Does Telemetry Alarm Customization Reduce Alarm Fatigue Among Nurses on Inpatient Units?

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Background

- Alarm fatigue (AF) is a term that which can be applied to situations where healthcare workers are exposed to an environment that has excessive alarms, both the number and type, including nuisance alarms and false alarms
- Nurses can often become desensitized to alarms thus causing medical errors due to omission, distraction or inattention
- Literature suggests that reconfiguring alarm settings to actionable levels will reduce false alarms

Practice Change

- Assess compliance of alarm fatigue and alarm customization by nursing unit staff of Grant 6 before and after providing education
- Observe for decrease in nuisance alarms and alarm compliance after alarm fatigue education

Methods

- Administered anonymous paper pre-surveys to RNs
- Observational tool were used to anonymously obtain nuisance alarm occurrence rates
- Present information to staff, provide educational materials, including step by step guide on telemetry alarm customization
- Observational tool was used once again to determine nuisance alarm occurrence rates after education
- Anonymous post-surveys were administered directly after the educational session

Measures and Results

Telemetry Parameter Settings Guide

Personalizing Telemetry Alarm Parameters Using the Telemetry Box

1. Select your patient on the screen
2. Click the "Monitor Setup" box
3. Click the "Alarm Control" box
4. Select the parameters that need to be personalized
5. Type in "Hi" and "Low" limits per MD orders

Results

Pre-Survey

N=13

13/54 Surveys filled out	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I pay attention to the alarm source immediately after hearing the alarm				54%	
At the beginning of my shift, I set the alarms for my patients				46%	
I switch off alarms at the beginning of my shift		54%			
I do not hurry with hearing the alarm; as it may be an error		77%			
Sometimes I really do not hear the alarm				62%	
I do not know how to change the alarm settings on the monitor		46%			
The sound of some alarms are annoying so I turn them off	38%				
I believe that most alarms are accurate and true				46%	

Post-Survey

N=5

5/54 Surveys filled out	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I pay attention to the alarm source immediately after hearing the alarm				60%	
At the beginning of my shift, I set the alarms for my patients	60%				
I switch off alarms at the beginning of my shift	80%				
I do not hurry with hearing the alarm; as it may be an error		60%			
Sometimes I really do not hear the alarm				60%	
I do not know how to change the alarm settings on the monitor	60%				
The sound of some alarms are annoying so I turn them off	100%				
I believe that most alarms are accurate and true			80%		

Summary/Discussion

- **In order to further reduce alarm fatigue among nursing staff we need to:**
  - Continue education regarding alarm parameters and telemetry machines
  - Track occurrence rates over 6 month intervals & monitor trends
  - Discontinue telemetry orders when no longer indicated
- **Some feedback we heard during our education for the staff was:**
  - "I think that alarm fatigue is a major problem on our unit that continues to need addressing."
  - "Thank you for showing me that I could change the parameters on my tele machine!"

Limitations

- Non-compliance with pre and post surveys
- Limited amount of time to implement and collect data
- Loss of group members

Conclusion

- More nursing staff are responding to telemetry alarms rather than silencing them
- Nursing staff are better educated on the ways to control telemetry parameters and settings

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