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Nursing Students Response to Alarms: Does Alarm Fatigue Start in Nursing School?

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Background: Alarm fatigue among Registered Nurses in the workforce is well documented in the literature and a high priority safety issue. Little research has been conducted in regards to nursing students and alarm sensitivity.

Objectives: The aim of this study were to explore if alarm fatigue can develop in nursing students from the first clinical exposure to the acute care environment to the last clinical exposure in the acute care clinical environment with a comparison of each semester and if previous healthcare work history increases alarm fatigue.
Design: This completed study used a longitudinal quantitative survey design.
Participants: Surveys were administered to a cohort enrolled in the second semester of a Bachelor's of Nursing program at a university in the United States (*n*= 89). The data for this study was collected during the beginning of each semester and at the end of each semester.
Methods: Nursing students completed a self-reporting three area survey using a five question Likert scale consisting of common alarm noises in the acute care environment at six different time periods. Parametric tests were used to explore the comparison points. Reliability analysis was used to validate the assessment tool.
Results: The data showed the results were significant $F(5, 375) = 3.291$; $p = .006$ indicating a general decrease in sensitivity across the six time periods for intravenous pump (IV) alarms. The self-reporting survey had an overall reliability of *Alpha*= .677.
Conclusion: The aim of this study was to explore if alarm fatigue develops in nursing school. The results show that IV pump alarm fatigue develops in nursing school. This particular cohort revealed alarm fatigue to IV pump alarms. This is concerning since most every patient in the acute care environment may have one or more IV pumps. Nursing curricula needs to focus not only on the use of IV pumps but how to prevent and address alarms. Adding IV pump alarm fatigue to the nursing curricula will establish best practices for graduates entering into the workforce.

Title:

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Keywords:

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Abstract Summary:

The focus of alarm fatigue research has been primarily on Registered Nurses. For nursing faculty working with nursing students, a question was raised about alarm fatigue. Results from this inquiry can further increase the need for inclusion of alarm management strategies in the nursing curriculum to promote patient safety.

Content Outline:

Clinical alarms play an important role in all aspects of acute care. On a given day, there can be more than 942 alarms (Graham & Cvsch, 2010). The focus of alarm fatigue research has been primarily on Registered Nurses (RNs) in the workforce. It is difficult to avoid hearing the shrill alarm sounds throughout the patient care areas. For nursing faculty working in a Bachelor of Science in Nursing (BSN) Program with novice nursing students, a question was raised about the effect of the alarm alerts on nursing students. It was not evident if these learners are affected by the alarms and experience desensitization, or become immune to the alarm sounds. Implications from this study may support the need for alarm fatigue education for nursing

students. However, additional quantitative data needs to be collected to identify the impact of nursing school clinical experiences and, previous or concurrent work experiences, on student nurses' sensitivity to alarm sounds. Results from this inquiry can further increase the need for inclusion of alarm management strategies in the nursing curriculum to promote patient safety.

The aim of this study was twofold: 1) to explore if alarm fatigue can develop in nursing students from the first clinical exposure to the acute care environment to the last clinical exposure in the acute care clinical environment with a comparison of each semester, 2) if previous healthcare work history increases alarm fatigue.
This study used a longitudinal quantitative survey design. Surveys were administered to a cohort enrolled in the second semester of a Bachelor's of Nursing program at a university in the United States (*n*= 89). The data for this study was collected during the beginning of each semester and at the end of each semester. Nursing students completed a self-reporting three area survey using a five question Likert scale consisting of common alarm noises in the acute care environment at six different time periods. Parametric tests were used to explore the comparison points. Reliability analysis was used to validate the assessment tool.
Surveys were administered to a cohort enrolled in the second semester of a Bachelor's of Nursing program at a university in the United States (*n*= 89). The data for this study was collected during the beginning of each semester and at the end of each semester. Nursing students completed a self-reporting three area survey using a five question Likert scale consisting of common alarm noises in the acute care environment at six different time periods. Parametric tests were used to explore the comparison points. Reliability analysis was used to validate the assessment tool.
The aim of this study was to explore if alarm fatigue develops in nursing school. The results show that IV pump alarm fatigue develops in nursing school. This particular cohort revealed alarm fatigue to IV pump alarms. Nursing curricula need to focus not only on the use of IV pumps but how to prevent and address alarms.

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