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Effect of pilates exercise for improving balance and decreasing falls risk in older adults: A systematic review with meta-analysis

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Falls in older adults are a major concern worldwide in terms of frequency, disability and mortality. Balance impairment is a key modifiable risk factor for falls and balance exercises therefore form a key component of fall prevention programs. This review aimed to investigate the effect of pilates on balance and fall risk in older adults and whether programs tested in prior trials met best-practice recommendations for falls prevention exercises. MEDLINE, SPORTDiscus, CINAHL, PubMed, The Physiotherapy Evidence Database and The Cochrane Library were searched from earliest record to February 2014 for randomized and controlled clinical trials evaluating the effect of pilates on balance and fall outcomes in older adults (≥ 60 years). The electronic search identified 304 potential trials. Of these, 6 met the inclusion criteria and were included in this review. Four studies were identified as low quality (PEDro score < 6). The meta-analysis indicated a large significant effect on balance (SMD 0.88, 95% CI 0.46 to 1.29). One study included falls outcomes and reported a significant reduction in the number of falls for Pilates participants ($F=8.87$, $p<0.05$). All trials provided ≥ 2 hours of exercise per week and only one provided >50 hours of exercise during the trial period. Pilates appears to have a beneficial effect on balance in older adults, however there is limited data on the impact on fall risk. Best-practice recommendations were rarely applied in prior trials. Pilates programs in clinical practice and research should apply best-practice recommendations for falls prevention exercise.

Biography

Anna Lucia Barker is a senior research fellow and leader of the Falls and Bone Health team at Monash University. She is a physiotherapist and an experienced falls prevention researcher, and has developed a strong interest in the management of older people having completed a Masters in Geriatrics and a PhD on falls. She led the world's largest falls prevention trial in the hospital setting—the 6-PACK project—and has recently commenced the RESPOND project that explores secondary falls prevention in the ED and the ASPREE fracture sub-study that investigates the effect of aspirin on fracture and fall risk.

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