



Effects of water exercise on motor skill in the geriatric population: a systematic-review and meta-Analysis

Oral Presentation

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Abstract

Introduction: Balance is a key component of movement for daily activities, especially in older adults. Aquatic therapy is safe and may improve balance with little risk of injury and a reduced risk of falling during activities of daily living. Previous studies examining aquatic therapy as an effective way for improving balance have yielded inconsistent findings. The current systematic review and meta-analysis will investigate the effectiveness of aquatic therapy on balance among older adults.

Methods: Sources include Cochrane Central Register of Controlled Trials, Medline, ISI Web of Knowledge, EBSCO, Embase, Cumulative Index to Nursing and Allied Health Literature and Scopus. Randomized controlled or cross-over trials published by Feb 2020 were included following pre-determined search and selection criteria. Data extraction was performed by two researchers independently using a pre-determined data extraction form. Methodological quality was assessed by two reviewers using the PEDro scale which was used to rate trials according to criteria such as concealed allocation, blinding and intention-to-treat analysis. Furthermore, meta-analysis was conducted where possible. This review was registered at PROSPERO CRD42018118382 .

Results: Fifteen trials with 385 participants were included. Results showed that aquatic therapy had a significant effect on dynamic balance (SMD, -1.13; 95% CI, {-1.45- (-0.82)}; I2=77%). The analysis indicated that aquatic therapy improved balance ability compared to controls.

Conclusion: Aquatic therapy has a positive impact on dynamic balance in older adults. However, further high quality and appropriately powered studies are required to confirm this assertion.

Keywords

Geriatric; Balance; aquatic therapy; lower extremity motor function

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