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Et al.

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Estimated and self-reported workloads and lower extremity symptoms for nurses and nursing assistants

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Objectives and Significance

In US nursing homes, nursing assistants (NAs) are responsible for direct care and resident handling, while nurses' roles consist primarily of medication distribution and administrative duties. This study examines differences in observed physical exposures and self-reported knee and ankle symptoms of nurses and NAs.

Methods

Observations of clinical staff's postures and handling were made at fixed time intervals using the PATH Method. An additive physical workload index (PWI) was computed to compare LE workload of NAs and nurses. The PWI combined observed frequencies of postures and handling with their associated forces on the knee and ankle derived from the University of Michigan's 3D Static Strength Prediction Program. Additionally, surveys on health and working conditions were distributed to employees at 24 nursing homes. Knee and ankle symptoms in the past three months and physical demands were examined by clinical job.

Results

Frequencies of postures and handling input into the PWI were based on observations of 275 NAs and 40 nurses. The analysis of PWI for the LE demonstrated higher physical exposures on both the knee and ankle for NAs compared to nurses, especially while NAs were performing resident handling. Among survey participants ($n = 1467$), NAs reported higher mean physical exertion scores than nurses and also higher frequencies of knee and ankle symptoms ($p=0.0076$) in the previous three months.

Conclusions

In this study, both estimated and self-reported physical workloads were higher among NAs compared to nurses. LE symptoms were also more common among NAs. Safe handling equipment helps reduce some LE exposures for NAs, but interventions for other strenuous tasks should be considered to reduce LE pain symptoms, such as introducing lighter food carts often pushed by NAs and limiting the number of dirty linens bagged before transporting to the soiled linen drop-off.

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