

FPIN's Clinical Inquiries

Exercise for Depression in Older Adults

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Clinical Question

Does regular exercise improve clinical depression symptoms in adults older than 60 years?

Evidence-Based Answer

Exercise is beneficial for treating depression in adults older than 60 years. Exercise training is recommended for healthy older adults because it significantly decreases depressive symptoms. (Strength of Recommendation [SOR]: A, meta-analysis of randomized controlled trials [RCTs].) Exercise improves depression in older patients with normal or impaired cognition. (SOR: A, meta-analysis of RCTs and cohort studies.) High-intensity resistance exercise also improves depression in older patients (number needed to treat [NNT] = 3). (SOR: B, systematic review of an RCT.)

Evidence Summary

A 2022 meta-analysis of 18 studies (n = 1,354) explored the effect of exercise training on depressive symptoms in healthy older adults.¹ Study participants were 60 years and older and did not exercise regularly. Exercise interventions were aerobic, resistance, or a combination of the two, and the

study included a nonexercise control group. Pre- and postdepression scores were measured using the Geriatric Depression Scale, Goldberg Depression Scale, Mental Health Functioning Index, and Beck Depression Inventory-II. The review used standardized mean difference (SMD) because the studies used different depression scales. There was moderate heterogeneity between trials. Exercise significantly decreased depressive symptoms in participants with a moderate effect size (SMD = -0.52; 95% CI, -0.76 to -0.28; $P < .001$). Interventions lasting more than 24 weeks had a greater effect (SMD = -0.66; 95% CI, -1.08 to -0.24; $P = .002$) than interventions lasting less than 24 weeks (SMD = -0.37; 95% CI, -0.63 to -0.11; $P = .006$).

A 2022 meta-analysis of 22 studies evaluated the effects of any exercise on reducing depression in adults residing in long-term care facilities. The participants in each study had a mean age of 65 years or older.² Studies included a nonexercise or usual care control group, and pre- and postdepression scores were noted. Heterogeneity was high among studies. In adults with intact cognition, there was a statistically significant but small effect of exercise improving depression as measured by a numeric depression scale (SMD = 0.27; 95% CI, 0.05 to 0.49; $P = .02$). Similar improvement was noted in adults with impaired cognition (SMD = 0.25; 95% CI, 0.10 to 0.41; $P = .002$). Exercising for less than 150 minutes per week (SMD = 0.23; 95% CI, 0.09 to 0.36; $P = .001$) or exercising for 150 minutes per week or more (SMD = 0.49; 95% CI, 0.18 to 0.81; $P = .002$) reduced depression.

A 2001 RCT (n = 32) examined the effects of high-intensity exercise in depressed older adults compared with a control group.³ Participants were older than 60 years, had depression, and were not taking antidepressant medication. The intervention was 45 minutes of high-intensity resistance exercise two or three days per week for 20 weeks. The control group received only health education. At the end of the 20 weeks, depression resolved significantly more in the exercise group, with fewer participants meeting the criteria for depression (27% vs. 64% in the control group; $P = .02$; NNT = 3).

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CLINICAL INQUIRIES

A 2021 RCT (n = 347) compared exercise therapy with the use of antidepressant medications.⁴ Participants were 65 years and older with depression. They were randomized to a supervised exercise group who met for one hour twice per week for six months or a group who received antidepressant medication. The exercise group participated in aerobic, resistance, and balance/flexibility exercises. The intention-to-treat analysis found that the medication group had significant improvement at three and six months, but in the per-protocol analysis, exercise was noninferior to antidepressant medications at improving depression to achieve a Montgomery-Åsberg Depression Rating Scale score of less than 10 at one and six months. Adverse effects were higher in the medication group (22.5% vs. 8.9% in the exercise group; $P = .007$; number needed to harm = 7).

Recommendations From Others

The World Health Organization,⁵ U.S. Department of Health and Human Services,⁶ and American Geriatrics Society⁷ recommend that adults 65 years and older participate in at least 150 to 300 minutes of moderate-intensity activity per week, with resistance activities on two or more days.

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