The type of exercise most beneficial for quality of life in people with multiple sclerosis: A network meta-analysis

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Abstract

Background: There is overwhelming evidence regarding the beneficial effects of exercise on the management of symptoms, functionality and health-related quality of life (HRQoL) of people with multiple sclerosis (MS). However, few analyze have compared different types of exercise. Objective: The aim of this network meta-analysis (NMA) was to assess which type of physical exercise has the greatest positive effect on HRQoL in people with MS. Methods: MEDLINE, Cochrane Library, Embase, Web of Science, Physiotherapy Evidence Database and SPORTDiscus databases were searched from inception to June 2021 to identify randomized controlled trials (RCTs) examining the effect of physical exercise on HRQoL in people with MS. The NMA included pairwise and indirect comparisons. We ranked the effect of interventions calculating the surface under the cumulative ranking (SUCRA). Results: We included 45 RCTs in this NMA (2428 participants; 76% women; mean age 45 years). Five types of physical exercises were ranked. Sensorimotor training had the highest effect size (0.87, 95% confidence interval [CI] 0.60; 1.15) and the highest SUCRA (87%) for total HRQoL. The highest effect size and SUCRA for physical and mental HRQoL were for aerobic exercise (0.85, 95% CI 0.28; 1.42) (89%) and mind-body exercises (0.54, 95% CI 0.03; 1.06) (89%). Sensorimotor training was the best exercise for mild disease and aerobic exercise for severe disease for total HRQoL. Conclusions: Sensorimotor training seems the most effective exercise to improve HRQoL and aerobic and mind-body exercises to improve physical and mental HRQoL, respectively. © 2021 The Author(s)

Author keywords

Multiple sclerosis; Physical activity; Physiotherapy; Rehabilitation