

Development of a Tool for Hospital Nurses' Fatigue Self-Management That Can Be Used for Organizational Management

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Abstract. The purpose of this research is to develop a tool for fatigue self-management for hospital nurses. It is based on a nursing fatigue management education program that we have developed by utilizing the airline industry's Fatigue Risk Management System (FRMS). More specifically, this research aims to develop a tool to check fatigue and sleep conditions, deepen the knowledge about fatigue management, devise a measure to avoid the risk of fatigue, and continuously conduct evaluation.

Keywords. Fatigue self-management-learning, shift work, nurse

1. Introduction

It has been suggested that nurses who do shift work tend to have a disturbed internal clock, which increases fatigue and sleep disorders and has a negative impact on the safety of nursing practice and their health. We focused on the efforts of airline industry, which uses shift work, to improve fatigue and sleep conditions. The airline industry uses Fatigue Risk Management System (FRMS) to reduce and manage fatigue and to avoid the risk of fatigue [1]. We developed a fatigue management education program similar to FRMS. The program was operated for 15 hospital nurses in Japan [2]. We then confirmed the improvement of fatigue and sleep condition, the decrease of medical near-miss events, and the improvement of labor productivity score in this program. Therefore, we consider that e-learning would be effective to realize an education program that is not restricted by time and space. We aimed to develop e-learning materials as a tool to assist in fatigue self-management for hospital nurses.

2. Methods

2.1. Content Development by Moodle

The program we attempted to develop was based on the education content of “fatigue management education for hospital nurses.” We created a tool for fatigue self-

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management for hospital nurses by using Moodle, a learning platform, based on a 40-page booklet distributed to participants in group education and the slides used in its presentation.

2.2. The Design of Learning and Management Methods

We created learning methods in which hospital nurses were able to check their life and work status along their daily flow of day work, night work, and holidays while recognizing their own fatigue and sleep state. It is evaluated the degree of fatigue, sleep state, labor productivity, and the experience of near-miss events.

3. Results

The learning content includes “about fatigue,” “risk arising from fatigue,” “sleep affecting fatigue,” and “self-control of fatigue recovery.” The learning course has the following patterns: those whose degree of fatigue is judged to be in the critical, cautious or safe zones, and those whose sleep state is judged to be with or without sleep disorder. Learning using Moodle is expected to have an opportunity to take fatigue management education according to their own work and life without being restricted by time and place, and to easily manage evaluation of their own fatigue and sleep condition by themselves. It is expected to provide safer nursing and maintenance of their good health.

4. Conclusions

From the perspective of organizational management this tool can be used to integrate the results such as fatigue and sleep status of hospital nurses and to judge actual conditions, problems, and tasks in a hospital. Moreover, the promotion of fatigue self-management among nurses can be used as a means to evaluate the state of fatigue and sleep using a common tool for both individuals and organizations. In this way the attempt to incorporate nurse's own fatigue self-management into organizational efforts would help to further encourage the efforts of both individuals and organizations to manage fatigue effectively as emphasized in FRMS.

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