Abstract

The purpose of this review is to address methodological issues related to accelerometer-based assessments of physical activity (PA) in older individuals. Special interest is also put on recently updated technology. No definitive evidence exists currently to indicate which are the more valid and reliable accelerometer models for use with older people. When it comes to selecting an accelerometer, issues of affordability, product reliability, monitor size, technical support, and comparability with other studies may be equally as important as the relative validity and reliability of an instrument. The accelerometer should be attached as close as possible to the body’s center of mass, and in the case of elders using walking aids, it should be placed on the same body side. Variability due to positioning can be reduced with careful training and supervision. Typically, the sampling period is between 3 and 7 days and it is not yet clear if variability exists between weekdays and weekend in the elderly. It is possible that aging effects on physical and cognitive health may limit the ability of an older adult to be compliant with an accelerometer protocol; in this line many methods have been suggested for increasing compliance to protocols for research studies. Accelerometers can provide reliable information on mobility and objective measurement of PA. These activity monitors have significant advantages when compared with other quantitative methods for measurement of energy expenditure. Accelerometers are currently used mainly in a research setting; however, with recent advances, incorporation into clinical and fitness practice is possible and increasing.

Keywords

Accelerometer, Elderly, Physical activity, Energy expenditure.