



Original Article

Frequency of Work-Related Musculoskeletal Disorders of Lower Extremity Among Construction Workers

Fatima Bashir¹, Muhammad Waqar Afzal², Ashfaq Ahmed³ and Syed Amir Gilani⁴¹University Institute of Physical Therapy, Faculty of Allied Health Sciences, The University of Lahore, Lahore, Pakistan**Key Words:**

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Corresponding author:

Muhammad Waqar Afzal
University Institute of Physical Therapy, Faculty of Allied Health Sciences, The University of Lahore, Lahore, Pakistan

*Waqarafzal621@gmail.com**Article History**Received: 13th March 2020Accepted: 15th April 2020Published: 30th June 2020**ABSTRACT**

Musculoskeletal (MSK) lower extremity pain constitutes one of the main professional hazards among construction workers. Because laborers require heavy lifting, repetitive bending, twisting, prolong standing and sitting in awkward position **Objective:** To find out the prevalence of work related musculoskeletal disorders (WRMD) of lower extremity among construction workers **Methods:** A self-administered questionnaire was undertaken to detect the occurrence of WMRD of lower extremity among 151 construction workers. Data was analyzed statistically by SPSS version 21.0 **Results:** Mean age of respondents was 31.13 years with only males. Hip pain prevalence was found to be 20 (13.2%), knee pain 25(16.6%) and ankle/foot pain 29(19.9%). There was significant association of lower extremity pain with age, type of occupation and p-value was less than (0.05) **Conclusions:** This study concluded that lower extremity musculoskeletal pain is very common among construction workers due to their nature of work.

INTRODUCTION

The musculoskeletal (MSK) disorder is used to describe the conditions like called repetitive injury, repetitive strain damage, or micro trauma during vigorous physical activities. These problems present with pain and functional impairments related muscles, ligaments, joints and nerves [1]. The US Department of Labor describe work related MSK damage of the muscles, nerves, ligaments, joints, ligament, and spinal disc associated with exposure to hazard factors in the work environment. MSK issues associates sprain, tears, back pain, soreness, nerve entrapment, bone structure, or connective tissue illness and disorder [2]. For development workers, MSK issues are main reasons of capacity loss at work [3], permanent disabilities [4] and functional impairment [5]. Issues of MSK issue in construction workers are progressive and starts at younger age. Development work, however depends on hard work, twisting, prolonged, drooping, and climbing, all of these injured the different areas of the body [6]. Because of the concept of this industry, the laborers are always presented to fatal conditions and are at high exposure for MSK problems [7].

Most extensively known medical issues of individuals in world are MSK disorders [8]. A single largest distribution of occupation associated problems and most of the time of occupation related illness Equal to employed time is a recognized pressure that put to maintain hazard in producing MSK issues [9]. MSK problems have been noticed by different employees to be associated with various components, both visible and psychological [10]. Research have established that lower MSK ability will lead work ability [11]. Construction development is a massive, operating and hard mechanical section, formulating word for many employees international on its labors strength [12] construction employees are related with different concerns like architect, bendability, attendant, circuit technician, manufacturer, and crane operator etc [13]. studies showed that four out of five construction workers had MSK symptoms [14].

Bodhare and merlino *et al.*, noted occurrence of MSK problems with 76.8% and 77%, individually. Contrarily, research of Guo *et al.* showed a small decreased prevalence of MSK illness of 37% (15) of the 165 developmental laborers, 80 (48.5%)



recorded MSK issues. Largest part of individuals had pain in knee (20%) and lower leg/foot (6.3%). In the US an over the society benefit session analysis established that construction workers are the big threat develop for work associated MSK problems [16]. Most large existence of occupation associated issues of MSK cases via carpentry forte extended from 20%-24% 'handing over and ascending' (58%, 76/132), 'laboring with a twisted spine' (47%, 62/132), 'drifting over the development place (44%, 58/132), and "Standing" (42%, 55/132).

Construction work is familiar for occupational related crisis and dangers and unfavorable content impacts. Enhancement of knowledge about work related MSK problems in developmental occupations is possibly moving to be of important valuation which determining protective measures and MSK problems are a ambition of initial withdrawal or disable and moreover it builds upon the type of construction work. For mention, bricklayers with connective tissue impair related with the knee report that hunch and squatting are the variables generating their pain. Likewise, major with knee difficulty report that ascending walk stools and structures can cause their MSK issue and laborers with MSK disorders or the irritability of their threats because of their service specific work-related exercises, vulnerable upon the area of the body that involved [17]: There is less data available specifically on construction workers in this population. The aim of this study was to find out occurrence of work-related MSK disorders.

METHODS

It was a cross-sectional study. Non-probability convenient sampling procedure was used. Data was calculated from different under construction buildings in Lahore city. A mixture of standardized and self-made variables was included in questionnaire. Sample size was 151 and calculated by using epi tools software. Individuals, who were ready to participate, were explained about study. The Questionnaire was filled by 151 construction workers. Confidence level (0.95) was selected to give a sample size 151 construction workers to allow for the analysis. Subjects with any systemic disease i.e., hypertension, heart disease and diabetes were not included. For statistical data analysis data was entered in SPSS 21.0.

RESULTS

Table 1 shows the characteristics of the participants according to the type of their work. There were 44(29.1%) manual laborers, 5(3.3%) plumbers, 11(7.3%) electronics, 6(4.0%) crane operators, 15(9.9%) bricklayers, 11(7.3%) painters, 17(11.3%) carpenters and 42(27.8%) others.

What is your type of work	Frequency	Percent
Manual laborer	44	29.1%
Plumber	5	3.3%
Electrician	11	7.3%
Crane operator	6	4.0%
Bricklayers	15	9.9%
Painter	11	7.3%
Carpenter	17	11.3%
Other	42	27.8%
Total	151	100.0

Table 1: Characteristics of participants according to work nature

Table 2 shows the frequency of MSK pain among participants. Majority of the respondents had Ankle/Foot pain 29(19.2%) followed by knee 25(16.6%) and hip 20(13.2%) out of 151 construction workers. Table 3 shows from 151 construction workers, 18(11.9%) works for 4-6hours/day and 133(87.4%) work 6-8hours/day.

Do you have pain in following region	Frequency	Percent
Hip	20	13.2%
Knee	25	16.6%
Ankle/Foot	29	19.2%
Total	74	49.0%

Table 2: Frequency of musculoskeletal pain in different regions

How many hours you work in a day	Frequency	Percent
4-6 hours/day	18	11.9%

6-8 hours/day	133	87.4%
Total	151	100.0%

Table 3: Frequency of working hours

DISCUSSION

Frequency, features and distribution of MSK disorders was assessed in construction laborers in Lahore, Pakistan. The frequency of lower extremity pain was found to be 20(13.2%) hip pain followed by 25(16.6%) knee pain and 29(19.9%) ankle/foot pain. Frequency of ankle/foot pain was also high in this study. These findings are compatible with the earlier cross-sectional studies which observed a comparable occurrence of MSK issues in laborers. Bodhare and Merlino *et al.*, noted occurrence of MSK problems with 76.8% and 77%. Contrarily, Guo *et al.*, recorded a little lower frequency of MSK disorders (37%). Previous research showed that 4 out of 5 construction laborers had signs of MSK disorders. Joshi *et al.*, have showed 59.4% frequency of MSK disorders in their research on laborers and have advised that the great frequency of MSK disorders in laborers demands serious consideration from the physical and work places [16].

Other study in which 750 bricklayers and 750 supervisors randomly selected from citizens of Netherlands. This sample was assessed by means of a standard questionnaire and look into questionnaire after one year. During last six months, the participants were asked about problems of the MSK system and recognized occupational related of the symptoms, the issues that happens during work and the work-related loads that were seen as reasons or provoking components of the MSK problems. Among 232 supervisors and 267 bricklayers the prevalence of MSK disorders was 57% and 67% respectively [17]. Around 30% of all recorded work-related fatalities experienced by development laborers in the Philippines which associated to certain MSK issues, that are primarily due to overexertion and not suitable management of objects in the workplace [7]. A cross-sectional subsample analysis was administered in 5 current development industries in Uyo, Nigeria. The subjects (n = 1200 males), age 18–55 years, filled in the semi structured Nordic MSK questionnaire. The overall prevalence of work-related MSK disorders was 39.25% and reported high occurrence was multi factorial in investigations; therefore, different plan of actions is necessary [18]. A future study should conduct by using large sample size from different areas of the country Awareness programs should be conducted relevant to occupational fatalities.

CONCLUSION

Frequency of WRMD was high among construction workers due to the nature of work and occupational fatalities.

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