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Prevalence of Work-Related Musculoskeletal Disorders (WMSD's) among Bank Employees of Patiala (Preliminary Study)

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Abstract

The purpose of this study is to examine bank employees of Government and Private sector banks for the prevalence of Work-Related Musculoskeletal Disorders (WMSD's). For this purpose, a sample group of 30 bankers age 25-35 years were examined with the help of the Standardized Nordic Questionnaire. Statistical tools were used to evaluate the responses from the respondents. Results-56.66% of respondents reported having neck problems, 33.33% Suffers from low back-related problems, and 20% were suffering from shoulder related problems. The study shows the high prevalence of WMSD's in bank employees.

Keywords: Work-related musculoskeletal disorders, Nordic questionnaire, Bank employees

Introduction

Due to our modern work, culture employees face various musculoskeletal disorders, which are termed under Work-Related Musculoskeletal Disorders. In other words, any musculoskeletal injury resulted from a work-related event is termed as Work-Related Musculoskeletal Disorder (WMSD). It may arise due to common misuse of a particular muscle or by continuous repetitive movements and some fixed or constrained body positions in the working stations, which also contribute to these disorders. The workload and the pace of work that does not allow sufficient recovery between the movements is the major factor for these disorders. WMSD's arises from bending, straightening, gripping, holding, twisting, clenching, and reaching. These common movements are not particularly harmful in the ordinary activities of daily life but, the continual repetition and often in a forceful manner along with insufficient time for recovery make them hazardous in work situations. WMSDs can affect any part of the body like arms, shoulders, wrists, hands, back, legs, and feet, characterized by swelling, stiffness, pain, tingling, and numbness. One of the major causes for these disorders is incorrect sitting and lack of rest intervals during work. This will put a tremendous load on the body. Not only physical work but the mental stress and load that the employees have to undergo during their working hours lead to such disorders. For example- Teachers, Doctors, Nurses, Bank employees, Clerical staff, computer operators/ keyboard users, Goldsmiths, stone carvers, workers from shoe factories and woolen textiles, etc. high risk of WMSDs.

R.K. Moom et al. 2015 concluded that in the banking sector, male employees are more likely to suffer from WMSDs compared to women. In another study conducted by Stanley M et al. 2014, it is reported that 71.68% of the bankers reported having WMSDs at least one region of the body. So the present study is aimed to understand the prevalence of WMSDs in the bank employees of district Patiala of the Indian State of Punjab.

Objectives

- To study the prevalence of WMSDs in bank employees of age group 25-35 years, specifically in the following areas of the body.
 - Neck
 - Lower back
 - Shoulder
- To analyze the factors behind WMSDs in bank employees.

Materials and Methods

The study was carried out in six branches of different banks situated in Patiala city. The branches were selected as per convenience. In each branch, five employees who were using computers and having public dealing were randomly selected. A self-administrated Standard Nordic Questionnaire was distributed along with a verbal explanation about the purpose of the study. The objective of the study, along with the procedure of filling the questionnaire and the study benefits, was also explained to the participants for their convenience. Verbal approval of each branch manager was obtained for the smooth conduction of the study. The completed questionnaires were collected at a later stage. The screening was done to ensure maximum and correct responses. The Standardized Nordic Questionnaire, which is used in the study, consists of two sections, one general section, which contains general questions about the musculoskeletal problems in various parts of the body and the period for which the respondent was suffering from the problem. The second part of the questionnaire is the special section. It consists of details regarding neck trouble, low back trouble, and shoulder trouble. It also consists of the details regarding the extent the trouble and its impact on the respondent's job, working hours, and leisure time.

Inclusion Criteria

Age: Between 25-35 years, both male and female employees are included, employees with computer workstations, employees present during data collection at the branch, and show willingness for participation.

Exclusion Criteria

Age: Below 25 years and above 35 years, employees with any postural deformity and recent history of any trauma, employees not having computer workstations.

For data analysis, all statistical calculations have been made using Microsoft Excel 2013 and SPSS version 21.0, including simple percentage analysis, mean of individual series, and standard deviation.

Results

A total of 30 bank employees responded to the study, all of which were regular employees in their respective banks. The study investigated all participants using the Standardized Nordic Questionnaire, which consists of two sections one general section which contains general questions about their musculoskeletal problems that they might be facing in the various sections of their body like neck, shoulder, elbow, wrist, hand, upper back, low back, hips, thighs, knees, and ankles. The second is the special section, which consists of details regarding neck trouble, shoulder trouble, and low back trouble. It consists of the details regarding the extent of their trouble and its impact on their job, working hours, and leisure time.

Table 1

Total (Sample = 30)

Musculoskeletal Problems	Number	Percentage
No Problem	9	30.00%
Neck Problems	17	56.66%
Low Back Problems	10	33.33%
Shoulder Problems	6	20%

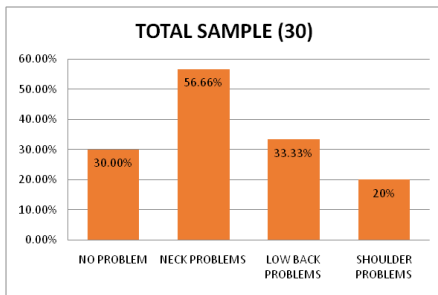


Table 1 represents the frequency of musculoskeletal disorders. It shows that 30% of the respondents have not reported any musculoskeletal disorder, while 56.66% reported neck problems, 33.33% reported low back problems, and 20% reported having shoulder problems. Hence it is shown by the study that out of 30 samples, 56.66% of the subjects suffer from neck problems due to their continuous sitting posture during their working hours. In the same way, 33.33% reported low back problems, and 20% were having Shoulder problems. All these troubles are associated with prolonged sitting and constrained body positions. The study suggests a need to modify the working pattern of the bank employees to reduce the incidences of WMSDs.

Discussion

The present study shows that only 30% respondents reported of not having any sort of WMSDs, whereas 70% of respondents reported having one or the other WMSDs in the three specific areas of their body, i.e., Neck, shoulder, and low back. This high prevalence of reported WMSDs in the study is a great concern for various health professionals, as all the respondents are very much young and are in the early stages of their professional careers. The maximally reported problem, i.e., Neck problem (prevalence 56.66%), could be caused by repetitive head movements and forwarding head posture accompanied by rounded upper back and forward shoulders. This position causes muscles of the upper back to continually overwork to counterbalance the pull of gravity on the forward head, which leads to degenerated changes and inflammation in the neck region. This condition is also aggravated by the use of phone while working on the computer stations.

Similarly, the lower back pain, which is reported by 33.33% of respondents, could be caused by slouch

down posture while sitting in the office chair for long periods. This posture puts a tremendous stretch on the spinal ligaments and leads to degenerative changes in the tissues. The third condition, which is shoulder problems, could be caused due to elevated and forwardly placed shoulders while working on the computer stations. The other possible causes include improper placement of keyboard and mouse, lower chair height, poor head posture, and clamping the telephone between ear and shoulder while working on the computer stations.

All of these factors can lead to degenerative disorders. Certain lifestyle modifications are necessary, along with postural awareness and ergonomically designed workstations to prevent these disorders.

Conclusion

The study shows a high prevalence of disorders in the neck region and low back and shoulder regions. It was observed that the workload and the constrained body positions, and a high pace of work, contribute to increasing WMSDs in the bank employees. The study recommends an awareness program for the bank employees that includes information about proper work posture, proper office and work station ergonomics, and various recreational techniques during work to decrease the incidences of WMSDs.

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