Systematic review of the benefits of physical therapy within a multidisciplinary care approach for people with schizophrenia


CRD summary
The authors cautiously concluded that specific physical therapy interventions resulted in beneficial outcomes for psychiatric symptoms, psychological distress, state anxiety, health-related quality of life and aerobic and muscular fitness. This was a well-conducted review and the authors' conclusions reflect some limitations of the evidence. However, the added value of physical therapy in people with schizophrenia remains unclear.

Authors' objectives
To evaluate the effectiveness of physical therapy within a multidisciplinary care approach for people with schizophrenia.

Searching
EMBASE, PsycINFO, PubMed, Web of Science, CINAHL, PEDro and The Cochrane Library were searched from inception until July 2011 for publications in any language; search terms were reported. There was a manual search of reference lists and an internet search of clinical trial databases, theses and dissertations. Experts in the field were contacted for further information on potentially relevant trials.

Study selection
Eligible studies were of people with a diagnosis of schizophrenia or other types of schizophrenia spectrum psychoses who underwent a physical therapy intervention compared with placebo, control intervention or standard care using a randomised controlled trial (RCT). Other eligible types of schizophrenia spectrum disorders included schizoaffective or schizophreniform disorder but not bipolar disorder or major depression with psychotic features. Physical therapy interventions could include aerobic exercises, relaxation training, strength exercises, basic body awareness exercises or a combination of these. Interventions could be used alone or in conjunction with other interventions such as pharmacotherapy, psycho-education and cognitive-behavioural or motivational techniques related to exercise behaviour. Weight management programmes were excluded. Outcomes of interest included assessments of mental health, physical health and health-related quality of life. Studies published as abstracts were excluded.

The trials included mostly men. The age of the participants ranged from 18 to 63 years. With the exception of two included trials, diagnoses of schizophrenia were made using Diagnostic and Statistical Manual of Mental Disorders fourth edition (DSM-IV) criteria. Participants with first episodes or chronic conditions were included. Interventions ranged from single sessions up to seven sessions that lasted 20 to 60 minutes. Controls included yoga, waiting list, usual care, resting and reading control.

Two reviewers independently selected studies for inclusion.

Assessment of study quality
Quality was assessed using the five-point Jadad scale of randomisation, blinding and withdrawals. The authors also used a published rating system relevant to the practice of physical therapy. Criteria evaluated in this system included participant characteristics, sample size, description of interventions and validity and reliability of outcome measures.

Two reviewers independently assessed quality. Any disagreements were resolved by discussion or by a third reviewer.

Data extraction
Significant changes and p values were extracted. Data were extracted by one reviewer and checked by a second reviewer.

Methods of synthesis
The results were summarised in a narrative synthesis. The authors stated that they did not analyse the data in a meta-
analysis due to heterogeneity among the studies.

**Results of the review**
Ten trials were included in the review (322 participants). Two of the included studies were considered to be methodologically weak.

The authors stated that in general, aerobic and strength exercises had an impact on some mental health outcomes such as mental state, state anxiety and psychological distress. Detailed results for each trial were presented in tables and in the text.

Six trials assessed the effectiveness of aerobic exercises, strength exercises (such as yoga) or both. One of three trials that assessed the effectiveness of exercise on positive and negative symptoms showed significantly greater reductions compared to controls. Aerobic and strength exercises had a small effect on physical health outcomes such as aerobic and muscular fitness (one of three trials showed significant improvements). There were no significant differences in body mass index (two trials). There were no adverse events (adverse events were reported on in only two trials). Results from single trials were reported in the review.

Four trials assessed progressive muscle relaxation. Three of four trials showed significant reductions in anxiety.

**Authors' conclusions**
Physical therapy offered added value in the multidisciplinary care of people with schizophrenia. The overall conclusions were limited by the heterogeneity and small sample sizes of the included trials.

**CRD commentary**
The review question and inclusion criteria were clear. There was a comprehensive search for published and unpublished trials. Steps were taken at all stages of the review process to minimise reviewer error and bias.

Given the clinical heterogeneity between the trials, data were adequately summarised as a narrative synthesis. The interventions evaluated were of very short duration and as the patients also received pharmacotherapy it was unclear what influence interventions may have had on the findings. Outcomes were self-reported.

This was a well-conducted review and the authors' conclusions reflect some of the limitations of the evidence but these and other limitations suggest that added value of physical therapy in people with schizophrenia remains unclear.

**Implications of the review for practice and research**

**Practice**: The authors stated that physical therapy could be used in the multidisciplinary care of people with schizophrenia. Physical therapists would need to tailor the type of exercises to the participant.

**Research**: The authors stated a need for larger adequately powered masked long-term RCTs to examine physical interventions as adjunct treatment for people with schizophrenia. Trials needed to clearly define the exact nature of a physical therapy programme and assess valid and reliable outcome measures that included schizophrenia-related symptoms, broader clinical outcomes such as quality of life and behavioural outcomes. Further research was needed on the use of basic body awareness exercises.

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.