Physical conditioning programs for improving work outcomes in workers with back pain (Review)

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Physical conditioning programs for improving work outcomes in workers with back pain

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ABSTRACT

Background

Physical conditioning programs aim to improve work status for workers on sick leave. This is an update of a Cochrane Review (Work conditioning, work hardening and functional restoration for workers with back and neck pain) first published in 2003.

Objectives

To compare the effectiveness of physical conditioning programs in reducing time lost from work for workers with back pain.

Search methods

We searched the following databases to June/July 2008: CENTRAL (The Cochrane Library 2008, issue 3), MEDLINE from 1966, EMBASE from 1980, CINAHL from 1982, PsycINFO from 1967, and PEDro.

Selection criteria

Randomized controlled trials (RCTs) and cluster RCTs that studied workers with work disability related to back pain and who were included in physical conditioning programs.

Data collection and analysis

Two review authors independently extracted data and assessed risk of bias.

Main results

Thirty-seven references, reporting on 23 RCTs (3676 workers) were included, 13 of which had a low risk of bias. In 14 studies, physical conditioning programs were compared to usual care. In workers with acute back pain, there was no effect on sickness absence. For workers with subacute back pain, we found conflicting results, but subgroup analysis showed a positive effect of interventions with workplace involvement. In workers with chronic back pain, pooled results of five studies showed a small effect on sickness absence at long-term follow-up (SMD: -0.18 (95% CI: -0.37 to 0.00)). In workers with chronic back pain, physical conditioning programs were compared to other exercise programs in six studies, with conflicting results. The addition of cognitive behavioural therapy to physical conditioning programs was not more effective than the physical conditioning alone.
Authors’ conclusions

The effectiveness of physical conditioning programs in reducing sick leave when compared to usual care or other exercises in workers with back pain remains uncertain. In workers with acute back pain, these programs probably have no effect on sick leave, but there may be a positive effect on sick leave for workers with subacute and chronic back pain. Workplace involvement might improve the outcome. Better understanding of the mechanism behind physical conditioning programs and return-to-work is needed to be able to develop more effective interventions.

Plain Language Summary

Physical conditioning program for improving work outcomes in workers with back pain

The main goal of physical conditioning programs, sometimes called work conditioning, work hardening or functional restoration/exercise programs, is to return injured or disabled workers to work or improve the work status for workers performing modified duties. Such programs either simulate or duplicate work, functional tasks, or both, in a safe, supervised environment. These tasks are structured and progressively graded to increase psychological, physical and emotional tolerance and improve endurance and work feasibility. In such environments, injured workers learn appropriate job performance skills in addition to improving their physical condition, through an exercise program aimed at increasing strength, endurance, flexibility, and cardiovascular fitness. Work hardening programs are individualized, work-oriented activities that involve clients in simulated or actual work tasks. Work conditioning is a program with an emphasis on physical conditioning that addresses the issues of strength, endurance, flexibility, motor control, and cardiopulmonary function. Functional restoration refers to any intervention aimed at restoring a reasonable functional level for daily living, including work.

Based on 23 included studies, we analysed eight comparisons of physical conditioning programs versus care as usual or other types of interventions, such as standard exercise therapy for different durations of back pain and follow-up times. We divided physical conditioning programs into a light or an intense program depending on its intensity and duration. Results showed that light physical conditioning programs have no significant effect on sickness absence duration for workers with subacute or chronic back pain. We found conflicting results for intense physical conditioning programs for workers with subacute back pain. Further analysis suggested a positive effect on sick leave when the workplace was involved in the intervention. Physical conditioning programs probably have a small effect on return-to-work for workers with chronic back pain. We found conflicting results for intense physical conditioning programs compared to other exercise therapy in the first two years of sick leave. No difference in effect was found between a light or an intense physical conditioning program. We found that cognitive behavioural therapy probably has no value as an alternative therapy, or in addition to physical conditioning programs.