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Current State of Fatigue Monitoring and Risk Management in Hospital Nurses– Results of a Mixed Methods Study

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Problem

Occupational fatigue in nursing is linked to decreased patient safety, increased costs, and negative nurse health consequences. Addressing nurse fatigue is a priority for healthcare quality and safety organizations, including the Institute of Medicine and the World Health Organization. Multiple published guidelines outline the joint responsibility of individual nurses and healthcare organizations to address fatigue. However, implementing these guidelines and effectively addressing nurse fatigue in practice has been challenging. To support the design of effective fatigue risk management systems (FRMS) for healthcare organizations, the current practices in fatigue monitoring and risk management must be better understood and defined.

Method

The aim of this study was to characterize nurses' and nurse leaders' perceptions of current fatigue monitoring activities, coping strategies, countermeasures, and management programs in hospital organizations. A sequential exploratory mixed-method design strategy was used; semi-structured interviews were followed by a survey. To describe staff nurse perceptions of current strategies for coping with or reducing fatigue, semi-structured interviews were conducted with 22 registered nurses (RNs) working in medical-surgical and intensive care units and 10 float RNs from a single hospital organization. Twenty-one nursing leaders (10 nurse managers from medical-surgical and intensive care units at two hospital organizations and 11 nurse executives from hospitals across the state of Wisconsin) were then interviewed to explore how nurse leaders are monitoring and managing fatigue in their nursing staff. Recordings of all interviews were transcribed word-for-word and analyzed using directed content analysis.

Based on findings from the interviews and the authors' conceptual model of Multi-Level Fatigue Risk Management in Nursing Work Systems, a 62-item online survey was developed. Survey items addressed: hospital and individual demographics; nurse fatigue awareness; fatigue monitoring and management; and fatigue-related hospital policies. Hospital nursing leaders in the United States were recruited to complete the survey between January and May

of 2016; the survey sample was comprised of 158 nurse executives, directors, or managers from 29 different states. Descriptive statistics were calculated for survey data. Findings from all interviews and the survey were compiled and organized to describe current individual-level coping strategies, fatigue monitoring, and organizational fatigue management activities.

Results

All nurses and nursing leaders interviewed reported experiencing fatigue at work. Individual nurses interviewed in this study employed a range of coping strategies to reduce fatigue, including: taking breaks, walking, ingesting caffeine, drinking water, or talking with coworkers. RNs also identified how the design of the nursing work system can facilitate or act as a barrier to their coping with fatigue. For example, break room location and design, autonomy in managing tasks and workflow, scheduling policies, and unit management style can facilitate nurses' coping with fatigue. However, aspects of professional nurse culture that value nurses' self-sacrifice and stigmatize acknowledgement of fatigue as a sign of weakness are important barriers to coping.

A majority of interview and survey participants responded that their facility does not currently monitor fatigue levels among nurses. Strategies for monitoring fatigue included: evaluating nurse mood, schedule characteristics; nurses' responses on nurse-specific quality indicators surveys; staffing levels; and nurse fatigue surveys.

At the organizational level, only 25% of survey respondents reported a fatigue management policy in their hospital. Such policies included: limitations on the number of work hours in a 24-hour period; minimum number of hours off between shifts; limitations on the number of overtime hours; maximum number of consecutively scheduled shifts; employee education on identifying fatigue; and rest break requirements or nap policies. Few participants reported that changes to the design of the work environment (i.e., noise reduction, redesigning unit layouts) have been made to address fatigue.

Discussion

Addressing nurse fatigue depends on effective monitoring strategies to measure and evaluate fatigue sources, levels, and consequences. Hospital organizations currently lack any direct or real-time measures of nurse fatigue, and have very few reliable measures to evaluate sources or consequences of fatigue. Biomathematical models have been developed and used to predict fatigue in other industries. However, such models do not account for the physical, mental, emotional, psychosocial, and circadian demands inherent in nursing work and will likely require substantial modification for use in healthcare.

Professional guidelines specify the responsibility of individual nurses to employ healthy coping and sleep hygiene behaviors to address fatigue. Nurses do utilize coping strategies during work, but their ability to cope is impacted by the design of the nursing work system and attributes of nursing professional culture. FRMS in nursing need to account for these factors in the work system to facilitate nurses' coping and mitigate negative effects of fatigue.

In spite of the emphasis on addressing nurse fatigue in healthcare systems, a majority of hospitals included in this study currently lack comprehensive FRMS. Hierarchical frameworks for addressing fatigue and reducing risks have been established in literature and implemented in multiple other industries. Such systems include multiple levels of fatigue controls: eliminate

sources of fatigue, reduce exposure to source of fatigue, mitigate effects of fatigue on outcomes, and employ education and coping strategies. Hospitals must extend their current fatigue policies and interventions to include controls across all of these levels.

Summary

Addressing fatigue is an important and ongoing challenge in hospital organizations. Despite multiple published guidelines to address fatigue, systematic fatigue monitoring and risk management systems are lacking in nursing work systems. Nursing leaders recognize the importance of addressing fatigue, yet adoption of countermeasures and other policies to reduce fatigue and mitigate its consequences are not widely implemented. Findings from this study highlight the ongoing need for novel measures to monitor or models to predict fatigue and guide the design and implementation of management programs. Many hospitals still lack evidence-based fatigue controls and policies that include multiple levels of control beginning with an emphasis on reducing sources of fatigue. To account for the multidimensional demands in nursing work, fatigue researches may need to partner with healthcare leaders to adapt existing models and guidelines to address fatigue to fit the needs and constraints of unique nursing work systems.