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Evidence-informed management of chronic low back pain with back schools, brief education, and fear-avoidance training

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Abstract **EDITORS' PREFACE:** The management of chronic low back pain (CLBP) has proven very challenging in North America, as evidenced by its mounting socioeconomic burden. Choosing among available nonsurgical therapies can be overwhelming for many stakeholders, including patients, health providers, policy makers, and third-party payers. Although all parties share a common goal and wish to use limited health-care resources to support interventions most likely to result in clinically meaningful improvements, there is often uncertainty about the most appropriate intervention for a particular patient. To help understand and evaluate the various commonly used nonsurgical approaches to CLBP, the North American Spine Society has sponsored this special focus issue of *The Spine Journal*, titled Evidence-Informed Management of Chronic Low Back Pain Without Surgery. Articles in this special focus issue were contributed by leading spine practitioners and researchers, who were invited to summarize the best available evidence for a particular intervention and encouraged to make this information accessible to nonexperts. Each of the articles contains five sections (description, theory, evidence of efficacy, harms, and summary) with common subheadings to facilitate comparison across the 24 different interventions profiled in this special focus issue, blending narrative and systematic review methodology as deemed appropriate by the authors. It is hoped that articles in this special focus issue will be informative and aid in decision making for the many stakeholders evaluating nonsurgical interventions for CLBP.

Keywords: Chronic low back pain; Back school; Physiotherapy; Fear avoidance; Patient education

Description

History

The Swedish Back School was introduced by Zachrisson-Forssell in 1969, based on knowledge about the intervertebral disc, spinal anatomy and physiology, and ergonomics [1,2]. Patients were initially taught how to protect spinal structures in daily activities and back exercises were later added to back school [3]. Back schools were eventually incorporated into comprehensive multidisciplinary programs for chronic low back pain (CLBP) [4].

Waddell attempted to construct a new theoretic framework for the treatment of low back pain (LBP) [5] based on his observations that the natural history and epidemiology of LBP suggest it is benign and self-limiting. Traditional approaches based on the medical model of disease were contrasted with a biopsychosocial model of illness to reexamine success and failure in management of LBP. This shift in thoughts regarding LBP inspired others to reconsider its management. For example, Indahl et al. began telling patients that light activity would not further injure

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their discs or other structures [6]. A clinical examination was supplemented by brief education given by a physiatrist, physiotherapist, or nurse; during which patients were instructed that the worst thing they could do to their back was to be too careful. The link between emotions and CLBP was attributed to increased tension in the muscles. Brief education has also been managed in the physiotherapy setting [7,8]. Cherkin et al. evaluated the value of an educational booklet in patients with acute LBP [9], which was not effective in reducing symptoms, disability, or health-care use. His findings challenged the value of purely educational approaches in reducing symptoms and costs of LBP.

Lethem et al. introduced the fear-avoidance model in 1983, and a questionnaire for measurement of fear-avoidance beliefs was published by Waddell et al. in 1993 [10,11]. The central concept of this model is fear of pain, which was further outlined by Vlaeyen and Linton in 2000 [12], who postulated that confrontation and avoidance are the two extreme responses to this fear. Whereas the former leads to reduction of fear over time, the latter leads to maintenance and exacerbation of fear, which may generate a phobic state in CLBP. Several studies have shown that physical performance and self-reported disability are associated with cognitive and behavioral aspects of pain, in addition to sensory and biomedical ones [13–17]. Behavior that is believed to be caused by fear of movement is commonly observed among persons with CLBP who have been told or experienced that the ''wrong movement'' might cause a serious problem and should be avoided, which may increase the risk of prolonged disability [15,18].

Subtypes

Several interventions have similar goals for CLBP, including back schools, brief education, and fear-avoidance training. Although presented as different types of treatment, it should be noted that there is considerable overlap among these approaches. However, categorizing these interventions will increase the homogeneity among studies reviewed and improve the precision of our recommendations.

General description

Back schools can be defined as an intervention consisting of group education, training, and exercises, delivered by a physiotherapist or other health provider. Back schools are often organized in an occupational setting or may be part of a multidisciplinary rehabilitation program. Brief education involves only short contact with health-care professionals through patient-led self-management groups, educational booklets, and on-line discussion groups [19]. These interventions often encourage self-management, provide advice to stay active, and reduce potential concerns about LBP. Fear-avoidance training as an intervention encourages a return to normal activities and physical exercise to address fear avoidance, or kinesiophobia, which can be assessed by validated questionnaires [11,20,21].

Practitioner, setting, and availability

Many health providers may deliver basic back school interventions with additional content-specific training, including physiotherapists, physicians, occupational therapists, or chiropractors. A trained mental health professional such as a psychologist or psychiatrist may be required for advanced fear-avoidance training. The qualifications and training required for brief educations vary considerably, and are similar to those for back schools. These interventions occur in occupational settings or private practices of health providers. These interventions are available in the United States, mostly in larger cities.

Reimbursement

Pertinent CPT (US reimbursement) codes include 90804: Individual psychotherapy, insight oriented, behavior modifying and/or supportive, in an office or outpatient facility, approximately 20 to 30 minutes face to face with the patient or 90805: Individual psychotherapy, insight oriented, behavior modifying and/or supportive, in an office or outpatient facility, approximately 20 to 30 minutes face to face with the patient; with medical evaluation and management services; other codes apply to longer visits. Most insurers will reimburse brief education administered by a licensed health provider, but may require documentation before approving more intensive, lengthy, and costly fear-avoidance training programs.

Theory

Mechanism of action

The word doctor comes from the Latin word docere (to teach) and underscores the importance of communication in the health provider/patient relationship. Although most usual health consultations contain an element of education, this aspect is often minimized in favor of other interventions. When dealing with a complex disorder such as CLBP, education is essential to reassure patients that severity of pain is not an indication of disease severity. It should also encourage beneficial thoughts and actions, discourage impediments to recovery, and outline realistic treatment goals and expectations. Educational aspects are especially important therapies when other therapies are not effective or have a delayed onset. Patients with CLBP often fail to discuss their fears with health providers for many reasons, including fear of receiving unfavorable answers to their questions, dislike of further questioning by health providers in response to their fears, or worry that their fears will be belittled. Negative test results for serious pathology have great power to reassure the patient only if their significance is carefully explained.