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Abstract

Physical activity levels in participants of UTAD physical exercise program: Accelerometry versus IPAQ

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Physical activity (PA) comprises any activity that requires caloric expenditure, which may vary in magnitude, duration, and frequency and plays a crucial role in maintaining optimal health. On the other hand, sedentary lifestyles have been associated with the development of several conditions, including diabetes and obesity (Caspersen et al., 1985). Assessing daily physical activity levels is essential for combating sedentary behaviours and implementing effective strategies to promote an active lifestyle (Cleland et al., 2018). This study aimed to compare the measurement of physical activity levels using accelerometry and the International Physical Activity Questionnaire (IPAQ) in participants of a pilot exercise program. A total of 16 adults (age=36.2±17.4 years; height=1.69±0.10 m, weight= 67.7±9.5 kg, 9 students, 3 teachers, and 4 non-teaching staff) enrolled in a supervised exercise program at a higher institution participated in this study. The exercise program included cardiovascular and resistance training sessions lasting up to 60 minutes per session, and all participants engaged in a minimum of two

sessions per week. Physical activity levels were objectively measured by an accelerometer (ActiGraph, wGT3X-BT) used for seven full days and subjectively measured by IPAQ. Statistically significant differences were found when comparing physical activity levels relative to sedentary time, measured by accelerometry and IPAQ ($p<0.05$). Analysis of the accelerometer data revealed that most participants engaged in sedentary activity (52.1%), followed by light (35.5%) and moderate or vigorous activity (12.4%) while the IPAQ revealed a large sample percentage perceived less sedentary activity (39.8%) and more moderate or vigorous activity (21.3%). Further analysis by participant role recorded from accelerometry indicated that students demonstrated higher levels of moderate (18.8%) physical activity compared to teachers (12.6%, $p=0.04$) and non-teaching staff (12.5%, $p=0.04$). Accelerometry may provide more consistent results compared to the self-reported questionnaire IPAQ. By assessing physical activity levels subjectively, we may inadvertently overestimate time spent in moderate activities compared to more objective measures. Strategies to reduce sedentary behaviours during working hours or a long-term application of supervised exercise programs for teaching and non-teaching populations may be a suitable mechanism to combat levels of physical inactivity.

References

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