#### Title

Strength training has antidepressant effects in people with depression or depressive symptoms but no other severe diseases: A systematic review with meta-analysis

#### **Abstract**

Depression and subthreshold depressive symptoms reduce quality of life and function and treatment does not work effectively in one-third of patients. Exercise can reduce depressive symptoms, but more information is required regarding strength training (ST). The objective of the present meta-analysis was to summarize and estimate the efficacy of ST in people with a diagnosis of depression or subthreshold depressive symptoms and no other severe disease. We also aimed to explore the variables that could influence the antidepressant effects. PubMed, Embase, Web of Science, PsyINFO, CINAHL, and SPORTDiscus were searched from inception to August 2022. The overall effect antidepressant of training was moderate (SMD = -0.51, 95 % CI -0.72 to -0.30, p < 0.001). The meta-regression demonstrated preliminary evidence that the variables: duration of the intervention in weeks, weekly frequency of the intervention, number of sets, and number of repetitions can influence the antidepressant effects. However, these variables had a small role in the variation of the effect. © 2024 Elsevier B.V.

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**Author Keywords** 

Exercise; Mental disorders; Mental health; Muscle strength

**Index Keywords** 

Antidepressive Agents; Depression; Exercise; Humans; Quality of Life; Resistance

Training; antidepressant agent; antidepressant activity; Article; Beck Depression

Inventory; bipolar disorder; breast cancer; chronic obstructive lung disease;

depression; Depression, Anxiety and Stress Scale; exercise; Geriatric Depression

Scale; Hospital Anxiety and Depression Scale; human; major depression; mental

disease; mental health; meta analysis; muscle strength; obesity; osteoarthritis;

physical activity; quality control; quality of life; randomized controlled trial (topic);

resistance training; schizophrenia; systematic review; depression

Chemicals/CAS

Antidepressive Agents,

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