Exercise for the management of cancer-related fatigue in adults

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Authors' objectives
Background: Cancer-related fatigue is recognised as an important symptom associated with cancer and its treatment. A number of studies have investigated the effects of physical activity in reducing cancer-related fatigue. This is an updated version of the original Cochrane review published in The Cochrane Library (2008, Issue 1). The original review identified some benefits of physical activity on fatigue in cancer both during and after adjuvant treatment. We identified a number of limitations in the evidence, providing clear justification for an updated review. Objectives: To evaluate the effect of exercise on cancer-related fatigue both during and after cancer treatment.

Search methods: We searched the Cochrane Central Register of Controlled Trials (CENTRAL) (Issue 1, 2011), MEDLINE (1966 to March 2011), EMBASE (1980 to March 2011), CINAHL (1982 to March 2011), British Nursing Index (January 1984 to March 2011), AMED (1985 to March 2011), SIGLE (1980 to March 2011) and Dissertation Abstracts International (1861 to March 2011) using key words. We also searched reference lists off all studies identified for inclusion and relevant reviews. In addition, we handsearched relevant journals and contacted experts in the field of cancer-related fatigue.

Selection criteria: We sought and included randomised controlled trials (RCTs) that investigated the effect of exercise on cancer-related fatigue in adults.

Data collection and analysis: Two review authors independently assessed the risk of bias of studies and extracted data based upon predefined criteria. Where data were available we performed meta-analyses for fatigue using a random-effects model.

Main results: For this update we identified a total of 56 studies (4068 participants) for inclusion (28 from the original search and 28 from the updated search), with the majority carried out in participants with breast cancer (28 studies). A meta-analysis of all fatigue data, incorporating 38 comparisons, provided data for 1461 participants who received an exercise intervention and 1187 control participants. At the end of the intervention period exercise was seen to be statistically more effective than the control intervention (standardised mean difference (SMD) -0.27, 95% confidence interval (CI) -0.37 to -0.17). Benefits of exercise on fatigue were observed for interventions delivered during or post-adjuvant cancer therapy. In relation to diagnosis, we identified benefits of exercise on fatigue for breast and prostate cancer but not for those with haematological malignancies. Finally, aerobic exercise significantly reduced fatigue but resistance training and alternative forms of exercise failed to reach significance.

Authors' conclusions: The findings of the updated review have enabled a more precise conclusion to be made in that aerobic exercise can be regarded as beneficial for individuals with cancer-related fatigue during and post-cancer therapy, specifically those with solid tumours. Further research is required to determine the optimal type, intensity and timing of an exercise intervention.


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