



Musculoskeletal disorders in hospital workers

Trastornos musculoesqueléticos en trabajadores hospitalarios

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ABSTRACT

The objective of the research is to analyze musculoskeletal disorders in hospital workers of the administrative area of the Hospital General Docente Ambato - Ecuador. Methodologically it was descriptive with a non-experimental design. The study population consisted of a group of 100 professionals. Musculoskeletal disorders are prevalent in the administrative staff of the Hospital General Docente Ambato, the most affected area was the neck where 42% reported discomfort, pain or discomfort that occurred mainly in the staff working in the Quality service (12%), Statistics (13%), Human Resources (4%) and TICS (2%). Most of the administrative personnel perceive that the tasks they perform during their daily work are one of the main causes of the MSDs they present, especially due to repetitive movements and workload, so it would be important and interesting to take measures in these areas.

Descriptors: anatomy; neurology; occupational medicine. (Source: UNESCO Thesaurus).

RESUMEN

En consideración el objetivo de la investigación es analizar los trastornos musculoesqueléticos en trabajadores hospitalarios del área administrativa del Hospital General Docente Ambato – Ecuador. Metodológicamente fue descriptiva con diseño no experimental. La población de estudio estuvo conformada por un grupo de 100 profesionales. Los trastornos musculoesqueléticos son prevalentes en el personal administrativo del Hospital General Docente Ambato, la zona más afectada fue el cuello donde el 42% reportó molestia, dolor o disconfort que se presentó principalmente en el personal que labora en el servicio de Calidad (12%), Estadística (13%), Talento Humano (4%) y TICS (2%). La mayor parte del personal administrativo percibe que las tareas que realiza durante su trabajo diario es una de las principales causas de los TME que presentan, sobre todo debido a los movimientos repetitivos y a la carga de trabajo por lo que sería importante e interesante tomar medidas en estas áreas.

Descriptores: anatomía; neurología; medicina del trabajo. (Fuente: Tesaurus UNESCO).

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Research articles section



INTRODUCTION

Musculoskeletal disorders are inflammatory or degenerative alterations suffered by body structures caused or aggravated by work and the effects of their environment such as exertion or inadequate postures. Therefore; the present article focuses on musculoskeletal disorders that can be defined as injuries or physical and functional alterations of the locomotor apparatus (muscles, tendons, ligaments, nerves, joints) and within the labor field are due to repeated exposure to loads over a prolonged period of time affecting mainly the back, neck, shoulders and extremities with symptomatology such as: pain, inflammation, loss of strength and functional limitation that prevents the normal performance of daily living and instrumental activities (Paredes-Rizo, & Vázquez-Ubago, 2018).

In recent years, there has been a large increase in this type of disorders in the working population due to biomechanical and organizational risk factors that have come to set off alarms at the occupational and public health level due to their consequences that result in a decrease in quality of life due to the pain and suffering they cause, as well as the loss of work and economic capacity (Fernández-González, et al., 2014).

Hence, currently musculoskeletal disorders constitute one of the most common problems related to diseases at work because they affect millions of workers in all productive sectors and despite the fact that the injury may go unnoticed or be ignored for a certain period of time, the symptoms can progress and become chronic with permanent and disabling injuries or pathologies (Ríos, 2018). The severity of this health problem has led several authors to address musculoskeletal disorders, so for example in the study of (Balderas-López, et al. 2019), it is mentioned that these disorders represent about 30% of occupational morbidity and significantly affect the quality of life workers.

For (Márquez-Gómez, 2015), depending on the event that causes it, musculoskeletal disorders can be divided into two categories: those caused by acute trauma (slips, falls) and those caused by repetitive exposure (develops gradually over weeks, months, years) as a result of repeated stress on an area which are called cumulative traumatic disorders. The diversity of factors involved in musculoskeletal disorders is due to the fact that there is a latency period between the onset of symptoms caused by the activity performed by the worker and their respective diagnosis, and also because the habits, demands and work areas are diverse, which makes it difficult to link the disease with a particular type of activity or work (Zamora-Chávez, et al. 2020).

In consideration of the above, the objective of analyzing musculoskeletal disorders in hospital workers in the administrative area of the Hospital General Docente Ambato - Ecuador is presented.

METHOD

Methodologically, the research was descriptive with a non-experimental design with the intention of describing the subject of the study.

The study population consisted of a group of 100 professionals from the administrative area of this institution. The selection of the sample was intentional and was based on the researcher's criteria.

Administrative professionals of both genders, with at least 6 months of service and who signed the informed consent forms, were included and all those who did not provide the necessary information for the research were excluded.

The Nordic Questionnaire was used as a data collection technique, which allows the detection of musculoskeletal symptoms such as pain, discomfort, numbness or tingling through two main sections:

First: it covers a group of questions that identify the areas of the body where the symptoms occur for this it has a body map where the anatomical sites (neck, shoulders, back, elbows, wrists, hands, hips, thighs, knees, ankles, feet) where these symptoms are located are identified.



The second section contains questions related to the functional impact of the symptoms reported in the first part regarding the presence of pain, discomfort, discomfort at some time during the last 12 months. This section also includes three specific questionnaires, each one covering a different segment (low back, neck and shoulders) in which the symptoms, their functional impact, whether there has been a need to change tasks or whether assistance from a health professional has been required.

The Nordic Questionnaire was self-administered and once the questionnaires were reviewed, the data were entered into the IBM SPSS V 25 statistical analysis software, where a database was created to later perform a descriptive analysis of the data based on absolute and relative frequency tables.

RESULTS

Regarding gender, it was observed that in the administrative area of the Hospital General Docente Ambato there is a predominance of female personnel over male personnel, since about 57% were women and 43% men, due to the incorporation of Ecuadorian women into the labor force approximately three decades ago, so that there is a higher incidence of female labor, as well as a higher frequency of MSDs.

In terms of age, 37% of the administrative personnel were between 31 and 40 years old, 30% between 25 and 30 years old, another 30% between 41 and 50 years old and finally 3% were over 51 years old. Based on these data, it can be assumed that most of the administrative staff is under 40 years of age, that is, they are young staff currently working at the General Teaching Hospital Ambato, which is favorable to the institution due to the constant training they receive and also because it helps to avoid constant staff rotations. Despite being a young staff, they do not know the proper postures they should adopt during their working hours, which makes them more prone to injuries.

Twenty-two percent of the administrative personnel at the Hospital General Docente Ambato work in the area of Statistics, 21% in the Finance Department, 15% in Quality, 10% in Maintenance, 6% in Customer Service, 6% in Human Resources, 5% in Teaching, 4% in Public Procurement, 4% in Management, 3% in Occupational Safety, and 2% in Communication and ICTs. As a second level health unit, statistical data and medical records management is a fundamental axis, which is why the statistics team represents the highest percentage working at the Hospital General Docente Ambato, followed by the Finance Department, which prepares annual and monthly budgets and therefore requires specialized personnel in this area to fully perform its functions.

Forty-four percent of the administrative personnel at the Hospital General Docente Ambato have been working in the same job for about 5 years, 34% for about 3 years, 18% for about 10 years, and only 4% for 1 year. Being a young population, the majority of our personnel have been working for between 3 and 5 years, so we can observe a low turnover of workers in the administrative area.

Seventy-six percent of the administrative staff of the Hospital General Docente Ambato works about 40 hours per week, that is, 8 hours per day from Monday to Friday, 14% work 48 hours because the statistics department works shifts to be able to attend to the entire population in general, 8% work 44 hours and 2% work about 30 hours per week. Since the administrative personnel work daily during the workday, they keep performing repetitive movements, which predisposes them to suffer musculoskeletal symptoms.

Forty-two percent of the administrative personnel of the Hospital General Docente Ambato admit having had problems such as pain, discomfort or discomfort with the neck, while 39% with the lumbar region and 19% with the shoulders, all this due to the routine activities they perform since most of them work with computers, so it is evident that the main affectation is in the neck as can be seen in the results, in addition, these personnel spend the whole day at a single work site performing repetitive movements without taking active breaks, which does not favor the health of the worker.

Musculoskeletal symptomatology in the neck region was more frequent in the personnel working in Quality (12%), Statistics (13%), Human Resources (4%) and TICS (2%), due to the fact that



these departments work 8 hours a day with the help of a computer, which favors the presentation of such discomfort. The shoulder region was mostly affected in the administrative personnel of the Financial area (12%) and Management (4%). Finally, the lumbar region affected the personnel in charge of Customer Service (4%), Public Procurement (4%), Communication (2%), Teaching (5%), Maintenance (9%) and Occupational Safety (3%), due to the bad position adopted when performing daily tasks for 8 hours a day.

According to 83% of the administrative personnel of the Hospital General Docente Ambato, musculoskeletal symptoms have not prevented them from doing their normal work at home or away from home due to these discomforts during the last 12 months, while 17% state that they have had these impediments due to the discomfort, because despite the implementation of active breaks in the institution not everyone complies with them, which favors the presentation of musculoskeletal symptoms, however, there is no prolonged absenteeism due to these symptoms.

The need for hospitalization due to musculoskeletal symptomatology was not reported in areas such as the neck and shoulders, since all of them assume that it was not necessary, however, when analyzing the lumbar area, around 6% did require it, taking into account that having an inadequate position during long working days may influence in presenting such discomfort, which was not so representative.

Most of the administrative personnel have not had to change jobs or duties due to their musculoskeletal problems, this was much more evident in the neck and shoulder region; however, when analyzing the lumbar region, a significant percentage (14%) did have to do so due to the discomfort they presented, which was of concern to us since these professionals had to change their activities so that they could continue working. All this is mainly due to the lack of knowledge of the personnel about proper positions, in addition to not having the necessary equipment to prevent such conditions.

The problems in the neck area suffered by the administrative personnel have prevailed for between 1 and 7 days during the last 12 months according to (16%), in the case of the shoulders the majority (13%) reported a total time of more than 30 days and finally in the case of the lumbar region 22% reported a duration of more than 30 days, this being the one with the highest incidence mainly due to the poor position of the workers in long working hours, and the poor adherence to the active breaks implemented.

According to 36% of the administrative personnel who suffer from neck problems, this discomfort has not caused them to reduce their activity in the last 12 months, while in the case of the shoulders, 7% had to do so, as well as in those with lumbar symptomatology where the majority (27%) had to change their work and leisure activities, being an administrative area, most of the personnel remain more than 8 hours working with a computer in inadequate positions and without taking active breaks, which is evident in the results of our research.

The total time that musculoskeletal disorders have prevailed during the last 12 months in the population affected by problems in the neck area was more than 30 days (23%), in the case of the shoulder area it was 8 to 30 days (9%) and in the lumbar region between 8 and 30 days (20%).

The administrative personnel reported not having been seen by a physician, physiotherapist or other professional for the neck problem (35%) while 7% did. In the case of the shoulder area, 15% also did not receive professional care and only 4% did. However, in the lumbar area, the majority, i.e. 20%, mentioned having received assistance and 19% did not. These results are a consequence of the bad positions and the lack of knowledge of the personnel in adopting adequate postures to perform their work, which is a serious problem for the institution due to the job rotations that must be performed, as well as the hours of leave for medical attention that must be granted to professionals who present such discomfort.

All of the administrative personnel of the Hospital General Docente Ambato mentioned having had musculoskeletal problems at some time in the last 7 days, in the case of the neck area 32% reported having had them due to constant and repetitive work at the computer and 10% did not, in the case of the shoulders 14% did and 5% did not and finally in the lumbar area 26% admitted



their presence because it is a chronic pathology and most of the workers reported lumbar discomfort after several days and when maintaining inadequate positions and 13% did not.

DISCUSSION

Musculoskeletal disorders represent considerable costs and impact on quality of life because they produce discomfort, pain and limitations in the affected working population, which directly affects their productivity, quality of work, quality of life and life satisfaction. In the present investigation it was reported that all the administrative personnel of the Hospital General Docente Ambato presented at least one musculoskeletal problem, the most prevalent being in the neck area (42%) followed by the lumbar region (39%). These results agree with those reported in the study of (Celik, et al. 2018), who evidenced that office workers and clerks complained more frequently of pain in the lumbar (55.1%), neck (52.5%) and back (53%).

Hence, it can be assumed that musculoskeletal disorders in the neck area are prevalent in administrative personnel due to the fact that their daily work is performed in a static posture, which is why this discomfort is persistent, since according to the present investigation, all the administrative personnel of the Hospital General Docente Ambato mentioned having had this type of musculoskeletal problem at some time in the last 7 days, with a duration of between 1 and 7 days during the last 12 months, This is serious because when it is recurrent it can cause chronic pathologies such as inflammation of the tendons of the muscles that limit mobility, dexterity and functional capabilities, therefore the worker can see reduced their ability to work and participate in social life, in turn low productivity for the institution in addition to absenteeism, for this reason it is very important to publicize active breaks in order to reduce the suffering of these painful discomforts; being in agreement with the study of (Lee, et al. 2021), where significant differences were found between groups for pain intensity in neck, shoulder, upper back and wrist/hand ($p < 0.05$),

In this sense; (García-Salirrosas, & Sánchez-Poma, 2020), nod these results because in their research they found that of the regions reported with the longest duration of discomfort were in the neck with a duration of 1-7 days (20.91%). In this context, it should be taken into account that musculoskeletal symptoms vary from mild discomfort and pain to a decrease or loss of muscle strength that leads to functional limitation of the affected segment. In this particular case, suffering from musculoskeletal disorders in the neck region did not lead to a reduction in activity in the last 12 months (36%), while in the case of the shoulders 7% had to do so, as well as in those with lumbar symptomatology where the majority (27%) had to change their work and leisure activities.

In addition, it should be considered that the affectation of the lumbar region led those who suffer from it to seek professional attention and even 6% required hospitalization, taking into account that our population is young, these discomforts may be due to inexperience and lack of knowledge in adequate work positions, which causes them to be injured when performing their activities in a repetitive and inadequate manner. The results found in our research mean that most of the administrative staff of the Hospital General Docente Ambato has been performing daily work exposed to various ergonomic and organizational risks which affect health conditions negatively, independent of age and sex; being concomitant with the study of (Mohammadipour, et al. 2018), where it is evidenced that the highest prevalence rates of MSDs occurred in the lumbar area (72.4%) and neck (55.2%).

CONCLUSION

Musculoskeletal disorders are prevalent in the administrative staff of the Hospital General Docente Ambato, the most affected area was the neck where 42% reported discomfort, pain or discomfort that occurred mainly in the staff working in the Quality service (12%), Statistics (13%), Human Resources (4%) and ICT (2%). Most of the administrative personnel perceive that the tasks they perform during their daily work is one of the main causes of the MSDs they present, especially due to repetitive movements and workload, so it would be important and interesting to take measures in these areas. There is an imminent need to make improvements in the area of ergonomic training for all administrative personnel in order to adopt adequate working postures in the daily tasks they perform.



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CONFLICT OF INTEREST

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