

Feasibility of Using the Wii-Fit to Improve Balance in the Elderly: A Review of Literature

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Falls are the most frequent source of injury and one of the most common reasons for hospitalization among seniors 65 and older. Unfortunately, many seniors who experience a fall never fully recover from the broken bones or fractures. Research indicates that incorrect shifting of body weight is the most common reason for falls among the elderly. Improving balance and gait can play an important role in helping older people avoid falls and injury as well as improving their mobility confidence. Our ability to balance decreases naturally as we age—mainly because we lose muscle tone and reflex speed. With this in mind, balance training has become an integral part of a complete fitness programme for seniors geared towards improving balance which can significantly reduce one's chance of falling.

The Wii-Fit is a Nintendo game used for aerobics, strength training, and balance activities. The Nintendo Wii gaming device includes a balance board that senses weight, postural sway movement and balance. The Nintendo Wii Balance Board collects data comparable to a force plate. The Wii board records movements and gives feedback on performance. Though originally designed as a video game controller, the Balance Board has become a proven tool for assessing centre of pressure displacement. It is proven to be both valid and reliable. Clark & Kraemer, (2009) performed a study to prove the validity and test-retest reliability of the use of a Wii balance board. Their study found the Wii Balance Board to be both valid and have high test-retest reliability. The Wii board has the added benefit of being a low-cost, simple to use, wireless and portable device.

Articles were retrieved through database searching of Google scholar, PubMed, SportDiscus, EBSCOhost, Medline and online e-Journals. Keywords used were a combination of Nintendo Wii, exergaming, wiihab, paired with the elderly and balance. To be included in this review, studies were required to be peer-reviewed and have used the Wii as an intervention tool as a part of their study. A total of fifteen studies were used to establish the feasibility of using the Wii fit game to improve balance in the elderly.

Older people who played the games enjoyed an improvement in both static and dynamic balance. This approach proved to be a fun way of achieving these benefits in a novel, stimulating and cost-effective manner.

Key words Wii Fit, exergaming, wiihab, elderly and balance

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