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WILEY

[Intervention Review]

Exercise for overweight or obesity

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ABSTRACT

Background

Clinical trials have shown that exercise in adults with overweight or obesity can reduce bodyweight. There has been no quantitative systematic review of this in *The Cochrane Library*.

Objectives

To assess exercise as a means of achieving weight loss in people with overweight or obesity, using randomised controlled clinical trials.

Search methods

Studies were obtained from computerised searches of multiple electronic bibliographic databases.

Selection criteria

Studies were included if they were randomised controlled trials that examined body weight change using one or more physical activity intervention in adults with overweight or obesity at baseline and loss to follow-up of participants of less than 15%.

Data collection and analysis

Two authors independently assessed trial quality and extracted data.

Main results

The 43 studies included 3476 participants. Although significant heterogeneity in some of the main effects' analyses limited ability to pool effect sizes across some studies, a number of pooled effect sizes were calculated. When compared with no treatment, exercise resulted in small weight losses across studies. Exercise combined with diet resulted in a greater weight reduction than diet alone (WMD - 1.0 kg; 95% confidence interval (CI) -1.3 to -0.7). Increasing exercise intensity increased the magnitude of weight loss (WMD - 1.5 kg; 95% CI -2.3 to -0.7). There were significant differences in other outcome measures such as serum lipids, blood pressure and fasting plasma glucose. Exercise as a sole weight loss intervention resulted in significant reductions in diastolic blood pressure (WMD - 2 mmHg; 95% CI -4 to -1), triglycerides (WMD - 0.2 mmol/L; 95% CI -0.3 to -0.1) and fasting glucose (WMD - 0.2 mmol/L; 95% CI -0.3 to -0.1). Higher intensity exercise resulted in greater reduction in fasting serum glucose than lower intensity exercise (WMD - 0.3 mmol/L; 95% CI -0.5 to -0.2). No data were identified on adverse events, quality of life, morbidity, costs or on mortality.

Authors' conclusions

The results of this review support the use of exercise as a weight loss intervention, particularly when combined with dietary change. Exercise is associated with improved cardiovascular disease risk factors even if no weight is lost.

PLAIN LANGUAGE SUMMARY**Exercise for overweight or obesity**

Overweight and obesity are important public health problems and are associated with many serious health conditions. The risk of developing overweight and obesity depends on lifestyle factors such as food intake and physical activity levels. Treatment for overweight and obesity therefore commonly involves diet and exercise. We found that exercise has a positive effect on body weight and cardiovascular disease risk factors in people with overweight or obesity, particularly when combined with diet, and that exercise improves health even if no weight is lost. No data were identified on adverse events, quality of life, morbidity, costs or mortality.