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Background: Physical activity is a key determinant of health in older adults, enhancing physical and mental well-being, reducing mortality risks, and improving overall functioning. However, many older adults remain insufficiently active despite the World Health Organization's recommendations of at least 150 minutes of moderate-intensity physical activity per week.

Objectives: This study aimed to explore correlations between physical activity levels measured by subjective (IPAQ) and objective (activity monitors) assessments in older adults. Additionally, the study sought to identify functional tests that could correlate with activity levels and establish cut-off points for these tests.

Methods: Participants included 90 older adults who were assessed using the IPAQ, an activity monitor, and functional tests such as the 6-Minute Walking Test (6MWT), Timed Up and Go (TUG), and Berg Balance Scale (BBS). Data were analyzed using Spearman's correlation and Receiver Operating Characteristics (ROC) analysis.

Results: No significant correlation was found between the IPAQ (self-reported) and activity monitor data (objective). The activity monitor showed lower levels of physical activity than the IPAQ, suggesting potential overestimation in self-reports. A moderate correlation was observed between the 6MWT and moderate-to-vigorous physical activity (MVPA) levels. ROC analysis of the 6MWT revealed an Area Under the Curve (AUC) of 0.83, indicating good discriminatory capacity with a cut-off of 273.9 meters (walking speed of 0.76 m/s) to identify those achieving the recommended 150 minutes of MVPA.

Conclusion: Objective and subjective physical activity levels were not correlated in older adults, who may overestimate their physical activity levels, with self-reported activity levels higher than objective ones. Clinical testing can add value to assessing physical activity levels, with the 6MWT being correlated with objective measures. Further research is recommended to validate the 6MWT across different populations and health conditions to expand its use in clinical settings.

Implications: Clinicians may not rely solely on physical activity levels reported by older adults. The 6MWT could be a practical tool for assessing physical activity in them, offering valuable insights for rehabilitation programs and complementing subjective assessments.

Keywords: Older adults, physical activity, activity monitor, clinical evaluation

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ASSOCIATION AND AGREEMENT OF SUBJECTIVE AND OBJECTIVE MEASUREMENT OF PHYSICAL ACTIVITY LEVEL IN OLDER ADULTS - A CROSS-SECTIONAL STUDY

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Background: The World Health Organization emphasizes that maintaining functional abilities is essential for the health and well-being of older adults. Among the recommended strategies, regular physical activity is central to the role in preventing diseases and promoting active longevity. However, physical inactivity and sedentary time represent increasing challenges associated with chronic diseases and reduced quality of life. Assessment of physical activity levels is globally examined through self-reported questionnaires, although their accuracy in older adults still generates debate in the literature. In this context, the combination of objective measures, such as accelerometry and self-reporting, can improve the assessment of physical activity levels and support effective strategies for health promotion and prevention.

Objectives: To evaluate the association and agreement between subjective and objective methods of measuring physical activity in community-dwelling older adults.

Methods: In SPSS 20.0, descriptive analysis, frequency distribution of categorical variables, central tendency analysis, dispersion measures of continuous variables, Pearson's Chi-square test and Kappa coefficient were performed. The Active Australia Questionnaire (AAQ) and the International Physical Activity Questionnaire (IPAQ) were used for the subjective assessment of the level of physical activity, and the accelerometer (Actigraph®, Pensacola, Fla, USA; Model GT9X Link; ActiLife Software version 6.11.5) was used for the objective assessment for 7 consecutive days. The Pearson's Chi-square test and Kappa coefficient were performed. Statistical significance set at 5%.

Results: A total of 35 older adults participated in this cross-sectional study. The mean age was (71.06 ± 9.0 years), 23 (65.7%) females and 12 (34.3%) males, IPAQ (Sedentary 0%, Irregularly active 2.9%, Active 60%, Very active 31.1%), AAQ (Sedentary 0%, Insufficiently active 8.6%, Sufficiently active 91.4%), Actigraphy (Sedentary behavior 65.93%, Light activities 15.99%, Moderate and Vigorous physical activity 6.48%). Association - Person's Chi-square: (AAQ: $\chi^2 = 0.972$, $P = 0.324$), (IPAQ: $\chi^2 = 6.462$, $P = 0.040$). Agreement - Kappa Coefficient: (AAQ: $P = 0.324$), (IPAQ: $P = 0.451$).

Conclusion: The results of this study indicate a significant association between the assessment obtained by the IPAQ questionnaire (short version) and the accelerometry measurement by GT9X, although no agreement was observed between the data. This corroborates previous findings in the literature, which state that, although the subjective measure presents reliability and validity, especially in community studies, compared to the standard of data evaluated through accelerometry, it has a low validity criterion. Therefore, an in-depth assessment of the level of physical activity may indicate preventive measures in the health area. In addition, it is essential to continue investigating the multiple facets of physical activity, considering not only the quantity but also the quality and intensity of the practice.

Implications: Although self-reported questionnaires are widely used in community studies and present validation in several situations, they should be used with caution, especially in the older adults.

Keywords: Aging, Exercise, Healthy Aging

Conflict of interest: The authors declare no conflict of interest.

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