Evaluation of the prevalence and epidemiological profile of back pain in Brazil

Bianca Gabriella De Oliveira [1*], Melissa Alves Aires Marques [2], Débora Oliveira Moraes [3], Lucas Dias Borges Peres [4], Fabricio Negreiros Holtz [5], Laís Cristina Pereira Da Silva [6], Marcella Rodrigues Costa Simões [7]

[1, 3, 6] Medical Student, University Salvador - UNIFACS, Salvador, BA, Brazil
[2] Medical Student, University Iguaçu - UNIG, Itaperuna, RJ, Brazil
[4] Medical Student, UNESP, Botucatu, SP, Brazil
[5] Doctor Orthopedist and traumatologist no Hospital Universitário de Nova Iguaçú (UNIG), Rio de Janeiro, RJ, Brazil
[7] Doctor Orthopedist and traumatologist no Hospital da Baleia, Belo Horizontes, MG; hand and microsurgery surgeon no Hospital Maria Amélia Lins (FHEMIG), Belo Horizonte, MG, Brazil

* Corresponding Author: **Bianca Gabriella De Oliveira**

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Abstract
Low back pain is one of the main causes of disability worldwide and in recent decades there has been an increase in its incidence, especially in individuals from middle and low-income countries. Back pain is the most common symptom and may be related to body overload in high-impact occupations, inadequate posture, repetitive execution and/or weight loading on the axial skeleton. This is a qualitative-quantitative clinical research study, using the following databases: Scielo, Pubmed and Lilacs, in English, Spanish and Portuguese. It is estimated that 70 to 85% of the population will experience back pain throughout their lives. The most affected area is the lumbar spine, followed by the thoracic and cervical regions. Some studies have linked pain in the cervical region in young people to dependence on cell phone use, due to the poor position of the neck when using the device. This is why exercises that focus on the so-called "core", the muscles of the "lumbar-pelvis-abdominal-perineal-hip" complex, have shown promising results in improving pain.

Keywords: Epidemiology; Prevalence; Back pain; Low back pain

Introduction

Low back pain is one of the main causes of disability in the world, with an increase in its incidence in recent decades (Iguti, Bastos, Barros, 2015) [7], especially in individuals from low- and middle-income countries (Ferreira *et al*., 2011) [3], pointing to its socioeconomic relevance, given the high rates of absence from work (Furtado *et al*., 2014) [6]. In Brazil, it has an annual prevalence of over 50% in adults and up to 14.7% in chronic pai (Iguti, Bastos, Barros, 2015; Ferreira *et al*., 2011) [7, 3].

Given the great clinical, social, economic and psychological relevance, the treatment interventions established by international clinical guidelines include action in primary care and emphasize the use of multifaceted approaches based on the biopsychosocial model (Benini *et al*., 2022; Toscano, Egypto, 2001) [1, 11].

Back pain is the most common symptom and can be directly correlated with various etiologies: body overload in high-impact occupations, repetitive execution and/or weight loading on the axial skeleton and improper sitting posture. It is the second biggest cause of permanent absence from work and a drop in performance, fatigue and even temporary absences for full recovery. Some professions are more related to this type of injury, such as machine operators, repair, maintenance, production and industrial services (Owen *et al*., 2020) [8].

This article assesses patients who suffer from back pain: at rest, when practicing daily activities and/or when performing physical activity, which is one of the most common musculoskeletal disorders affecting individuals. We know that people's lifestyles in general have a wide-ranging impact on their health: physical, physiological and psychological.

That said, it is justified, firstly, because of its interdisciplinary nature, adding knowledge, to advance studies into back pain, be it dorsalgia, cervicalgia or lumbago. The aim is to think strategically in order to improve patient outcomes. Therefore, it is necessary to understand the disease from a medical perspective, to know the factors associated with it, seeking improvement in practice. This brings with it the importance and scientific relevance of this proposed article.

Method

This study is a qualitative-quantitative, retrospective clinical investigation of therapeutic approaches to BACK PAIN in Brazil, in which the information was obtained from the PUBMED, LILACS and SCIELO online databases. As this is a public domain database, it was not necessary to submit the project to the Research Ethics Committee (Furtado *et al*., 2014; Benini *et al*., 2022) [1, 6].

The terms "back pain", "dorsalgia" and "spinal diseases" were chosen from the Health Sciences Descriptors platform at <https://decs.bvsalud.org/>. The research presents health data and involves the category of treatment instituted in cases of back pain.

Inclusion criteria

The criteria for including the articles were: studies that include the treatment and prognosis of patients diagnosed with back pain; studies that are more than 10 years old; articles whose titles and abstracts are related to the theme proposed by the study; articles in Portuguese, English and Spanish.

Exclusion criteria

The exclusion criteria were articles that were not related to the research topic; articles whose language differed from those mentioned above.

Results

Back pain is common among the global population. It is estimated that 70 to 85% of the population will experience back pain in their lifetime and that there is a global prevalence of 31%, which seems to be underestimated, since several studies only look at patients who seek medical attention (Iguti, Bastos, Barros, 2015; 8532 *et al*., 2011) [7]. When assessing where the back is most affected, it can be seen that the lumbar spine is the most affected area, followed by the thoracic and cervical regions. 2 While some of the risk factors addressed by studies differ, the most commonly reported are female gender, smoking and a poor self-perception of health, all of which show a positive correlation with the presence of pain(Iguti, Bastos, Barros, 2015; Ferreira *et al*., 2011; Furtado *et al*., 2014) [7, 6].

Studies have linked pain in the cervical spine in young people with dependence on cell phone use, which is caused by the position of the neck when using the device, classically called "text neck", which consists of a non-anatomical position of the cervical spine that leads to greater pressure in this region (Furtado *et al*., 2014; Benini *et al*., 2022) [6, 1].

Among the consequences of constant cell phone use, in addition to pain as mentioned above, is the occurrence of mild to moderate incapacity to carry out daily activities in an age group known to have few physical limitations (Benini *et al*., 2022) [1].

A sedentary lifestyle is directly associated with the onset of chronic diseases as well as a reduction in physiological parameters linked to the ageing process (Benini *et al*., 2022; Toscano, Egypto, 2001) [1, 11].

It is estimated that around 60% of the Brazilian population does not practice any physical activity (Iguti, Bastos, Barros, 2015; Owen *et al*., 2020) [7, 8]. It is also known that modern lifestyles make it difficult to practice physical exercise on a regular and coordinated basis. 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 inappropriate practices that can lead to serious injuries (Benini *et al*., 2022; Toscano, Egypto, 2001; Owen *et al*., 2020) [1 , 11, 8].

Discussion

Back pain is a colloquial term used to refer to spine-related algias that have affected human beings since ancient times, pathologies that affect the various systems of the spine causing deformity and/or pain (Iguti, Bastos, Barros, 2015; Benini *et al*., 2022; Toscano, Egypto, 2001; Owen *et al*., 2020) [7, 11, 8].

One of the most common etiologies is the use of cell phones. This is a very common situation, and the causal factor can be correlated with the technological revolution, not only in the use of electronic devices but also in the more constant handling of machinery and equipment. During use, it can be observed that the device is usually used at waist height, leading the person to bend their head downwards, so that there is a constant misalignment of the head support axis and an overload on the cervical spine (Toscano, Egypto, 2001; Owen *et al*., 2020) [1, 8].

Ergonomics is a science that studies and applies standards to improve work performance and ensure good working conditions. The aim is to provide an environment that is compatible with the needs required and reduces risks. Therefore, it is necessary to recognize the profile of the workers and the type of activity in question, including posture, organizational management, cognitive evaluation process and accessibility (Fernández *et al*., 2022).

It can be said that body overload, secondary to inadequate sitting posture, is a trigger for hip and back pain due to improper compression of the hip and support for the ischial tuberosities, difficulty in venous return and even the appearance of varicose veins. Investing in ergonomic seating is therefore essential for preserving workers' health (Sipaviciene, Kilziene, 2020).

The symptoms are clearly evident in the patient's clinic. Difficulty in moving the neck, upper limbs and/or lower limbs, a feeling of numbness in the shoulder, weakness or paresthesia in the arms and legs, pain or difficulty breathing are typical, and can lead to an inability to carry out daily and work activities (Toscano, Egypto, 2001) [11].

Various non-pharmacological modalities have been studied as an option for the treatment of back pain, especially chronic back pain, such as physical activity, but it should be noted that not all exercise modalities should be relevant when aiming to improve pain and functionality (Toscano, Egypto, 2001; Owen *et al*., 2020; Fernández *et al*., 2022) [11, 8].

Exercises that focus on what is known as the "core", a region comprising muscles that are part of the "lumbar-pelvis-abdominal-perineal-hip" complex, have shown promising results in improving pain. 5,6,7. When specifying a single training model with the intention of obtaining the best results, Pilates is shown to be superior to other methods, but it is

important to note that the particularities of those who undergo this type of training and professional qualification must be taken into account (Toscano, Egypto, 2001; Owen *et al*., 2020; Fernández *et al*., 2022; Sipaviciene, Kilziene, 2020) [11, 8].

Use of medication and supplements related back pain

When pharmacological modalities are used to treat pain, there are several guidelines that do not consider them to be the main measure for resolving the symptom, but in practice they seem to be the most widely used therapeutic method8. Evaluating the probable cause of the pain and looking for "warning signs" are fundamental to carrying out effective treatment and avoiding long-term complications (Ferreira *et al*., 2018 ; Foster *et al*., 2018).

Conclusion

It can be concluded that spinal pain has a high prevalence in the Brazilian population due to exposure to various risk factors. With a high rate of negative socio-economic implications due to functional and pain impairment, individuals often require temporary or permanent sick leave. Curiously, the use of cell phones puts greater pressure on the cervical muscles, due to the constant bending of the neck, which is reflected in the increased incidence of back pain in young adults. Also noteworthy is the increase in the obese population with mechanical overload on the musculoskeletal tissue with drastic repercussions on the spine.

The therapeutic update states that core exercises help improve the pain that many patients report. Therefore, physical activity should be introduced as a treatment and preventive management. Since pharmacological modalities are used to treat pain, there are numerous guidelines that do not consider them to be the main therapeutic measure, but in practice they seem to be the most widely used therapeutic method.

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