

# Physical activity interventions for people with mental illness: A systematic review and meta-analysis

S. Rosenbaum<sup>1</sup>, A. Tiedemann<sup>1</sup>, C. Sherrington<sup>1</sup>, J. Curtis<sup>2,3</sup>, P.B. Ward<sup>3,4</sup>

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**Introduction:** Physical activity has the potential to improve mental health symptoms in addition to physical health outcomes for people experiencing mental illness. This study examined the effect of physical activity on depressive symptoms in people with a mental illness. Secondary analyses were conducted to determine the effect of physical activity on positive and negative symptoms of schizophrenia, anthropometric measures, aerobic capacity and quality of life in people with a mental illness.

**Method:** A systematic review with meta-analysis of randomised clinical trials was conducted. Adults with a DSM-IV-TR, International Classification of Disease (ICD-10), or other diagnosis of a mental illness excluding dysthymia, and eating disorders were included. Physical activity interventions including structured exercise programs; exercise counselling; lifestyle interventions in which physical activity was a major component; Tai Chi; or physical yoga were included. Separate meta-analyses were conducted for depressive symptoms, positive and negative schizophrenia symptom ratings, anthropometry, aerobic capacity and quality of life. The effect of study methodological quality and intervention compliance with the American College of Sports Medicine (ACSM) guidelines was also analysed.

**Results:** Thirty-nine eligible trials were identified. Twenty of these were pooled in the primary meta-analysis that found a large effect of physical activity on depressive symptoms (standardised mean difference, SMD=0.80). A large effect was found for schizophrenia symptoms (SMD=1.0), a small effect was found for anthropometry (SMD=0.24) and moderate effects were found for aerobic capacity (SMD=0.63) and quality of life (SMD=0.64). No significant difference was found between the size of effects in trials that met ACSM guidelines for aerobic exercise and those that did not ( $p=0.71$ ). A moderate effect was found for trials with higher methodological quality as assessed with the PEDro scale (SMD=0.39) and a large effect was found for trials with lower methodological quality (1.35), however the difference was not statistically significant ( $p=0.19$ ).

**Conclusions:** Physical activity was effective in reducing depressive symptoms amongst people with a mental illness. Physical activity also reduced symptoms of schizophrenia, improved anthropometric measures, and improved aerobic capacity and quality of life amongst people with a mental illness.

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