Nurses' Practice of Physical Activity and Corresponding Experience of Musculoskeletal Pain and Burnout

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Introduction

As a profession, nurses face a variety of occupational challenges that place them at a higher risk of developing health conditions such as musculoskeletal pain and burnout syndrome (Cañadas-De la Fuente et al., 2015; Soylar & Ozer, 2018). In addition to the effect these conditions have on the nurses experiencing them, they also adversely affect the healthcare system, leading to outcomes such as reduced patient safety, increased healthcare costs, and staffing shortages (Muir et al., 2022; Zarei et al., 2016)

Background

Physical activity and resistance training have demonstrated efficacy as treatments and protective factors against musculoskeletal pain and burnout in a variety of populations (Augustin et al., 2023; Luan et al., 2019; Taylor et al., 2022). Despite the important role that physical activity plays in reducing the incidence and severity of burnout and musculoskeletal pain, nurses have been found to engage in very little physical activity, with one review finding that up to 74% of nurses did not meet the CDC's recommendations for weekly physical activity (Priano et al., 2018).

Purpose

The purpose of this study was to determine the rate at which nurses participate in physical activity and resistance training, and what relationship exists between those practices and their experience burnout and musculoskeletal pain.

Research Questions

1. At what rate are nurses participating in physical activity, and what types of physical activity do they participate in?
2. Is the practice of a vigorous physical activity associated with reduced incidence of burnout syndrome in nurses?
3. Is the practice of a vigorous physical activity associated with lower levels of musculoskeletal pain in nurses?

Methods

Study Design

This was a cross-sectional quantitative survey study of nurses working in the southeastern United. States.

Sample

The survey was distributed via the North Carolina Board of Nursing email list to 1,000 randomly selected accounts. Of the 1,000 accounts that received the survey, 37 responses were received. Study participation was incentivized through entry into a random drawing of 1 of 20 gift cards of $25 value funded by the Honors Carolina Excellence Fund.

Measurements

- Physical activity was measured with the International Physical Activity Questionnaire (IPAQ).
- Practice of resistance training was measured with the Muscle-Strengthening Exercise Questionnaire Short Form (MSEQ-Short).
- Burnout was measured with a modified version of the Burnout Assessment Tool (BAT).
- Musculoskeletal pain was measured with a short questionnaire of the researchers' own design.

Data Analysis

Descriptive statistical analysis was completed for all the data. The relationship between vigorous physical activity and musculoskeletal pain was explored with a linear regression model, and that of vigorous physical activity and burnout with a logistic. Regression model.

Results

Physical Activity

- 75% of respondents engaged in vigorous physical activity 3 days a week or less.
- 78% of respondents engaged in moderate physical activity 3 days a week or less.
- 45% of participants engaged in at least 10 minutes of walking 7 days a week.

Resistance Training

- 50% of respondents engaged in resistance training throughout the week, with 71% of those engaging in resistance training 3 or more days a week.

Burnout

- Respondent burnout was relatively low, with the largest proportion of respondents reporting experiencing all symptoms assessed by the BAT as rarely to sometimes in terms of frequency.

Musculoskeletal Pain

- All domains of musculoskeletal pain were experienced at low levels, with back pain being the most notable, experienced by 50% of respondents. Severity of pain was low as well, ranging from 2.33 to 4.25 on a 0-10 scale.

Physical Activity and Burnout Relationship

- No statistically significant relationship was found between physical activity and burnout.

Physical Activity and Musculoskeletal Pain

- No statistically significant relationship was found between physical activity and musculoskeletal pain.

Implications

- Provides a snapshot of the practices of physical activity and resistance training by nurses, with this sample engaging in less physical activity, but more resistance training than the general population (Elgaddal et al., 2020).
- Demonstrates a reduction in burnout among nurses relative to the statistics that were generated during the COVID-19 pandemic, which indicated greater incidence of more severe burnout among nurses (Galanis et al., 2023).
- Exposes the need for more research into the health and wellbeing of nurses with a specific focus on health habits related to physical activity, and how those habits impact nurses' experience of some of the conditions for which they are at greater risk.

Limitations

- The small study sample size of the study limits the impact of the data.
- The lack of resources including time and access to participants limited the depth with which the data was able to be analyzed, as well as the collection of data.
- The nature of the tools used to assess the variables of interest limited the ability to compare the data to previous studies and accepted standards of measurement such as the CDC's Physical Activity Guidelines.

Conclusions

This study demonstrates that nurses engage in low amounts of physical activity compared with other populations, and that nurse burnout could be decreasing relative to the numbers obtained during the COVID-19 pandemic. The findings of this study expose a need for further research into the health of nurses and the habits which affect it.

References