



Exercise and psychological factors in low back pain

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Abstract

Pain is a complex and challenging problem for patients with low back pain and for the psychologists and physiotherapist. One of the most common musculoskeletal pain problems is low back pain. Literature data allow us to assume that possible cause of decreased multifidus size include reflex inhibition and disuse atrophy. Increased fatigability (decreased endurance) of the multifidus muscle has been demonstrated in low back pain (LBP) patients in several research studies. Taking up physical activity belongs to one of the fundamentals of the therapy. Formal exercise programmes used in conjunction with other methods of treatment and psychological therapy are one the main forms treatments in low back pain. Lifestyle, physical activity in particular is one on the factors influencing the health of youth and adults. Passiveness and apathy do not facilitate the persistence in realizing the aims of treatment.

Keywords: exercise, low back pain, multifidus, increased fatigability, psychological factors

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INTRODUCTION

Pain ailments of a lower spine segment belong to the most common problems reported by the patients of the Pain Clinic. In many cases pain makes an illness condition or may become the one moving from acute to chronic. There are several reasons for pain in the lower part of a spine: ischial nerve pressure, intervertebral disc dislocation, osteoarthritis, faulty posture, static and dynamic disorders of the body at shifted spine line, pathological load on joints, past injuries and surgeries, constant constipations, and various types of spine pain - connected with overloading it [1].

Pain (sensory and emotional experience) interrupts all other activity and arrests current behaviour. It functions to prime escape or protective behaviour [2]. Increased fatigability of the multifidus muscle has been demonstrated in low back pain (LBP) patients in several research studies. These findings are also in line with studies on the fibre-type composition of multifidus in the low back pain population who had undergone surgery. Possible cause of decreased multifidus size include reflex inhibition and disuse atrophy. The rapidity of onset and distribution of the decrease in muscle size, indicated that disuse atrophy was not the cause and that a selective mechanism (reflex inhibition) was in operation [3].

SELECTED PSYCHOLOGICAL FACTORS IN PAIN PERCEPTION

Pain is a complex and challenging problem for patients and for the psychologists and physiotherapist. Mental condition also makes an important factor here. For instance - depressive syndrome-both: hyperactive and hypoactive can coexist with the symptoms of chronic pain and catastrophizing especially in the so-called "masked depression", the main symptom of which is pain resistant to analgesic medicines. According to the biopsychosocial model of pain, it is a multidimensional phenomenon, which comprises physiological (sensation-related factors), psychological (affective) social factors. Chronic low back pain is a complex and multistage process in which mental factors such as cognitive interpretations of pain and emotional conditions play an important role.

The long- term experience of pain and the threat of pain can lead to negative or low affect. Chronic low affect, including difficult feelings of anger and negative or destructive self-appraisal are common effects of persistent pain [4,5].

In the light of the literature, pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. This physiological phenomenon serves as a warning sign against body damage and/or information about such damage [1].

Nociception is a complex sequence of physiological processes that help to sense and become aware of pain occurring at the level of the peripheral and central nervous system [6]. There are data that reveal that analgesic treatment at persons suffering from depression is usually less effective and the patients are less active in the process of rehabilitation.

Literature data allow us to assume that pain is something which affects individuals in an idiosyncratic way, there are some population of people with special features as a whole, who must be considered when evaluating pain [7]. Unfortunately anger can cause worse cooperation with medical personnel and increase unwillingness to treatment. Along with the biopsychosocial model of therapy (under Association for the Study of Pain), besides the management of symptoms and analgesic treatment the role of anxiety, depression and anger in the process of spine pain treatment should be considered with the inclusion of pharmacological methods, psychopharmacotherapy,, neuromodulation, various forms of psychological aid, psychoeducation, and cognitive-behavioral therapy [8,9]. The descriptions of patients contain

different characteristics of ailments and reveal the diversified character of lower spine pain. Pain is often described as sharp and piercing and concerns one or both sides- covers lumbosacral spine and lower- sacroiliac radiating to buttocks.

THOUGHTFUL VIEW STRENGTHENS THERAPEUTIC EFFECTS

Current knowledge within basic medical sciences concerning the essence of human functioning (such as anatomy, physiology, biophysics and biochemistry), connects specialists of many medical disciplines, who unanimously stress the role of proper physical activity [3,10]. The experience resulting from clinical practice indicates that the therapeutic reaction aim should cover two basic elements (1) going towards proper functioning in which an organism is placed in a functional equilibrium, the so-called functional homeostasis and (2) constant inclusion of current psychomotor possibilities at a healthy person (e.g. sportsman), as well as a patient. In the situation when the disorders to the body efficiency appear, the major therapeutic aim should be aiming at regaining homeostasis, widely understood as the ability to maintain the dynamic equilibrium of the environment, where biological and psychical processes take place. Through negative feedback the equilibrium takes place in an organism-the factor stimulating its function has a positive effect on the impeding agent, while the impeding agent has a negative effect on the stimulating agent. Such a dynamic (unstable) system allows for maintaining a relatively stable condition of psychomotor functioning.

Adequate physical activity plays an important role here: it supports the process of breathing, blood circulation, controls metabolism, and stimulates the activity of the whole body [7,8]. It concerns the static and dynamic parameters that characterize lungs ventilation and then creates optimal conditions of gas exchange. It allows for maintaining a proper condition, while the deepening disorder of physical activity tolerance causes physical activity limitations at every stage of life. Contemporary scientific research proves that chosen physical activities performed under the supervision of a professional have a positive influence on soothing the ailments of a lower spine segment. They aim at proper body posture [7].

Many specialists in kinesiotherapy state that a longer practice shows that probably we cannot speak about one optimal system of exercising for all people with spine pain- even performed under the supervision of a specialist in spine pain treatment [3]. They stress the importance of individualization, selecting the types of physical activities for a patient with the consideration of his ailments, physical ability, age, illnesses and psychological factors, e.g. motivation, emotions, convictions connected with health, openness to new information and trust towards a doctor, physiotherapist and instructor [9,10].

SUMMARY

Adequate physical activity plays an important role. Taking up physical activity belongs to one of the fundamentals of the therapy [11]. Once activation has been achieved, patients should be encouraged to hold the specific multifidus contraction for longer period of time. The patients should be given a formal home programme to ensure that multifidus exercises are performed frequently. The exercises should be performed accurately and precisely with no sign of fatigue or substitution. In addition, this exercise programme should be structured into the patient's typically functional activities to improve compliance [4].

Psychological factors are central to the experience of pain, the delivery of effective analgesia and for the specific treatment of chronic pain and disability. The consequences of repeated attention to threat may be the development of a fixed pattern of responding to threatening stimuli and pain [5]. Passiveness, catastrophizing and apathy do not facilitate the persistence in realizing the aims of treatment [12,13]. So we fight as, as some say, "life is a constant fight" also for health, our own one and the one of others [7,14].

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