

Prevalence and Management of Low Back Pain Nonspecific

Irena KOLA* and Roxhensa Sula

Faculty of Medical Sciences, University of Medicine, Tirana

*Corresponding author

Irena KOLA, Faculty of Medical Sciences, University of Medicine, Tirana

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Abstract

Introduction: Low back pain is a significant health problem in all developed countries and is one of the most common cases that appear near health facilities to seek treatment. The prevalence and incidence of LBP is unchangable almost every year worldwide, being described as a pain that causes instability and inability to work, disrupts the quality of life and the reason for more frequent medical visits.

The Purpose of This Study: The purpose of this study is to identify and study the prevalence of nonspecific Low Back Pain. Also this study aims to study the characteristics of Low Back Pain and how does it affect the everyday lives of patients.

Methodology: The study method consists of the treatment of LBP, based on treatment protocols based on patient education, drugs, rehabilitation treatment – physiotherapy based on: (massage, on exercises for muscle strengthening, spine manipulation techniques, on extension techniques, on aerobic exercises, on McKenzie methods, on the patient's lumbar stabilization, Orthoses for Low back pain)

Results: Low Back Pain is considered as one of the health problems with the heaviest burden for the patient, therefore the alternatives for its rehabilitation have been various. The need to establish a LBP protocol began in 1987 when the first LBP rehabilitation protocol was published for the first time in Quebec, Canada. Since that year there have been a large number of successor protocols improved and adapted to the new needs of patients and with the advancement of technology and science.

Conclusions: In results the study concludes that Low Back Pain has a high prevalence in populations of different ages. The causes and risk factors of LBP are numerous. LBP requires a treatment based on LBP treatment protocols.

Keywords: Low Back Pain, Students, Physical Therapy, Prevalence, Pain intensity, Disability

Entry

Low back pain is a significant health problem in all developed countries and is one of the most common cases that occur near health facilities to seek treatment. Low Back Pain is often not considered as a disease or medical diagnosis but as a syndrome. The prevalence and incidence of LBP is on average one type each year worldwide being described as a pain which causes disability and inability to work, impedes quality of life and the reason for more frequent medical visits. The main symptoms of nonspecific Low Back Pain are considered pain and disability.

Episodes of Low Back Pain appear as non-severe and usually transient problems that do not bother the patient, and usually

disappear within a few days without treatment intervention. On the other hand, some manifestations of Low Back Pain are extremely severe with symptoms such as muscle spasms which are activated by movements as well as burning, stabbing pain that is projected on the thighs, legs and feet. Feeling of heaviness, weakness and electrical sensations can be felt all over the lower limb [1].

These symptoms make Low Back Pain one of the 10 diseases with the greatest effects and severity in patients according to the Global Burden of Disease Study (GBD). Bearing more importance during the years than HIV, road accidents, tuberculosis, lung cancer and chronic obstructive pulmonary disease [2]. In the literature it is described as a pain, muscle tension or stiffness below the rib arch

and above the inferior gluteal area, accompanied or not by thigh pain [3].

Low Back Pain presents three subtypes based on: the time of onset, their duration and the characteristics of the symptoms:

- Chronic Low Back Pain, is defined as pain that persists for more than 7-12 weeks.
- Low Acute Back Pain, is defined as pain that persists for a period of less than 7 weeks.
- Low Back Pain Subacute, pain with an extension of time from 6 weeks to 3 months [4].

Nonspecific LBP is defined as pain which does not come from organic pathologies such as tumors, infections, traumas, spondylolisthesis, rheumatic spinal diseases and which has a definite cause, its diagnosis is achieved by exclusionary diagnoses. 90% of patients with Low Back Pain are from non-specific causes [5-20].

Epidemiology

The probability that an individual will experience at least one episode of Low Back Pain during his lifetime is 6: 1, and even the data show that it is impossible for any individual to avoid such an episode during his lifetime [21-40].

The point prevalence of nonspecific LBP is estimated to be 25%, annual 50% and vital prevalence 85%.

These data are not limited to developing countries and do not depend on the gender, age or other characteristics of the individual but vary on the basis of occupation commitment. The incidence of LBP peaks during adulthood, reaching a peak around the age of 35-55 years [41, 42].

The incidence of individuals exhibiting LBP symptoms for the first time varies from 6.3-15.4% [43]. Other studies conclude that LBP problems were even greater in Canada, the United Kingdom, the Netherlands, and Sweden compared to the United States, making LBP the most common pathology in this population [44, 45]. Studies show that the prevalence of LBP has a high prevalence during school periods reaching figures from 12% -51% [46, 47].

Risk factors and etiology

The etiology is not well defined, it can be from internal or external causes

- Attempts to answer questions on the etiology of the disease have been numerous, citing biomechanical, sociocultural, psychological, and epidemiological anatomical studies, but it is not yet possible to provide a proper scientific answer [48-51].
- Dynamic and physical conditions affect the appearance of Low Back Pain such as: weight lifting, occupation and working conditions, dynamic and static posture of the individual, repetitive physical work, lifestyle and psychological factors are all risk factors for Low Back Pain, but not only [52].
- Physical factors are in the minority such as: trauma caused by falls, fractures often from osteoporosis in old age, the presence of vertebral infections or tumors are extremely rare as causes for Low Back Pain.
- Factors such as smoking, body weight, social conditions also

affect the occurrence of Low Back Pain but also the length of time in which it persists [53].

- Specific factors are responsible for less than 20% of the development of Low Back Pain [54].
- Specific causes such as compression fractures account for 4% of cases with Low Back Pain, tumors or metastases 0.7%, ankylosing spondylitis 0.3% and 0.01% infections [55].

A-Occupational risk factors are the most common causes and most easily associated with LBP, the link between them is so common that as below [56].

1-Static posture: Most studies show that we have an increased risk of LBP for individuals who tend to work less [57, 58]. Individuals who spend more than half of a sedentary working day have a three times higher risk [59].

2-Lifting weights and bending the trunk: Bending forward and rotating the trunk are the most common causes of acute back injuries in England [60]. Immediate weight lifting combined with immediate column extension causes LBP from 15% to 64% [61].

3-Genetic factor: It is possible that the genetic components causing premature aging by diminishing vitamin D receptors and disc degenerations showed that specific vitamin D receptor alleles were the cause of disc degenerations [62-64].

4-Age: Age-related degenerative changes in the spine are described as a 3-stage process, beginning with the first stage with dysfunction followed by destabilization and disability [65, 66]. In the 75-year-old age group reporting of LBP is the third most frequent pathology of their complaints and 17% of back pain visits come from the 65-year-old age group [67-70].

5-Gender: Females have historically had a higher predisposition than males [71, 72].

LBP in women has a higher prevalence during pregnancy with a prevalence during 9 months ranging from 48% -90% compared to 20% -25% seen in non-pregnant women [73].

6-Obesity: Obesity is defined as body weight over 30% of optimal weight. Based on various studies it is seen that individuals with a large pelvic circumference are more likely to experience episodes of LBP [74, 75].

7-Smoking: Smoking is also responsible for LBP. Studies show that smoking lowers the pH of the vertebral disc, making smokers 18% more likely to have disc damage and herniation than non-smokers [76]. Smoking causes extensive cough by constantly increasing intraspinal pressure leading to LBP. Leboeuf-Yde C. Body weight and low back pain. [77].

B-Risk factor of mechanical nature in this group of LBP are included:

1-Fascetar syndrome is the most common cause of LBP in 15% -30% of cases [78, 79].

Fascetar syndrome is more related to factors such as old age, gait is normal intact in most cases, the pain becomes maximal during

lumbar extension, but does not worsen with the Valsalva method and we have a lack of muscle spasms [81, 82].

2-Sacroiliac Syndrome, the Sacroiliac joint provides a secure and flexible stability for the upper body. Together with the lumbar intervertebral discs and the vertebral joints of the same area the joint is involved in sacral movements [83].

Diagnosis is made by reproducing pain by the Patrick Fabrw test [84, 85]. During the examination the patient does not show neurological deficits [86].

3-Spondylosis and spondylolisthesis: Spondylolisthesis is seen in 5 main aspects in: degenerative, systemic, traumatic, pathological and dysplastic. Pathological spondylolisthesis is systemic in nature with causes which may be bone, connective tissue damage or infections, neoplasms and iatrogenic lesions [87].

Spondylolisthesis is most common at L5 level in adolescence and sports age. We may also have signs of nerve compression or central stenosis as a result of forward displacement of the vertebrae [88].

4-Lumbar stenosis, normally the diameter of the spinal canal varies from 15-27 mm, while in the conditions of a stenosis the diameter reaches 10 mm or less and why the symptoms appear and in a diameter of 12 mm [89].

The pain is of the claudication type [90]. To differentiate vascular claudication from neurogenic claudication, the patient is recommended to be tested on a walkway in a two-stage process. In the first stage the patient walks on a normal horizontal runway and in the second stage on an adhesive runway.

Since vascular claudication has symptoms similar to neurogenic claudication, but is not relieved by flexion during adhesion, the pain from nerve claudication will subside this is the difference between them [91].

5-Radicular pain is a radicular pain associated with radiculopathy, mainly in segments L4, L5 or S1

6-Lumbar disc herniation occurs when the nucleus pulposus of the disc extends beyond the nucleus fibrosus leading to irritation and compression of the spinal nerves. Hernias can be identified by assessment tests such as the Leg raise test and the Lassegue [92-94]. Radiological tests such as MRI and Scanner. ENG and EMG although they do not determine the cause of the compression [95].

C- Risk factor from rheumatic diseases for Low Back Pain in this group are included:

1-Ankylosing Spondylitis [96]. 2-Psoriatic arthritis, Spine is affected in 21% of cases [97]. D-Low Back Pain “Red flags” in this group are included:

1-Vertebral osteomyelitis is an infection of the vertebrae caused by bacteria, mycobacteria or parasites [98].

2- Cuada equina is a syndrome which is caused by the suppression of nerve roots at the levels L4-L4 or L5-S1 [99].

Diagnosis and differential diagnosis

Diagnosis is based on: anamnesis, history, clinic and physical examination and imaging examination with: RMI, Scanner, Ro. grafi etc.

Numerous studies even show that many individuals do not complain of LBP although radiographic examinations show serious damage to the structures that characterized a LBP [100, 101]. Questions about motor function, sensor, urinary and digestive system function as well as previous treatments are important [102-104]. Anamnestic and diagnostic data for each pathology help to differentiate them [104]. According to the European regulation for the management of chronic nonspecific LBP for imaging examinations [105, 106].

Management and treatment of Low Back Pain

Low Back Pain creates several groups of patients. Studies show that we have 4 groups of patients suffering from LBP. [107].

The first group is considered as the usual group with a LBP without specific cause where its severity does not interfere with the activity of daily life.

The second group consists of individuals to whom LBP causes disability by interfering with the activities of daily living.

The third group consists of individuals who present with neurological deficits, sensory, motor and anatomical lesions.

The fourth group consists of individuals who are diagnosed with a progressive spinal pathology. 90% of patients suffering from LBP in the world are not hindered in performing activities of daily living. 75% of them return to professional activities within a period of 4 weeks.

The patient treatment protocol consists of:

1-Protocol based on patient education

More important than treating LBP is educating the patient and the population to prevent the onset of pain and disability. It is important that workplaces have special protocols for employees in order to maintain a healthy back [108, 109].

Promoting physical activity, smoking cessation and weight control are the main issues to communicate to the population with the focus that the individual himself should be responsible for managing and maintaining his health. Education should be based on the advice and tools provided by professional individuals such as doctors, physiotherapists, occupational therapists, psychologists and epidemiologists.

In a study conducted by Yan Zhang et al. Two study groups were set up among university students in China to compare the effects of health education on posture and hygiene with exercise [110].

The first group (n = 25) would include the group of students who would perform physical exercises and attend lectures on health education, this group would constitute the study group. The second group (n = 24) would include students who would

perform only physical exercises and would constitute the control group.

The age of the students included in the study was 18-30 years and LBP that persisted for three months or more or without willpower in the lower limbs.

Exclusion criteria included:

- student with grade 8 pain according to VAS (Visual Analogue Scale),
- student who had previously participated in health education classes,
- student who suffered from an acute infection, student with structural abnormalities, severe disability and cardiovascular deficits [111].

Tests such as VAS for pain determination, Ostwestry Disability Test (ODI) and SF-36 quality of life test were used to conduct the study (the questionnaire contains 36 questions and the results are calculated on a scale from 0-100 where 0 represents the highest degree of disability and 100 the smallest) [112, 113].

All students performed 40 minutes, 3 times a week for 12 weeks of exercises focused on the flexor and extensor muscles.

The education group also conducted 30 minutes once a week for 12 weeks' lectures on health education.

At the end of the study it turned out that the students who were involved in education had better results in the SF-36 test for the physical and mental component than the control group ($P < 0.001$, $P = 0.025$, $P < 0.001$ and $P = 0.011$) [113].

2- Drugs treatment which includes:

Paracetamol is an antipyretic and analgesic with anti-inflammatory properties [114-116].

AIJS or non-steroidal anti-inflammatory drugs have anti-inflammatory, analgesic and cyclo-oxygenase (COX-2) enzyme-blocking properties. Taking and recommending them should be done carefully as side effects have a high gravity causing gastric ulcers and potentially myocardial infarction, HTA etc. Also individuals over the age of 75 are not recommended to be treated with AIJS [117, 118].

Opioids are controversial drugs in terms of treating LBP with them. Studies have shown very few positive and quality effects and most of them comparing opioids with placebo or analgesics concluding that opioids do not have better effects on pain relief [119]. Opioids result in higher risk for serious side effects such as causing addiction, depression and other psychological disorders.

The use of weak opioids in combination with Tramadol is more effective in controlling symptoms and also reduces the risk of side effects [119].

Tramadol -In studies performed on the use of Tramadol in chronic LBP, it is seen that the drug is more effective than placebo for relieving pain and restoring function. Compared to AIJS it results in similar effects. Tradamol has a tendency to become addictive and patients are often seen with serotonin syndrome which results from the combination of the drug with antidepressants [120].

Antidepressants Patients with Low Back Pain may use antidepressants but are not recommended as primary medications due to the risk of side effects [121].

3- Rehabilitation treatment - physiotherapy:

► Physiotherapy based on massage.

Massage is effective in improving the clinical and psychological aspect of the patient by improving the symptoms and soothing the symptoms of LBP mentally and physically. Manipulation of muscles and other structures over the area where the massage is applied leads to biomechanical changes which modulate local blood circulation and muscle oxygenation. Massage also increases blood circulation, lymphatic circulation and improves connective tissue adhesions [126].

The effectiveness of massage therapy was studied at Guelth University of Ontario Canada [122].

Study I focused on the use of massages for therapy, soft tissue manipulation techniques, physical exercises and postural education as well as a placebo therapy with the use of laser.

107 subjects with subacute LBP were included in the study of whom 98 completed the full treatment.

The 98 subjects were divided into 4 groups:

- The first group underwent only massage therapy (n = 25)
- The second group underwent soft tissue manipulation techniques (25)
- The third group underwent physical exercise and postural education (n = 22)
- The fourth group in placebo laser therapy (n = 26).
- Subjects completed the Roland disability questionnaire (RDQ),
- Physical examination was assessed with the Schober test for lumbar mobility.

Tests and questionnaires were conducted before the intervention and one month after it.

The first group of massage therapy had an improvement in function, relief of pain intensity and a decrease in pain quality, compared to the other three groups.

After 1 month 68% of subjects in the first group no longer reported episodes of pain compared to 27% of the second group, 14% of the third group and 0% of the fourth group [125, 126].

►Treatment protocol based on patient spine manipulation techniques.

Spinal manipulation is an assisted passive movement of the apophysical articulation of the lumbar area and the sacroiliac joint. In this way any manipulative technique would mobilize the spine would inhibit the pain coming from that area [128]. The effects of manipulative techniques on the spine and LBP were studied by *Michael Schneider et al., (129) at the Pittsburgh Center for Integrative Medicine in Pittsburgh comparing the use of techniques with conventional medical therapy.*

For the study were selected 112 patients who met the criteria to participate in the study criteria which included:

LBP over the last three months, age 18 years and above and a level of grade 3 pain on a scale of 0-10 and grade 20 disability on a scale of 0-100 which were self-reported by patients.

Patients would not participate in the study if they suffered from chronic LBP, had received various medications or treatments.

Patient data on disabling and pain from LBP would be obtained using the Oswestry Disability Index (112) and the VAS (Visual analogue scale) (111) for pain.

After receiving the data, the patients would be randomly divided into three groups and treated for 4 weeks and after 4 weeks the patients would be re-evaluated with the above mentioned tests and would report again after a period of 3 and 6 months after the end of therapy.

- **The first group (n = 37)** would undergo manual manipulation therapy (TMM) with techniques which would have a high speed and low amplitude performed with the patient positioned on the side by a licensed chiropractor. 8 sessions of 15 minutes each 2 times a week.
- **The second group (n = 35)** would undergo a mechanical manipulation therapy (TMeM) where the rehabilitator would use a device (Activator IV instrument) which would perform segmental manipulation of the lumbar spine. 8 sessions of 15 minutes each 2 once a week.
- **The third group (n = 40)** would receive a normal medical service (SHM) with medical advice and would use analgesics and AIJS. 3 medical visits of 45 minutes.

The study concludes that manual manipulation therapy results in a positive reduction in short-term pain and instability compared to the other two therapies.

► **Treatment protocol based on extension techniques.**

Stretching techniques are techniques used to improve flexibility and restore normal mobility in the lumbar area in patients suffering from LBP. Measurements are performed using goniometers.

The ideal values for each freedom of movement should be 100-120 degrees for flexion, 20-45 degrees for extension and 20-45 degrees for latero-flexion [129, 130].

Dynamic and static muscle stretches make the patient have better articular mobility, improving daily life activities and reducing the biomechanical stress placed on the joints [131].

A total of 28 patients (15 males and 13 females) suffering from chronic LBP with an etiology of myofascial syndrome were included in a study conducted by. T M Khalil et al., At the University of Miami USA [132]. The aim of the study was to study the effects of extension techniques on LBP rehabilitation. Patients were assessed for pain through interview and asked to determine themselves on a scale from 0-10 for the level of pain they felt. The static strength of the extensor muscles was assessed by means of the pull test (Pulling test) [133].

Extensor muscle activity was analyzed via electromyograms (EMG). After primary data were collected patients were divided into two groups. The therapy would last for 2 weeks and patients would complete 4 sessions of therapy and the patient would be evaluated before and after specific treatment.

- **The first group (n = 14)** would constitute the study group and would undergo systematic extension techniques, treatment would include stretching of the paraspinal muscles, quadratus

lumborum, hamstrings, tensor fascia latae, extension stretching, rotation lateral and in flexion of the lumbar area.

- **The second group (n = 14)** would constitute the control group and would carry out the same therapy but not systematically and without having specific target muscles as the first group.

From these data the study concluded that:

From the data obtained before the start of treatment patients had no significant differences between them.

Both groups at the end of treatment had improvement in extensor muscle strength.

However, the study group presents better values in improving muscle activity on EMG and better improvement in muscle strength as well as pain reduction, compared to the control group [131-133].

► **Treatment protocol based on exercises for muscle strengthening.**

In patients with chronic LBP, muscle strengthening is essential in rehabilitation programs for patients with LBP [134]. In the study conducted by Tarun Kuma et al., included 30 subjects who were suffering from LBP to be treated with a therapy consisting of exercises for muscle strengthening of the lumbar area [135]. All 30 patients aged 20-40 years suffered from chronic nonspecific LBP with a pain which ranged from 3-6 on the numerical pain scale (NPRS) and without any neurological deficits. Patients were divided into 2 groups based on the duration of LBP.

- **Group A** consists of patients with LBP which lasted more
- **Group B** from patients with LBP lasting 3-12 months.

Data from patients were obtained from several tests:

Numerical Pain Scale (NPRS), Oswestry Index for Disability (ODI), Sorensen Test, Schober Test, The Jamar Hydraulic Hand Dynamometer (JHHD) was also used to measure the strength of the Gluteus maximus muscle [136-138].

The tests were performed before and after the exercises. The exercises were performed at the same capacity and intensity for both groups 3 times a week for 6 weeks.

Reinforcement exercises will be based on the principles of overload, specificity, reversibility, frequency, intensity, repetition, volume, duration and means [139].

After 6 weeks, both groups showed significant improvement in test values obtained after 6 weeks ($p < 0.05$) rehabilitation with muscular strengthening exercises, making this type of treatment valid for LBP rehabilitation regardless of its duration.

► **Treatment protocol based on aerobic exercises.**

Aerobic exercises are exercises that use a large muscle group and are characterized by rhythmic and continuous physical activities [140]. This study was conducted by Xian-Guo Meng and Shou-Wei Yue on the effectiveness of aerobic exercise in 310 patients with LBP and found that patients exhibited: [141, 142].

-Increasing decrease in the degree of disability with the Roland-Morris questionnaire (SMD, 0.44; 95% CI, 0.20-0.68; $P < 0.001$),

-Improvement according to the Oswestry questionnaire for disability as well as anxiety and depression improved significantly (Hospital Anxiety and Depression Scale) [143].

-Pain on the McGill scale also showed improvement after performing aerobic exercises [124].

► Treatment protocol based on Mckenzie Methods.

The Mckenzie method is an evaluative and therapeutic approach to LBP. It is based on exercises that adjust posture and repeat high-frequency exercises that achieve maximum mobility of target structures. The main purpose of the method is to determine and identify in particular groups the back pain that comes from unclear factors. Patients with LBP are divided into 3 groups: Postural syndromes, Dysfunctional syndrome and Disorder syndrome [144]. Postural syndrome is pain which is caused by mechanical deformities. Dysfunctional syndrome is the pain which is caused by mechanical deformation of soft tissues of a traumatic, inflammatory nature, degenerative processes, causing the tissues to contract. of cases. They can be caused by joint dislocation causing discrepancy of the articular surfaces, which is associated with pain and limitation of movements [144]. *Treatment based on the Mckenzie Method was performed by Bid DD et al., At Lockhart Hospital in Surat, India. The aim was to compare the Mckenzie method with other conventional physiotherapeutic therapies [145]. For the study, 42 patients with a chronic non-specific Low Back Pain were selected.*

Patients had to meet certain criteria to be admitted to the study. Data from patients were obtained using several questionnaires:

The Central Sensitization Inventory (Gujarati, CSI-G) test contains 25 questions with scores of 0-100 points [146].

- For pain patients completed the numerical questionnaire for pain determination (Numerical Pain Rating Scale, NPRS) pain scale is calculated from 0-10 [136].
- Pain instability was assessed by the Roland – Morris Disability Questionnaire (RMDQ) questionnaire contains 24 questions [123].

Endurance tests were used to examine the flexor and extensor muscles of the trunk [147].

After data collection, patients aged 18-50 years were divided into two groups.

- **The first group (n = 22)** would constitute the experimental group who would be treated only with Mckenzie methods.
- **The second control group (n = 20)** would be treated by other physiotherapeutic therapies. Both groups would follow the respective rehabilitation programs for a period of 2 months.

In conclusion after the completion of the study the results showed that the Mckenzie method was positive in improving the data in each test performed compared to the patients in the control group.

► Treatment protocol based on the patient's lumbar stabilization.

Muscle imbalance in the lumbar and lumbosacral area comes as a result of the clinical phenomenon known as "Cross Pelvis Syndrome" [148].

The combination of neural, muscular, and osteoligamentous system function will produce a balanced response to the work that the spine will perform [149]. In the case of "Cross Pelvis Syndrome" the muscular system is unbalanced, disrupting the order of function.

The program will be based on three main principles: [150].

-Co-contraction of the abdominal and spinal extensors, Lumbo-pelvic mobilization, Sensomotor stimulation. Jee Hyun Suh et al.,

Conducted a randomized controlled trial with 60 patients suffering from LBP at Bundang Hospital University in Seoul [151].

Patients were selected based on criteria that included age over 20 years and an LBP which persisted for a period of 3 months or more. Exclusion criteria included patients with pain below 40 degrees in VAS, spinal deformities (Cobb angle scoliosis over 10 degrees), history of recent abdominal surgery, rheumatic diseases, infections, pregnancy and history of what has been the backbone exercise in the last three months. Pain data from patients were obtained via VAS for its intensity and for the intensity of irradiated pain before and after performing the exercises. The Oswestry Disability Index and the Beck Depression Inventory were used to determine the level of disability and fear of LBP-induced movement in patients [152].

Patients were divided into four groups randomly:

1. Group of flexibility exercises (n = 15)
2. Group for walking exercises (n = 15),
3. Group for stabilization exercises (n = 15)
4. Group for simultaneous walking and stabilization exercises (n = 15).

Each group would perform the respective exercises 30-60 min per day for 5 days per week, the full study period would last 6 weeks and the control would be done at the beginning and after 6 weeks.

At the end of the study the results showed that stabilization exercises and walking exercises significantly improve chronic pain and increase the stability of the lumbar area making these exercises valuable for the recommendation of as therapy for the treatment of LBP

► Treatment with Orthoses for Low back pain

An alternative way of treating and managing LBP relies on the use of orthoses. Given that a large number of the population suffers from a chronic LBP, the use of orthoses has as its main purpose to correct current deformities and prevent further damage by stabilizing and immobilizing damaged spinal segments, reducing loads on the spine and controlling movements [131].

The effects of lumbar corsets on LBP were studied by R. MILLION et al at the University of Manchester studying patients who received medical assistance at the back pain clinic at the Rheumatology Disease Center Orthoses are easily administered making cleansing and Easier skin routine control [156, 157]. Patients were of both sexes, older than 18 years, and suffering from corneal LBP for at least 6 months, who had not responded to any previous treatment. Patients who suffered from a serious back pathology and who had previously used orthoses for LBP would not be included in the treatment.

Patients were divided into two groups:

- In the first group (n = 9) that would constitute the study group patients would use corsets with spinal support
- In the second group (n = 10) or the control group patients would use corsets without spinal support. Patients were instructed to wear corsets daily and would be evaluated by experts after 4 weeks and 8 weeks from the start of the study.

At the end of the study in the objective and subjective aspect of the

study it was found that patients with corset with lumbar support had an improvement in pain at night, improved activity at work and in daily life as well as had less discomfort while walking. In the group with unsupported corsets the patients reported only improvement during lying in bed [157].

Discussion

Low Back Pain is considered as one of the health problems with the heaviest burden for the patient, therefore the alternatives for its rehabilitation have been various. The need to establish a LBP protocol began in 1987 when the first LBP rehabilitation protocol was published for the first time in Quebec, Canada. Since that year there have been a large number of successor protocols improved and adapted to the new needs of patients and with the advancement of technology and science.

15 different protocols from different countries of the world were reviewed to evaluate non-specific LBP treatment models.

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Conclusions

In conclusion the study concludes that Low Back Pain has a high prevalence in populations of different ages. The causes and risk factors of LBP are numerous. LBP requires a treatment based on LBP treatment protocols.

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