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Prevalence and Risk Factors of Work Related Injuries among Physical Therapists in Indian Population

Jadeja Urvashiba Narendrasinh[1], Ayesha Mulla[2]

[1]Lecturer and Guide Pediatric, Ahmedabad Physiotherapy College, Ahmedabad, Gujarat, India

[2]Lecturer, Ahmedabad Physiotherapy College, Ahmedabad, Gujarat, India

Abstract: ***Background: This study is intended to find out prevalence of work related musculoskeletal injuries among physical therapists in Indian population, as physical therapists has to do many repetitive movements of upper limb and trunk, prolonged postural position and different handling position for pediatric patients, neurological patients, orthopedic patients which may lead to injury. So this study is done find out risk factors which leads to injury and in future we can use the right treatment strategy and posture. Methodology: JFQ questionnaire and self administered questionnaire is used for screening of musculoskeletal pain and discomforts. Clinical therapists and lecturer and lecturer with clinical practice persons are to be taken. Result : result shows that there is 68% of physical therapist have WRMDs, In our study we found maximum WRMDs in pediatric physical therapist and neurological physical therapist and those who are using manual therapy technique everyday. This study found that the most common areas which are more prone for WRMDs are low back pain (41.66%) and neck pain (26.66%). Interpretation And Conclusion: there is work related musculoskeletal discomfort and pain in physical therapists. Female physical therapists are more prone to have more discomfort and pain than males.***

Keywords: Occupation, musculoskeletal injury, JFQ questionnaire, prevalence.

1. Introduction

Work– related musculoskeletal disorders are the most common cause of chronic pain and physical disability that affect contemporary workforces (1-3). Musculoskeletal injuries are considered one of the largest health problems among physiotherapists, because the nature of the work that therapists expose themselves to has a high risk of pain.(4,5)

Recent studies have identified job factors, that may contribute to work related musculoskeletal disorders among health care workers. (6,7) Task performed by physical therapists often require an overload of musculoskeletal system combined with repetitive movements of upper limb, maintaining static and dynamic postures for long period and movements that stress the spine. (8)

The work tasks that may lead to work related musculoskeletal disorders among physical therapists include lifting and carrying dependent patients, treating large number of patients in a work day, working in the same posture for long period of time, maintaining difficult or restrictive posture using manual therapy technique, perform same task repeatedly and executing movements including inclination and rotation of the trunk. (9)

Although work related musculoskeletal disorders are common among physical therapists, there are very few published studies related to the job factors that contribute to musculoskeletal symptoms and subsequent disorders. (10). Moreover, there are no instruments available that quantify the occupation challenges encountered by physical therapists during their work considering the multidimensional etiology in the development of work related musculoskeletal disorders, it is important to create policies and actions to reduce the disorders by identifying and abating the risk factors most likely involved. (10)

Questionnaires are research tools widely used in epidemiologic studies involving complaints of musculoskeletal discomfort and pain. (11,12,13). There are few studies in Indian population for physical therapists on work related disorders. It is likely that many health and safety professionals assume that physical therapists knowledge, base of body mechanics, rehabilitation and injury prevention may be a protective factor for work related disorders.

2. Need for the Study

This study will be done to evaluate physical therapists perception of work related factors that may contribute to musculoskeletal symptoms and disorders. As physical therapists are involved in physical tasks, prevention of musculoskeletal injuries by knowing prevalence and risk factors will be important. Furthermore, physical therapists can adapt more appropriate posture and treatment strategies while handling the patients to prevent work related disorders.

3. Aim of the Study

Our aim of the study is to find out occupation related musculoskeletal disorders in physical therapist in Indian population.

4. Method and Materials

JFQ questionnaire and self administered questionnaire is used for screening of musculoskeletal pain and discomforts.

Sample size is 60. In that some are clinical therapists, some are lecturer and some are lecturer with clinical practice.

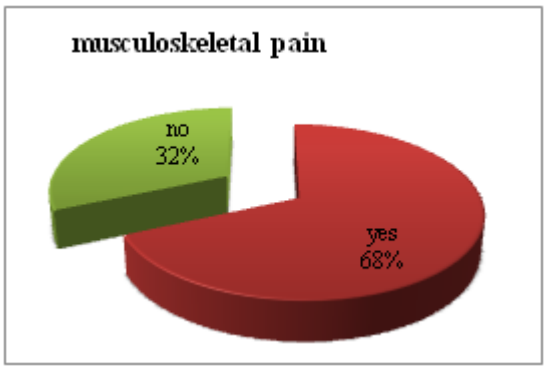
Inclusion criteria: PT should have at least 6 months of experience, age group between 22 to 40, gender both and pain and any discomfort for 1 or more week.

Exclusion criteria: previous pathological condition, history of any surgery, medical condition, and post pregnancy is excluded in our study.

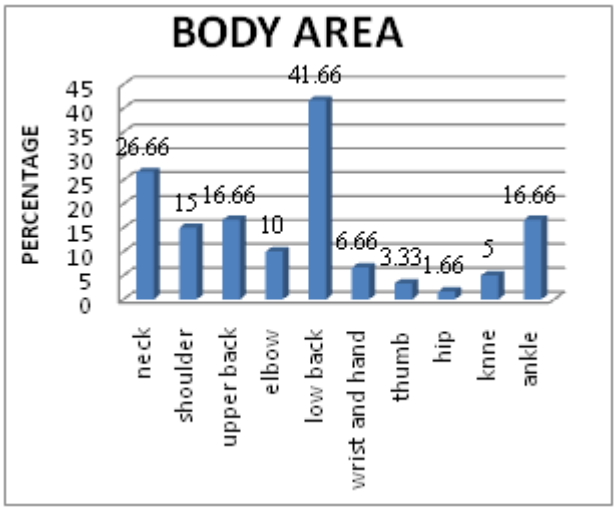
5. Results

Table 1: Showing the Demographic Data of Physical Therapists

Data		Percentage
age	21-40	100
gender	Male	18.33
	Female	81.66
profession	physiotherapist	68.33
	lecturer	11.66
	physiotherapist and lecturer	26.66



Graph 1: Showing the Musculoskeletal Pain Present in Physical Therapist in Percentage



Graph 2: Showing Musculoskeletal Pain In Physical Therapist In Different Body Parts

Table 2: Showing the Percentage of Risk Factors that are Involved in Different Tasks

Category	*Percentage*	*Risk Factor*
performing the same task over and over	43.33	Moderate
treating a large number of patients in one day	55	Moderate
not enough rest breaks during the day	51.66	Major
performing manual techniques	53.33	Moderate
working in awkward position	40	minor
reaching or working away from body	48.33	major
bending or twisting your back	41.66	major
reaching or working away from body	35	moderate
unanticipated sudden movement	45	minor
assisting patients during gait activities	46.66	minor
lifting and transferring patients	45	moderate
working with confused or agitated patients	41.66	minor
carrying lifting or moving heavy equipments	43.33	minor
working at physical limit	38.33	moderate
continuing to work when injured or hurt	35	minor
work scheduling	38.33	minor
inadequate training in injury prevention	31.66	minor

Table 3 Showing Percentage of Copingstrategies During Treatment

Coping Strategies	*Percentage*	*Category*
some else to help while handling heavy patients	68.33	sometimes
modify patient's position or therapist's position	50	always
use different part of body to administer manual techniques	53.33	always
warm up and stretch before performing manual techniques	60	never
use electrotherapy instead of manual techniques	58.33	sometimes
pause regularly to change posture	46.66	sometimes
adjust plinth height before treating patients	48.33	always
select techniques that will not aggravate pain	50	sometimes
stop a treatment because of pain	48.33	sometimes

Table 4: Showing Percentage of Type of Patient and Assistance Required

Type of patients	percentage	
Require minimal or no assistance	38.33	always
Require moderate assistance	53.33	sometimes
Requires maximal assistance	36.66	sometimes

6. Discussion

This study found that the prevalence of WRMDs among Indian physiotherapists during past 3 months is high and prevalence of work related injuries was significantly higher among female physiotherapists. This finding is in agreement with finding from several studies.(5,14,15)

These studies recorded WRMD prevalence among female physiotherapists to be in the range of 73% to 100%. In general, females are physically weaker than males, and this may place them at disadvantage patient care tasks, particularly when lifting and transferring patients.(16)

In our study we found that among 60 physical therapists, 68% are having work related musculoskeletal discomfort and pain. Among them 81.66 % are females. so this results

can be correlated to other study as females are more prone to have WRMDs.

Physiotherapists with a BMI over 25 reported the highest prevalence of work- related injuries(80%). A significant difference was found between the proportion of physiotherapists who had WRMDs and those who did not have WMRDs in the group of patients with a BMI that was greater than 25.(18)

This finding is in contrast with that of a past study that reported a higher prevalence of WRMDs among physiotherapists with low BMI (14). The therapists who are overweight may not be physically active, such that they may be more susceptible to WRMDs.(17)

This study found that the most common areas which are more prone for WRMDs are low back pain (41.66%) and neck pain (26.66%). They are more prone for discomfort and pain in physical therapists. Furthermore, WRMDs were more prevalent among pediatric physiotherapist and among those who practiced in musculoskeletal areas. In the pediatric specialty, all reported work-related injuries during the past 12 months and 66.7% of the musculoskeletal physiotherapists reported WRMDs during the same period.(9)

In our study we found maximum WRMDs in pediatric physical therapist and neurological physical therapist and those who are using manual therapy technique everyday. Although prevalence of injuries among pediatric physiotherapists is underreported in the literature, evidence of a high prevalence of WRMDs among physiotherapists working in the musculoskeletal specialty is well documented (9). This result may be related to a higher use of manual therapy techniques. Manual therapy has been implicated as a risk factor for WRMD (8). The lower back region was the most common site for WRMDs among physiotherapists in this study, followed by neck and thoracic region.

Same result were found in previous studies that prevalence of WRMDs, the most common site was low back pain(51.7%) followed by the neck (46.5%) and the thoracic region (44.8%) (1,9). The cause of the high incidence rate of low back injuries among PTs is directly related with patient care activities, such as lifting and transferring patients, prolong standing, frequent twisting and bending.(15).

The major risk factors that we found in our study for WRMDs are performing same task again and again, treating large numbers of patients in a day, not enough rest breaks between treatment, performing manual therapy technique, reaching away from body, banding or twisting your back, lifting and transferring patients and working at physical limit.

The major Coping strategies that therapists should use before giving treatment to the patients to prevent WRMDs are modify patient's position or therapist's position, use different part of body to administer manual techniques and adjust plinth height before treating patients.

7. Conclusion

There is work related musculoskeletal discomfort and pain in physical therapists. Female physical therapists are more prone to have more discomfort and pain than males.

8. Acknowledgement

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9. Conflicts of Interest

Nil

10. Funding

By the institute

11. Ethical Clearance

It was given by committee

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