
How effective are physical activity interventions for alleviating depressive symptoms in older people? A systematic review

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CRD summary

The review concluded that physical exercise may be useful for treatment of depressive symptoms in older people and further research was needed. The review had some methodological problems and data limitations, but the authors' conclusions were suitably cautious and appear reasonable.

Authors' objectives

To assess the efficacy of physical activity interventions for the treatment of depression in adults aged over 60 years.

Searching

MEDLINE, EMBASE, PsycINFO, The Cochrane Library, CINAHL and NRR were searched to May 2008 for articles in any language. Search terms were reported. Reference lists of selected papers and reviews were searched.

Study selection

Randomised controlled trials (RCTs) or quasi-experimental studies of exercise (delivered by someone specifically trained to deliver it) versus control in participants aged over 60 years with depressive symptoms (diagnosed by a physician interview, standardised mood measure or treating clinician) were eligible for inclusion. The exercise intervention could be a component or sole intervention. Studies had to enrol at least 80% of participants aged over 60 years and had to report appropriate outcome measures. Participants with dementia were excluded. Studies were excluded if they did not include participants who were depressed at enrolment.

The included trials studied walking, aerobics, Tai Chi, qigong and weight bearing or progressive resistance training in depressed outpatients with a mean age ranging from 65 to 82.4 years. Exercise intensity ranged from 20 to 60 minutes, typically three times per week for between six and 19 weeks. The primary outcome was the effect of exercise on depression as measured by Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV), Hamilton Rating Scale for Depression (HRS), Centre for Epidemiological Studies Depression Scale (CES-D), Geriatric Depression Scale (GDS) and Beck Depression Inventory (BDI). Participants were diagnosed with depression using DSM-IV, HRS, CES-D, GDS, and BDI. The proportion of males ranged from 50% to 81.6%.

The authors did not state how many reviewers performed study selection.

Assessment of study quality

Quality assessment of trials was based on the Critical Appraisal Skills Programme (CASP) tool and guidelines set by SIGN. Quality factors such as randomisation, allocation concealment, blinding, baseline participant characteristics, drop-outs and intention-to-treat analysis were considered.

The number of reviewers that assessed study quality was not reported.

Data extraction

Data were extracted on depressive symptoms, immediately post intervention, medium term (three to 12 months) and long term (>12 months). Multiple reviewers independently extracted data.

Methods of synthesis

A narrative synthesis was undertaken.

Results of the review

Eleven RCTs were included in the review (n=641 participants). The trial sample size ranged from 14 to 138

participants. Follow-up ranged from four weeks to 26 months. The quality of the included trials was variable; the main quality issues were a lack of allocation concealment, blinding of investigator, difference in baseline measures and lack of intention-to-treat analysis.

Immediately post intervention (seven studies): Five studies showed positive effects of exercise on depressive symptoms. Two studies showed mixed or no effects.

Medium term (six studies): Two studies showed positive effects of exercise on depressive symptoms. Four studies showed mixed or no effects.

Long term (two studies): One study showed positive effects of exercise on depressive symptoms. One study showed mixed effects.

Authors' conclusions

Physical exercise may be useful for treatment of depressive symptoms in older people, but further research is needed.

CRD commentary

Inclusion criteria for the review were broadly defined. Several relevant databases were searched for articles in any language. Publication bias was not assessed and could not be ruled out. Attempts were made to reduce reviewer error and bias during data extraction; it was unclear whether such attempts were made for study selection and quality assessment. Quality assessment was undertaken using a standard checklist, which indicated variable quality for the included trials. There were notable differences between study participants, interventions and outcome measures (acknowledged by the authors). Trials were narratively synthesised, which appeared appropriate given the type and quality of data.

The review had some methodological problems and data limitations, but the authors' conclusions were suitably cautious and appear reasonable.

Implications of the review for practice and research

Practice: The authors did not state any implications for practice.

Research: The authors stated that more well-designed studies were needed to clarify the effectiveness of different exercise intervention modalities for older people. Further research was needed to determine medium- and long-term effects of exercise. Research should aim to determine the ideal mode, duration and intensity of exercise. Cost-effectiveness studies were needed.

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