Nursing

Less Stress. More Sweat: An Examination of the Effects of Physical Activity on the Stress Levels of Surgical-Medical Nurses

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Introduction

Nurses experience stress throughout their careers. Rella, Winwood, and Lushington published a study which focused on stress at the beginning of a nurse’s career, and ranked the nursing profession as one of the most emotionally, mentally, and physically demanding occupations alongside such professions as prison workers, and law enforcement. Every day job strains can weigh heavy on the individual, resulting in what is known to the healthcare profession as “burnout” (Rella, Winwood, & Lushington, 2008). Studies have shown that stress is detrimental to a person’s health and contributes to decreases in the retention rates of nurses in the healthcare field. Nurses under stress tend to have a decreased level of positive patient outcomes that lead to a decrease in patient care (Chin, Lin, Wang, & Hou, 2009).

This study aimed to determine whether or not a relationship exists between stress levels and physical activity levels in medical-surgical nurses. If a correlation existed, this study could contribute evidenced-based research to guide future studies aimed at reducing the negative effects of stress in the nursing profession. Overall, this information could lead to a decrease in absenteeism and an increase in the quality of care patients receive, therefore, potentially improving patient outcomes.

Literature Review

The search terms used for this literature review, which focused on the relationship between stress, coping, and exercise, included “stress,” “nursing,” “exercise,” and “burnout.” This review was conducted to compile a history of prior research relevant to the proposed study topic.

Much of the literature reviewed related to occupational stress focused on the cause of burnout, but did not address coping mechanisms or interventions appropriate for decreasing the frequency of burnout. In a study conducted in 2009, Hertel identified the importance of recognizing the signs and symptoms of burnout. Burnout is prevalent among nurses and is defined as the “bio-physical response to chronic emotional stress” (Hertel, 2009). This includes physical manifestations such as headaches, backaches, gastrointestinal upset as well as mental
and emotional manifestations. In this study, Hertel identified three levels of stress. The second level is relevant to this study because at this point unmanaged stress becomes “distress.” Hertel also reported there is evidence to support the impact of stress, but no evidenced-based practice to support ways to manage stress.

Kashani, Eliasson, Chrosniak, and Vernalis indentified the importance of reducing the stress in nurses to ensure that they are capable of providing quality patient care. In a study by these researchers, nurses in a medical facility were given equal opportunity to participate in the study with 270 questionnaires being distributed. A total of 255 completed surveys were returned. Of the nurses who responded, 55% reported very high levels of stress. When asked about whether or not they had mechanisms to cope with stress, 55% again responded they were equipped with coping strategies, including exercise. The nurses in this study spent 3.8 hours each week, on average, exercising (Kashani, Eliasson, Chrosniak, & Vernalis, 2010).

Tveito and Eriksen highlighted the fact that exercise interventions have been shown to decrease the amount of time nurses must call in to work due to illness. In their study, a group was enrolled in a weekly health program that included exercise. The benefits from participation in the program included a substantial increase in stress management (Tveito & Eriksen, 2008).

The reviewed literature supports the knowledge that nurses are at risk for high levels of stress and burnout. However, there is a need for more research that focuses on tools to manage stress; specifically, stress of the healthcare worker.

**Research Question**

Does a relationship exist between stress levels and physical activity levels of medical-surgical nurses? The researchers sought to identify whether physical activity could improve the stress levels of nurses, had no impact, or was in fact, another source of stress.

**Design, Setting, Sampling Procedure**

A descriptive correlational design was used to evaluate stress levels and physical activity levels in medical-surgical nurses. This study was limited to one mid-sized hospital in the Southeastern United States and was contained to the hospital’s three medical-surgical units. The nurses recruited for this study had different levels of education and clinical experience. Participants were licensed registered nurses, having obtained a Bachelors of Science in Nursing, an Associate Degree in Nursing, or were Licensed Practical Nurses. A purposive sample was obtained by distributing a questionnaire and a stress management evaluation tool to nurses at their mandatory unit meeting. This study included twenty-two participants.
Collection Strategies & Instruments

The researchers obtained permission from the hospital’s legal and education departments to distribute the questionnaire to the hospital’s employees. After permission was granted, the researchers contacted the managers of each medical-surgical unit to request permission to attend each unit’s monthly mandatory meeting and distribute an exercise questionnaire and the Perceived Stress Scale (PSS) to all nurses present. During the unit meetings, the researchers explained the purpose and the approximate time requirements of study participation, which was estimated to be approximately 15 minutes. The researchers left the room while the questionnaires were being completed. Participants’ answers were further protected by a cover sheet. The researchers collected the completed questionnaires at the close of each meeting.

This study incorporated the use of the Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983) and an exercise questionnaire composed by the researchers. The PSS consisted of 14 generalized questions, answered using a Likert scale, and designed for populations with at least a middle school education. This scale measured the participants’ perception of stress and was designed for use in varying settings. To gain permission to employ the Perceived Stress Scale, the researchers obtained consent from the researchers who designed the scale prior to use in the proposed study. The exercise questionnaire assessed weekly exercise amounts and the exercise intensity. The intensity was recorded using a Likert scale zero being “No exercise performed,” to four being “Significant increase in heart rate when exercising.”

Plans for Storing Retrieving and Analyzing Data

All data was coded with unique identification numbers to ensure anonymity and the corresponding responses were entered into an Excel spreadsheet. Appropriate statistical analysis was performed to determine if correlations existed between the items presented on the questionnaire and those delineated on the stress management evaluation tool.

Ethical Considerations

Ethics were taken into consideration regarding the protection of the subjects and their responses. The subjects were informed of their right to accept or decline answering the questionnaire and completing the evaluation tool. All nurses who met the inclusion criteria for this study had an equal opportunity of completing the questionnaire. The questionnaires did not include any identifying personal information which helped ensure the anonymity of the subjects. Demographic information was obtained including gender, age, education level, and years of nurs-
ing experience. To ensure that this information remained protected, each questionnaire was assigned a unique identification number.

**Time Table/ Budget**

The data collection for this study took approximately one month and one month was needed to analyze the results and to complete a report noting the findings and outcomes of the study. The cost of completing this project was estimated to be fifty dollars to pay for the following items: paper and ink to print the questionnaires and travel to and from the hospital. This expense was paid for by the researchers.

**Results**

Twenty-three PSS and Exercise Questionnaires were collected. No correlation was found between the individuals PSS score and the number of hours spent exercising. The lowest PSS scores came from participants who exercised less than three hours each week. Demographics did not have a significant impact on the PSS score.

Research is needed to help nurses identify sources of stress and ways to manage stress. The data collected leads to the question of whether or not exercise could be a source of stress for nurses as they try to balance a healthy lifestyle and their workload. Further research analyzing the participants surveyed could be done to determine why exercise did not have an impact on the amount of stress experienced.
References

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