

Prevalence And Risk Factors of Musculo-Skeletal Problems Among Corporate People in Dhaka City

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Abstract

Musculoskeletal disorders are increasing trend; having disturbing effect on our quality of life and day by day it becomes major and common physical health problem resulting work-absenteeism, financial loss and distressful life. To measure prevalence and associated risk factors among corporate people was the aim of this study. This was an epidemiological observational study. Cross-sectional analytical design was the most feasible study design considering time and resources. To avoid bias simple random sampling was used to collect data. History taking, physical assessment and checking medical records are the weapons to determine musculo-skeletal problems. In order to get general idea about sample characteristics descriptive statistics such as mean, SD, frequency, percentage, range was used in tabular and graphical form. Pain intensity was ranked from 0 (no pain) to 10 (worst pain). Average pain intensity was 2.28 whereas minimum and maximum pain was 0 and 7. About 40.90% respondents experienced musculoskeletal pain. About 24.20%, 22.60%, 16.70%, 11.90%, 16.70%, 20.80%, 15.10%, 14.80% and 17% of the employee suffered from neck, shoulder, upper back, elbow, wrist, lower back, hip, knee and ankle pain during last twelve months respectively. Statistically significant association was found between musculoskeletal pain and gender. Statistically significant association was found between musculoskeletal pain and nutritional status of the respondents. It is concluded that prevalence of musculoskeletal problem among corporate staff was high. Findings of this study are helpful in order to develop prevention strategy for musculoskeletal disorders.

Key words: prevalence; risk factors; musculoskeletal disorders; corporate people; dhaka city

Introduction

Work-related musculoskeletal disorders have become a major problem in many industrialized countries.¹ These disorders are widespread in many countries, with substantial costs and impacts on the workers' quality of life. In developing countries, especially those with high rates of unemployment, it is tempting for employers who build up small and middle-sized industries to disregard safety and health.²⁻³ In the private sector in the United States, nearly six million workers experience non-fatal injuries or illnesses.⁴ In Britain, musculoskeletal disorders are believed to represent the largest category of work-related illness.⁵ The rapid changes of work environment, office design and technology from traditional to modern corporate style makes people inactive resulting in Musculoskeletal (MSK) Disorders. Prolonged and repeated bad posture in the desk & front of computers during long office hour, in meeting after meeting, surfing the internet and using laptops make people inactive that is usually the reasons behind it. Work-related MSK disorders comprise a significant portion of workplace injuries

and huge economic and physical burden. These disorders include pain and discomfort, unusual sensations like, stiffness, lack of strength, fatigue and muscle weakness, tension headache etc. Sometimes, it becomes so severe that people have to leave their jobs. With the rising trend in corporate health, injury reduction, wellness and fitness, Corporate Physiotherapy plays significant role in healthy working to improve health of people and quality of work. Now workplaces are demanding for health and safety in the workplace is of paramount importance. It is well recognized that work is vital for physical health, mental health and well-being and a healthy and productive workforce is good for business. Corporate Physical Therapy ensure the total health & wellbeing of the organizational employees through reduced workplace injury, increased productivity and fewer workers compensation claims. People engage in corporate offices in Dhaka city is our target population. Corporate job as like bank, media, IT and industries are our focusing area because of their different working conditions as for

example shifting duty, prolonged working position, unaccustomed loading etc.

Methods

This study focused prevalence and risk factors of musculo-skeletal among corporate people at a single point in a specified time. Considering time period and resource availability, cross-sectional analytical corporate worker-based study design was most feasible for this study. Apart from socio-economic condition, working environment and life style pattern of study population, information on various factors that affect the muscles and bones were also obtained in a cross-cut way. Study duration was 6 months (March to September 2019). This study was conducted in different corporate house at Dhaka city. This area was conveniently selected for data collection and to get adequate sample of study population. This study was carried out among people engage in corporate offices situated in Dhaka city. Those people are

settled in different working environment like bank, media, IT and industries. This may force them to adopt different working conditions, which is reflected through potential differences in physical health condition. This situation provides an excellent opportunity to study how these different working condition affect their health. Simple random sampling technique was used to avoid selection bias. Face to face interview was conducted to collect data. Pre-tested structured questionnaire was used to gather information. Physical examination, medical records and history taking were used to find out musculo-skeletal problems. Computer technology SPSS was used for classification, differentiation, presentation and analysis of data. Descriptive as well as inferential statistics were used to analyze data. Data were presented in graph and table.

Results

Working time (years)	Frequency	Percentage
Years of engaging present work		
Mean±SD	9.20±6.34	
<10	209	65.7
10-20	85	26.7
20-30	22	6.9
>30	2	0.6
Total	318	100.0

Table 1: Distribution of working tenure of the respondents.

Table 1 shows that average years of engaging present work was 9.20±46.34 years. Most of the study subjects (65.7%) were working from <10 years followed by 26.7% from 10-20 years and 6.9% from 20-30 years respectively.

About 40.90% respondents experienced musculoskeletal pain in the last seven days of interview.

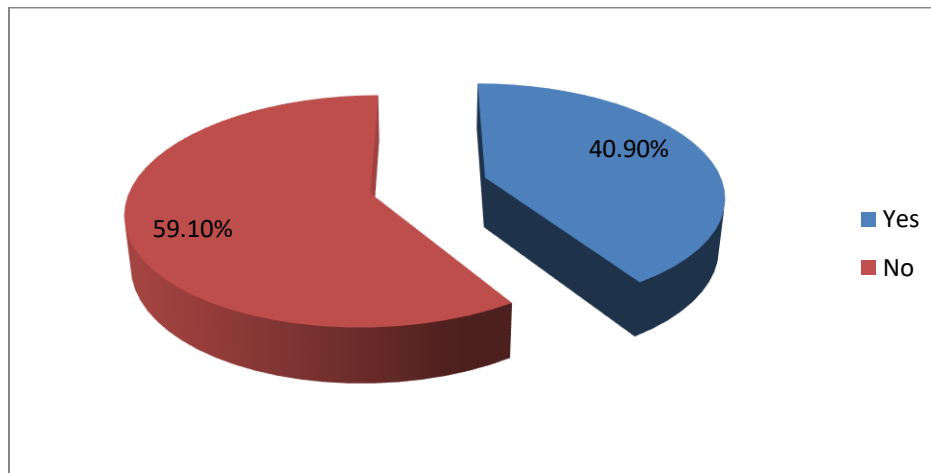


Figure 1: Experience of musculoskeletal pain in the last seven days of interview

About 24.20%, 22.60%, 16.70%, 11.90%, 16.70%, 20.80%, 15.10%, 14.80% and 17% of the employee suffered from neck, shoulder, upper back, elbow, wrist, lower back, hip, knee and ankle pain during last twelve months respectively.

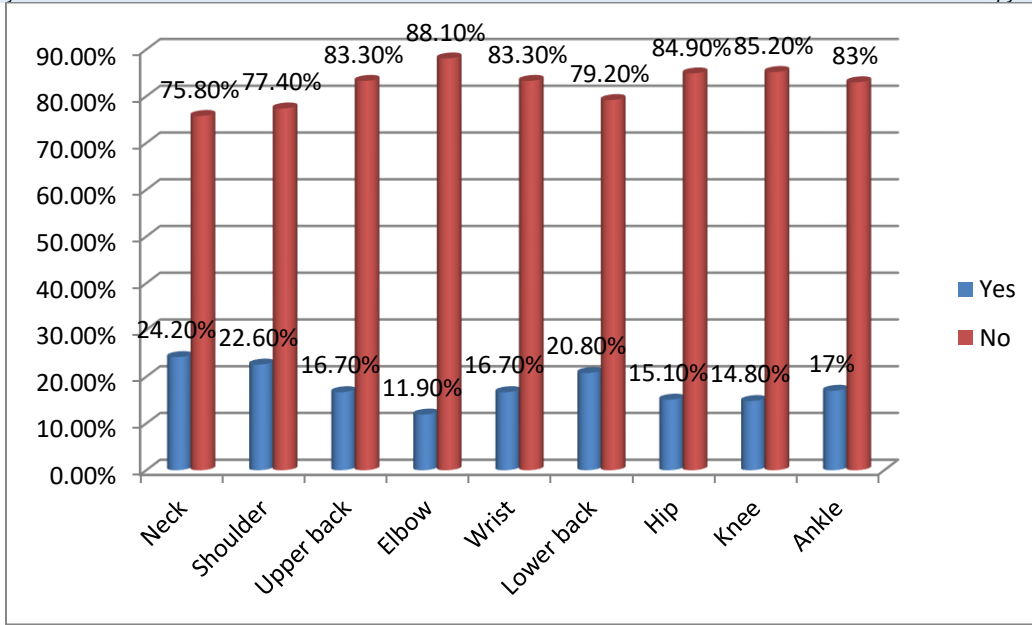


Figure 2: Site of musculoskeletal pain during last twelve months.

About 14.80%, 14.80%, 14.90%, 11.60%, 10.10%, 11.10%, 13.50%, 14.80% and 13% of the employee prevented from normal activities during last twelve months due to pain in neck, shoulder, upper back, elbow, wrist, lower back, hip, knee and ankle pain respectively.

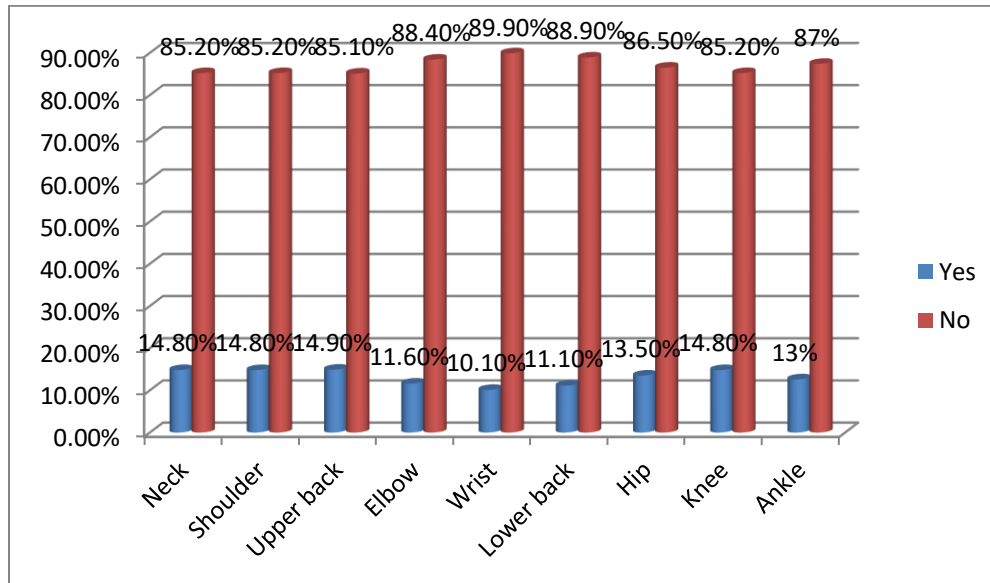


Figure 3: Prevented from carrying out normal activities during last twelve months due to pain.

Age group	Musculoskeletal pain		Total	χ ²	p value
	Present	Absent			
	n(%)	n(%)			
25-34	50(15.7)	85(26.7)	135(42.5)	5.885	0.117
35-44	66(20.8)	73(23.0)	139(43.7)		
45-54	13(4.1)	24(7.5)	37(11.6)		
55-64	1(0.3)	6(1.9)	7(2.2)		
Total	130(40.9)	188(59.1)	318(100.0)		

Table 2: Association between musculoskeletal pain last seven days and age group

Statistically no significant association was found between musculoskeletal pain and age group (p=0.117>0.05).

Gender	Musculoskeletal pain		Total	χ^2	p value
	Present	Absent			
	n(%)	n(%)			
Male	110(34.6)	178(56.0)	288(90.6)	9.113	0.003
Female	20(6.3)	10(3.1)	30(9.4)		
Total	130(40.9)	188(59.1)	318(100.0)		

Table 3: Association between musculoskeletal pain and gender.

Statistically significant association was found between musculoskeletal pain and gender ($p=0.003<0.05$).

Gender	Musculoskeletal pain		Total	χ^2	p value
	Present	Absent			
	n(%)	n(%)			
Male	110(34.6)	178(56.0)	288(90.6)	9.113	0.003
Female	20(6.3)	10(3.1)	30(9.4)		
Total	130(40.9)	188(59.1)	318(100.0)		

Table 4: Association between musculoskeletal pain and nutritional status.

Statistically significant association was found between musculoskeletal pain and nutritional status of the respondents ($p=0.031<0.05$).

Nutritional status	Musculoskeletal pain		Total	χ^2	p value
	Present	Absent			
	n (%)	n (%)			
Underweight	1(0.3)	2(0.6)	3(0.9)	8.846	0.031
Normal	13(4.1)	28(8.8)	41(12.9)		
Overweight	48(15.1)	91(28.6)	139(43.7)		
Obese	68(21.4)	67(21.1)	135(42.5)		
Total	130(40.9)	188(59.1)	318(100.0)		

Discussion

Musculoskeletal disorders (MSD) represent one of the most common and important occupational health problems in working populations, being responsible for a substantial impact on quality of life and incurring a major economic burden in compensation costs and lost wages. MSD decrease productivity at work due to sick leave, absenteeism and early retirement, and are also costly in terms of treatment and individual suffering. Moreover, MSD represent a common health-related reason for discontinuing work and for seeking health care. Average pain intensity was 2.28 whereas minimum and maximum pain was 0 and 7. About 40.90% respondents experienced musculoskeletal pain. Statistically significant association was found between musculoskeletal pain and gender. Statistically significant association was found between musculoskeletal pain and nutritional status of the respondents. Female gender has also been positively associated with the severity of MSD. A study from Turkey, for example, found that female employees report more severe pain in the wrist, upper back and lower back regions.⁶ Similar findings have been reported in a study of Chinese corporate workers, where female experienced a higher pain severity in the shoulder than their male counterparts.⁷ Conflicting findings have been demonstrated in the relationship between age and MSD. In Brazil, corporate staffs above 40 years of age were more likely to report lower limb pain, back pain and upper limb pain⁸, while a study of Turkish industry has found that teachers above 40 years were more likely to report MSD.⁶ In other studies, however, younger workers have also been found to experience MSD. This has been evidenced in the results of a Chinese study where the age group with the highest prevalence of neck pain was 31-35 years, with a significant difference among different age groups in the prevalence of neck pain. In the

same study, the age groups with the highest prevalence of upper limb pain were 46-50 years and >50 years, with a significant difference among age groups in the prevalence of upper limb pain.⁹ In two other Chinese studies, employees aged 30-39 years had experienced the most low back pain,¹⁰ while staffs aged 31-50 years had also reported experiencing upper back pain.⁶ A few studies have investigated MSD of the lower extremities such as hips, legs, knees, ankles and/or feet among office staffs. MSD in the lower extremities have been reported by 41.1% and 33% of Brazilian office worker¹¹ and US,¹² respectively. In China, 54.6% of school teachers reported having experienced leg pain during physical activity in the previous month.⁶ In a recent Turkish study, lower extremity pain had been experienced by 8.4% of teachers in the hip area, 32% in the knees and 21.8% in the ankles.⁷ In another study, 12% of Swedish music teachers reported hip pain, 16% knee pain and 9% foot pain in the previous 12 months.¹³ In Estonia, 3.9% of non-PETs reported hip pain in the previous 12 months, whilst 2.3% of PETs reported hip pain over the same time period. In comparison, in the same Estonian study, only 7.8% of non-PETs reported knee pain whilst 14% of PETs reported experiencing knee pain.¹⁴ The prevalence of pain in the lower extremities seems to be relatively low when compared to the prevalence of pain in the upper extremities and the back. Many studies examined in the current review had measured back pain in different ways. Most reported back pain in general, while comparatively fewer studies reported low back and upper back pain separately. For example, 63% of Greece hotel workers¹⁵ and 52.4% of teachers in a special school for the severely handicapped reported back pain.¹⁶ Similar results were found in two studies conducted in Japan where 45.7% of teachers for physically and mentally handicapped children¹⁷ and 76.7% of teachers for physically and intellectually disabled pupils reported higher prevalence rates

of back pain. In separate study of Japanese preschool teachers, 17.7%.¹⁷ In the Philippines and Brazil, 53.3% of secondary school teachers¹⁸ and 41.1% of primary and secondary school teachers¹⁹ have reported back pain, respectively. Parallels can be drawn to other studies where 40.4% of Malay industry and 40% of Chinese broker house also reported back pain²⁰ in the 12 months prior to the study. In France, 34.8% of non-government office staffs had experienced back pain in the previous six months.²¹ Conversely, only 20.6% of Japanese preschool school teachers had experienced back pain.²² Elbow pain has been reported as a symptom, mainly by musician. From the Swedish studies carried out among musician, the prevalence of elbow pain ranged between 11.1% and 22.2%. Pain in the hand region has also been the most prevalent symptom among Swedish musician, ranging from 13-22.2% of the surveyed.²³ Only 8% of computer operator in Turkey reported elbow pain,⁶ however, a total of 43.9% of IT officer in Hong Kong reported MSD in the arm during the previous month.⁷ In contrast, 9.1% to 17.7% of Japanese desk officers reported having experienced arm pain, while 11% of US receptionist had experienced hand/wrist pain.²⁴ Wrist pain was a symptom reported by only 13% of the Turkish air desk staffs.²⁵ Actually MSDs cause not only individual suffering but also pose a considerable financial cost to the individual, industry and society at large. Rapid technological developments, especially in the use of electronic data, have affected both workers and the workplace. Electronic data are mainly displayed on visual display terminals. Improper body posture and long hours in front of these terminals can result in many health hazards, including eye strain and fatigue and musculoskeletal disorders. Work-related MSDs can affect shoulders, arms, elbows, wrists, hands, back, legs and feet. They are caused by forceful or repetitive movements or a poor working posture. Symptoms include tenderness, aches and pains, tingling, stiffness and swelling. Lower and upper back pain and muscle spasm could be due to incorrect seating, which also affects the cervical spine and neck muscles leading to pain. Despite technological advancement and mechanical modification of working place, the incidence of MSDs is ever increasing, which has an adverse impact on the individual and the society. Little information on the prevalence of MSDs and associated disability is available in Bangladesh. This study investigated the prevalence of MSDs among corporate staffs working in capital city Dhaka.

Conclusion

Musculoskeletal disorders among corporate people in Dhaka Bangladesh are increasing trend and day by day it becomes burden of life and leading to distressful life. This is why it was timely demand to explore prevalence of MSDs among corporate people. Statistically significant association was found between musculoskeletal pain and gender. Statistically significant association was found between musculoskeletal pain and nutritional status of the respondents. It is concluded that prevalence of musculoskeletal problem among corporate staff was high.

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