

PHYSICAL ACTIVITY LEVELS OF COMMUNITY-DWELLING OLDER ADULTS DURING DAILY LIFE ACTIVITIES: A DESCRIPTIVE STUDY

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Introduction

Assessing physical functioning using wearable devices is desirable in older hip fracture patients, with physical activity monitoring offering a novel approach^{1,2}. Wearable devices provide a promising alternative to traditional clinimetric tests, offering continuous and objective measurements³. However, establishing reference values for healthy older adults is necessary before applying these methods to post-fracture patients.

Objectives

This study aimed 1) to quantify physical functioning with physical activity parameters, 2) to assess these parameters in community-dwelling older adults, and 3) to compare these parameters with a post-hip fracture case study.

Methods

Twenty-four older adults (≥ 80 years) participated. Daily life activities (moving around the house, toileting, getting in/out of bed, and meal preparation) were quantified by total time, time spent sitting, standing, and walking, number of transfers, and intensity of physical activity. Wearable devices measured the intensity of physical activity, with the tasks performed in the eHealth House at the University of Twente, while video-recorded. Additionally, a case participant's data were compared pre- and post-hip fracture surgery.

Results

Preparing meals showed the longest total time and most standing/walking time, while getting in/out of bed showed the highest intensity of physical activity. Physical activity parameters varied widely, with very active participants completing tasks faster. The case participant demonstrated longer task durations and lower intensity levels post-surgery, indicating incomplete recovery.

Conclusion

This study provides initial insights into the physical activity levels of community-dwelling older adults during daily life activities. It represents the beginning of more efficient and continuous monitoring of physical functioning.

References

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