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Original article

BIOPSYCHOSOCIAL IMPACT OF LOW-BACK PAIN

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Abstract

Aim. According to statistics, worldwide, life expectancy has increased significantly in recent years. Studies show that this evolution predicted by 2050, will lead to a tripling of the population over 60. Age is also a determining factor of the disease. Consequently, we face an aging population affected by musculoskeletal pathology. Due to the complexity of this range of conditions, low back pain is the most common. Because the early stages of low back pain can go slightly unnoticed, we face the risk of delaying the diagnosis. Complications associated with low back pain can have an impact on quality of life and can culminate with functional impairment. Early detection can prevent the functional degradation of the patient. The purpose of this paper is to underline the impact that low back pain has on the physical and psychological condition of the patient and not only. The echo of low back pain extends to a macro scale with a direct impact on the economy, as a high percentage of patientsrisk losing their ability to work. The factors listed above have imposed interdisciplinary study strategies to minimize functional repercussions. Rehabilitation in low back pain assumes a complex therapy with the aim of creating a functional individual and improving all components of the biopsychosocial model.

Keywords: low back pain, emotional impairment, therapy

Introduction

Low back pain has existed since ancient times, but the first reference to the condition is made in an Egyptian document around 1500 BC. The papyrus has been buried for about 3500 years. In 1862, it came into the possession of Edwin Smith and was sold by a group of grave robbers. The papyrus contains a case presentation of a patient with low back pain; however, the information is unclear and incomplete. Even if the notion of "sciatica" has existed since ancient times, the connection between the condition and integrity of the interverbal disk has not been studied. This was due to the diskoveries made in principle on corpses, which led to the inability to correlate disc disintegration with the patient's symptoms. (Allan & Waddell, 2009).

The emphasis in modern society is on low back pain for various reasons. The first factor is the diskomfort generated, the negative evolution toward lumbar disk herniation, and the risk of leading to the loss of the work capacity. (Aycan et al, 2017). In modern society, low back pain is considered disability. In today's society, however, the concept of disability is closely linked to the pattern of work and paid work. (Dagenais,Caro and Haldeman, 2008). If in antiquity life expectancy was around the age of 40 and the idea of a disability was closely linked to a physical disability, modern society attaches another importance to the individual and to the social role he serves. (Allan & Waddell, 2009)

Disability restricts an individual's functionality, but this limitation is closely related to the patient's psyche and attitude toward the disease. Consequently, we could say that disability is part of the behavior that has an extremely subjective character. Ever since ancient times, the idea of close interaction between the body and mind has been promoted. Rufus in 100 AD supports the importance of dialog with the patient to establish the clarity of his thinking. In the renaissance, Descartes was the one who divided human existence into mind and body. Medicine will focus on the body. Pain is seen as a form of manifestation of the body, and therefore, it imposes a therapeutic approach.

By 1800, physicians began to look for a cause of back pain itself. It was generally believed to be a build-up of rheumatic phlegm in the muscles, and both local and systemic treatments were used to remove the phlegm. The Industrial Revolution was the period in which low back pain began to be associated with trauma. The increase in low back disability since World War II is accurately documented and well known. To understand this epidemic of low back disability, we must also look at the social and psychological changes that have influenced. (Allan & Waddell, 2009)

Musculoskeletal disorders are the main source of pain and disability globally, but the overwhelming proportion is found in highly industrialized states. In addition to the suffering of the individual, economic damage through the cost produced must be considered. To have a clearer picture, we will refer to exact values. In the United States alone, the annual cost of low back pain is $ 874 trillion, which is 5.7% of the country's annual gross domestic product (GDP). (Malik, Beckerly and Imani, 2018). However, due attention has not yet been paid to this type of disease, as neither the preventive process nor the early methods of detection have been analyzed. Such techniques would considerably reduce the effects and, at the same time, the cost of the disease.

This paper will look at how to approach low back pain, staging, the generated implications, and how to prevent and treat the disease. The treatment of patients with low back pain will be individualized according to pathological and

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psychological characteristics. We will analyze the increased incidence of low back pain and extensive emotional impairment. This involves thorough analysis and development of a multidisciplinary prophylactic and therapeutic plan.

Methods

This study uses a thematic analysis, which is often used in review articles with medical content, to emphasize quality information and a detailed understanding of the topic.

One search strategy was the SPICE method (setting, population/perspective, intervention, composition, evaluation). We turned to specialized journals. The starting point was represented by the titles and abstracts of the articles published in PubMed; we chose the keywords that represented the search engine. The search for articles was extended to PsycInfo, CINAH, MEDLINE, the Chartered Society of Physiotherapy Research Database, and REHABDATA. We used keywords or combinations of them as follows.

Keywords in the search strategy

- Low back pain (LBP) OR Lumbar pain, Lumbar disk herniation (LDH) OR Lumbar disk degeneration
- Lumbar disability OR functional impairment OR pain
- Emotional impairment in LBP OR psychological approach in LBP OR social reintegration in LBP
- Recovery OR Physical exercise OR Therapeutic program OR Lumbar stabilization exercises OR Kinetic therapy
- 1 AND 2 AND 3 AND 4

Selection of studies

Studies written in both English and French, published in journals, and discussions on low back pain have been considered. Low back pain was analyzed from a historical, social, economic, psychological and therapeutic perspective.

In Figure 1, the PRISMA diagram shows how the final base of articles representing the support of this study was selected. We started with an initial number of 322 articles that were revised on the basis of linguistic writing criteria. Following the first selection, 280 eligible articles remained. Out of these, 97 met all the selection criteria, but 47 articles were removed because of the doubling of the themes. The final number of articles to which we referred was 50, of which 22 were eliminated, thus remaining with 28 articles that are the reference of the present study.

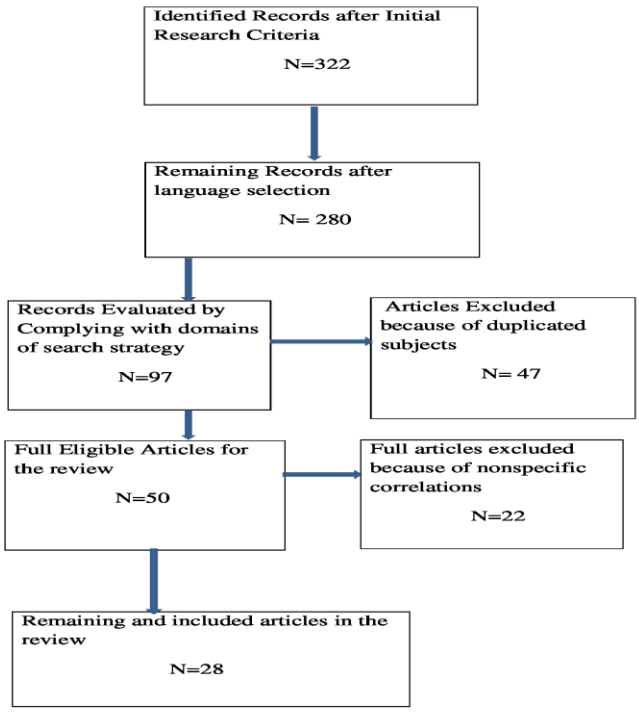

Figure 1. PRISMA diagram of the selection process

Current stage of research

Aetiology and classification of low back pain

Low back pain is a notable health problem in developed countries and is frequently treated by primary care services. It is usually defined as pain, muscle tension, or stiffness located below the costal margin and above the lower gluteal folds, with or without pain in the lower limbs (sciatica). (Chou, 2010)

The diagnostic and therapeutic management of patients with low back pain has long been characterized by considerable variations among various specialties in the health field.

Recently, numerous clinical trials have been published, including systematic reviews and clinical guidelines have become available. The management of low back pain based on scientific evidence is the current approach to this pathology.

Nonspecific lumbar pain is a painful biopsychosocial multifactorial clinical syndrome, without detectable anatomical causes, characterized by pain located in the area between the last dorsal and sacral vertebrae, whether associated or not with irradiation in the lower limbs, which determines the limitation of current activities and functional impairment.

Low back pain, depending on the duration of symptoms, can be classified into three categories:acute nonspecific low back pain is defined by the presence of pain for less than 6 weeks; subacute nonspecific low back pain lasts 6-12 weeks; and chronic low back pain manifests itself for more than 12 weeks. It is a major cause of disability that can alter the quality of life and can lead to interruption of activity at work. 85% of the working population also face recurrence of pain.(Freburger et al, 2009)

Epidemiological studies performed with different populations have shown a prevalence of nonspecific low back pain with variations between 7.6% and 37%. The peak of prevalence is reached by the age group between 45 and 60 years old, but it is also found in adolescents and adults of any age. (Gonzalez-Urzelai. Palacio-Elua and Lopez-de-Munain, 2003)

Because low back pain can have various reasons for occurrence, a thorough medical analysis is required for diagnosis. Consequently, the diagnosis implies clinical reasoning resulting from the comparison of the anamnesis data, clinical examination, and possible additional investigations.

Low back pain can have multiple causes. Such a differentiation is made considering the factor that triggers the pain: pain by mechanical, non-mechanical,, or visceral causes.

The attire while walking requires examination for patients with low back pain. In these patients, there is evidence of changing postural control of the torso, walking, and posture. The inability to walk on tiptoes or heels (weakening of the ankle and dorsiflexor muscles of the forefoot, damage to the root L5 and part of L4) and perform squats with a lift (quadriceps muscle weakened by frequent damage to the L4 root) may show a severe ponytail syndrome or other neurological damage.

Mobility will be tested with the patient seated, lying on his back, or standing.

Sciatica elongation maneuvers can detect tension in the L5 and/or S1 nerve roots. Elongation tests can reproduce leg pain by stretching nerve roots irritated by herniation of the intervertebral discdisk

Damage to the intervertebral disk leads to the diagnosis of lumbar hernia. Detection of this condition involves, in addition to the rigorous physical examination, a series of specific maneuvers

The accuracy of the diagnosis, in the case of LDH, based on imaging examination (X-ray), computed tomography (CT), and nuclear magnetic resonance (MRI) contributes to the adoption of efficient recovery techniques. Nuclear magnetic resonance is the basic method in imaging to confirm suspected LDH, with a diagnostic accuracy of 97% and high reliability. The presence of the T2-weighted hypersignal in the vicinity of the posterior disk rim (10% posterior to the disk diameter) is highly suggestive of disk herniation.

Unanimously accepted from an imagistic perspective in the evaluation of the quality of the intervertebral disk is the Pfirrmann scale. This section describes the integrity of the disk framing it in 5 distinct classes. An attempt was made to find an algorithm to evaluate the integrity of the classification system. The reliability of the algorithm was tested on 300 MRI acquisitions targeting the lumbar intervertebral disk of 60 patients. The images were analyzed by three observers. In 83.3% of cases, the analysts included the condition in the same category, which reveals an increased reliability of the Pfirrmann scale. (Pfirrmann, Metzdorf, Zanetti, Hodler and Boos, 2001)

In a study published in 2015, the importance of ultrasound examination during pregnancy is presented in detail to detect congenital diseases early. Since 1980 the rate of newborns suffering from malformations has decreased significantly, due to the ability to diagnose during pregnancy. Ultrasound in pregnancy involves careful analysis of the fetal spine. Ultrasound images were analyzed in four planes: longitudinal, sagittal, coronal, and axial. Diseases such as spina bifida, meningocele, kyphosis, and congenital scoliosis are just a few examples of diseases easily detected by intrauterine ultrasound. (Coleman, Langer and Horii, 2015)

Spinal canal stenosis is a narrowing of the space allocated to the spinal cord and nerve roots. This process is often encountered as a degenerative disease. Because the ways of manifestation and the evolution of the disease vary, careful analysis is required. The most eloquent manifestation is localized or irradiating pain on the lower limb, which is exacerbated in orthostatism. However, evolution can be bad, culminating in the loss of the ability to use the limbs or the loss of sphincter control. For the diagnosis of spinal canal stenosis, clinical examination is associated with paraclinical investigations. (Bagley et al., 2019)

Discites are infections that affect the intervertebral discsdisks If at the time of diagnosis 2 structures have already been affected, we are talking about spondylodiscitis, which causes the appearance of a spinal epidural abscess. There is a clinical trial for spinal epidural abscess: back pain, fever, and neurological deficits (muscle weakness, paresis, sphincter disorders). Discites occur mainly in the adult population, but there are situations in which they also affect the young population. Discites are infections that affect the intervertebral disks If at the time of diagnosis 2 structures were already affected, we are talking about spondylodiscitis, which causes the appearance of spinal epidural abscess. There is a clinical triad for spinal epidural abscess: back pain, fever, and neurological deficits (muscle weakness, paresis, sphincter disorders). Discussions occur mainly in the adult population, but there are situations in which they also affect the young population.

A case study published in 2006 describes a 9-month-old child who showed irritability and discomfort when sitting or standing in a bipedal position. The patient has no neurological impairment. On somatoscopic examination, the spine is normal. The blood tests were the ones that led to the suspicion of discitis. The diagnosis was confirmed by magnetic resonance imaging. (Date, Rooke and Sivashankar, 2006)

Paget disease, with an etiology not understood, is described as a metabolic disease by Roodman and Windle. Approximately 10%–30% of the patients manifest pain skeletal deformity and neurological symptoms. (Roodman & Windle, 2005)

However, lumbar pain can also be due to spinal tumors. Depending on the mechanism of tumor production, we can differentiate primary or secondary tumors of benign or malignant nature. Possible signs and symptoms include: back pain, which often radiates to other parts of the body, pain that worsens during the night, pain in the place of the tumor, lack of sensitivity, fecal or urinary incontinence, difficulty in walking, muscle weakness felt especially in the upper or lower limbs, and fecal or urinary incontinence. The recommended investigations in the case of suspicion of a spinal tumor are MRI examination and computed tomography. The only way to determine the exact type of cells involved in tumor development is by anatomical and pathological examination of the tissue. Since 1970 various methods have been used to treat malignant tumors located in the spine. The multidisciplinary approach is considered to be the most effective, including surgery, radiotherapy, chemotherapy, and bisphosphonates, and possibly genes postoperative reactions. Even if the surgical option remains the most applied therapy, it can generate postoperative reactions. Minimally invasive therapies can help stabilize the spine, but they do not have the desired effect on patients in advanced stages (Chen et al., 2020).

Results

Specialized studies allowed us to synthesize various forms of low back pain, as shown in Table 1.

Table 1. Forms of low back pain according to specialized literature.

Forms of low back pain	Articles referred to specific low back pain
Degenerated intervertebral disc, LDH	Pfirmann et al., 2001
Lumbar congenital anomalies	Coleman et al., 2015
Lumbar spine stenosis	Bagley et al., 2019
Lumbar discitis	Date et al., 2006
Metabolic lumbar disease	Roodman & Windle, 2005
Lumbar tumours	Chen et al., 2020

Psychological impairment of a patient suffering from low back pain

1. In a study conducted in May 2005-January 2007 on a group of 115 patients with low back pain, psychological factors were compared with the intensity of pain to assess the functionality of the patients. All patients were hospitalized during the study. Hospitalization was due to severe pain, ineffective previous treatments, or recurrence of the disease. The psychological analysis was performed individually and consisted of questionnaires. During the interview, the patients were asked to express their age, education, marital status, and pain intensity. The assessment of the latter was quantified using the visual analog scale (VAS)

The results of the study showed a decelerated decrease in patient functionality due to various psychological factors. Society's patterns, low social support, and lifestyle or personality changes contributed to the individual's impairment. It is therefore found that psychological factors are decisive in the functionality of patients with low back pain and not the intensity of the pain. This study demonstrates the need for a multidisciplinary evaluation and the use of individualized treatment. (Janowski, Steuden and Kuryłowicz, 2007)

2. The impairment of sleep quality by low back pain is described in a study that used as a basis for research the data of 1941 patients obtained from 13 articles conducted between 2001 and 2009. In the study, we considered patients with chronic low back pain. The aim was to determine the link between lumbar pain and sleep impairment and whether there is a link between sleep impairment and the duration of low back pain or the intensity of low back pain. To obtain the information sought, studies that included the phrase "I sleep less well because of my back" in the Roland and Morris disability questionnaire were considered eligible. Pain intensity was assessed using different scales. Seven studies used the Numerical Rating Scale (NRS), 3 studies used the Short Form 36 form (SF 36), and in two studies, the Oswestry and clinical outcomes in routine evaluation (CORE) questionnaires were used.

Of the total number of patients considered in the study, the estimated percentage of those whose sleep was affected was 58.9%. Equally, the increase in pain with a VAS-scale unit was correlated with a 10% increase in sleep quality impairment. The duration of pain also affected sleep quality, 63% of patients with acute low back pain and 57% of patients with chronic low back pain reported decreased sleep quality (Alsaadi, McAuley, Hush and, Maher, 2010)

3. A study conducted in Turkey on 3,800 adults examined the correlation between low back pain and depression. Patients of different ages, sexes, and with varying socioeconomic status but with low back pain were included in the

analysis. The Quebec Back Pain Disability Scale, VAS scale, and Zung Depression Scale were used in the evaluation. Of the total number of individuals analyzed, 807 had low back pain at the time of the study. The study found that age, female gender, smoking, low socioeconomic status, and the rural population showed a high proportion of low back pain. Depression and disability were analyzed independently but were correlated with the loss of ability to perform daily activities or social marginalization.

Consequently, this study shows the importance of monitoring mental states in addition to clinical manifestations for patients with low back pain. (Tucer et al., 2009)

4. Pain, especially chronic pain, should be seen as a syndrome and not as a disease, according to the authors of the article to which we will refer Pain is an alarm signal, easy to notice and is the result of physical and/or mental changes in the individual. According to the International Association for the Study of Pain (IASP), pain is "an unpleasant sensory and emotional sensation associated with a potential tissue injury." According to studies that represent the basis for documenting the article, pain, especially chronic, leads to depression. Most patients with musculoskeletal disorders, such as low back pain, develop disabilities, anxiety and depression. Sleep impairment, fatigue, and decreased the quality of life are the determinants of depression. Equally, the study describes the relationship between feeling the intensity of pain and the mental and emotional integrity of the individual. Pain can therefore have a subjective character, being felt differently depending on emotional stability. The injustice constantly felt by the individual leads to a lower threshold of physical sensitivity. In addition, patients suffering from chronic pain develop suicide attempts.

Consequently, the pain causes inappropriate behavior toward oneself, and not outwardly, which is why the patient suffering from chronic low back pain needs a therapeutic approach both medically and psychologically. (D'Ippolito, Purgato and Buzzi, 2020)

5. In a review article published in 2019, the correlations between low back pain and the way of carrying out the usual daily activities and the implications on sexual function are analyzed

Daily activities include a wide range of activities, ranging from basic ones such as walking to activities that involve managing household activities, dressing, washing, and activities that offer independence to each person. A number of studies have correlated low back pain with the inability to perform daily activities. Of all chronic conditions, low back pain has the highest risk of recurrence. A study in the United States showed the loss of more than 100 million working days due to low back pain. One reason why low back pain affects the ability to work and global productivity is the increased incidence in the age group 30 and 60, a segment that dominates the labor market.

Equally, a series of activities carried out at work have an impact on the integrity and functionality of the individual, with low back pain being in many cases the result of lifting, carrying bulky objects, or vicious positions. Therefore, there are jobs that contain determinants of low back pain. We thus enter a vicious circle, which is difficult to divide.

Impaired sexual function was analyzed in a study conducted in Sweden on a group of 35 men and 25 women suffering from low back pain. The results showed a negative impact on sexual life in 54% of men and 52% of women. (Grabovac & Dorner, 2019)

6. The objective of the following research was to investigate the relationship between pain, stress, work capacity, disability, and quality of life.

A total of 165 patients with nonspecific low back pain participated in the study. 95% found that a higher work ability is directly proportional to low disability, low pain, and high quality of life. However, the reduction in stress was correlated only with the reduction in pain intensity. (Nordstoga.,Vasseljen, Meisingset ,Nilsen and Unsgaard-Tøndel, 2019)

7. In a study conducted on 25 patients, Bailly explored the various psychological aspects in which low back pain patients are affected. The study underlines the negative impact produced by low self-esteem, low family and co-workers support, all of which alter the macro, social image. The result of such image is transposed into anxiety , depression, and fear (Bailly, Foltz, Rozenberg, Fautrel and Gossec, 2015)

Results

The studied articles allow us to synthesize the impact of low back pain on lifestyle, undertaking daily activities, and work capacity according to Table 2 and Figure 2.

Table 2. Psychological Impact of low back pain

Author and year of the study	Type of article	Period of the Study	LBP Pain impact over life style	LBP Impact over Daily Living Activities	LBP impact over work Capacity	Conclusion
Janowski et al.,2007	study	2 years	-	-	X	All patients presented impact over work capacity
Alsaadi et al., 2010	review	8 years	X	-	-	58.9 % affected by sleep quality
Tucer et al.,2009	study	1 year	X		X	Female participants had higher collateral

						effects than male ratio 39.9 % /34.9 %
D'Ippolito et al., 2020	review	-	X	X		Importance of psychological management in LBP
Grabovac &Dorner, 2019	review	-	X	X	X	All functions have been drastically affected by LBP
Nordstoga et al., 2019	Study	-	X	X	X	Loss of work capacity due to pain and stress
Bailly et al., 2015	Study	-	X	X	X	Anxiety, depression

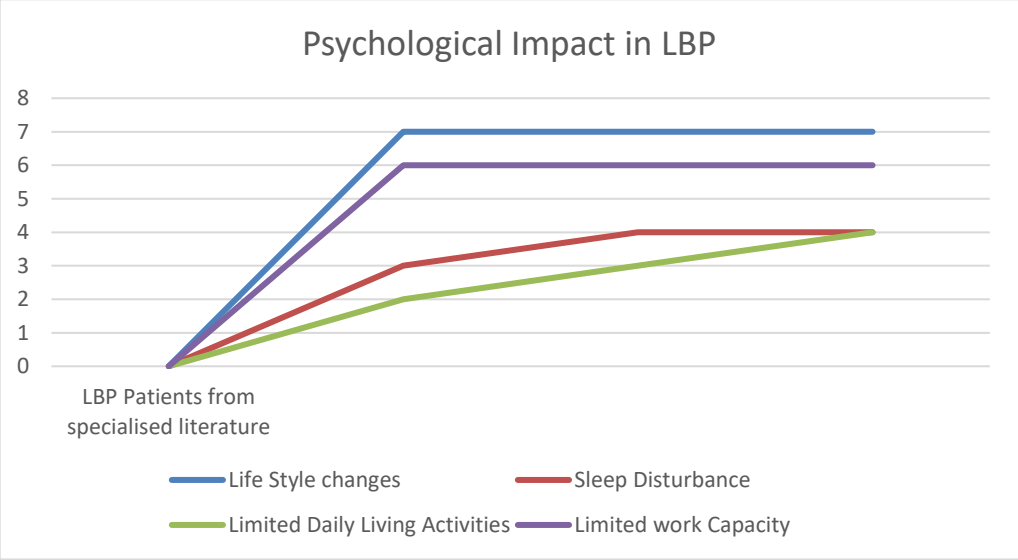

Figure 2. Psychological impact of LBP according to the specialized literature

A special topic that we intend to address is the link between the COVID-19 pandemic and low back pain. December 2019 was a moment that changed the social, economic, psychological, and especially medical direction of all mankind. With departure from China and based on a mysterious lung pathology, the disease proved to be immune to previously applied treatments. The hallucinatory spread of the new virus detected as part of the coronavirus family imposes new, drastic measures among the population.

This is the moment when the research goes in multiple and varied directions, trying to determine correlations and causality. The Covid 19 pandemic has changed the lifestyle, habits, and daily routine. All these led implicitly to a society that is facing new forms of existing diseases, and the medical world is in a real impasse.

From the large number of pathologies taking precedence at this time, we will focus on musculoskeletal disorders and in detail on low back pain. Reorganization of daily activities, orientation of work toward telework, sedentary lifestyle, and weight gain are just some factors that aggravate low back pain. However, there are still many unknown details associated with the COVID-19 pandemic, but in order to have a more accurate picture, we will refer to a series of research projects.

Aiming to determine the frequency with which low back pain is referred to in the United States, a study is being conducted to analyze the population at two key times: the pre- and post-covid periods. Twitter was used as the basis for collecting information on low back pain. The research period was between November 2019 and November 2020. In November 2020, there was an 84% increase in references related to low back pain compared with the same month in 2019 (Fiok et al., 2021)

The impact of Covid on quality of life and the effects of the pandemic on low back pain were also developed in a study targeting the population of Saudi Arabia. 463 adults (259 men and 204 women) aged between 18 and 64 years were considered. The population participating in the study had 38.8% lower back problems before the onset of the pandemic. Based on a questionnaire consisting of 20 questions, the lifestyle of the study participants was evaluated. The medical conditions of the interviewees were also determined through the questionnaire. It is thus observed that most suffer from musculoskeletal disorders, especially low back pain. With the initiation of quarantine because of the COVID-19 pandemic, an increase in the percentage of participants affected by low back pain was observed. Lifestyle changes, lack

of physical activity, weight gain, high stress, and changing activities (teleworking or teleschool) have affected 43.8% of participants with low back pain (Sagat. Bartík,Gonzalez,Tohanean and Knjaz ,2020)

Between May and the end of June, another study aimed to determine the impact of the quarantine generated by COVID-19 on patients suffering from low back pain. Thus, 360 patients treated in six centers in France and one center in Sweden were analyzed. 65% of the participants were professionally active. For 41.1% of the participants, low back pain was aggravated by quarantine. Impairment was measured with the VAS scale. For professionally active patients who had been transferred to telework, low back pain has been shown to intensify (Bailly et al., 2021).

The COVID-19 pandemic was investigated for both physical and emotional impairment. A study of 1491 adults in Australia attempted to determine the interdependence of physical and mental factors. On the basis of a questionnaire sent to participants in April 2020, they analyzed depression, anxiety, stress and physical impairment. After the onset of the COVID pandemic, 19 negative changes were reported in various percentages, reducing physical activities by 48.9%, affecting sleep by 40.7%. In addition, the population suffering from chronic diseases was mainly affected. This study demonstrates the importance of adopting new strategies for maintaining emotional integrity and physical health (Stanton et al., 2020).

Results

According to the studies included in the review, an analysis of the effects of the COVID-19 pandemic on patients with low back pain was performed. Evaluations were possible because of the participation in studies of groups of patients monitored before and during the pandemic, according to Table 3.

Table 3. Covid 19 impact over LBP patients

Author and year of the study	Purpose of the study	Number of Participants	Percentage affected before COVID	Percentage affected after COVID
Fiok et al., 2021	LBP during COVID 19	78559 tweets	66 %	84 %
Sagat et al.,2020	LBP during COVID 19	463 adults	38.8 %	43.8%
Bailly et al., 2021	LBP during COVID 19	360 adults	36 %	41.1 %
Stanton et al., 2020	COVID 19 and physical and physiological factors	1491 adults	Not mentioned	49 %

Low back pain treatment

As we have previously noticed, back pain can have multiple causes and implications of the most varied. It is mandatory to act both prophylactically and curatively, intervening both physically and in the patient's psyche. The goals of nonspecific low back pain treatment are pain control and disability prevention.

Prophylaxis is the first form of treatment. Prophylactic measures strengthen the musculoskeletal system, increase resistance to exertion, and avoid pathogens. At the same time, physical exercise increases the level of endorphins, offering a positive state of mind. Excessive exertion, overloading of the lumbar spine, or exposure to adverse weather conditions should be avoided.

Once the lumbar pain is resolved, the approach becomes curative. Evidence from studies analyzing the recommendation to maintain activity by patients with acute nonspecific low back pain is promising but not conclusive. Advising patients to be as active as possible does not seem harmful, with many reports showing long-term benefits. Patients suffering from low back pain need to pay more attention to their lifestyle. A low-calorie diet will be followed to prevent overweight. A number of nutrients also contribute to the improvement and prevention of pain

The medication is recommended by the attending physician and may include analgesics, anti-inflammatory drugs, muscle relaxants, antidepressants, and opioids in severe cases. Because the disease is usually associated with anemiaanemia antianemia treatment is also recommended. It can be supplemented with a general toning treatment with multivitamins such as: Vitamin B (nervous tract), Vitamin E (muscle recovery), Vitamin C. (Altun&Yuksel, 2017)

Physical recovery therapy is recommended in all cases of low back pain; however, it is necessary to individualize the recovery program according to the patient's particularities. Physical therapy can include hydrotherapy, thermotherapy, electrotherapy, massage, and physical therapy. All the therapeutic forms listed above aim at reducing/combating pain, preventing complications, stabilizing the spine, regaining tone and restoring muscle balance, reducing the risk of recurrence, social reintegration of the patient, and resumption of daily activities. (Bakhtiary.,Safavi-Farokhi.and Rezasoltani, 2005)

Regular exercise is the most effective way to prevent chronic nonspecific low back pain, improving overall fitness, and helping lose excess weight that requires the spine. Physical exercises contribute to: maintaining or increasing the flexibility of muscles, tendons, or ligaments; strengthening the muscles that support the back; increasing the strength of

the arms, legs , and the abdominal and lumbar region; improving posture; increasing bone density; and preventing fractures by strengthening the muscles of the back, if osteoporosis is present.

A relatively new approach in treating low back pain is intervention on psychological factors. Patients suffering from low back pain are often anxious, angry,, or depressed. To achieve the objectives, a specialist will be used, in many cases psychologists who use a clear, empathic approach to the condition. Good knowledge of the condition can minimize these manifestations. One of the strategies that patients learn are pain management. (Lizis,,Wiater and Kobza, 2017)

To support a combined therapy, we will refer to the results obtained from an analysis conducted on 52 patients suffering from low back pain. Patients were divided into two groups that were treated cognitively or through muscle stabilization exercises. Patients were analyzed using the VAS scale at the start of the study and 8 months apart. Emphasis was placed on ways to control pain using relaxation techniques through postures, breathing, and adopting a healthy lifestyle. At the end of the 8 months, the results were comparable. The group that resorted to physical exercises for the treatment of low back pain obtained a decrease of 45%, whereas the group that resorted to cognitive therapy registered a decrease of 40% of the pain felt. (Khodadad, Letafatkar, Hadadnezhad and Shojaedin , 2019). However, a combination of physical and psychological techniques can speed up the recovery process, offering opportunities for social reintegration.

Conclusions

According to the specialized literature, we can conclude:

1. Low back pain has existed since ancient times, evolving over the years from an insignificant disease to a disease that causes damage both individually and globally socioeconomically.
2. Low back pain can be the expression of a combination of diseases that involve thorough analysis and good knowledge of diagnostic methods,
3. The psychological effects of low back pain require a multifaceted and interdisciplinary therapeutic approach.
4. The current world situation, resulting from the COVID-19 pandemic, has led to an accelerated increase in cases of low back pain, which has required the adoption of new methods of study and research to limit and treat the disease.
5. Therapeutic modalities for reducing low back pain include medical, physical, and kinetic therapies and psychological therapy. The specialized literature has analyzed and demonstrated the importance of early and combined intervention for patients suffering from low back pain.
6.

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