Point Prevalence of Musculoskeletal Pain Among Bankers Visiting Teerthanker Mahaveer University OPD"

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ABSTRACT:
Introduction: Musculoskeletal pain is one of the chief sponsors to decreased productivity, disability, incompetence which contribute to poverty. Furthermore, it can be psychological strenuous work with various social factors like pressure, work-life conflict, etc It generally results from combination of various physical factors including repetition, force and awkward postures as well as other work place environment. Among various professions bankers are more susceptible to musculoskeletal pain. This study aims to determine point prevalence of musculoskeletal pain among bankers visiting Teerthanker Mahaveer University OPD
Method: A cross-sectional study was carried out with 54 participants. On the basis of inclusion and exclusion criteria, participants were recruited for the study. Outcome measure used was Orebro Musculoskeletal pain questionnaire
Result: Mean and Standard Deviation of Age is (31.58$\pm$6.404), Mean and Standard Deviation of BMI is (23.598$\pm$3.7807), Mean and Standard Deviation of Orebro Score is (93.25$\pm$22.529). Point prevalence of mild disability, moderate disability and severe disability percentage among bankers is 36, 15 and 1 respectively. (n= 54)
Conclusion: The study concluded that the 69% population falls under the risk of mild disability, 29% population falls under the risk of moderate disability, 2% falls under the risk of severe disability.
Keywords: Musculoskeletal pain, bankers, prevalence, work related musculoskeletal disorders

I. INTRODUCTION

The Musculoskeletal System consists of specialized connective tissues of articulated bony skeleton and skeletal muscles. These specialized cells of musculoskeletal system are bone, cartilage, muscle and tendon.

Bone is a strong and rigid connective tissue which provides strength, support, protection to the body. Our body consists of two types of bones that is Cortical and Cancellous bone. It is a vascular structure and hence regenerate following injury. Bone contains mineralized collagenous extracellular matrix surrounding range of specialized cells including osteoblast, osteoclasts and osteocytes.

Cartilage is fetal precursor tissue in development of many bones. It persists at almost all joints between bones and in structure. It is pliant, load bearing connective tissue. Three types of cartilage are hyaline cartilage, white fibro cartilage and yellow elastic cartilage. Their prime functions are either to facilitate growth or to allow movement between bones. Free movement occurs at synarthroses which can be divided into fibrosis and cartilaginous joints.

Muscle cells possess cysto-skeletal elements that are capable of lengthening or

shortening and so enable the cell to change its shape. Muscle forces move limbs and drive many of the function of human body. The muscles are classified as cardiac, smooth and skeletal muscles.

Tendons are composed of dense, regular connective tissue. They take form of whitish looking strap with round or oval cross section. They are slightly elastic and can be stretched. The vascular supply is sparse. Ligament consists of crimped fibers of collagen part I and cells are elongated fibroblast. They resist the separation of bone in more than one direction. [1]

Musculoskeletal pain is one of the chief sponsors to decreased productivity, disability, incompetence which contribute to poverty.

Musculoskeletal pain notably restricts mobility, flexibility, functional independency, consequently limiting working capacity and quality of life.

Musculoskeletal pain exposes the individual to numerous musculoskeletal disorders. Musculoskeletal disorders primarily affects joints, bones, muscles, tendons, etc. [2]

The swift urbanization has resulted in health problems among working category. The perils which contribute to health disarray can be personal background related or work related. Mainly the professions which includes back breaking, monotonous work, uncomfortable posture, etc. are major sponsors of musculoskeletal pain.

Furthermore it can be psychological strenuous work with various social factors like pressure, work-life conflict, etc. [3]

Work Related Musculoskeletal Disorders (WRMSDs) continue to be extremely common and present an important challenge to clinicians. Earlier referred to as repetitive strain injuries or cumulative trauma disorders now known as Work Related Musculoskeletal Disorders has less etiological implications. These disorders affecting the back, lower limbs and especially upper limbs and neck, can be extremely challenging if not addressed appropriately.

It generally results from combination of various physical factors including repetition, force and awkward postures as well as other work place environment.

Organizational factors including excessive work rate or duration, inadequate breaks, and a variety of psychosocial work place characteristic. Work Related Musculoskeletal Disorders can often be remediated when these factors are appropriately assessed and addressed Clinicians must ensure the prevalence of the approach. [4]

Among various professions bankers are more susceptible to musculoskeletal pain.

They are exposed to static uncomfortable posture for a long period of time in an already predisposing environment. The task of bankers demands continuous use of computers and electrical gadgets. Their job requires unvarying movement of neck, shoulder, arms, upper back, lower back, leg, and other diverse regions exposing them to musculoskeletal pain. [5]

Various other factors also patron to musculoskeletal pain like sedentary lifestyle, age, gender, personal history, etc. Musculoskeletal pain affects the Quality of Living, gradually increasing working limitation posing negative impact on individual. [6]

Among Hong Kong Bankers – prevalence of Work related Musculoskeletal Disorders in various parts is 31.4% in neck, 30.6% in back, 16.5% in shoulder, 14.9% in hand and wrist, 6.6% in arm. This study aims to determine point prevalence of musculoskeletal pain among bankers visiting Teerthanker Mahaveer University OPD. As per previous studies Bankers are vulnerable to musculoskeletal pain but the prevalence was not known among bankers in various regions of India. This cross-sectional study aids to identify the risk factors among them. So the information provided can be used for prevention of musculoskeletal pain consequently upgrading health care

The study aims to evaluate musculoskeletal pain with the help of Orebro Musculoskeletal Pain Questionnaire

(OMPQ) among Bankers visiting Teerthanker Mahaveer University OPD. OMPQ is a 'yellow flag' screening tool that predicts long term disability and failure to return to work. The information from the questionnaire helps in understanding the problem better and also helps in evaluating the possible long term consequences of the pain that the worker may have. [7]

II. MATERIALS AND METHODS:

A cross-sectional study was conducted in the Moradabad region. Total number of participants recruited for the study were 54. Participants with age group of 30-60 years old, participants who are banker and both male female participants were included in the study. Participants with the history of any road traffic accident, any systemic disease or illness, or bankers who have recently started their job were excluded from the study. Outcome measure used for the study was Orebro Musculoskeletal Pain Questionnaire. [8] OMPQ is a 'yellow flag' screening tool that predicts long term disability and failure to return to work. The participants were explained and informed about the study. The written consent was obtained from the participants which was necessary as per the individual self-participation in the study. Orebro Musculoskeletal Pain Questionnaire was explained to the subjects one by one and they were asked to fill up the questionnaire as per their status according to the question. [9,10] Data Analysis was done by using Microsoft Excel and SPSS Software.

Figure 1- Weighing Machine

Figure 2- Stadiometer

Figure 3- Height measurement with the help of a Stadiometer

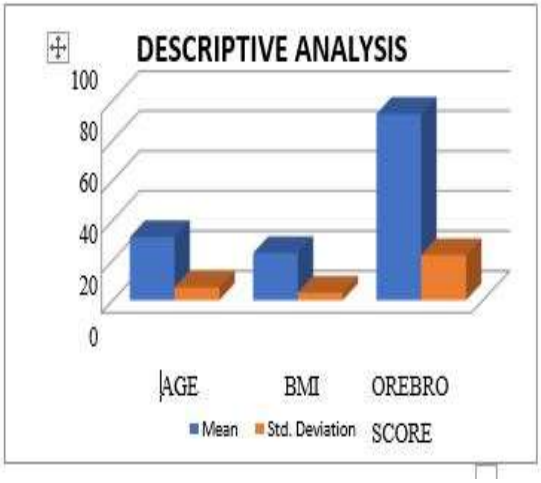
Figure 4- Weight measurement with the help of a Weighing Machine

RESULT

54 participants were included in this study. Participants were explained about the study. The Mean and Standard Deviation of Age was (31.58±6.404), Mean and Standard Deviation of BMI was (23.598±3.7807), Mean and Standard Deviation of Orebro Score was (93.25±22.529).

Table 1 - Descriptive Statistics of Age, BMI, and Orebro Score

Parameters	Descriptives (Mean±SD)
Age	(31.58±6.404)
BMI	(23.598±3.7807)
Orebro Score	(93.25±22.529)

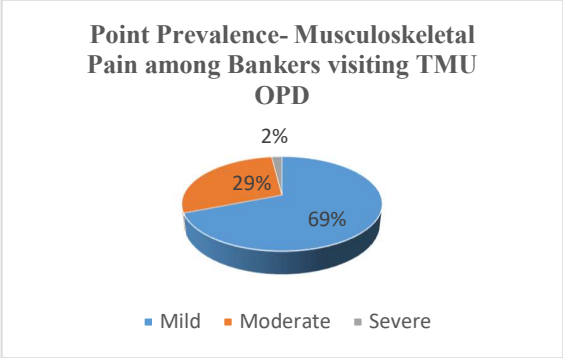


Graph 1 - Graph depicts the descriptive statistics of Age, BMI, and Orebro Score.

The point prevalence observed in terms of mild disability, moderate disability and severe disability in the selected target population as 36%, 15% and 1% respectively.

Table 2 – Point Prevalence of Back Pain

Disability	Mild Disability	Moderate Disability	Severe Disability
Percentage (%)	36	15	1



Graph 2 - Graph depicts the point prevalence of mild disability, moderate disability and severe disability percentage among bankers (n= 54)

III. DISCUSSION

With the evolution of modern world, Musculoskeletal Pain has become a very familiar health problem. This study determines the Point Prevalence of Musculoskeletal Pain among Bankers in the region of Moradabad, India.[11] In our study we evaluated the Musculoskeletal Pain in Bankers. Total number of 54 subjects, 2 females and 52 males participated in the study. The respondents belonged to the age group 30-60 years who usually spend 7-8 hours continuously on a working desk. This corporate profession consists of long working hours spent on sitting for a long duration of time in awkward posture stressing out the musculoskeletal system. The excessive workload also has a negative effect on sleep and stress level.[12] For the research Orebro Musculoskeletal Pain Questionnaire was used which estimates long term disability. It is a predicting tool whose total score is 210. It divides the subjects into three categories. The Group 1 who score < 105 fall under the low risk, 105-130 falls under moderate risk and > 130 are categorized in high risk.[13]

The summarized finding of the study includes the Mean and Standard Deviation of their Age, BMI and Orebro Score. Mean and Standard Deviation of Age is (31.58+6.404), Mean and Standard Deviation of BMI is (23.598+3.7807), Mean and Standard Deviation of Orebro Score is (93.25+22.529). The point prevalence of Group 1, Group 2

and Group 3 of the selected population is 69%, 29%, 2% respectively. According to Mohammed Farghaly Kassem et. Al [14] Work Related Musculoskeletal Disorders are essential health problems among bank workers using digital technology. The main objective of the study was to identify the paradigm of Musculoskeletal Disorders and environmental related health hazards in work culture. The majority of 127 subjects suffered mostly from lower back pain 62.7%, neck pain 61.1% while 49.2% suffered from shoulder pain.

According to Q.A.S. Akrouf, et. al. [11] the most affected body parts were neck 53.5%, lower back 51.1%, shoulder 49.2%, and upper back 38.4%. Out of 800 participants 750 showed that there is a major confirmatory support on static posture which further aggravates the risk for the Musculoskeletal Pain and positive relationship has been revealed. According to ***Alemu Kasaw Kibret et. al.*** [15] the study revealed that prevalence of Musculoskeletal Disorder was highest in lower back 44.4%, neck 35.2%, upper back 33.6% and least in ankle 11% and hip 10.4%. Out of 307 bankers the prevalence of Musculoskeletal Disorders was lower in bankers who had righteous posture during their period of work. According to Livingstone Kanyenyeri et. al. [17] the prevalence of back pain was found to be 45.8%. The study depicted higher prevalence of back pain out of 144 bank employees. The components like awkward siting posture, having no break during working hours are single handedly associated with back pain among bankers. A total number of 144 employees were taken into consideration.

According to Md Ruhul Amin et. al. [4] mean duration of computer used by bankers was 8.42+3.685 years average day use was 5.72+2.667 hours and used without break 3.04+0.921 hours. Among 400 participants there was a strong correlated association of duration of computer used and severity of the Musculoskeletal Pain which persists over a long duration of time. The reported part of Musculoskeletal Disorder was mainly neck and back. According to another study [18] the most affected parts of body by Musculoskeletal Disorder include lower back 66.9%, neck 59.4%, shoulder 51.4%, upper back 41.7% and feet 43.4%. The 175 participants of the study revealed that prevalence of musculoskeletal disorder is more prevalent among male bank employees.

According to Nazmus Sakib [13] the prevalence of affected body parts was neck 58.4%, upper back 30.2%, lower back 60.4%, shoulder 56.6%, elbow 6.6%, wrist 17.9%, hip 3.8%, knee 16%, ankle 5.7%. The prevalence of symptoms is higher in 106 bank workers due to lack of awareness, lack of interventional strategies, lack of research.

IV. CONCLUSION

The result of the study concluded that musculoskeletal pain is prevalent in bankers. The point prevalence was depicted in terms of mild, moderate and severe disability as 69%, 29% and 2% respectively. Limitation of the study was the smaller number of participants and because of working hours and nature of profession, few bankers were not cooperative. Same study can be done in larger areas with large number of samples and randomized Controlled Trial can be done in future using Orebro Musculoskeletal Pain Questionnaire.

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