



PREVALENCE AND COPING STRATEGIES OF WORK-RELATED MUSCULOSKELETAL DISORDERS AMONG PHYSICAL THERAPISTS IN VADODARA REGION – CROSS SECTIONAL STUDY

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ABSTRACT vPhysical-Therapists are at risk for Work Related Musculoskeletal Disorders (WMRD). Little is known of how therapist responds to injury or of what action they take to prevent injury. This study was planned to collect data about causes, prevalence, and coping strategies to work related musculoskeletal disorders reported by Physiotherapist. A survey with close ended questions based on occupational history of physiotherapists and musculoskeletal symptoms, special areas, tasks, job related risk factors, injury prevention strategies and responses to injury were asked to the physiotherapists. Prevalence of WRMDs is very high (72%). The prevalence of WRMDs among physiotherapists was highest in low back, & neck. Risk factors and the coping strategies of WRMDs among physiotherapists of Vadodara region are improved body mechanics and changing work positions frequently.

KEYWORDS : Work Related Musculoskeletal Disorders, Physical Therapists, Coping Strategies

INTRODUCTION

According to World Health Organization (WHO), the term Work-Related Musculo-Skeletal Disorders (WMSDs) describes a wide range of inflammatory and degenerative disease and disorders that result in pain and Functional impairment.¹ WHO declared that work environment significantly contributes to work related disease, partially caused by adverse or aggravated working conditions, accelerated, or exacerbated by workplace exposure.²

Healthcare workers, especially those with a direct patient contact, are amongst professions with highest rate of WMSDs due to their job demands and positions maintained throughout the day. Salisk and Ozkan defined WRMDs among physiotherapists as musculoskeletal injuries that results from a work-related event and several studies have documented that WRMDs, are frequently experienced by physiotherapists.³ Three most important risk factors that have been associated with WRMDs are repetitive tasks, uncomfortable postures, and high force levels.^{3,4}

Physiotherapists routinely perform manual therapy such as soft tissue mobilization, as well these professionals routinely perform activities that involve transferring a patient, assisting with activities on the exercise mat, and lifting and using cumbersome equipment. These work tasks put therapists at risk for both acute and cumulative musculoskeletal pain.^{4,5}

For instance, 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.⁶ Therefore this study was planned to collect data about causes, prevalence, and responses to work related musculoskeletal disorders reported in Physiotherapist in Vadodara, India.

MATERIALS AND METHODS

This is a cross-sectional study which aiming to find out prevalence, severity as well risk factors and coping up strategies adapted to minimize the effects and risks of developing WRMDs in physiotherapists. Questionnaires were distributed to physiotherapists across Vadodara region via in person /Google forms. Informed consent was taken prior to study.

The questionnaire was composed of two parts, Personal and Occupational. The personal portion asked about general characteristics, including sex, age, weight, and height. The occupational portion inquired about years of experience, work setting, and number of hours of contact with patients per week. This section also included whether the subject had experienced any WRMDs. If the answer is yes, then person was asked to state the type of injury, the body part affected, specific activities caused on occupational injury, the work setting in which the injury occurred, whether the injury was reported or a physician was consulted, and what sort of treatment was applied. They were also asked whether they lost work time because of

the injury, what activities caused symptoms to recur, and whether the injury had caused the respondent to alter his or her work habits, reduce hours with patients, or change employment settings.

Physiotherapist who has more than 1 year of experience either in Clinic or Academic or both in physiotherapy field and working in Vadodara were included in study. Exclusion criteria was those who are already injured or suffering from any disorder not related to their work and subject with any congenital deformation /injury.

RESULTS

Questionnaire was distributed to 70 Physiotherapists as per inclusion criteria and among them 50 therapists responded. Response rate was 71%. Obtained data was analyse by descriptive analysis by using Microsoft Excel 2007.

Out of 50 physiotherapists, 36 was affected by WRMDs in last one year giving prevalence rate of 72%. Figure 1 indicates clinical therapists has more prevalence rate of WRMDs (60%) with compares to others.

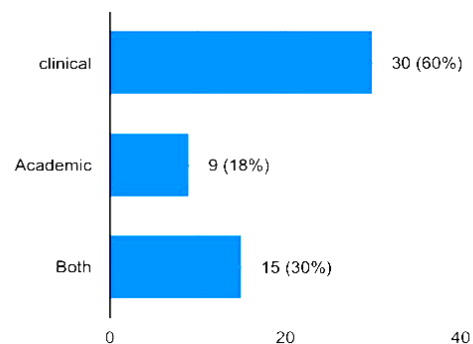


Figure 1 - Distribution of Physiotherapists as per work profile. Most common body region affected was Lower back and Neck. Table 1 shows affected body regions. Few of therapists has more than one affected region during practice.

Table 1 – Affected Body Regions

Body Region	% (Affected)
Neck	50%
Shoulder	25%
Upper Back	27%
Elbow	0%
Wrist/Hand	15%
Knee	2%
Lower Back	60%
Ankle/Foot	15%

Most common mechanism of injury at the time of initial onset of

WMRDs was performing repetitive task, followed by bending and twisting movement. Complete details of mechanism of injuries given in Table 2.

Table 2 – Mechanism of Injury

Mechanism of Injury	Percentage
Applying modalities	7.7 %
Bending/twisting	35.9%
Lifting heavy equipment	20.5%
Performing repetitive task	38.8%
Transferring a patient	20.5%
Maintaining a position for prolonged period	33.3%
Working in awkward/cramped position	5.1%
Working when physically fatigue	25.6%
Performing manual therapy technique	17.9%
Slipping/falling	1%

Coping strategies used by physiotherapist for WMRDs is as follows –

Table – 3 Coping Strategies used by physiotherapists

Coping strategies	Percentage
Change work position frequently	24%
Change work schedule	19.4%
Increase use of mechanical aids	5%
Decrease patient care	3.8%
Decrease manual technique	8.3%
Stop working when hurts or when symptoms occur	13.9%
Take more rest breaks or pause during the work	19.4%
Use improved body mechanics	55.6%
Other	2%

DISCUSSION

Novel finding of the study is clinical therapists are commonly affected with WRMDs with most common region is lower back and followed by neck pain. Most of the therapists using coping strategies in one or multiple way but most common is use of improved body mechanics, change work position as well taking breaks in between the work.

Various studies done 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 affected by WRMDs among physiotherapists.^{7,8} The work factors commonly identified by physiotherapists in the study as contributing to the occurrence of their WRMDs in decreasing order of importance were treating large number of patients, working in same position for long, adoption of uncomfortable posture, not having enough rest.^{9,10}

Literature also suggests that the work-related activities that most commonly lead to injury in health professionals are lifting heavy equipment and patients, transferring patient, maintaining the same posture for a long period, manual therapy practices, responding to patients' sudden movements, and repeated movements.^{11,12} Physiotherapists have fundamental knowledge about ergonomics and biomechanics, and using this knowledge may vary depending on professional knowledge and skills.¹³

Limitation of the study is Limited sample size; distribution of questionnaire was more to the clinical therapist with comparison to academics. WRMDs can further be evaluated in clinicians and academicians separately as mechanism of injury differs in both.

CONCLUSION

Prevalence of work-related musculoskeletal disorder is high among the physiotherapists with commonly affected back and neck region. Coping strategies like improved body mechanics and frequent change in position is most used among them.

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