

Work Related Musculoskeletal Problems among Professionals of Physical Therapy in Hospitals of Lahore, a city of Punjab, Pakistan

Hina Gul¹, Bilal Umar², Maryam Shabbir³

ABSTRACT

Background: Physiotherapists have to use manual and handling skills while treating their patients. These skills are often physically demanding and put uneven stress on the body. Without proper posture during treatment session, they may prone to different musculoskeletal injuries.

Objectives: Objective of this study was to find out work related musculoskeletal disorders in physiotherapists.

Methodology: A cross sectional survey was conducted on 50 physiotherapists from different clinical setups of Lahore. Structured close ended questionnaire was used which had been validated by using Delphi Technique. Data were analyzed in SPSS 16.0.

Results: Total 36(72%) females and 14(28%) males participated in this study. Most physical therapists 40(80%) in the survey work for normal working hours, only 6(12%) few had overtime or night shifts 4(8%). However, a large proportion of professionals had got musculoskeletal disorders and spine was found the most troubled area 20(40%) while other body joints neck 6 (12), knee 5(10%), hip 5(10%), shoulder 4(8%) are also involved. Results further revealed that 24(48%) had work related discomfort, 21(42%) had this discomfort most of the time and only 5(10%) were those who never feel any sort of discomfort.

Conclusion: It is concluded that most of physical therapists are facing musculoskeletal disorders due to nature of their job and spine is the most vulnerable part to these sorts of problems. Implications of this survey are physiotherapists need ergonomic training and more frequent rest intervals in order to prevent these problems during their job.

Keywords: Work Related Disorders, Occupational Disorders, Musculoskeletal Disorders, Physical Therapy Professionals

¹ Senior Lecturer, Lahore College of Physiotherapy, Lahore Medical & Dental College, Lahore

² Senior Lecturer, Riphah College of Rehabilitation Sciences, Lahore

³ Assistant Professor, Riphah College of Rehabilitation Sciences, Lahore

INTRODUCTION

The musculoskeletal system comprises of more than 200 bones of different size and shape all linked together in chain. Other than bones and joints, brain, nerves and sense organs are also integral part of this system (1-3). If we look in detail Motor Unit is the basic unit of this system. Motor unit consist of Anterior Horn Cell of spinal cord, nerve fiber which innervate the respective muscle fiber and conveys motor command to muscle resulting in movement(4).

Musculoskeletal disorders have been described as one of the main occupational problems among health care workers. Physical therapists belong to a health profession in which most part of diagnosis and treatment is carried out by physical involvement. They use manual handling skills which may introduce stresses in different body parts. Musculoskeletal system of body directly copes with such stresses. Several epidemiological studies have shown that physical factors, such as manual handling, frequent bending and twisting, forceful movements and awkward working postures, are important determinants of musculoskeletal disorders. Psychosocial factors, including high demands, low control and lack of social support can play an important role in increasing the risk of musculoskeletal disorders(5-7). Work Related Musculoskeletal Disorders (WMSD's) are disorders which involve muscles, skeleton and other soft tissues as ligaments and tendons etc. WMSD's are mostly related to repetitive task or movement which has to be performed due to job nature. WMSD's are sometimes taken as repetitive strain injury. WMSD's are not limited to any one region as Upper Limb or Lower Limb they can occur in any region of body(8).

The literature searched about prevalence of work related musculoskeletal disorders among physical therapists, no study found in this context in Pakistan. PubMed and one directory Google Scholar was searched for this purpose. However, worldwide many cross sectional studies found showing the relevance of WMSDs among physical therapists(9, 10). Literature of 26 peer-reviewed articles was found. Out of 25 studies, 21 were cross-sectional surveys while 4 studies were longitudinal with 2 of these were

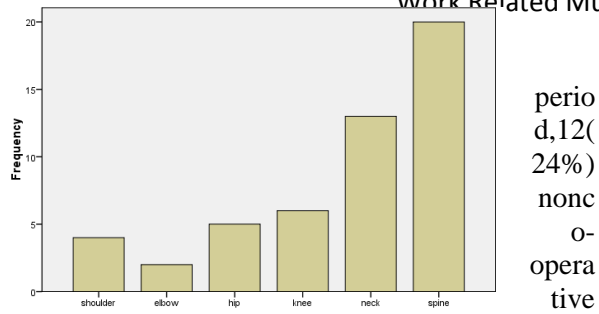
interventional studies(11). In most of studies, Lumbar spine, upper back, neck, shoulders, wrists/hands and knees are reported to be most affected by such disorders(12, 13). The objectives of the study were to find out the prevalence of work related musculoskeletal disorders in physical therapists in clinical setups of Lahore, a city of Punjab, Pakistan

MATERIAL (PERSONS) AND METHODS

This was a descriptive cross sectional survey. Data was collected through close ended questionnaire from government and private clinical setups in Lahore, a city of Punjab, Pakistan. The study was completed over duration of 3 months. Convenience sampling technique was used and sample of 50 physical therapists was collected. Participants were practicing physical therapists and physical therapists who are not doing clinical practice, were not included in final DATA. Data analyzed using Statistical package for social sciences (SPSS) 16.0.

RESULTS

Results reflected that out of 50 respondents 37(74%) were in 20-29 years of range, 12 (24%) in 30-39 years of range and only 1 (2%) respondent was in 40-50 years of age range. Dominant gender were females 36(72%) while 14(28%) were males. Most of physical therapists 24(48%) found working in 4-6 hours per day, 16(32%) were working 0-3 hours while 10(20%) physical therapists were working 7-9 hours per day. Only 5(10%) physical therapists were those who always taking rest, 33(66%) sometimes, 10(20%) rarely while 2(4%) physical therapists were who even never taking rest during duty hours. Physical therapists found suffering from musculoskeletal disorders. Results showed 24(48%) physical therapists at times, 21(42%) were feeling work related discomfort most of the time while 5(10%) never felt work related discomforts. From perspectives of joint affected due to musculoskeletal disorders 20(40%) had spine involvement, 13(26%) had involved neck, 6(12%) knee, 5(10%) hip, 4(8%) shoulder and only 2(4%) had elbow joint involvement. Regarding factor causing musculoskeletal disorders, 21(42%) physical therapists perceived working inadequate rest periods, 14(28%) work for prolong



atmosphere as causative factor and 3(6%) perceived inadequate infrastructure the factor. Due to WMSDs 3(6%) physical therapists were always thinking of changing profession, 8(16%) thinking the same at times, 6(12%) most of times, however, majority physical therapists 33(66%) never thought of changing of profession due to pain. Finally Analogue Pain Scale showed most of physical therapists 24(48%) had pain only 2 out of 10, 21(42%) 3/10 and only 5(10%) had pain 4/10. It was seen that out of 50 respondents, 43(86%) relieved their pain by physiotherapy, only 7(14%) were those who did not get benefited by physiotherapy.

DISCUSSION

Significant number of physical therapists showed WMSDs. In this study, there found significant prevalence of work related musculoskeletal problems among physical therapists but it was lower than the ratio and severity reported in most of these studies(2, 5, 10). The fact found in this study that most of physical therapists affected due to WMSDs are young, rightly according to the evidence found in other international studies addressing the same issue(5). However, more ratio of female physical therapists than the males ones may also be the contributing factor as females are more prone injuries due to work physically demanding work(14). Comparatively low ratio and severity of WMSDs may be the result of appropriate work hours i.e. 4-6. Very less number of physical therapists are found working more than 8 hours per day. In this study, the spine is the most affected body part in this study and it indicates less available ergonomic infrastructure perceived even themselves by physical therapists. However, the most of physical therapists pointed out less rest periods during the duty hours. Other body parts such as shoulder and elbow are found least affected. It may be

indicator of less use of upper extremity due to fewer trends of manual physical therapy techniques and relaying most of time on therapeutic exercise techniques. Analogue Pain Scale (VPS), however, clarify the situation that most of physical therapists do not suffer from extreme pain. The worst score reported on VPS is 4/10 but ratio experiencing it is minimum. The physical therapists who reported WMSDs, most of them experience mild pain i.e. 2/10.

CONCLUSIONS AND RECOMMENDATIONS

Overall this survey concluded that WMSDs are common in the profession of physical therapy due to nature of job, however, this study also reveals that intensity of such is less.

The recommendations from this study are three. First, ergonomic recommendations should be made to organizations so that they correct their infra-structure to make it convenient and biomechanics friendly. Second, there should be frequent clinician development trainings/ meetings to discuss alternative ways in treating patients with less bodily stresses. And in last, there should be another study with bigger sample size and in broad regional spectrum to set evidence about WMSDs in Physical Therapists in all country.

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Part/ Joint affected