

[Intervention Review]

Exercise for depression

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Abstract

Background

Depression is a common and important cause of morbidity and mortality worldwide. Depression is commonly treated with antidepressants and/or psychotherapy, but some people may prefer alternative approaches such as exercise. There are a number of theoretical reasons why exercise may improve depression.

Objectives

To determine the effectiveness of exercise in the treatment of depression.

Search strategy

We searched Medline, Embase, Sports Discus, PsycINFO, the Cochrane Controlled Trials Register, and the Cochrane Database of Systematic Reviews for eligible studies in March 2007. In addition, we hand-searched several relevant journals, contacted experts in the field, searched bibliographies of retrieved articles, and performed citation searches of identified studies. We also searched www.controlled-trials.com in May 2008.

Selection criteria

Randomised controlled trials in which exercise was compared to standard treatment, no treatment or a placebo treatment in adults (aged 18 and over) with depression, as defined by trial authors. We excluded trials of post-natal depression.

Data collection and analysis

We calculated effect sizes for each trial using Cohen's method and a standardised mean difference (SMD) for the overall pooled effect, using a random effects model. Where trials used a number of different tools to assess depression, we included the main outcome measure only in the meta-analysis.

Main results

Twenty-eight trials fulfilled our inclusion criteria, of which 25 provided data for meta-analyses.

Randomisation was adequately concealed in a minority of studies, most did not use intention to treat

analyses and most used self-reported symptoms as outcome measures. For the 23 trials (907 participants) comparing exercise with no treatment or a control intervention, the pooled SMD was -0.82 (95% CI -1.12, -0.51), indicating a large clinical effect. However, when we included only the three trials with adequate allocation concealment and intention to treat analysis and blinded outcome assessment, the pooled SMD was -0.42 (95% CI -0.88, 0.03) i.e. moderate, non-significant effect. The effect of exercise was not significantly different from that of cognitive therapy. There was insufficient data to determine risks and costs.

Authors' conclusions

Exercise seems to improve depressive symptoms in people with a diagnosis of depression, but when only methodologically robust trials are included, the effect sizes are only moderate and not statistically significant. Further, more methodologically robust trials should be performed to obtain more accurate estimates of effect sizes, and to determine risks and costs. Further systematic reviews could be performed to investigate the effect of exercise in people with dysthymia who do not fulfil diagnostic criteria for depression.

Plain language summary

Exercise for depression

Depression is a common and important illness affecting at least 1 in 5 people during their lifetime. Exercise has been advocated as an adjunct to usual treatment. This review identified all available randomised trials which compared exercise with either no treatment or an established treatment (e.g. talking therapy) for people with a clinical diagnosis of depression. Data from 25 trials were combined. We found exercise did seem to improve the symptoms of depression, but we cannot be sure exactly how effective it is, or the most effective type of exercise. The evidence suggests that exercise probably needs to be continued in the longer-term for benefits on mood to be maintained.

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