

The Importance of Assisted Weight Training in Lumbosciatalgia

Bianca Gabriella De Oliveira^{1*}; Melissa Alves Aires Marques², Leticia Magalhães de Queiroz³, Lucas Dias Borges Peres⁴, Jessica Santos Picchi Martins⁵, Matheus Dias Ribeiros⁵, Renan Rodrigues Rezende⁵, Gustavo da Silva Bataglia⁵, Fernando Cesar Padula Silva⁵

¹Medical Student at the University of Salvador - UNIFACS, Salvador, BA, Brazil.

²Medical Student at Universidade Iguacu - UNIG, Itaperuna, RJ, Brazil.

³Medical Student at the University of Rio Verde- UNIRV, Rio Verde, GO, Brazil.

⁴Medical Student at Universidade Estadual Paulista - UNESP, Botucatu, SP, Brazil.

⁵Resident doctor of Orthopedics and Traumatology at Hospital Municipal Mário Gatti, Campinas, SP, Brazil.

*Corresponding author: Bianca Gabriella De Oliveira.

Abstract

Low back pain is one of the most common causes of morbidity, and functional and economic incapacity. It is currently the fifth leading cause of medical consultation, and according to epidemiological studies, between 65 and 90% of adults may suffer from lumbosciatalgia. Physical activity improves quality of life and reduces the symptoms of chronic pain. Assisted weight training consists of performing the sport under the guidance and supervision of a trained professional. This study aims to discuss the importance of assisted weight training in lumbosciatalgia. This is a literature review study, using the following databases: PubMed, Lilacs, and ScienceDirect, selecting 15 articles that best met the study criteria, published from 2014 to 2021. It is estimated that around 60% of the Brazilian population does not practice any physical activity. The best way to prevent future low back pain is to avoid resting, exercise within the proper limits, and be assisted by a professional. It can be concluded that exercise is important for lumbosciatalgia and low back pain, as it reduces inflammatory markers, causes analgesia, and is an excellent therapy for preventing future low back pain and improving the individual's quality of life.

Keywords: lumbosciatalgias; low back pain; assisted training; weight training

Introduction

Low back pain is one of the most common causes of morbidity and functional and socioeconomic incapacity. According to epidemiological studies, between 65 and 90% of adults may suffer from low back pain [1]. The literature indicates that more than 50% of adults suffer from low back pain every year and the chronic incidence can vary from 4.2 to 14.7% [2]. However, in the provision of primary care by non-specialist doctors, only 15% of low back pain and lumbosciatalgia have a specific cause [3]. The difference between lumbago and lumbosciatalgia is crucial for staging. Low back pain is a mechanical pain located in the lumbar region and gluteal fold, while lumbosciatalgia is when this pain and discomfort radiates to the limb, one or both buttocks, and/or the posterior thigh [4]. They can be classified according to the duration of the pain as acute, subacute or chronic. Studies have shown that in 2022, approximately 17.7% of the population of South America suffered from chronic pathologies, 8% of which are related to the spine, the main pain syndrome being chronic low back pain [5].

Chronic pain is characterized by lasting longer than three months. In view of this, the Brazilian Society for the Study of Pain claims that 60 million Brazilians suffer from chronic pain on a daily basis. Physical exercise improves muscle strength and function, as well as promoting improvements in motor skills and weight loss [7]. Physical activity improves the quality of life and reduces the symptoms of chronic pain [7]. Assisted weight training consists of performing the sport under the guidance and supervision of a trained professional. Unlike acute pain, where the classic treatment is rest and medication, this type of treatment is ineffective in chronic pain. On the other hand, the treatment plan for chronic pain is multifactorial and includes physical activity. In addition, studies have shown that physical exercise reduces the intensity of pain [8]. The aim of this study is therefore to discuss the importance of assisted weight training in lumbosciatalgia.

Methodology

This is an integrative literature review. The databases Pubmed, Lilacs and Sciencedirect were used, using the descriptors: 'back pain' and 'physical exercise'. We

selected 15 articles that best met the study criteria, available in Portuguese and English and published between 2014 and 2021. The selection criteria for the articles included those that addressed relevant aspects and its epidemiological profile, as well as its definition, risk factors, etiology, signs and symptoms, pathophysiology, diagnosis, treatment and complications. Articles whose abstract was not related to the topic were excluded.

Risks

This research involves minimal risks, such as the fact that the application of a questionnaire can cause embarrassment.

Benefits

Stratification of the risk factors involved in this type of injury for greater understanding by public bodies and health professionals, with the aim of drawing up public health strategies to reduce social damage. As well as helping to target patients who feel the problem and are not being followed up by a doctor, directing them towards treatment, reducing sequelae and acting in a preventive capacity.

Results

The need to look for positive correlations between lumbosciatalgia and the practice of physical exercise is of paramount importance in a context where up to 84% of people present an episode at some point in their lives of pain related to the lumbar region with irradiation¹⁴. In our current literature base, it is possible to verify a protective effect of leisure-time physical activity on chronic low back pain, reducing the incidence by up to 16% [15]. The diagnosis of lumbosciatalgia is clinical and, if necessary, confirmed by a complementary test: magnetic resonance imaging. It is therefore essential to establish a pattern of the patient's pain, take a detailed history and carry out a complete and thorough physical examination. For the most part, acute lumbosciatalgia is self-limiting and rest proves to be very effective in these cases; therefore, as soon as the patient is able to ambulate, this rest time should be reduced so that the patient can return to their normal activities as soon as possible. Drug treatment focuses on symptomatic pain control, using analgesics, anti-inflammatories and corticosteroids, so that the patient can recover more quickly and effectively [17]. It is estimated that around 60% of the Brazilian population does not practice any physical activity.¹⁶ A sedentary lifestyle is directly associated with the onset of chronic diseases such as a reduction in physiological parameters,

linked to the aging process [18]. It is also known that modern lifestyles make it difficult to practice physical exercise in a regular and coordinated manner. The importance of implementing supervised and well-directed physical activity is indisputable, allowing not only a better quality of life, but also a lower percentage of risks associated with exacerbated or inadequate practices that can lead to serious injuries [19].

Discussion

The practice of physical exercise promotes a reduction in the percentage of body fat, as well as reducing markers of inflammation and, consequently, reducing chronic pain. [5]. In addition, physical exercise is one of the foundations for a life of quality and health. However, practicing physical activity without the proper precautions can result in several problems. That's why it's crucial to have the assistance of a specialist to ensure proper training before you start exercising or playing sports. This applies to both intense activities, such as weight training, and lighter exercises, such as running outdoors, since they all require effort on the part of the joints and muscles [9]. According to the article "Physical Exercise Program and pain education for adults with chronic low back pain in Brazilian Primary Care: feasibility study" it was observed that the group that did not adhere to physical exercise had a higher intensity of pain and a less favorable prognosis compared to the group that adhered to assisted training, that is, those who did the treatment plan, physical exercise, correctly obtained a significant improvement in pain¹⁰. Furthermore, Guedes and Guedes (1995) states that daily physical activity can influence the rehabilitation of some pathologies. [11].

The phenomenon of analgesia imposed by the practice of physical exercise has been observed mainly in high-performance athletes. Still, studies have shown experiments with sedentary people and people who practice physical exercise in a non-professional way, and it has been possible to see a significant increase in the pain threshold in patients with chronic pain [12]. The best way to prevent future lower back pain or to contain a future case of lumbago or lumbosciatalgia is to avoid rest, so physical exercise within the proper limits and accompanied by a specialized professional can prevent lower back pain. Rest is a temporary, time-limited therapeutic measure during an acute pain crisis [13]. The higher prevalence of back pain in the smoking population, compared to the non-smoking population, indicates a greater

chance of this type of pain in smokers and former smokers, when compared to people who have never smoked [14]. In addition, other predisposing factors are associated with back pain, such as musculoskeletal diseases and poor self-perception. Furthermore, it is worth noting that low back pain is more prominent in low- and middle-income countries due to multiple factors [15]. That said, the interdisciplinary nature of this study is justified, adding knowledge to the growing number of back pain sufferers and their social, economic, and scientific repercussions. The aim is to evaluate the results obtained and make an active contribution to the therapeutic management of patients with lumbosciatalgia and the variables found, to reduce the risk of complications and help with prevention.

Conclusion

It can be concluded that physical exercise is important for lumbosciatalgia and low back pain, it reduces inflammation markers, causes analgesia and is an excellent therapy to prevent future back pain and improve the individual's quality of life. However, this practice must be supervised by professionals in the field to avoid possible injuries, both in the more intense exercises and in the less intense ones.

References

1. Natour, Jamil et al. (2004). Coluna Vertebral conhecimentos básicos. Sociedade Brasileira de Reumatologia. *ETCetera*.
2. Nascimento, Paulo et al. (2015). Prevalence of low back pain in Brazil: a systematic review *Cad. Saú de P ú blica, Rio de Janeiro*, 31(6):1141-1155.
3. Nascimento PR, Costa LO. (2015). Low back pain prevalence in Brazil: a systematic review]. *Cad Saúde Pública*, 31(6):1141-56.
4. Natour, Jamil et al. (2004). Vertebral Column basic knowledge . Brazilian Society of Rheumatology. *ETCetera*.
5. Eduardo L Caputo et Al. (2022). Prevalence of back pain and associated factors in users of the Unified Health System. *BrJP. São*, 5(2):137-142
6. Bezerra ID, Oliveira LLMF, Neto, JFCN et al. Effects of physical exercise in the treatment of chronic pain.
7. Toscano José et al. (2009). The influence of a sedentary lifestyle on the prevalence of low back pain. *Rev Bras Med Esporte*.
8. Boscato, Kelly et al. (2022). Review of M is all for Lower Back Pain Treatment. *Focus Magazine*.
9. Santos Ana et al. (2022). Physical exercise and pain education program for adults with chronic low back pain in Brazilian Primary Care : feasibility study . *BrJP. São Paulo*, 5(2):127-136.
10. Boscato, Kelly et al. (2022). Review of M is all for Lower Back Pain Treatment. *Focus Magazine*.
11. Eduardo L Caputo et Al. (2022). Prevalence of back pain and associated factors in users of the Unified Health System. *BrJP. São*, 5(2):137-142.
12. Walker BF. (2000). The prevalence of low back pain: a systematic review of the literature from 1966-1998. *J Spinal Disord*, 13:205-217.
13. Shiri R, Falah-Hassani K. (2017). Does leisure time physical activity protect against low back pain? Systematic review and meta-analysis of 36 prospective cohort studies, 51(19):1410-1418.
14. Stump, (2016). Patrick Raymond Nicolas André Ghislain, Kobayashi, Ricardo e Campos, Alexandre Walter de. *Low back pain.*, 1(8):63-66.
15. Brazil, AV et al. (2004). Diagnosis and treatment of low back pain and sciatic pain. , 44(6):419-425.
16. Toscano JJ de O, Egypto EP do. (2001). The influence of a sedentary lifestyle on the prevalence of low back pain. *Rev Bras Med Espo*, 7(4):132-137.
17. (2020). Ministry of Social Security. Statistical Yearbook of Occupational Accidents-Aeat. Brazil.
18. (2018). Iracema Viterbo Silva; Isabela Cardoso de Matos Pinto; Samuel Barbosa Camargo. Musculoskel signs and symptoms are typical in healthcare workers : study in units under state management in the interior of bahia. In: proceedings of the 12th brazilian collective sa congress, 2018, Rio de Janeiro. Electronic proceedings ... Campinas, Galoá.
19. (2016). Stump, Patrick Raymond Nicolas André Ghislain , Kobayashi, Ricardo e Campos, Alexandre Walter de. *Low back pain. Dor*, 63-66.

Cite this article: B.G.D. Oliveira, M.A.A. Marques, L.M.D. Queiroz, L.D.B. Peres, J.S.P. Martins, et al. (2024). The Importance of Assisted Weight Training in Lumbosciatalgia. *Journal of Clinical Rheumatology and Arthritis*, BioRes Scientia Publishers. 2(1):1-05 DOI: 10.59657/ 2993-6977.brs.24.012

Copyright: © 2024 Bianca Gabriella De Oliveira, this is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Article History: Received: March 02, 2024 | Accepted: March 19, 2024 | Published: March 27, 2024