

Low Back Pain and the Rural Worker

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ABSTRACT

Introduction: The rural worker, in his work activity, uses the extensor muscles of the lumbar spine in a large number of his actions, and when the abdominal muscles reduce their strength and an imbalance occurs between the flexor and extensor muscles of the trunk, which can result in a backache.

Objective: To demonstrate the correlation between the work activity of rural workers and low back pain.

Methods: This study constitutes a systematic review, classified as exploratory and descriptive. The preparation of the research was a bibliographical search in electronic databases on methods associated with RSL (Systematic Literature Review) and the applications of SMARTER (*Simple Multi-Attribute Rating Technique using Exploiting Rankings*).

Results: A comprehensive systematic search of the literature yielded a total of 852 articles referring to the correlation between low back pain and rural workers, of which 14 articles were eligible to be included in this systematic review.

Conclusion: The conclusion of this study highlights the importance of integrated and personalized approaches to reduce the risks and impacts of this condition on the health and well-being of rural workers.

KEYWORDS: Low Back Pain, Low Back Pain, Rural Worker.

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INTRODUCTION

The investigation of working conditions has been a central topic in public health, as these conditions can lead to worker illness (SILVA; FERRETTI; LUTINSKI, 2017).

The physical efforts carried out by rural workers, such as prolonged walks, lifting large loads, remaining in uncomfortable body positions for long periods of time, intense productivity rhythm, repetitive movements, can lead to the emergence of pathologies, among them are the symptoms of lower back pain. These workers are exposed to

biological and chemical agents, in addition to ergonomic factors, which influence the development of symptoms of musculoskeletal diseases (FILHO, 2021; MATHEUS COELHO PINHEIRO, 2020).

Low back pain is a common and debilitating musculoskeletal health condition that affects millions of people worldwide, representing a leading cause of disability and absenteeism in the workplace. Although it is a widespread problem across different sectors, farmworkers

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face unique challenges that can increase their vulnerability to low back pain.

The rural worker, in his work activity, uses the extensor muscles of the lumbar spine in a large number of his actions, and when the abdominal muscles reduce their strength and an imbalance occurs between the flexor and extensor muscles of the trunk, which can lead to low back pain. Fatigue and dysfunction generally put the motor function of the lumbar spine at risk, a factor that has a high rate of developing chronic low back pain and other changes that will be highly harmful to rural workers in the quality of their work and life activities (SILVA; FERRETTI ; LUTINSKI, 2017).

In Brazil, there are a large number of workers in the rural sector who do not have adequate monitoring of their health needs, making it evident that it is very important to know their illness profile. Despite this population being extremely important for the economy, little research is carried out focusing on the health of these workers, especially those related to low back pain (DA SILVA et al., 2017; NEPOMUCENO et al., 2019).

In this sense, this study is justified by highlighting the painful symptoms of rural workers in seeking and identifying the elements that contribute and are associated with the painful symptoms that are common to rural workers. It is known that due to the characteristics of rural work, it is very common for people to experience low back pain, however there is still a gap that must be filled in relation to research on this population. Furthermore, a dizzying increase in chronic non-communicable diseases has been described in this environment (NEPOMUCENO et al., 2019).

In view of the above, the present study aims to demonstrate the correlation between the work activity of rural workers and low back pain.

METHODS

This study constitutes a literature review, classified as exploratory and descriptive. The work carried out is of a qualitative and quantitative nature. Qualitative data analysis is carried out intuitively and inductively during the survey of the theoretical framework. It is also quantitative through the use of the multi-criteria method. The bibliographical research was carried out in the following databases: *US National Library of Medicine* (Pub Med), *Scientific Online Electronic*

Library (SCIELO), *Latin American Caribbean Health Sciences Information System* (LILACS), *Science Direct* (Elsevier) and Embase.

The search in the databases was carried out using the terminologies registered in the Health Sciences Descriptors created by the Virtual Health Library developed from the *Medical Subject Headings* from the *US National Library of Medicine*, which allows the use of common terminology in Portuguese, English and Spanish. The keywords used in Portuguese to search the databases were: Low Back Pain, Low Back Pain, Rural Worker. As a tool to support decision in the selection and prioritization of articles, a set of criteria were considered essential to represent the state of the art of the subject of research. This method has the following characteristics: (i) rigorous logic allows the method to be accepted as a decision support tool; (ii) simple to understand and apply with easy-to-interpret results.

References from selected works were also searched for other documents of potential interest. Once qualified for full text in the evaluation, articles were included in the qualitative review if they met the following inclusion criteria: a) contained low back pain; b) low back pain and c) rural worker. Articles were excluded if they were reports, banners or conference abstracts. There was no review of confidential health information and the study was non-interventional. Therefore, ethics committee approval was not necessary. In the end, the result obtained totaled 14 articles that covered the desired characteristics for the study.

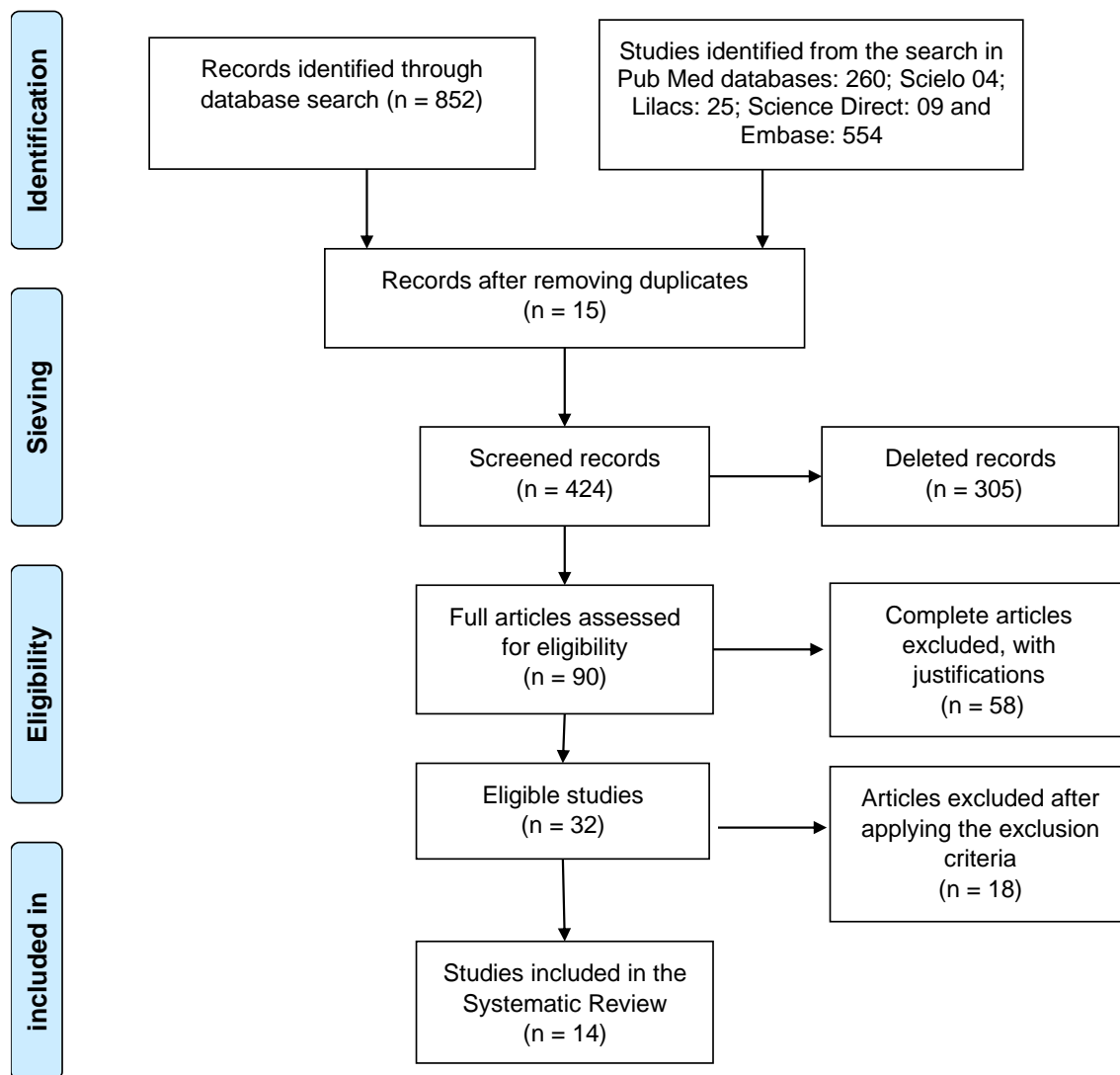
Three independent researchers extracted data from articles that met the inclusion criteria and recorded them in a "Data Extraction Form" generated in Microsoft Excel about low back pain and rural workers.

RESULTS

A comprehensive systematic search of the literature yielded a total of 852 articles pertaining to the topic. From this, the SMARTER method (Simple Multi-Attribute Rating Technique using Exploiting Rankings) was chosen. Of these studies, 90 articles were suitable for full-text screening and 32 articles were included for data extraction. Of these, 18 studies were excluded due to data overlap. Here, 14 articles were included for systematic review. Figure 1 describes the strategy for selecting articles on the topic in question.

Figure 1

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DISCUSSION

Rural work is one of the sectors that face high ergonomic risks for the development of musculoskeletal changes and disabilities resulting from this work activity (KAUR; VAISH, 2022). The incidence of population aging has been growing around the world and in rural areas it occurs mainly in the southern region of Brazil. This factor can lead to a high prevalence of work limitations resulting from musculoskeletal disorders (OLIVEIRA et al., 2021).

With regard to the identified risk factors, the results highlighted several activities and working conditions associated with the development of low back pain among rural workers (MARTINS, 2023). In particular, activities such as repetitive heavy lifting, inadequate postures during agricultural tasks and exposure to uneven terrain have been consistently highlighted as significant risk factors (LENCINA, 2022). These findings provide valuable insights for targeting ergonomic interventions and workplace changes that aim to mitigate these specific risk factors.

The work carried out in rural areas has an exhausting and prolonged routine, which differs from formal work in other sectors where working hours are generally limited to 8

hours a day (DA SILVA et al., 2017). In a study carried out in Rio Grande do Sul by Menegat and Fontana (2010), it was shown that only 27.7% of those interviewed had a workload of 6 to 8 hours and that 72.7% had a workload of 10 or more hours daily.

Regarding the severity of symptoms, the results indicated a wide range of impacts on the health and quality of life of rural workers affected by low back pain. Low back pain was often described as intense and debilitating, limiting functional capacity and interfering with daily activities and work performance (NELLA, 2023). Furthermore, there is clear evidence of the substantial impact of low back pain on productivity and absenteeism at work. Studies have revealed a significant reduction in work efficiency and an increase in the number of days lost due to low back pain among affected rural workers (SULLIVAN et al., 2022).

In addition to the risk factors and severity of symptoms, the search for treatments and medical care among rural workers affected by low back pain also stands out. It was noted that many of these workers face significant challenges in accessing adequate healthcare services, due to a lack of medical infrastructure in rural areas, costs associated with

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healthcare, and transportation difficulties in reaching medical centers. This access barrier can result in undertreatment of low back pain and worsening of symptoms over time (FRANCO, 2023).

Another relevant aspect is the adaptation of prevention and intervention strategies to the specific context of rural work. The data indicated that ergonomics training programs, implementation of safe work practices and modifications to the work environment were perceived as effective in reducing the risks of low back pain among rural workers. Furthermore, awareness and education strategies about correct postures and healthy work practices have also been identified as essential components of successful interventions (SANTOS, 2022).

From this perspective, understanding the mechanisms underlying low back pain among rural workers becomes essential to develop effective prevention, management and intervention strategies.

FINAL CONSIDERATIONS

Low back pain is a common health condition that affects a significant portion of the population, including rural workers. It is important to recognize that this group faces unique challenges due to the physical and environmental demands of their work. Frequent exposure to activities that involve heavy lifting, repetitive movements, inadequate postures and adverse working conditions, such as uneven terrain and inadequate equipment, increases the risk of developing low back pain among rural workers.

The need for specific interventions to prevent and manage this condition in this population is highlighted. Ergonomics training programs, guidance on correct postures, implementation of safety practices at work and adaptations to work methods and equipment can help reduce the risk of low back pain among these workers.

Furthermore, it is essential to consider multidisciplinary approaches that involve health professionals, employers, governments and local communities in implementing occupational health policies and programs aimed at rural workers. This includes access to appropriate healthcare, injury prevention education, psychosocial support and rehabilitation measures for those already suffering from low back pain.

The conclusion of this study highlights the importance of integrated and personalized approaches to reduce the risks and impacts of this condition on the health and well-being of rural workers. Investing in preventive and support measures is essential to promote safe, healthy and productive work environments for this important part of the workforce.

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