Feature Article

Exercise habits of licensed nurses and nursing assistants: Are they meeting national guidelines?

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Abstract

Research shows licensed practical nurses and nursing assistants (NAs) have high rates of obesity and hypertension, potentially from limited engagement in physical activity (PA). Therefore, the purpose of this paper was to describe the self-reported exercise engagement, of licensed nurses (i.e., registered and licensed practical nurses) and NAs. We performed a secondary data analysis of two studies that used the Behavioral Risk Factor Surveillance System (BRFSS) questionnaire to assess PA levels. The sample consisted of 31 NAs and 40 licensed nurses. Our findings show 50 (56.9%) NAs and licensed nurses report they engage in enough exercise to meet national guidelines. Our sample reported engaging in more exercise than the general population. We suspect measurement biases as over half of our sample reported engaging in at least 300 min of exercise each week. The potential over-reporting could be due to the perception of their work since they do not have sedentary jobs.

Background

Although, physical activity (PA) can help prevent numerous chronic diseases, reduce all cause mortality up to 45%,1 increase work productivity, reduce employee absenteeism and decrease employer health care spending2–3 many adults in the United States (US) do not regularly engage in PA.3 However, most Americans are employed and spend at least 8 h at work.6 Therefore, Healthy People 2020 along with the Institute of Medicine4 and the Centers for Disease Control and Prevention5 encourage worksites to offer programs that encourage and engage employees in PA.

Health care providers are one of the largest employee groups in the US2 and high turnover rates, job strain, physically demanding work as well as the increasing life expectancy of patients10,11 have created a demand for licensed nurses and nursing assistants (NAs).12 Thus, it is important to keep these health professionals healthy and in the health care workforce. Unfortunately, these individuals often prematurely leave their jobs due to health reasons.13,14

Recent studies have begun to look at the health of health care workers15–17 because of their large workforce, their work environment, and their impact on patients. Prior research has found licensed practical nurses and NAs have surprisingly high rates of obesity and hypertension.15–18 However, it is unclear why health professionals experience obesity and hypertension at rates that are equally unhealthy and/or more unhealthy then the US population. Nursing assistants are more likely to have less education, make a lower wage, and be a member of a minority group than licensed nurses.19–21 These factors have been shown to negatively influence exercise engagement.21 Understanding the PA levels of these individuals is not only important from a public health prospective but physical inactivity can have implications for employers as well as implications for how these individuals encourage patients to engage in PA.22

Therefore, the purpose of this paper was to describe the self-reported exercise engagement, defined as moderate or vigorous exercise lasting at least 10 min, of licensed nurses (i.e., licensed practical nurses and registered nurses) and NAs. These data will be valuable for future health promotion program development with this population. This paper also assesses if licensed nurses’ and nursing assistants’ exercise reports differ. We hypothesize that licensed nurses will engage in more exercise than NAs.

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Methods

This study was a descriptive secondary data analysis using baseline data from two pilot intervention studies that measured self-reported exercise levels of licensed nurses and NAs. Exercise engagement was assessed by combining data from two pilot studies. The first study consisted of 47 participants of which 39 were NAs and eight were licensed nurses. These participants were minority female licensed nurses and NAs from two long-term care facilities in the Baltimore, Maryland metropolitan area. The second study consisted of 33 licensed nurses from a single acute care trauma unit in a tertiary care hospital in suburban Pennsylvania. Partial baseline exercise data were available for 71 participants and complete exercise data were available for 65 participants. Therefore, the secondary data analysis presented in the paper includes the baseline exercise data of 71 licensed nurses and NAs. Both studies were approved by their organizations’ institutional review board.

Each study collected different demographic data with the exception of job title and age. Both studies used the Behavioral Risk Factor Surveillance System—Physical Activity questionnaire (BRFSS-PA) to assess exercise frequency, intensity and duration. The measure includes seven-items and assesses moderate and vigorous PA in 10 min increments. The BRFSS-PA also asks participants how they spend the majority of their workday (e.g., sitting, walking). Prior research has shown the BRFSS-PA has sufficient evidence of test-retest reliability and construct validity.

All data analysis was done using SPSS versions 17 & 19. Descriptive statistics were used to assess frequency, intensity and duration of PA as well as demographics and how participants spent a majority of their workday. Using a standard formula, one minute of vigorous PA equals two minutes of moderate PA, total weekly engagement in PA was calculated. Once weekly engagement of PA was calculated, participants were dichotomized into groups (e.g., ≥150 min a week of moderate PA or its equivalent per week) to determine if participants met weekly aerobic PA guidelines and to what extent they reported exceeding weekly aerobic PA guidelines. Due to missing data, valid percent was reported; therefore, all percents will not equal 100. An independent t-test and chi-square analysis was used to assess the difference between licensed nurses and NAs exercise reports.

Results

The mean age of licensed nurses was 39.10 (SD = 11.10) years old and NAs were 42.34 (SD = 12.84) years old. The sample consisted of 31 NAs and 40 licensed nurses (i.e., 34 registered nurses and six licensed practical nurses).

Out of the 65 participants that provided the necessary data to calculate weekly PA duration and intensity, 50 (76.9%) reported engaging in enough PA to meet national guidelines (Table 1). Five (7.6%) participants reported engaging in PA but at levels that did not meet PA guidelines (range 45–140 min/week). Seven (10%) participants denied engaging in any moderate PA and one (1.4%) participant reported she was unsure if she engaged in moderate PA. Thirty-one (45.6%) participants denied engaging in any vigorous PA, whereas, four (5.9%) participants reported they were unsure if they engaged in vigorous PA. Only five (7.7%) participants reported engaging in no PA.

More than half of participants (n = 32, 54.2%) reported engaging in more than 300 min (double the recommended guidelines) of moderate PA or its equivalent each week and of the same group 14 (23.7%) participants reported engaging in more than 840 min (14 h) of moderate PA or its equivalent each week.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Self-reported exercise habits of nursing assistants and licensed nurses (n = 71).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nursing assistants (n = 31)</td>
</tr>
<tr>
<td>Average minutes spent engaging in PA/week</td>
<td>886.09 (1374.75)</td>
</tr>
<tr>
<td>Reported meeting national PA guidelines</td>
<td>17 (60.7%)a</td>
</tr>
<tr>
<td>Reported engaging in at least 300 min of moderate level PA or its equivalent each week</td>
<td>13 (56.5%)</td>
</tr>
<tr>
<td>Reported engaging in at least 840 min of moderate level PA or its equivalent each week</td>
<td>7 (30.4%)</td>
</tr>
<tr>
<td>Denied engagement in any moderate or vigorous PA</td>
<td>4 (14.3%)</td>
</tr>
<tr>
<td>Reported mostly sitting or standing at work</td>
<td>3 (11.5%)</td>
</tr>
<tr>
<td>Reported mostly walking at work</td>
<td>15 (57.7%)</td>
</tr>
<tr>
<td>Reported mostly physically demanding labor at work</td>
<td>6 (22.5%)</td>
</tr>
</tbody>
</table>

*p ≤ .05.

* PA = physical activity.

a Licensed practical nurses and registered nurses.

Licensed nurses reported meeting national PA guidelines significantly more than NAs (n = 33, n = 17, p = .022). There was no difference in reporting of work related PA between the two groups.

Discussion

Our findings show many NAs and licensed nurses report they engage in enough exercise to meet national guidelines. In fact, we found our sample reported engaging in more exercise than the general population. For example, 50 (76.9%) participants reported meeting exercise guidelines, whereas, nationally 51.6% of individuals reported meeting exercise guidelines. We also found our sample denied physical inactivity less than the general population. Only six (8.6%) participants denied engaging in any exercise, whereas, in the general population 24% of individuals denied engaging in exercise. The data supported our hypothesis that licensed nurses reported engaging in more exercise than NAs.

Prior research has shown, when measured objectively, typical adult engagement in daily exercise ranges from 6 to 22 min depending on age and race. Also, when objectively measured less than 5% of individuals engage in at least 150 min of moderate PA or its equivalent each week. Additionally, one of the pilot studies used for this secondary data analysis, measured exercise objectively (using pedometers) and subjectively. For that sample, the correlation between the subjective amount of time in total PA engagement and the objective average daily steps and average daily engagement in aerobic exercise was r = −.011, p = .957 and r = −.011, p = .965, respectively. This is generally lower than prior studies, which show small to moderate positive correlations between objective and subjective reports. Also, in that same sample, despite 17 (60.7%) licensed nurses and NAs claiming to meet exercise guidelines, when objectively measured only one participant met exercise guidelines. Other researchers have also found discrepancies between objective and subjective reports of exercise engagement. This combined with the fact that over half of our sample reported engaging in at least 300 min of exercise each week cause us to suspect measurement biases in the BRFSS self-reported exercise engagement of our sample.
Prior research has shown women over estimate their self-reported exercise engagement for social desirability reasons. However, another potential reason for overestimation is that licensed nurses and NAs may believe they engage in sufficient levels of exercise by completing their job duties. Prior research suggests nurses walk on average 8747 steps during a 12 h shift and NAs walk an average of 5877 steps each day. Even though preliminary data suggest NAs work duties are not at a sufficient intensity and/or duration to constitute exercise they still believe their work is physically exhausting and counts as exercise.

The misconception that NAs and licensed nurses engage in sufficient levels of exercise as a result of their job can add additional challenges for recruiting and retaining these individuals in health promotion interventions. If individuals incorrectly believe they are meeting exercise recommendations, because they misunderstand the recommendations, they will not seek out additional opportunities to engage in exercise. Therefore, individuals need to be aware of exercise guidelines and they must understand exercise guidelines (especially the difference between PA and exercise) before health promotion interventions can be successful in this population. Health promotion programs are needed for this population as growing literature suggests they are equally as unhealthy or unhealthier than the US population.

Limitations

This study is limited by using a small convenience sample of 71 NAs and licensed nurses in Maryland and Pennsylvania that are not likely to be representative of licensed nurses and NAs nationally. Also, the sample includes participants from different work environments that have different activity workloads. This study is further limited by using only subjective survey data from the BRFSS-PA to assess exercise levels, which is limited by social desirability, recall and measurement biases. However, this study is an important first step in assessing the exercise levels of a growing population, whose health impacts patient care and health care delivery. Once we understand NAs’ and licensed nurses’ understanding of exercise guidelines and their exercise engagement health promotion interventions can be tailored to fit this population, which will increase the likelihood of exercise adoption among participants.

Conclusions

Our findings provide preliminary data to suggest that NAs and licensed nurses report meeting PA guidelines more than the general population. However, due to the large discrepancy between objective and subjective PA reports it is difficult to confirm these findings. As a result of this study, we suggest researchers and practitioners measure exercise objectively when possible and clarify, in lay terms, exercise guidelines and what is meant by moderate and vigorous exercise. Simple explanations such as the “talk test” to determine exercise intensity may be beneficial when explaining what constitutes exercise especially when working with populations that report mostly walking and/or engaging in physical labor as part of their work duties. Licensed nurses and NAs are not sedentary jobs but there is growing research to demonstrate engaging in their work is not sufficient for meeting exercise guidelines. However, health promotion programs that teach licensed nurses and NAs what constitutes exercise and simple ways to incorporate exercise into their job (e.g., double marching while walking residents, taking the stairs) can increase exercise engagement while improving health (e.g., blood pressure) and work outcomes (e.g., work ability). Acknowledgments

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References