ORIGINAL ARTICLE

WORK-RELATED MUSCULOSKELETAL DISORDERS: A SURVEY OF PHYSIOTHERAPISTS IN SAURASHTRA REGION

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ABSTRACT

Background: Physiotherapists working in India are at high risk of Work Related Musculoskeletal Disorders (WRMD). The objective of this study was to determine the prevalence, identify the risk factors and coping strategies for WRMDs among physiotherapists of Saurashtra region.
Methods: A self administered semi structure questionnaire was sent via e-mail to 34 physiotherapists of Saurashtra 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 Microsoft Excel 2007.
Results: The questionnaire was returned by 29 physiotherapists, giving a response rate of 85%. Of 29 subjects, 20 were affected by WRMDs in at least one body part in last one year. Low back (35%) followed by neck (25%) and shoulders (15%) 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 decreased patients contact hours (22.2%).
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 Saurashtra region are identified. Further research is required to build up effective preventive or ergonomic strategies.

Keywords: Physiotherapist, Work related musculoskeletal disorders (WRMDs), Occupational injuries

BACKGROUND

Musculoskeletal disorders (MSDs) can affect the body's muscles, joints, tendons, ligaments and nerves. Most work-related MSDs develop over time and are caused either by the work itself or by the employees' working environment.

Salisk and Ozkan defined WRMDs among physiotherapists as musculoskeletal injuries that result from a work-related event[1] and several studies have documented that work-related musculoskeletal disorders (WRMDs) are frequently experienced by physiotherapists.[2,3]

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 levels. Physiotherapists also routinely perform activities such as transferring dependent patients, assisting with mat activities, and lifting heavy equipment.[4] These work tasks put therapists at risk for both acute and chronic WRMDs.

Other studies into the occupational health issues affecting physiotherapists in India and abroad have identified a number of key areas of concern. For instance, Cromie et al[5] 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 al[2] identified an incidence of 61% of work-related musculoskeletal disorders among physical therapy graduates from the University of Iowa, USA.

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.

METHODS

A self administered semi structure questionnaire was sent via e-mail to 34 physiotherapists of Saurashtra region. Initial few email addresses were obtained from the personnel email contacts of authors and the participants were asked to recommend other physiotherapist of Saurashtra 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 subjects were allowed two weeks to complete and return the questionnaire via e mail. The data obtained were analyzed using the Microsoft Excel 2007.

RESULTS

The questionnaire was returned by 29 physiotherapists, giving a response rate of 85%. Most of the physiotherapists are in the age group of 26-30 years.

Table 1: Distribution of Physical Therapists by Age and Work Setting (N=29)

Characteristic	Percentage
Age (years)	
21-25	27.5
26-30	41.5
31-35	20.7
36-40	10.3
Work Setting	
Academic	20.7
Outpatients	17.2
Private Clinic	34.5
Rehabilitation	10.3
Home Visits	17.2

Of 29 subjects, 20 were affected by WRMDs in at least one body part in last one year giving incidence of WRMDs 69%. 40% of those injured had experienced injury to more than one body area in last one year. The low back (35%) was the most common site of injury. The neck (25%) was the second most prevalence site of injury followed by the shoulders (15%), upper back (15%), wrist or hand (5%) and elbow or forearm (5%) [Table 2]

Table 2: Incidence by body parts among Physiotherapists (N=20)

Body areas (N)	Percentage
Low Back (7)	35.0
Neck (5)	25.0
Shoulders (3)	15.0
Upper Back (3)	15.0
Wrists/Hands (1)	5.0
Elbow/Forearm (1)	5.0

Table 3 shows that private (35%) and outpatient clinic (20%) and home visits (20%) were the most common work setting in which WRMDs first occurred. Others were working in rehabilitation center and in academic.

Table 3: Work Setting at the Time of the Initial Onset of WRMDs (N=20)

Work Setting (N = 21)	Percentage
Academic	10.0
Outpatient Clinic	20.0
Private Clinic	35.0
Rehabilitation Center	15.0
Home Visits	20.0

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]

Table 4: Mechanism of Injury at the Time of the Initial Onset of WRMDs (Multiple Responses=60)

Mechanism of Injury (N)	Percentage
Management of large number of patients in a day (16)	26.7
Lifting with sudden maximal effort (12)	20.0
Adoption of uncomfortable posture (bending or twisting) (11)	18.4
Working in same position for long (07)	11.7
Not having enough rest/break during the day (05)	8.3
Prolonged sitting (04)	6.7
Patient falling or sudden unanticipated movement (02)	3.3
Carrying, lifting or moving heavy materials or equipments (02)	3.3
Continuing to work while injured (01)	1.7

Table 5: Coping Strategies Used by Physiotherapists Consequently to WRMDs (Multiple Responses=54)

Coping Strategies (N)	Percentage
Decreased patient contact hours (12)	22.2
Consulted a doctor (11)	20.3
Exercise or posture program (9)	16.7
Sought physiotherapy treatment (7)	13.0
Modify patient's position/my position(5)	9.3
Taking rest in between treating pts (4)	7.4
Taking help from assistant / relatives (4)	7.4
Changed work setting (2)	3.7

Coping Strategies: The coping strategies adopted by physiotherapists with WRMDs are shown in Table 5.

The two most commonly adopted coping strategies were decreased patient contact hours (22.2%) and Consultation with doctor (20.3%). Taking help from assistant or relatives and changing work setting were the two least adopted coping strategies.

DISCUSSION

The aim of this study was to know the incidence and risk factors for WRMDs among physiotherapist in Saurashtra region. The percentage response for this study was 85%. Incidence (last 12 month) of WRMDs was found to be 69%. This prevalence higher than incidence of 58% reported by Glover et al[7], 40% by West and Gardner[8], 61% by Bork et al[2] and 62.5% by Cromie et al[5]. The higher prevalence found in our study suggests that physiotherapy practice highly predisposes to WRMDs. This may be a reflection of the conditions under which physiotherapists practice in India.

In this study, the low back pain was reported as the most common site of WRMDs. Various studies done internationally, the prevalence of work related low back pain ranged between 22% and 74%.[6,7] 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.

The work factors commonly identified by physiotherapists in this 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. Previous studies have similarly identified risk factors for WRMDs.[7,8,10]

The most commonly adopted coping strategies among physiotherapists in our study were therapists m decreased patient contact hours, consulted a doctor, started exercise or adopted posture program, modifying patient's position and sought physiotherapy treatment. This finding is similar to that of Glover et al.[7]

LIMITATIONS

This study is limited by the sampling technique employed, as the non probability sampling employed in our study may prevent generalization of our results. Like all other cross sectional studies involving recall, our respondents might have given vague answers to questions asked in this study as they might not have remembered the information requested of them easily. In an attempt to curtail the influence of this in our study, we restricted our survey to last 12 month recall. Despite these limitations, our study has provided data on incidence and risk factors for WRMDs among Physiotherapists of Saurashtra region.

CONCLUSION

WRMD is an important health risk within the physiotherapy profession. This study provides data on the incidence of WRMDs in physiotherapy profession in Saurashtra region. Incidence of WRMDs is very high (69%). Private and outpatient clinic and home visits were the most common work setting in which WRMDs first occurred. The incidence of WRMDs among physiotherapists was highest in low back, neck, shoulders and upper back. Risk factors and the coping strategies of WRMDs among physiotherapists of Saurashtra region 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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