Prevalence of Work-related Musculoskeletal Disorders among Physical Therapists working in Rawalpindi/Islamabad

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ABSTRACT:

Background: The professionals have physical job Physiotherapists working in Pakistan are at high risk of work-related musculoskeletal disorders (WRMD).

Objective: The objective of this study was to determine the prevalence, identify the risk factors and coping strategies for WRMDs among physiotherapists of Rawalpindi/Islamabad.

Patients and Methods: A self administered semi structure questionnaire was given manually to 100 physiotherapists of Rawalpindi/Islamabad region. The questionnaire consisted of demographic information including age and clinical experience; self reports of work related musculoskeletal injuries, perceived job related risk factors and strategies or responses that are adopted for prevention were obtained. The data obtained were analyzed using the Spss17.

Results: The questionnaire was returned by 100 physiotherapists, giving a response rate of 100%.56 out Of 100 subjects, were affected by WRMDs in at least one body part in last one year. Low back (31.36 %) followed by neck (18.81%) and wrist and hand (9.7%) were the most commonly affected region. The risk factors quoted by most of the respondents were managing large number of patients in a day, adoption of constant uncomfortable postures and manual therapy techniques. The most commonly adopted coping strategy identified was Changed work setting , Modify patient's position/my position , Taking rest in between treating pts and Taking help from assistant / relatives.

Conclusions: Physiotherapists who provide their services in prevention and treatment of musculoskeletal injuries are suffering from occupational musculoskeletal injuries. Incidence of WRMDs is very high. Risk factors and the coping strategies of WRMDs among physiotherapists of Rawalpindi/Islamabad region are identified. Further research is required to build up effective preventive or ergonomic strategies.

Keywords: Physical Therapist, Work-related musculoskeletal disorders (WRMDs), Occupational Injuries (JRCRS 2014; 2(1):6-11)

INTRODUCTION:

Musculoskeletal disorders (MSDs) can affect the body's muscles, joints, tendons, ligaments and nerves. The Most work-related MSDs develop over time and are caused either by the work itself or by the employees' working environment. WRMDs among physiotherapists as musculoskeletal injuries that result from a work-related event1 and several studies have documented those work-related musculoskeletal disorders (WRMDs) are frequently experienced by physiotherapists2. Physical therapy can lead to work related musculoskeletal disorders (WRMDs) in Physiotherapist because of nature of their profession. The three most important risk factors that have been associated with WRMDs are repetitive tasks, uncomfortable postures and high force levels3. Physiotherapists also routinely perform activities such as transferring dependent. The patients are usually assisting with mat activities, and lifting heavy equipment4. These work tasks put therapists at risk for both acute and chronic WRMDs.

Cromie et al from a survey physiotherapist in the state of Victoria, Australia, found that work-related pain or discomfort had been experienced by 91% of respondents, while Bork et al2 identified an incidence of 61% of work-related musculoskeletal disorders among physical therapy graduates from the University of Iowa, USA[5].

This study was designed with the objectives to know the prevalence, to identify various risk factors and coping up strategies adapted to minimize the effects and risks of developing WRMDs.

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PATIENTS AND METHODS:

A self administered semi structure questionnaire was given to the 100 physiotherapists of Rawalpindi /Islamabad region. The questionnaire consisted of demographic information including age and clinical experience; self reports of work related musculoskeletal injuries, perceived job related risk factors and strategies or responses that are adopted for prevention were obtained. Questionnaire was accompanied by a cover letter stating the purpose of the study and assuring the confidentiality. The data obtained were analyzed using the SPSS17.

RESULTS:

The questionnaire was returned by 100 physiotherapists, giving a response rate of 100%. Most of the physiotherapists are in the age group of 20-35 years 42 Physical Therapists had no pain in any joint. The low back (31.36%) was the most common site of injury. The neck (18, 81) was the second most prevalence site of injury followed by the shoulders (0.9%), upper back (0.9%), wrist or hand (2.9%) and knee (2.97%). Work related pain more than 3 days in last 12 month is present in 56 % of physiotherapist.

The result also shows that private (87%) and academics (13%) aware the most common work setting in which WRMDs first occurred (Table-II). The Physiotherapists were asked about the risk factors that they believe for their WRMDs. The two most common responses were management of large number of patients in a day and lifting with sudden maximal effort. Other risk factors that identified for their WRMDs were working in same position for long, adoption of uncomfortable posture, not having enough rest, prolonged sitting, carrying heavy equipments and continuing to work while injured [Table 4]. The two most commonly adopted coping strategies were decreased patient contact hours and Taking help from assistant or relatives and changing work setting were the three least adopted coping strategies.

Table-I: Distribution of physical therapists by age and year of experience

Characteristic Age(years)	**Percentage**
25-35	86%
36-45	14%
More than 10 years	17%
6-10 years	31%
Less than 5 years	52%

Table-II: Work setting at the time of the initial onset of WRMDs

Work Setting	**Percentage**
Academic	87%
Private clinic	13%

Table-III: Incidence by body parts among Physiotherapists

Body areas (N)	**Percentage**
Low Back	31.36%
Neck	18.81%
Shoulders	0.9%
Upper Back	0.9%
Wrists/Hands	2.9%
Knee	2.97%

Table-IV: Mechanism of injury at the time of the initial onset of WRMDs

Mechanism of Injury (N)	Percentage
Management of large number of patients in a day	55%
Lifting with sudden maximal effort	39.6%
Adoption of uncomfortable posture (bending or twisting)	47.5%
Working in same position for long	48.9%
Not having enough rest/break during the day	48%
Prolonged sitting	43.6%
Patient falling or sudden unanticipated movement	39.5%
Carrying, lifting or moving heavy materials or equipments	25%
Continuing to work while injured	43.6%

Table-V: Coping Strategies used by physiotherapists consequently to WRMDs

Coping Strategies (N)	Percentage
Decreased patients contact hours	39.6%
Exercise or posture program	32.6%
Sought physiotherapy treatment	32%
Modify patient's position/my position	25%
Taking rest in between treating pts	53.4%
Taking help from assistant/relatives	57.6%
Changed work setting	43.5%

DISCUSSION:

The aim of this study was to investigate the 12- month prevalence and work factors of work related musculoskeletal disorders (WRMDs) among physiotherapists in Pakistan. The percentage response for this study was 59 % which is consistent with responses in similar studies from Turkey (59%) and Australia (53%) but lower than the 74% reported by Glover et al in the United Kingdom and the 80% by Bork et al in the United States of America (USA).6

Our finding that there were more male than female physiotherapists in the survey is a reflection of the population from which our sample was drawn. This finding is contrary to the findings from previous studies that reflected more female than male physiotherapists. This result is understandable since unlike in Europe and America, the physiotherapy profession in Pakistan is male dominated. Indeed, 62.3% of the registered physiotherapists in Pakistan are males. The gender distribution of their spondents in our study is hence largely representative of the population of physiotherapists in Pakistan. 7

The 12- month prevalence of WRMDs among Pakistani physiotherapists was found to be 59 %. This prevalence is higher than the 12-month prevalence of 58% reported by Glover et al, 40% by West and Gardner, 61% by Bork et al and 62.5% by Cromie et al. The only comparable findings in the literature were the life time career prevalence of 91% and 85% reported by Cromie et al and Salik and Ozcan, respectively. The higher 12-month prevalence found in our study suggests that physiotherapy practice in Pakistan highly predisposes to WRMDs. This may be a reflection of the conditions under which physiotherapists practice in Pakistan[8].

Physiotherapy practice in Pakistan , like in many other developing countries is largely bedeviled by unwholesome work settings ,understaffing and lack of appropriate equipments including those as basic as

standard plinths. This is beside the influence of peculiar cultural values of physiotherapists such as skills, relationships with patients and attitudes of caring and working hard that have been opined as making it difficult for physiotherapists to do their job in a way that minimizes the risk of WRMDs[9].

In this study, the low back was reported as the most common site of WRMDs among Pakistani physiotherapists, with a 12- month prevalence of 32 %. Internationally, the prevalence of work-related low back pain ranged between 22% and 74%. Our finding is consistent with those of previous studies that have overwhelmingly implicated low back as the body part most commonly affected by WRMDs among physiotherapists[10].

In the United Kingdom, the 12-month prevalence of work-related low back pain among physiotherapists was found to be 22%, while the prevalence varied between 22% and 62.5% in Australia. Bork et al found the annual prevalence of WRMDs low back pain to be 45% in the U.S.A. Our finding may be a further reflection of the overall picture of the poor conditions of practice that may cause high prevalence of WRMDs among Pakistani physiotherapists[11].

The majority of the physiotherapists in this study were found to have experienced their first episode of WRMDs within five years of graduation. This is similar to the findings of the majority of studies on WRMDs among physiotherapists. We also observed the prevalence of WRMDs to be higher among physiotherapists that were younger than 30 years of age. This finding is consistent with those of Salisk and Ozcka in Turkey, Glover et al in the United Kingdom, West and Gardner in Australia, Mierzejewski and Kumar in Canada and Bork et al in the United States of a higher prevalence of WRMDs among physiotherapists younger than 30 years of age. 12

The work risk factors commonly identified by physiotherapists in this study as contributing to the occurrence of their WRMDs in decreasing order of importance were: treating a large number of patients in one day, working in the same position for long and lifting or transferring dependent patients, and performing manual therapy techniques. Previous studies have similarly identified treating large number of patients in a day and working in the same position for long periods of time, lifting or transferring dependent patients and performing manual therapy techniques as the work factors most commonly found to cause WRMDs among physiotherapists. In our study, physiotherapists selected reaching or working away from the body and working with confused or agitated patients as the least important work factors to the occurrence of their WRMDs. 13

It should however be noted that the work factors identified in our study were not specific to individual musculoskeletal disorder but rather cut across various musculoskeletal disorders. This is an important limitation of our study given that previous related studies have submitted that work factors are to some extent specific to individual musculoskeletal disorders. Thus, mobilization and manipulation have been identified as work factors to the occurrence of upper limb, neck, and upper back pain; while performing the same task over and over and lifting and transferring dependent patients have been reported to be related to the occurrence of low back symptoms However, since physiotherapists in our study self-reported the work factors, their responses might have been a reflection of their belief rather than the actual contributions of the work factors to their disorder. 14 The most commonly adopted coping strategies among physiotherapists in our study were therapists modifying their position or the position of their patients, therapists selecting techniques that will not aggravate or provoke their discomfort, and therapists adjusting bed or plinth height. This finding is similar to that of Glover et al, which reported the four most important preventive strategies commonly adopted by physiotherapists in response to sustaining musculoskeletal disorder at work as: therapists adjusting plinth or bed height, therapists modifying their position or the position of their patients, obtaining assistance when handling heavy patients, and ceasing a patient's treatment if such treatment aggravates or provokes their symptoms. Further, most of the physiotherapists in our study would also change or modify a patient treatment in the face of their
WRMDs thus suggesting that physiotherapists in
Pakistan who had experienced WRMDs. 15

Despite these limitations, our study has provided for the first time data on the prevalence and work factors

of work-related musculoskeletal disorders among physiotherapists in Pakistan has also underscored the need for further studies on the behavioral consequences of WRMDs and career attitudes of Pakistani Physiotherapists to them. 16

CONCLUSION

WRMD is an important health risk within the physiotherapy profession. This study provides data on the incidence of WRMDs in physiotherapy profession in Rawalpindi/Islamabad. Incidence of WRMDs is very high in

Private and outpatient clinic the most common work setting in which WRMDs first occurred. The incidence of WRMDs among physiotherapists was highest in low back, neck, shoulders, upper back and knee Risk factors and the coping strategies of WRMDs among physiotherapists are identified. The most common risk factors were management of large number of patients in a day and lifting with sudden maximal effort. Further research is required to build up effective preventive or ergonomic strategies that may be applied to the clinic to decrease the incidence of WRMDs.

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