Effect of exergames on musculoskeletal pain: A systematic review and meta-analysis

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The main objective was to systematically review the scientific literature about the effects of exergame-based interventions on musculoskeletal pain, as well as to provide directions for the clinical practice. A systematic search was conducted in four electronic databases following PRISMA guidelines. The inclusion criteria were as follows: (a) the subjects were suffering musculoskeletal pain, (b) the study was randomized controlled trial (RCT), (c) intervention was based on exergames, (d) the article was written in English, and (e) the article was not an abstract or summary presented in a congress or conference. Risk of bias and quality of evidence were evaluated using the PEDro Scale and GRADE approach, respectively. A meta-analysis was carried out to determine effect sizes. Seven studies were selected in the systematic review. The meta-analysis included those six articles which reported means and SD before and after treatment and used a visual analog scale or a Numeric Pain Rating Scale. Four of the seven articles reported significant reduction in pain while the rest did not found any significant change in pain after the intervention. The overall effect size for pain was ?0.51 (95% CI from ?1.25 to 0.23) with large heterogeneity. Although four of the seven articles reported significant within-group differences, zero was included in the CI of the overall effect size. Therefore, up-to-date there is not enough evidence to conclude that exergames improve musculoskeletal pain.

exergames

exertion games

pain

serious games

virtual reality

human

kinesiotherapy

meta analysis

musculoskeletal pain

pain measurement

randomized controlled trial (topic)

recreational game

Exercise Therapy

Games, Recreational

Humans

Musculoskeletal Pain

Pain Measurement

Randomized Controlled Trials as Topic