Are further interventions required for this? If not, consider changing alarms. If patient has existing HR, consider altering or turning off arrhythmic alarms. • Change alarm parameters to reflect changes in patient condition. • Change alarm at nurse's action. • Activate patient in larger actor. • Demonstrate how to change alarms: <ul style="list-style-type: none"> o Hear noise over the vital sign values to activate box and change value. o Click on measurements and specific vital sign to change. o Change alarm parameters at monitor or nurse. o Touch the vital sign intended for change. o Touch middle square at the bottom of the screen. o Press on the intended vital sign to change the settings. • Consider using the "relaying" function or changing the primary lead if monitor is having trouble tracking accurately. 		
Education		
<ul style="list-style-type: none"> • Review reading steps to examine patient's rhythm. • Review "silencing" screen on monitor. • Consider using the "relaying" function or changing the primary lead if monitor is having trouble tracking accurately. 		
<small>Revisions: CVP, central venous pressure, ECG, and HR can be done</small>		

Nursing Implications

Alarm fatigue is very real problem. While monitoring is essential for patient care, when the monitors seem to alarm for absolutely no reason nursing staff tends to unintentionally ignore these alarms, thus ignoring patient needs. Accurate monitoring would improve alarm fatigue and would improve patient outcomes.

Results

- Total number of auditory monitor alarms decreased 30.45% from 52,880 to 36,780.
The number of Level 1 auditory monitor alarms decreased 7.7% from 14,131 to 13,040. The number of Level 2 auditory monitor alarms decreased 39.35% from 31,251 to 18,955. The number of Level 3 auditory monitor alarms decreased 36.18% from 7498 to 4785. Nurses perceived a significant decrease in nuisance alarm occurrence (Lewis, 2019).

References

Aysha, Z., & Ahmed, S. (2019, August 01). The Effect of Implementing Clinical Alarm Nursing Intervention Program on Nurses' Knowledge, Practice and Patient Outcomes at Intensive Care Unit. Retrieved July 21, 2020, from <http://www.sciepub.com/AJNR/abstract/10788>

Cho, O., Kim, H., Lee, Y., & Cho, I. (2016, January). Clinical Alarms in Intensive Care Units: Perceived Obstacles of Alarm Management and Alarm Fatigue in Nurses. Retrieved July 21, 2020, from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4756058/>

Gaines, B. (2019, August 19). Alarm Fatigue is Way Too Real (and Scary) For Nurses. Retrieved July 18, 2020, from <https://nurse.org/articles/alarm-fatigue-statistics-patient-safety/>

Lewis, C. (2019). Research Outcomes of Implementing CEASE: An Innovative, ... : Dimensions of Critical Care Nursing. Retrieved July 18, 2020, from https://journals.lww.com/dccjournal/Fulltext/2019/05000/Research_Outcomes_Of_Implementin_Cease_An_9.aspx

R;, W. (2019, September 3). Alarm Fatigue: Using Alarm Data from a Patient Data Monitoring System on an Intensive Care Unit to Improve the Alarm Management. Retrieved July 21, 2020, from <https://pubmed.ncbi.nlm.nih.gov/34811111/>

Wayne, G. (2020, January 02). Nursing Theories and Theorists: An Ultimate Guide for Nurses. Retrieved July 20, 2020, from <https://nurseslabs.com/nursing-theories/>