

Pain evaluation in workers of the textile industry

Avaliação da dor em trabalhadores da indústria têxtil

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ABSTRACT

BACKGROUND AND OBJECTIVES: Currently, major workers' health problem is the set of diseases affecting the musculoskeletal system. This study aimed at evaluating pain, its intensity and mostly affected anatomic region of textile industry workers.

METHODS: This is a cross-sectional study with qualitative and quantitative approach. A physiotherapeutic evaluation card and the visual analog scale were used to evaluate pain. A total of 26 workers were evaluated.

RESULTS: According to the evaluation, it was possible to infer that 88% (n=23) individuals had some pain complaint. Pain intensity has varied from 2 to 8 with mean of 4.8 ± 2.4 . Region with more severe pain was shoulders (VAS=6.6), followed by lumbar and cervical region (VAS=6); the region with least intensity was wrist (VAS=5).

CONCLUSION: This study has shown that a large number of workers have occupational pain. Lumbar spine was the region with the highest incidence of complaints and highest pain intensity was referred on shoulders.

Keywords: Industry, Pain, Prevalence, Work, Worker's health.

RESUMO

JUSTIFICATIVA E OBJETIVOS: O grande problema na saúde do trabalhador nos dias atuais é o conjunto de afecções que afetam o sistema musculoesquelético. O objetivo deste estudo foi avaliar a dor, sua intensidade e região anatômica mais acometida de um grupo de trabalhadores da indústria têxtil.

MÉTODOS: A pesquisa é caracterizada como um estudo transversal com abordagem qualitativa e quantitativa. Foi utilizada uma ficha de avaliação fisioterapêutica, e a escala analógica visual para avaliar a dor. Um total de 26 trabalhadores foi avaliado.

RESULTADOS: De acordo com a avaliação, pode-se inferir que 88% (n=23) dos indivíduos sofriam de alguma queixa de dor. A intensidade da dor variou entre 2 e 8 com média de $4,8 \pm 2,4$. A região que obteve maior intensidade na dor foi a dos ombros (EAV=6,6), seguido pela região lombar e cervical (EAV=6), a região de menor intensidade de dor foi o punho (EAV=5).

CONCLUSÃO: O presente estudo mostrou que grande parcela dos trabalhadores apresentaram dores ocupacionais. A região com maior incidência de queixas foi à coluna lombar e a maior intensidade de dor referida foi à região dos ombros.

Descritores: Dor, Indústria, Prevalência, Saúde do trabalhador, Trabalho.

INTRODUCTION

Working is an exclusive human beings ability. They differ from animals which act by instinct. In our society, work is of critical importance, not only as source of income allowing workers and their relatives to consume goods and services, but also as source of recognition and honor¹. Studies have shown problems related to Brazilian workers health, high-lighting musculoskeletal pain and mental health².

Currently companies have to compete in the work market, looking for high productivity, lower cost in less time, which imposes exhaustive working rhythms, prolonged journeys and inadequate workplaces. In general, for mass production, work requires repetitive movements of shoulder, arms, forearms, wrists and hands muscles to carry out tasks, in addition to static loads on neck and shoulder girdle muscles to maintain adequate posture^{3,4}.

A major workers health problem is related to repetitive strain injuries (RSI) or work related musculoskeletal disorders (WRMD), which are a set of disorders affecting the musculoskeletal system, especially limbs, and have direct relationship with work tasks requirements and physical environment⁵.

Primary musculoskeletal symptom is pain and studies have shown that most prevalent affections related to work are synovitis, tenosynovitis and shoulder injuries. Most affected regions are shoulder, spine and wrist⁶. In this perspective, this study aimed at evaluating pain intensity and most affected anatomic region in a group of textile industry workers.

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METHODS

This is a cross-sectional study with qualitative and quantitative approach. Study was carried out in a textile industry located in the city of Santa Cruz, countryside of Rio Grande do Norte. This industry acts in the production of clothes and the studied population was made up of workers of cutting and sewing production. By convenience, 26 workers were evaluated, sample which contains all workers of the sector. Inclusion criteria were directly working in production, above 18 years of age, who would accept to participate in the interview and the evaluation. Workers of other sectors, such as administration, were not included.

Data collection tools were socio-demographic questionnaires. To evaluate the region with the highest incidence of pain, a human body figure with anterior and posterior view was used⁷.

Respondents have read and signed the Free and Informed Consent Term (FICT) for participation in research involving human beings, according to Resolution 466/2012, National Health Council.

Visual analog scale (VAS) was used to evaluate pain⁸, which is made up of a horizontal 10cm line numbered from zero to 10, where zero means "no pain" and 10 "worst possible pain".

Statistical analysis

Statistical analysis was carried out with the software Statistical Package for the Social Sciences (SPSS) version 20.0. Descriptive analysis for sample and results characterization was carried out according to the studied variable. Categorical variables were expressed in percentages and quantitative variables were expressed in means and standard deviation.

This study was approved by the Research Ethics Committee (Opinion 1.475.786)

RESULTS

There has been predominance of females; 81% of females (n=21) and 19% of males (n=5). Considering age, mean age was 36 years and standard deviation 5.3 years. As to marital status, 65% (n=17) were single and 3% (n=9) were married. With regard to education level, 65% (n=18) had complete high school, followed by 23% (n=6) with incomplete basic education and 8% (n=2) incomplete high school.

With regard to lifestyle, 19% (n=5) were alcoholic, 12% (n=3) smoked and just 23% (n=6) would frequently practice regular physical activities. Mean time working was 90 months, varying between two and 340 months.

With regard to anatomic location of the symptom, there has been more than one painful region per worker. Most frequent was lumbar region (31%) followed by cervical region (22%), lower limbs (19%), and wrists (10%). Shoulders and chest were also mentioned as sites of discomfort (9%) (Table 1).

Table 1. Most affected anatomic region with pain on textile industry workers

Region	%
Lumbar	31
Cervical	22
Lower limbs	19
Wrist	10
Chest	9
Shoulders	9

Twenty-four percent of workers have referred pain in different body regions. According to pain evaluation, it was observed that 88% (n=23) have reported some pain complain. Pain intensity by means of VAS has varied between 2 and 8 with mean of 4.8 ± 2.4 ; region with highest pain intensity was shoulder (VAS=6.6), followed by lumbar and cervical regions (VAS=6); region with least pain was wrist (VAS=5) (Table 2).

Table 2. Pain intensity evaluated by visual analog scale

Region	VAS
Shoulders	6.6
Lumbar	6
Chest	6
Cervical	5.4
Lower limbs	5.3
Wrist	5

VAS = visual analog scale.

DISCUSSION

Pain is an individual, unpleasant and multidimensional experience, leads to medical leaves and worsens people's quality of life. It is a major factor for being away from work and causes limitations^{9,10}.

Our study has shown prevalence of females among textile industry workers, aged between 30 and 49 years. Similar results were found in other studies^{5,11}. As noticed, there has been prevalence of spinal (cervical, thoracic and lumbar) pain, which is common in static jobs with rotation, lateral tilt and ill posture, where the spine suffers an overload. This might be related to inadequate working conditions, when repetitive movements cause musculoskeletal disorders, discomfort and pain^{12,13}.

A study has shown that sedentary activities cause muscle pain and discomfort; in observing textile industry activities it is possible to notice the long period in which workers remain in static positions, contributing for the appearance of complaints¹⁴.

In studies on ergonomic risks, most affected regions were lumbar spine and wrist, being the most exposed to high risk, which confirms our study¹⁵. In seamstress females there is high prevalence of back pain, especially when related to sedentary life, sitting position and psychosocial factors such as isolation and depression¹⁶.

RSI/WRMDs are common in the textile industry and some factors contribute for the illness of this population. Major physical risks are inadequate posture, working standing up, repetitiveness of movements, unfavorable environmental aspects and organizational risk factors such as intense working rhythm, tasks fragmentation and invariability, inexistence of pauses and impossibility of communicating among colleagues¹⁷. A study evaluating 192 workers of the production process of a textile industry located to the South of Brazil has identified significant association between profession and musculoskeletal pain in the cervical region, forearm and dorsal region of workers, relating high frequency of musculoskeletal pain to work dynamics and labor environment conditions¹⁸. Pain is one expression of the high human cost derived from working conditions. People are working with pain and the delay in looking for medical assistance lasts until incapacity is installed and prevents them of going ahead with their activities¹⁷.

CONCLUSION

Our study has shown that a large number of textile industry workers have occupational pain. Region with the highest incidence of complaints was lumbar spine and highest pain intensity was referred on shoulders.

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