

The Importance of Low Back Pain in Family Medicine

*Yasemin Asıldığ¹, Fatma Tufan Altuncu²

¹(Family Physician, Mahmudiye Family Health Center, Eskişehir, Turkey)

²(Family Medicine Specialist, Mahmudiye Family Health Centre, Eskişehir, Turkey)

Corresponding Author: *Yasemin Asıldığ

Abstract : Low back pain is a discomfort in the world where 80-85% of people live in at least one period of their lives, and they have great economic burden on the countries as well as on the individual during diagnosis and treatment. If most of the low back pain (90%) is caused by mechanical low back pain, fractures, cancer, infection, ankylosing spondylitis, nephrolithiasis, pancreatitis, aortic aneurysm, endocarditis, viral syndromes, metabolic causes, congenital and developmental problems should be exacerbated. The goal in the treatment of low back pain is to relieve pain, to provide adequate level of spinal motion, to reduce the most if there is functional impairment, and to return to the patient's daily activities and work. Patients who are referred to the hospital with low back pain should listen to family physicians fully and completely. Before the medicine is prescribed to the patient, the reason for the low back pain should be questioned well. In addition to a good anamnesis, possible diagnoses should be supported with assistive diagnostic methods when necessary. It should be emphasized that regular physical activity can overcome many diseases with low back pain and it should be explained that sport activities should be a part of life.

Keywords: Exercises, Family medicine, Low back pain, Obesity

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I. Introduction

Low back pain is a discomfort in the world where 80-85% of people live in at least one period of their lives, and they have great economic burden on the countries as well as on the individual during diagnosis and treatment. ^(1,2) Although it is often perceived as a simple condition, it may be a symptom of many underlying diseases. Pain that occurs for mechanical reasons may predominantly occur due to fractures, cancer, infection, ankylosing spondylitis, nephrolithiasis, pancreatitis, aortic aneurysm, endocarditis, viral syndromes. ^(3,4) The majority of low back pain (90%) constitutes mechanical low back pain. As the duration of pain increases, the daily activities of the individual decrease and this can lead to anxiety. Sitting or standing for a long time increases the pain. There is a decrease in pain with rest. About 3 months, mechanical low back pain will heal, but 10% of these patients will continue to have pain for longer than 3 months. In such cases, the pain may have been caused by non-mechanical reasons. ^(5,6)

II. Etiology Of Low Back Pain

Detecting etiology is very difficult for low back pain. The physician should be very careful to exclude the underlying pathologies. If most of the low back pain (90%) is caused by mechanical low back pain, fractures, cancer, infection, ankylosing spondylitis, nephrolithiasis, pancreatitis, aortic aneurysm, endocarditis, viral syndromes, metabolic causes, congenital and developmental problems should be exacerbated. ^(7,8) The definition of mechanical low back pain, which is the most common cause of low back pain and leads to differential diagnosis, is often used. Severe working conditions can cause the body to remain in the same position for long periods of time or be forced into the abdominal muscles after loss of power or trauma. It can also cause sudden body movement and obesity can cause mechanical low back pain. Mechanical low back pain increases with physical activity and decreases with rest. Often, the pain is not a single trauma but rather a combination of multiple small traumas within a long period of time resulting in pain as a cumulative pain. ⁽⁹⁾

Obesity; it causes low back pain by causing the waist region to be for a long time due to mechanical effect. The rate of obesity has been increasing around the world. In addition to its mechanical effect, it is an important public health problem due to cardiovascular diseases and related deaths. ^(10,11) There are many personal and occupational factors in the formation of low back pain. Personal factors; such as age, sex, race, height, weight, body structure, structural disorders of the spine, severe family psychological traumas, smoking, especially weakness of the abdomen and spinal muscles, physical conditioning failure, lack of exercise, lower socioeconomic status, depression, anxiety, the reasons can be sorted. As occupational risk factors, low back pain is more common when it is heavy and requires work with physical strength. In this type of work, the load on the

waist region is also increasing. The asymmetrical lifting, the continuous movement of the same makes the low back pain become even more pronounced. The pressure on the lumbar vertebrae in a long sitting situation is higher than standing and lying. For this reason, the risk of low back pain increases. When sitting or standing at the same position for a long time, the tension increases along the lumbar spine, leading to low back pain.⁽¹²⁾ Exposure to intense vibration (repairs, asbestos workers, drivers etc.) causes muscle fatigue. It also damages the discs by disturbing the feeding of the spinal discs and causes low back pain.⁽¹³⁾

III. Low Back Pain Treatment

The goal in the treatment of low back pain is to relieve pain, to provide adequate level of spinal motion, to reduce the most if there is functional impairment, and to return to the patient's daily activities and work.⁽¹⁴⁾ Patients with low back pain often resort to medical treatment because they cause significant restriction of movement in individuals during the day, loss of work power and discomfort. However, sometimes they resort to non-medical methods and risk their health. Informing the patients through appropriate communication about mechanical low back pain, which is the most common cause of low back pain, enables them to move away from non-medical methods. This avoids the negative consequences that may arise. Non-medical methods include massaging the waist, wrapping cloth, sticking petals, putting a hot water bag, going to the spa, applying a cup, to stab, applying waist, applying leech, applying acupuncture.^(15,16) Bed rest has been used since ancient times, especially in acute lumbar pain. It reduces the pressure between the discs and reduces the load on the soft tissues around the discs, thereby temporarily reducing the symptoms. However, in acute low back pain, it has been found that continuing to the usual activity provides better symptomatic recovery than medical treatment and rest. Adverse effects on the strength of the trunk muscles should be taken into account when resting for more than two weeks.⁽¹⁷⁾ The bed position for bed rest in the lumbar pain is the position most comfortable for the person. Ideally, the hip and knees are flexion fetal position. If the supine is to fall down, a couple of cushions under the knees will bend the hip and knee. Thus, relaxation is achieved in the iliopsoas muscle and hamstring muscles. If the knees and calipers are twisted, the pillow to be placed between the knees will help keep the knees bent.⁽¹⁸⁾ Different combinations can be used in medical treatment. Acetyl salicylic acid, methimazole and acetaminophen are commonly used in analgesic medicines. Although the efficacy is weak, they are often preferred because of their safety, low side effects and cheap drugs. Acetaminophen, the first drug that can be used in acute low back pain, can be given in doses of 325-1000 mg in 4 or 6 doses per day.⁽¹⁴⁾

Nonsteroidal anti-inflammatory drugs (NSAIDs) are preferred because of analgesic and anti-inflammatory effects in the low back pain. Especially in acute low back pain, the effects are obvious. They were also found to have moderate effects in patients with chronic low back pain.^(18,19) NSAIDs are widely used around the world. About 10% of the society in the Western world (out of each 1000 people average 11- 36 people/day) use NSAIDs. This group of drugs, whose use has been increasing in recent years, are also used in the form of topical analgesic gels in acute and chronic pain and musculoskeletal pathology. The effectiveness of NSAIDs gels on pain of rheumatoid arthritis, osteoarthritis and other musculoskeletal chronic diseases has been shown in clinical studies with usage of different effective doses. Topical nonsteroidal anti-inflammatory drugs in the treatment of pain due to soft tissue trauma have been compared in many studies.⁽²⁰⁾ NSAIDs; musculoskeletal system, the use of sciatica in the treatment of low back pain is very common. Physicians should be careful about side effects when writing these group medications. Especially gastrointestinal and renal side effects are high. Dyspepsia, gastrointestinal tract ulcers and hemorrhage, kidney damage and renal failure, bronchospasm-related respiratory distress, allergic reactions and skin rashes can cause tinnitus. To reduce gastrointestinal side effects, it is recommended that NSAIDs be used with a proton pump inhibitor as soon as possible and with a low dose. It is important to know which antihypertensive drug the patient is using when writing NSAIDs against low back pain in individuals with common disease such as hypertension. Because NSAIDs act by inhibiting the synthesis of prostaglandin, they may adversely affect cardiovascular homeostasis in patients with a congestive heart failure tendency. As a result, they can cause cardiac failure.⁽²¹⁾ In the case of acute low back pain, they are recommended in relieving low back pain caused by excessive contraction.⁽¹⁸⁾

Corticosteroids are used either orally or intramuscularly in patients with acute low back pain. Sometimes it can also be used as an epidural. Especially in patients with evidence of radiculopathy, pain relief can be achieved with local injections to facet joints or with epidural injection. Corticosteroids can be used as oral, intramuscular and epidural in acute low back pain.⁽²²⁾ Tricyclic antidepressants have a low dose of analgesic effect. This dose is lower than the dose of depression. The initially low dose is increased until enough analgesia is achieved or until side effects occur. Thus, the desired pain-relieving effect is achieved. Among the tricyclic antidepressants, amitriptyline is the most common analgesic effect.⁽¹⁴⁾ Drugs such as tramadol, opioids, morphine, pethidine, buprenorphine, fentanyl; other pharmacological agents used against low back pain. This group of drugs are often preferred in low back pain situations that do not respond to other analgesics. Since addiction is an important side effect, it is the group of drugs that need to be considered in this respect.^(21, 22) Today, besides medical treatments, different treatment methods can be preferred in low back pain situations.

Among these, physical therapy methods are widely used. The aim of physical therapy methods for low back pain; reduce pain, reduce inflammation, reduce symptoms of muscles and joint stiffness and thus provide symptomatic recovery. Providing psychological support to the patient when applying physical therapy methods; it makes a positive effect on the patient and makes the treatment more effective. The applied method is mostly applied with exercises. ⁽¹⁴⁾ Physical therapy methods used to improve low back pain; thermotherapy, cryotherapy, electrotherapy, biofeedback, traction, manipulation.

Thermotherapy; the effect of heat on vasodilator use, increase in pain threshold, decrease in muscle spindle stimulation, increase in flexibility of collagen fibers and decrease in metabolic activity are used. Especially; deep heat effect muscles, bones and deep tissues are affected. For this purpose; ultrasound, short-wave diathermy and microwave diathermy are used.

Cryotherapy; is done by applying cold to the painful area. In this method; decrease in pain as a physiological effect of cold, decrease in anti-inflammatory effect metabolic activity, slowing in muscle activity, and slowing of transmission in motor and sensory nerves. The cold effect is mainly used for painful acute to reduce muscle spasms and pain. For this purpose, cold spray, cold packs and cold bath are applied. ^(18, 23)

Electrotherapy; muscle contraction is achieved by using electricity, analgesia is developed, joint range of motion is increased, muscle strength is increased and muscle atrophy is delayed. Electricity; low frequency and medium frequency electricity. It is claimed here that the delivery of pain stimulus is inhibited by stimulation of large A-alpha nerve fibers and that neurotransmitter release is increased. ⁽²⁴⁾

Biofeedback; is used to reduce tension in the paravertebral muscles in patients with chronic back pain over a long period of time. The effectiveness of the method is still being discussed. ⁽¹⁴⁾ Traction; spasm in the spinal muscles in patients with low back pain is overcome by reflex inhibition, allowing the spine to immobilize and reduce the burden on the vertebrae, thereby improving symptoms. ⁽²⁵⁾ Manipulation is a manual, controlled, and sudden pushing action that transcends the limits of passive motion without exceeding the anatomical limits of insertion. Manipulation restores the restricted range of motion in the joint, providing symmetry of the bone structures and correcting soft-tissue pathologies. ⁽²⁶⁾

Corset application; although full immobilization is not possible in low back pain, it is used to provide support and correct posture. However, it is not recommended to use corset for a long time because it causes atrophy in abdominal and back muscles. When the low back pain is reduced, it is suggested to start the exerciser by removing the corset. The trunk muscles are strengthened and the posture is tried to be corrected. ⁽¹⁸⁾

Exercise is very common in the treatment of low back pain. The purpose of acute low back pain treatment; it is pain control, not strength enhancement. Because there is no physiological force increase in the acute phase. Initial-stage exercises are based on activities that do not increase flexion, extensor movements and low back pain. As soon as acute pain passes, the function is tried to be improved. Strengthening exercises are then passed. Body strength and increased durability provide a protective effect against pain and damage development in the lumbar region. By ensuring strength, durability and coordination, spinal stabilization is achieved. Thanks to the exercises that enhance the strength of lumbar muscles, abdominal muscles and pelvic muscles; muscles prevent the immobilization of the vertebrae, which may result in a stronger wound. To education; It starts with exercises that increase lumbar and pelvic movements, designed to help maintain the neutral position of the spine, such as lying down, standing, sitting, jumping, in various body positions. Then the neutral spine is maintained while exercising with extremity exercises and then applying resistance to extremities by hand or by weight. These exercises do not happen suddenly, but slowly. Thereby ensuring that the muscles and joints are adapting. Continuity in exercise; improves neuromuscular coordination, increases durability and strength. Abdominal exercises; has always been an important part of the waist exercise. Movements in the sagittal plane are routinely used in stabilization. Thus, activation and strength increase is achieved in abdominal muscles and pelvic muscles. To ensure normal waist movements, the flexibility of the legs should be maximized. Because of insufficiently inflexible legs, stress is loaded on the waist and hip region. In the flexibility of the legs; both hip flexor and extensor muscles, as well as the effect of the thighs and leg muscles. Hip flexor muscles and extensor muscles have a great effect on the lumbar vertebrae position due to the pelvic connections. Therefore; self-stretching techniques should be taught as early as possible, especially during the rehabilitation period. Stretching; pelvic position is important when possible in the neutral position. Because extreme anterior or posterior pelvic tilt will remove the benefits of these flexibility exercises. ⁽²⁷⁾

IV. Conclusion

In our country in recent years, the importance of family medicine has increased in presentation of primary health care services. Family physicians play a leading role in primary health care in all countries that bring health care to higher levels. Family medicine is a multidisciplinary health unit that envisages a holistic health care approach. ^(28,29,30)

Patients who are referred to the hospital with low back pain should listen to family physicians fully and completely. Before the medicine is prescribed to the patient, the reason for the low back pain should be questioned well. In addition to a good anamnesis, possible diagnoses should be supported with assistive diagnostic methods when necessary. If there are question marks in mind while diagnosing, the underlying causes should be investigated and opinions should be taken from other medical branches when necessary. Do not hurry to put the diagnosis, the correct diagnosis is in every disease, such as in the low back pain should be kept in mind. The treatment to be given after diagnosis must be explained to the patient carefully and the importance of compliance with treatment should be explained. It should be emphasized that patients should not apply to non-medical methods and patients should be informed about possible complications. The importance of lifestyle changes, the treatment of low back pain due to obesity and obesity, which are important diseases of our age, should be explained at every opportunity. It should be emphasized that regular physical activity can overcome many diseases with low back pain and it should be explained that sport activities should be a part of life. ^(11,15,16)

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