

Ciencia Latina Revista Científica Multidisciplinar, Ciudad de México, México.
ISSN 2707-2207 / ISSN 2707-2215 (en línea), mayo-junio 2025,
Volumen 9, Número 3.

https://doi.org/10.37811/cl_rcm.v9i1

WORK ABSENTEEISM ASSOCIATED WITH MUSCULOSKELETAL DISORDERS IN COLOMBIAN COMPANIES

AUSENTISMO LABORAL ASOCIADO A DESÓRDENES MUSCULOESQUELÉTICOS EN EMPRESAS COLOMBIANAS

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Work absenteeism associated with musculoskeletal disorders in colombian companies

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ABSTRACT

Introduction: The increasing incidence of musculoskeletal disorders (MSD) in the Colombian union environment represents a significant challenge in favor of workplace well-being and organizational efficiency. DME, which includes conditions in muscles, tendons, ligaments and joints, has established itself as one of the key reasons for absence from work in the country, affecting both workers in operational and administrative sectors. According to recent data, approximately 35% of applications for work disability in Colombia are related to this type of disorder, which shows its effects on the health of workers and on the direct and indirect costs for organizations. Various studies have indicated that the frequency of signs linked to AMD in Colombian workers can exceed 70%, mainly affecting body areas such as the neck, shoulders and spine. These conditions not only generate pain and functional limitations, but also have an impact on business dynamics, increasing the number of days of disability, decreasing productivity and raising operating costs. Elements such as heavy lifting, prolonged postures, long hours and an inadequate ergonomic environment contribute to the appearance and aggravation of these disorders **objective:** To analyze absenteeism related to musculoskeletal disorders in Colombian companies, identifying its prevalence, associated factors and impact on productivity, in order to suggest forecasting strategies. **Methodology:** The study is proposed under a quantitative, descriptive and cross-sectional approach, with the ideal of analyzing the factors associated with occupational absence due to musculoskeletal disorders in Colombian companies, the type of study is descriptive, cross-sectional and retrospective, allowing to record and characterize the cases of absence from work associated with musculoskeletal disorders in a defined period. Whose population will be active or retired workers of Colombian companies who have presented work disabilities due to musculoskeletal causes in the selected period and source of institutional records of work absenteeism and medical disabilities. **RESULTS:** Musculoskeletal disorders (MSD) are one of the main sources of occupational absenteeism in Colombian companies, especially in the manufacturing, pharmaceutical and service sectors. It should be noted that the incidence of musculoskeletal signs in workers can reach up to 79.2%, with greater recurrence in the neck, shoulders, dorsal and lumbar spine.

Keywords: work absenteeism, work disability, prevalence, ergonomics, prevention

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Ausentismo laboral asociado a desórdenes musculoesqueléticos en empresas colombianas

RESUMEN

Introducción: La creciente incidencia de los desórdenes musculoesqueléticos (DME) en el entorno gremial colombiano representa un desafío significativo en favor del bienestar laboral y la eficiencia organizacional. Los DME, que comprenden afecciones en músculos, tendones, ligamentos y articulaciones, se han consolidado como uno de los motivos clave de inasistencia laboral en el país, afectando tanto a trabajadores de sectores operativos como administrativos. Según datos recientes, aproximadamente el 35% de las solicitudes de incapacidad laboral en Colombia están relacionadas con este tipo de trastornos, lo que evidencia sus efectos sobre la salud de los trabajadores y en los costos directos e indirectos para las organizaciones. Diversos estudios han señalado que la frecuencia de signos vinculados con DME en trabajadores colombianos puede superar el 70%, afectando principalmente áreas corporales como el cuello, los hombros y la columna vertebral. Estas afecciones no solo generan dolor y limitaciones funcionales, sino que también repercuten en la dinámica empresarial, incrementando los días de incapacidad, disminuyendo la productividad y elevando los costos operativos. Elementos como el levantamiento de objetos pesados, posturas prolongadas, jornadas extensas y un entorno ergonómico inadecuado contribuyen a la aparición y agravamiento de estos trastornos **objetivo:** Analizar el absentismo laboral relacionado con trastornos musculoesqueléticos en empresas colombianas, identificando su prevalencia, factores asociados y el impacto en la productividad, con el propósito de sugerir estrategias de previsión. **Metodología:** El estudio se plantea bajo un enfoque cuantitativo, de tipo descriptivo y transversal, con el ideal de analizar los factores asociados a la ausencia ocupacional por trastornos musculoesqueléticos en empresas colombianas, el Tipo de estudio es descriptivo, transversal y retrospectivo, permitiendo registrar y caracterizar los casos de ausencia laboral asociados a desórdenes musculoesqueléticos en un periodo definido. Cuya población serán Trabajadores activos o retirados de empresas colombianas que hayan presentado incapacidades laborales por causas musculoesqueléticas en el periodo seleccionado y fuente de Registros institucionales de ausentismo laboral e incapacidades médicas. **Resultados:** Los desórdenes musculoesqueléticos (DME) son una de las principales fuentes de absentismo ocupacional en empresas colombianas, especialmente en los sectores manufacturero, farmacéutico y de servicio. Es de resaltar que la incidencia de signos musculoesqueléticos en trabajadores puede alcanzar hasta el 79,2%, con mayor recurrencia en cuello, hombros, columna dorsal y lumbar.

Palabras Claves: ausentismo laboral, incapacidad laboral, prevalencia, ergonomía, prevención

*Artículo recibido 15 abril 2025
Aceptado para publicación: 18 mayo 2025*



INTRODUCTION

Absenteeism from work is a prodigy that significantly affects business performance, causing both direct costs, related to the payment of disabilities and economic benefits, and indirect costs, derived from the need to temporarily replace absent personnel and the decrease in levels of organizational efficiency. Among the multiple causes that cause absenteeism, musculoskeletal disorders (MSD) stand out as one of the primary ones, affecting workers in various sectors and occupations in Colombia. These disorders include injuries or conditions of muscles, tendons, joints and other structures of the musculoskeletal system, and are frequently associated with hazardous conditions at work such as repetitive tasks, forced positions and handling of heavy objects.

Various studies have shown that the incidence of signs of DME in Colombian personnel is high and that there is a clear link between the appearance of these symptoms and the increase in episodes of absenteeism from work. The anatomical areas most affected are usually the spine, the shoulder and arm area, and the upper body, which adversely affects the well-being of the workforce and the operation of companies. Given this panorama, it is essential to analyze and characterize work absenteeism related to musculoskeletal disorders in Colombian companies, to recognize the elements that represent predominant danger and propose approach plans aimed at avoiding and managing these disorders, thus contributing to improving occupational health and business productivity.

Various national studies have shown that up to 79% of workers may present symptoms related to DME, which results in a large number of days of disability and a considerable economic impact for companies, with costs that could exceed 100 million pesos annually in sectors such as flower growing. Aspects such as lifting heavy objects manually, irregular postures, repeated movements and long hours contribute to the appearance and worsening of these disorders.

Faced with this panorama, it is essential to analyze and characterize the lack of assistance on the part of employees when carrying out their activities and its relationship with the presence of musculoskeletal disorders in Colombian companies, with the aim of recognizing the predominant risk agents, the areas and positions most affected, and proposing intervention strategies that allow reducing the occurrence of these problems, strengthening workplace well-being and optimizing business productivity.



Background

Work absenteeism is a persistent and high-impact phenomenon in the Colombian business environment. According to the most recent reports, in 2023, 479,761 situations of absence from work were documented in the country, representing an average of 1.38 events per employee, and represents a challenge for both the productivity and financial sustainability of companies. Common health problems continue to be the main reason for non-attendance at the workplace, representing nearly 69% of reported cases. Within this group, musculoskeletal disorders (MSDs) have gained special relevance as the predominant origin of work disability of common and occupational origin in Colombia since the beginning of the 21st century.

DME comprise a set of disorders that involve muscles, ligaments, joints and other parts of the musculoskeletal system, the most common pathologies being tendinitis, bursitis, carpal tunnel syndrome, epicondylitis and non-specific low back pain. In 2005, Colombia reported an incidence rate of 11.6 cases of DME per 10,000 employees, with a considerable economic burden, estimated at more than 170 million dollars annually. The frequency of signs related to DME in Colombian workers can exceed 79%, occurring mainly in the neck, shoulders and upper back, affecting both administrative and operational workers.

Multiple dangerous conditions favor the appearance of DME in the workplace, among which the handling of loads, continuous actions, uncomfortable positions, and long work days stand out. Furthermore, studies have shown that sedentary work and the lack of adequate ergonomic conditions increase the incidence of these disorders, especially in the upper limbs and spine. The evidence also points to the urgency of applying strategic plans to prevent musculoskeletal diseases and promote well-being, as well as ergonomic interventions, to reduce the prevalence of DME and how it influences work absenteeism.

In this context, the analysis of employee non-attendance at the workplace linked to musculoskeletal disorders in Colombian companies is essential to understand the dimension of the problem, detect its predominant causes and propose effective actions that contribute to improving workplace well-being and business productivity.



Absenteeism from work is a phenomenon of high impact in the Colombian business environment, with figures that demonstrate its persistence and relevance. In 2023, more than 479 thousand records of absence from work were reported in the country, which is equivalent to 1.38 cases per employee, according to studies by ANDI and CESLA. Of these cases, a significant proportion corresponds to disabilities of common origin, within which musculoskeletal disorders (MSDs) occupy a prominent place as one of the most determining factors of work absence and medical disability in Colombia.

DME include disorders that compromise muscular components, ligaments and other anatomical parts, their appearance is strongly associated with risk conditions in the Colombian work environment such as lifting heavy objects manually, performing tasks repeatedly, staying in a single posture for extended periods of time or in an uncomfortable manner, and long work hours. Studies carried out in companies from different sectors have shown that these factors, together with sociodemographic variables such as gender and length of service, increase the frequency of musculoskeletal discomfort, especially in the cervical area, shoulders, dorsal spine and upper extremities.

The economic impact of work absenteeism associated with DME is considerable. In 2022, absenteeism represented an additional cost equivalent to 4.74% of each worker's salary, adding to the high non-salary cost that companies face. Furthermore, DME not only deteriorates employee well-being, but also implies high expenses for work disabilities and treatments, affecting organizational performance and the national economic environment.

In this context, scientific evidence and business reports in Colombia highlight the importance of expanding the study of absenteeism related to DME, identifying the predominant risk factors and promoting prevention and control strategies adapted to the national context.

METHODOLOGY

The study will be developed under a quantitative, descriptive, cross-sectional and retrospective approach, with the objective of analyzing the factors associated with work absenteeism due to musculoskeletal disorders in Colombian companies.

It will be possible to characterize the prevalence, causes and characteristics of work absenteeism associated with musculoskeletal disorders, the cases of work absenteeism that occurred in a defined period will be recorded and analyzed, allowing the historical and current behavior of this phenomenon



to be observed in the target population, the population will be active or retired workers of Colombian companies who have presented work disabilities due to musculoskeletal causes during the selected period, and they will be taken from the institutional records of work absenteeism and disabilities. medical, ensuring the inclusion of all cases that meet the established selection criteria, validated instruments will be used for the identification of musculoskeletal symptoms and risk factors, structured questionnaires such as the “Nordic Questionnaire” can be used.

Sociodemographic variables (age, sex, position, seniority), characteristics of the absenteeism episodes (frequency, duration, area of the company affected), anatomical location of the musculoskeletal disorders and associated ergonomic factors will be analyzed.

RESULTS AND DISCUSSIONS

Various studies carried out in Colombian companies show that musculoskeletal disorders (MSD) are one of the main causes of absenteeism from work, significantly affecting the productivity, well-being of workers and generating direct and indirect costs for organizations. Among the main findings, a research carried out in an IPS in Bogotá stands out, 95.1% of the staff manifested some musculoskeletal symptom, the most affected areas being the neck. (48.2%), the lumbar spine (45.4%) and the right hand/wrist (41.2%). In a poultry company, the prevalence of DME was 19.2%, with the lumbar region being the most involved (61.4% of cases). On the other hand, in a company in the pharmaceutical sector in Bogotá, between 2016 and 2018, 123 cases of absenteeism due to DME were recorded, totaling 850 days of disability. 69% of the cases occurred in commercial areas and 31% in support areas. The spine and thorax were the most frequently affected areas (35.8%), but the ankle and foot generated the most days of absence (28% of the total), and in the toiletries and cosmetics industry, absenteeism due to DME was more relevant in women, regardless of the activity performed.

The most frequent pain was located in the upper limbs, neck and shoulders, resulting in disabilities of 1 to 3 days, and among the associated factors, physical inactivity and inadequate posture stand out as factors that contribute to the development of DME and, therefore, absenteeism from work. The majority of the affected workers are operators with 8-hour days and work experience of more than 3 years. DMEs not only affect worker health but also increase temporary replacement costs and decrease business productivity.



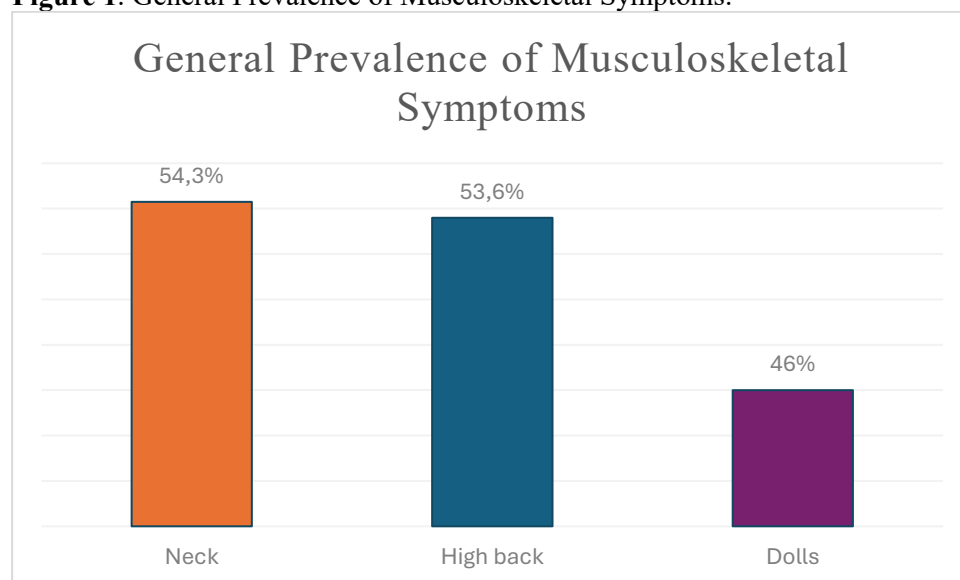
There are no recent and specific published data detailing the percentage of work absenteeism due to musculoskeletal disorders (MSDs) broken down by city in Colombia in the studies reviewed. Many of the studies focus on specific productive sectors or companies, mainly in Bogotá, and do not present percentage comparisons between cities.

A study in a pharmaceutical company in Bogotá reported 123 cases of absenteeism due to DME between 2016 and 2018, but does not compare these data with other cities.

Research in the manufacturing and cosmetics sector mentions cases in cities such as Bogotá and La Tebaida (Quindío), but without comparative percentages between cities.

National studies report general prevalence of musculoskeletal symptoms, such as 54.3% in the neck, 53.6% in the upper back and 46% in the wrists, but without breaking down by city.

Figure 1. General Prevalence of Musculoskeletal Symptoms.



Fuente: Pabón,H.(2025)

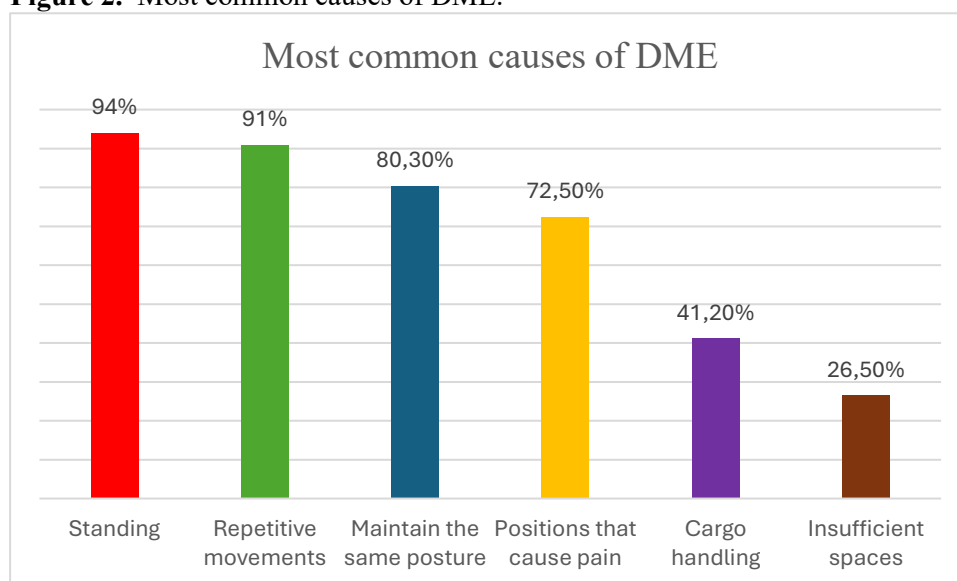
Among the most frequent factors of musculoskeletal disorders in companies in Colombia

Repetitive movements of the upper extremities stand out, especially in administrative and production tasks, manual handling of loads, including lifting, moving, dragging or transporting heavy loads, as well as maintaining incorrect positions for a long time, both standing and sitting, which generate overload in the neck, back and upper extremities, prolonged physical efforts and overuse of certain body segments, which can lead to cumulative trauma, inappropriate use of tools or poorly designed

workstations, which force the adoption of forced positions, vibrations, exposure to cold and direct compression. on the skin or nerves.

On the other hand, high work demands, accelerated pace and continuous production, which increases fatigue and the probability of damage, long work hours and lack of active breaks or adequate breaks, work monotony and high cognitive demand and within the socio-demographic factors, age, gender, weight, body mass index (BMI) and general health status influence the susceptibility to developing DME.

Figure 2. Most common causes of DME.



DME represent one of the main reasons for absenteeism in the country, significantly affecting the operation and productivity of companies. This absenteeism generates both direct costs, such as the payment of disabilities and economic benefits, and indirect costs, related to the temporary replacement of the worker and the decrease in productivity levels. In sectors such as agriculture and manufacturing, DME can represent up to 82% of reported occupational diseases, which shows the magnitude of the problem in the national context.

Despite the high impact of DME, studies agree that the implementation of preventive strategies and the use of ergonomic analysis tools (such as RULA or REBA) can significantly reduce the incidence and costs associated with these disorders. However, there is a need for more longitudinal research and updating of public health information in the national environment, to design more effective and sectorized interventions.

CONCLUSIONS

Musculoskeletal disorders (MSD) constitute one of the most important triggers of work absenteeism in Colombian companies, particularly in operational positions and sectors with high physical demand, such as construction and manufacturing. Absenteeism due to MSD has a considerable adverse influence on business productive performance and the quality of life of employees, generating both direct costs (disabilities, licenses, benefits) and indirect costs (decrease in productivity, need for replacements, overload of other employees).

Research shows that the incidence of DME and related absenteeism is higher in operational workers, who have more muscle problems and less healthy lifestyles compared to administrative staff. Many companies do not sufficiently apply prevention and epidemiological surveillance programs for DME, which contributes to the increase in cases and the lack of control over associated costs. Postural analysis and the detection of dangerous occupational conditions are essential to design effective prevention strategies that reduce the incidence of DME and absenteeism. related, it is recommended to strengthen the culture of prevention through training, adaptation in work stations, scheduled breaks and health control programs, together with respect for current laws on health and safety, work absenteeism due to DME constitutes a multi-causal and growing event in Colombia, which requires the priority attention of organizations and the occupational health sector to mitigate its economic and social impact on organizations and workers.

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