

BACKGROUND

Nurses are exposed to many constant and continuous alarms, which inform personnel of critical changes in the patient's condition. The use of alarms along with clinical judgment can aid in early diagnosis and detection for the patient. Alarms, however, can overwhelm personnel, as different alert systems can produce up to 350 alarms per patient per day (Sowan et al., 2017). The high volume of alarms may result in nurses developing alarm fatigue, which ultimately decreases the quality of life and outcome for patients if not addressed properly and promptly. Alarm fatigue occurs when clinicians experience a high frequency of alarms, resulting in desensitization, lack of urgency, and delays in patient care (Woo & Bacon, 2020). The lack of knowledge of training in alarm management in nurses was evident, implying the need for further awareness and education (Petersen et al., 2017).

PURPOSE

The purpose of this project is to plan an intervention that allows for early detection of vital results in patients, reduce alarm fatigue, enhance patient outcomes and mortality by restoring urgency in response through additional nursing education, specifically addressing the importance of alarm management.

METHODS

A literature review was conducted, in which several different articles that concern the topic of alert technology in the critical care setting were selected and compiled. These studies focused on three main themes related to the proposed topic: implications of alarm fatigue on patient safety, nursing perceptions and knowledge of alarms, and interventions to reduce alarm fatigue.

Alarm Fatigue

ITS DANGERS & WAYS TO DECREASE IT

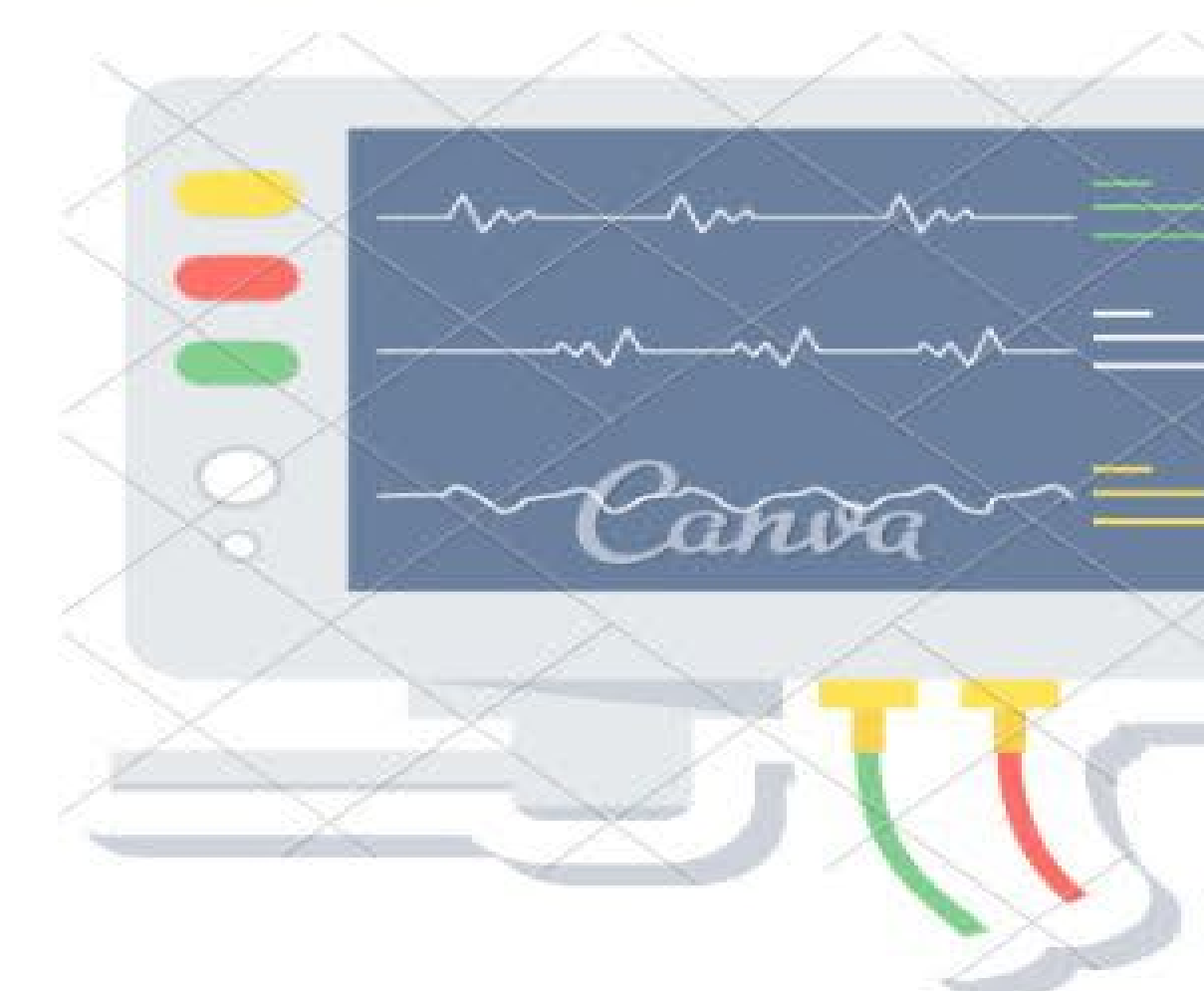


Nurses become desensitized, overwhelmed, or immune to the sound of patient alarms.

Nurses can be subjected to 350 alarms per patient per day and research indicates that 72% to 99% of alarms are false. This causes nurses to:

- Turn down alarm volume
- Silence alarms
- Adjust alarm to unsafe settings

These actions could potentially lead to serious or fatal consequences, as alarms that are meant to alert problems may be ignored.



From January 2009 - June 2012, as shown by the Joint Commission Sentinel Event database,



Some Ways to Decrease Alarm Fatigue?

- **Clean and monitor alarm system devices**
 - This will decrease malfunctions and false alarm algorithms.
- **Individualize alarm settings**
 - Alarm settings set based on the patient's baseline will decrease overexposure to false alarms.
- **Staff Education**
 - Participation in hands-on training and complimentary online training modules will improve nurse knowledge and perception about alarms.



RESULTS

In Bi et al. (2020), this study examines the effects of training intensive care unit nurses on alarm management based on the theory of planned behaviors in reducing alarm fatigue in the critical care setting. In this randomized, single-blind trial, nurses were randomly assigned to either the intervention or control group; the intervention included a 12-week alarm management training course, and its effect on the nurses' alarm fatigue was measured via a questionnaire given before and after the study (Bi et al., 2020). The outcome showed that nurses from the experimental group, compared to the control group, reported a statistically significant decrease in alarm fatigue indicating that the alarm management training was effective. These results are relevant to the project as the evidence suggests that improving nurses' knowledge and awareness of monitoring technology helps reshape the behaviors of nursing staff that directly impact patient safety such as attention and response to alarms.

CONCLUSIONS

It is concluded that not only does alarm fatigue place a strain on nursing staff and decrease quality of patient care but also demonstrates the need to further educate nursing staff. As shown in the literature studies, completion of additional training modules on alarm management and monitoring is beneficial towards reducing alarm fatigue for nurses.

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