

Critical Care Nurses' Perceptions of Clinical Alarm Management on Nursing Practice

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Abstract. The management of alarms is a key responsibility of critical care nurses. A qualitative study with focus group interviews were conducted with 37 nurses in Taiwan. Four main themes were derived: the foundation of criticalcare practice, a trajectory of adjust alarms management, negative impacts on care quality and patient safety, hope for remote control and multimodal learning. Results revealed that diverse training methods may facilitatenursing competency and devices usability to promote critical care.

Keywords. Alarm management, critical care, patient safety

1. Introduction

Clinical alarms are widely used in the devices of the intensive care unit. Appropriate alarms can enhance theabilities of clinicians in monitoring patients' vital signs data but the indiscriminate generation of alarms, leads to divided attention in nurses [1]. Nonetheless, few studies explored nurses' experiences toward the technology usebased on the perspectives from human, technology and organization. Therefore, the aim of this study was to investigate critical care nurses' perception of clinical alarms management and its impact on their daily practice.

2. Method

2.1. Interview Guidelines

Main dimension	Interview questions
Human	What have you experienced with setting alarm parameters?
Technology	Have you had any experiences regarding patient safety due to alarm management?
Organization	How would you describe the alarm management culture in your unit?

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3. Rigor

The rigor of the study was established by fulfilling the criteria of credibility, dependability, confirmability, and transformability by ensuring two-way communication between the interviewer and the participants, thorough discussion among the research team, and presenting the result to a seasoned nurse.

4. Results (4 themes)

1. *The foundation stone of critical care nursing practice*: Nurses regarded alarm systems as extensions of their personal visual and auditory senses which serve a monitoring role during the process of patient care.
2. *A trajectory of adjust alarms management*: New nurses rely on others to help respond to alarms. In contrast, experienced nurses usually exhibit lower tolerance toward alarms.
3. *Negative impacts on the quality of care and patient safety*: The necessity to recognize and verify the urgency of the alarms is burdensome and usually cause cognitive and mental stress among nurses.
4. *A hope to multimodal learning and remote control*: The nurses were looking forward to using some interactive or social media as an alternative to help them learn the tactics of alarm management.

5. Conclusions

The technology use, the teamwork culture, and appropriate alarm training are recommended to facilitate alarm management. In future nursing practice, continuous efforts to optimize nurses' alarm management abilities are still required to minimize risk of preventable harm and reduce alarm fatigue in critical care.

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References

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