Exercise for the management of depression (PEDro synthesis)


BACKGROUND
Depression is a common chronic disease affecting more than 120 million adults worldwide. It is an important cause of morbidity and mortality with a significant impact on general health. The most usual treatments for depression are antidepressants and psychological therapies; however, exercise is also an option and is recommended in several guidelines. Recent studies have concluded that evidence remains insufficient to strongly recommend exercise for the management of depression and that more investigations on its effectiveness are needed.

AIM
The aim of this review was to determine the effectiveness of exercise compared with no treatment or other interventions for depression in adults.

SEARCHES AND INCLUSION CRITERIA
Databases searched included the Cochrane specialised register CCDANCTR, CENTRAL, MEDLINE, EMBASE, PsycINFO and SPORTDiscus up to 1 March 2013. Current Controlled Trials, ClinicalTrials.gov and WHO International Clinical Trials Registry Platform were also searched in March 2013. Bibliographies of all included studies were screened for additional references. Inclusion criteria were randomised controlled trials evaluating the effect of exercise on depression or mood in adult people diagnosed as having depression. Trials were excluded if they randomised people both with and without depression and if they investigated the effect of exercise on anxiety and neurotic disorders, dysthymia or postnatal depression. Studies were not eligible if they compared two different types of exercise with no non-exercising comparison group or if exercise was part of a ‘combination’ treatment.

INTERVENTIONS
Exercise was defined according to the American College of Sports Medicine as ‘planned, structured and repetitive bodily movement performed to improve or maintain one or more components of physical fitness’.

MAIN OUTCOMES
The primary outcome was a measure of depression or mood as a continuous or dichotomous measure.

STATISTICAL METHODS
A meta-analysis of the eligible studies was performed. For continuous data, standardised mean differences (SMD) with 95% CIs were calculated. For dichotomous data, the risk ratio with 95% CI was calculated. The overall effect size was considered as small (SMD 0.2), moderate (SMD 0.5) or large (SMD 0.8).

RESULTS
A total of 39 randomised controlled trials were included in the review (2326 patients) and 37 in the meta-analysis. Eleven trials were rated as low risk of bias, one was rated as high risk of bias and the rest as unclear risk of bias. Among the 35 trials comparing exercise with no treatment or a control intervention, the pooled standardised mean difference was −0.62 (95% CI −0.81 to −0.42) on depression symptom severity. However, the six trials with adequate allocation concealment, intention-to-treat analysis and blinded outcome assessment, yielded a pooled effect that was not statistically significant (SMD −0.18; 95% CI −0.47 to 0.11). For the eight trials reporting long-term follow-up data, a small effect was found in favour of exercise (SMD −0.33; 95% CI −0.63 to −0.03). No significant difference was found between exercise and psychological therapies (SMD −0.03; 95% CI −0.32 to 0.26) and between exercise and pharmacological treatments (SMD −0.11; 95% CI −0.34 to 0.12).

LIMITATIONS
The results of this review were based on small trials and many of them had methodological weaknesses. A sizeable number of patients from both exercise and control groups did not complete the programme. Typically trial reports did not provide precise details on how the exercise was implemented (eg, type, duration, frequency, supervisor).

CLINICAL IMPLICATIONS
This Cochrane review suggests that exercise reduces depression symptom severity but it is unclear if the effect remains after participants stop exercising. At present, the optimal way to implement exercise in the management of depression is unclear.

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