

Assessment of Frequent Work Related Musculoskeletal Disorders in Patients Visiting the Physiotherapy OPD of Civil Hospital Quetta, Pakistan: A Cross Sectional Survey

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Abstract

Background: Work related musculoskeletal disorders (WRMSD) are the sort of disorders which involves soft tissues. The involvement of soft tissues can be due to the over use, restlessness and improper use. The main target of WRMSD are working individuals. It may cause muscle strain, ligament strain, tendon strain, tendinitis and bursitis.

Methods: The cross section survey was conducted and data was collected from July to October 2018 from civil hospital Quetta, Pakistan. A self-constructed proforma was used among the 97 patients who meet the inclusion and exclusion criteria and Spss version 23 was used.

Results: The majority (n=49, 50.5%) were belongs to age group of 21 to 35 and were (n=51, 52.6%) were male. In marital status majority (n=64, 66%) were married. In involvement of part majority (n=28, 28.9%) were suffering from lower back problem. After checking the type of injury (n=48, 49.5%) were suffering from muscular strain. In the context of onset of injury majority (N=41, 42.3%) were experienced their problem suddenly.

Conclusion: The study finalized that WRMSD is most common in working individuals especially in older and females. The WRMSD puts heavy burden on the society, annually. As the participants who belongs to low socio economic status are more vulnerable for WRMSD.

Keywords: Frequent, Physiotherapy, Work Related, Musculoskeletal Disorders, Quetta, Pakistan.

Introduction

Work related musculoskeletal disorders (WRMSD) are the sort of disorders which may include, muscles,

tendons nerves and other soft tissues as well. Mainly they may appear in the form of muscular strain, tendon strain, tendinitis and ligament sprain^(1, 2). They may appear in the different conditions like, carpal tunnel syndrome, epicondylitis, thoracic outlet syndrome, tension neck syndrome, rotator cuff tendinitis, tenosynovitis and Bursitis and many other disorders⁽²⁻⁴⁾. In working adults the more common cause of disability is the WRMSD⁽⁵⁾. In old and female workers reported with higher disability rate on comparison with younger and male workers^(5, 6). The WRMSD are more common among the physiotherapist, paramedics, machine operators,

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office workers, carpenters, grocery store workers and truck drivers^(7, 8). During an activity when a person, over uses the muscle, improper uses of their muscle feeling of fatigue for longer time can cause a muscle pain that may called as a muscle strain^(1, 2). The over stretching of muscle fibers that usually connects the bone to muscle is called as tendon strain and the inflammation of that fibers is known as tendentious^(2, 3). The tear of ligament is known as ligament sprain. There are mainly three grades of ligament tear. In I grade there is minimal tear of ligament and patients experiences worst pain, in grade II there is partial tear of ligament and patient experiences less pain then grade I but in this grade patient will also suffer from un-stability. In the last there is grade III in which there is complete tear of ligament and patient experiences no pain along with inflammation but patient's knee will be completely un-stable⁽⁹⁾. In younger age WRMSD mainly involves the upper extremity of a worker and in older and females the lower back and neck are involved in most of the cases, because the bones of older and females are more fragile as compare to younger males^(10, 11). Those WRMSD which are reported by older individuals are mostly irreversible because the degenerative process get started in older age individuals which is also a leading cause of irreversible WRMSD^(11, 12).

Methods

Study Design, Settings, and Duration:

A cross sectional survey was conducted and data was collected from July to October 2018 from the Civil Hospital Quetta, Pakistan.

Sampling:

Convenient Non-Probability Sampling Technique was used among 97 male & female working participants, who must understand the Urdu language (national language of Pakistan) and were agreed to participate in the study, while, patients with any pathology, central

nervous system alteration, with any surgical intervention and unwilling to sign inform consent were excluded.

Data Collection Tool:

A self-constructed proforma was used to collect the data, which include the demographic Characteristics (age, gender & marital status) while the included work related musculoskeletal disorders characteristics were, involvement of part(shoulder, wrist, neck, lower back , knees & ankle) type of injury(muscle strain, tendon strain , tendentious, ligament sprain & degenerative disorders) and onset of injury (sudden, gradual & accident).

Data Collection Procedure:

During the assessment of patient, trained physiotherapists were asked to fill the questionnaire on the spot.

Data Analysis Procedure

Data was analyzed and presented in frequency and percentages for categorical variables & Spss (Statistical Package for Social Sciences) 23 version was used.

Ethical Consideration

Permission for data collection from the medical superintendent of respective hospital were taken. The approval for this study was taken from the ethical review committee of Faculty of Pharmacy & Health Sciences, University of Balochistan, Quetta, Pakistan.

Results

Demographic Characteristics

Demographic Characteristics are shown in table I, which shows that majority (n=49, 50.5%) were belongs to age group of 21 to 35 and were (n=51, 52.6%) were male. In marital status majority (n=64, 66%) were married.

Table: I

Variable	Frequency	Percentage
Age		
21 to 35	49	50.5
36 to 45	36	37.1
46 and above	12	12.4
Gender		
Male	51	52.6
Female	46	47.4
Marital Status		
Married	64	66
Un-married	33	34

Involvement of Part

Involvement of Part is shown in table II, which shows that majority (n=28, 28.9%) were suffering from lower back problem followed by (n=24, 24.7%) neck problem.

Table: II

Variable	Frequency	Percentage
Shoulder	18	18.6
Wrist	12	12.4
Neck	24	24.7
Lower back	28	28.9
Knees	05	5.2
Ankle	10	10.3

Type of Injury

Type of Injury is shown in table III, which shows that majority (n=48, 49.5%) were suffering from muscular strain followed by (n=19, 19.6%) were suffering from Tendinitis.

Table: III

Variable	Frequency	Percentage
Muscle strain	48	49.5
Tendon strain	14	14.4
Tendentious	19	19.6
Ligament sprain	02	2.1
Degenerative changes	14	14.4

Onset of Injury

Onset of Injury is shown in table IV, which shows that majority (N=41, 42.3%) were experienced their problem suddenly followed by (=29, 29.9%) experienced their problem during an accident.

Table: IV

Variable	Frequency	Percentage
Sudden	41	42.3
Gradual	27	27.8
Accident	29	29.9

Discussion

The current study disclosed that the majority of population were suffering from the problem of lower back followed by neck problems. As they mostly experienced muscular strain followed by tendentious in context of work related musculoskeletal disorders. The duration is covered in our study into three (sudden, gradual, accidently) main contexts and most of the patients reported that they experienced their problem very suddenly followed by accidental problems. Studies conducted in different parts of the world by Hagberg et al in 1982 & Sormunen et al in 2006 and concluded in work related musculoskeletal disorders mostly patients suffer from muscular strain and in that condition generally patient experiences pain and discomfort. It is also revealed that the workers who are working in cold environment like cold stores, truck drivers, carpenters and paramedical staff are more prone to develop the muscular strain in context of work related musculoskeletal disorders during their scheduled work as compare to the other workers. The

participants who used to work in Construction Company they also experienced the muscular strain more ^(11, 13, 14). In old days muscular strains are more common among doctors, especially in urologists during the transurethral resections, but now it's reduced due to the availability of endoscopic procedures^(2, 15). Furthermore the tendinitis is second most common among workers because the tendentious is an inflammation of tendon (bunch of fibers which connects bone to muscle) which is cause by the sudden trauma or gradual repetitive injury^(2, 13). As work related musculoskeletal disorders are common among the paramedic staff because during the shifting of patients they are more likely to expose to minor trauma in wrist which can leads to carpal tunnel syndrome as well ^(2, 4). The physiotherapists are more likely to have the work related musculoskeletal disorders as compare to other workers due to their nature of work⁽⁸⁾.The physiotherapists who are working in chest ward they can also develop the work related musculoskeletal disorders in upper extremity because they continuously perform the percussion among chest patients⁽¹⁶⁾. Annually the

work related musculoskeletal disorders put huge burden, over the worker among general population⁽¹⁷⁾. Work related musculoskeletal disorders are more common in working females on comparison with men^(5, 17). The working women's are more prone to work related musculoskeletal disorders because they are not strong as like male workers. The bones and soft tissues of a female individuals are not much stronger. The working women's can get disable earlier than men and that can cost huge burden on their family and on society as well^(17, 18).

Conclusion

The work related musculoskeletal disorders are common in workers especially who belongs with low socio economic status like truck drivers, machine operators, carpenters, cold store workers and factory workers. It put huge burden over the effected individual personal life as well as on society. Working females are more prone to develop work related musculoskeletal disorders.

Recommendations

The awareness regarding the ergonomics and postural corrections should be provided to general population, regarding the safety measures of work related musculoskeletal disorders.

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