

Multidisciplinary Treatment for Low Back Pain

Guzman J, Esmail R, Karjalainen K, et al. Multidisciplinary rehabilitation for chronic low back pain: systematic review. *BMJ* 2001;322:1511–6.

Study Overview

Objective. To assess the effect of multidisciplinary biopsychosocial rehabilitation on clinically relevant outcomes in patients with chronic low back pain.

Design. Systematic review of randomized controlled trials.

Study selection. To locate studies, researchers searched several electronic databases from the beginning of each database to June 1998 (with no language restrictions); citation tracking and consultation with content experts were also used. For a study to be included in the review, its participants had to be adults with disabling low back pain (with or without sciatica) for more than 3 months. One group of subjects had to have received multidisciplinary biopsychosocial treatment, defined as a minimum of a physical component and a component that was either psychological, social, or occupational. One group of subjects had to have received a control treatment that did not fulfill criteria for multidisciplinary rehabilitation. In addition, studies had to report treatment effect for at least 1 of the following variables: pain severity, global improvement, functional status, quality of life, and employment status. The review was conducted under the sponsorship of the Back Review Group of the Cochrane Collaboration.

Main outcome measures. Effect size of pain rating (standardized mean difference [SMD]), functional status (SMD), employment status (relative risk), and days on sick leave (SMD). Effect sizes were calculated but not pooled due to significant heterogeneity in study settings, interventions, and control groups. Methodologic quality and clinical relevance were evaluated to judge the strength of the evidence.

Main results. Researchers reviewed 10 trials reporting on a total of 12 randomized comparisons of multidisciplinary treatment and a control condition. These studies were published between 1989 and 1997 in Europe, Australia, and Canada and included a total of 1964 patients with low back pain. Most patients were workers selected from insurance listings or patients referred to pain management clinics. Multidisciplinary biopsychosocial rehabilitation programs included inpatient

and outpatient settings and varied in time and intensity of the 3 components. Programs fell into 2 main categories: daily intensive, with more than 100 hours of therapy, and once or twice weekly, with less than 30 hours of therapy.

Researchers found strong evidence that intensive multidisciplinary biopsychosocial rehabilitation with functional restoration improves function when compared with inpatient or outpatient nonmultidisciplinary treatments. Moderate evidence suggested that intensive multidisciplinary biopsychosocial rehabilitation with functional restoration reduces pain when compared with outpatient nonmultidisciplinary rehabilitation or usual care. Evidence regarding vocational outcomes of intensive multidisciplinary biopsychosocial intervention was contradictory. Some trials reported improvements in work readiness, while others showed no significant reduction in sick leave. Less intensive outpatient psychophysical treatments did not improve pain, function, or vocational outcomes when compared with nonmultidisciplinary outpatient therapy or usual care. Few trials reported effects on quality of life or global assessments.

Conclusion. The reviewed trials provide evidence that intensive multidisciplinary biopsychosocial rehabilitation with functional restoration reduces pain and improves function in patients with chronic low back pain. Less intensive interventions did not show improvements in clinically relevant outcomes.

Commentary

Chronic back pain is a common, disabling problem that is often difficult to manage with medication alone and is frequently resistant to physical therapy. After initial treatment attempts fail, patients with back pain are usually referred to pain clinics, with the expectation that a multidisciplinary approach will improve outcomes. Guzman and colleagues' review summarized the best available evidence on multidisciplinary rehabilitation for low back pain, and this information

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should be considered when developing a patient's treatment plan. However, because of the heterogeneity of the studies examined, the authors' results cannot provide an effect size or guidance in selecting the best multidisciplinary program. In particular, control groups were very heterogeneous, ranging from patients on a waiting list to patients enrolled in a 3-week inpatient physical therapy program. Furthermore, although the most effective and intensive multidisciplinary approach was shown to improve pain and functional status, it failed to improve employment status or days on sick leave; thus, this treatment appears to have a positive impact on individual patients but may not

affect society. Research targeting this societal impact is needed, although it has been difficult to accomplish because of the subjective nature of pain and possible secondary gains associated with this problem.

Applications for Clinical Practice

A multidisciplinary program, usually available in pain clinics, is probably the best available management strategy for patients with chronic low back pain. This intervention should not only include physical therapy but should also address psychological, social, and occupational aspects of this complex problem.

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