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Study of the Prevalence, Causes and their Response to work Related Musculoskeletal Disorders among Saudi Therapists

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Abstract - Physiotherapists have a higher rate of musculoskeletal injuries due to their profession. In order to better understand the incidence, provocation, and management of musculoskeletal problems in the Saudi physical therapy workforce, this research was done. Among the 110 Saudi physiotherapists surveyed. Most Saudi physical therapists kept their jobs despite a high rate of musculoskeletal injuries. As a means of dealing with WRMD, people used coping mechanisms including changing their job routines.

Keywords - Musculoskeletal injuries, physical therapists, Health care, work restriction.

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INTRODUCTION

Musculoskeletal disorders (MSDs) include a wide variety of degenerative and inflammatory illnesses that may affect any part of the musculoskeletal system, including muscles, tendons, tendons, joints, peripheral nerves, and also the blood vessels that supply them. Discomfort, numbness, tingling, aching, stiffness, and burning are all signs of a muscle or tendon injury. Injuries to the hand, forearm, wrist, and lower back are the most prevalent types of MSDs. Risk factors for MSDs include activities requiring physical strain, such as those involving repeated motions or uncomfortable or protracted positions such prolonged sitting or standing. There is a huge economic cost associated with MSDs due to missed income, medical care, and compensation, and they also have a major effect on people's daily lives across the world. In the workplace, MSDs increase absenteeism due to illness and early retirement, both of which reduce output. WMSDs account for 41% of all work-related diseases and 34% of absenteeism owing to work-related illnesses.[1]

Musculoskeletal problems are a leading cause of work disability across several industries Work-related musculoskeletal diseases (WRMD) are said to be caused by the physical demands of a certain occupation . n terms of WRMDs, LBP is by far the most common complaint. Risk factors for developing WRMD include heavy physical work, repeated lifting and handling of loads, overstrained and awkward postures , and working in a health care profession such as nursing, dentistry, or physical therapy (PT). [2]

Some studies have even claimed that LBP is the most common type of WRMD among PTs , and other earlier research have indicated a high frequency of the LBP among PTs after starting the profession, ranging from 29% to 68% in various countries. The need for physical therapists to continually overload their spines has led to their having the second highest rate of work-related low back pain (LBP) among all health professionals . In rehabilitation settings, most of the patients seen by PTs are completely reliant on others for their mobility. Lifting patients or heavy objects, bending, stooping, twisting, turning, and standing for lengthy periods of time are all commonplace in the care of these patients.[3-4]

While WRMDs are most often associated with the lower back they may also affect other joints and muscles, although this is less commonly recorded. Future occurrences in these occupations may be avoided via the identification and management of these risk factors . To do this, we need information on how common the WRMD is in various occupations. We found no prior reports in Saudi

Arabia detailing the occurrence or prevalence of WRMD among PTs.[5]

MATERIAL AND METHODS

After permission from the committee on research ethics, 110 PTs were chosen at random from the membership roster of the Saudi Physical Therapy Association. Both paper and electronic versions of a validated self-report questionnaire were made available to participants. If the participant had more than a year of clinical experience, they were requested to fill out the survey. The physical therapists were asked questions about their personal and professional backgrounds. Demographic information consists of details such as age, sex, weight, height, and level of education. Workers were asked about their areas of expertise, lengths of service, workplace environments, shift schedules, patient loads, and musculoskeletal injury histories. If the respondent had had a musculoskeletal injury on the job, we wanted to know what kind of injury it was, what part of the body was hurt, what had brought on the injury, and how they dealt with it.

The response rate was boosted using a number of different methods.[6] After a week, regular reminders were sent to everyone who had responded. They were given a two-week deadline to mail in their completed survey. Following three weeks, we resent the survey to all Saudi Arabians who hadn't yet responded. Thanks to everyone who took part and answered the survey.

DATA ANALYSIS

SPSS 10.0 for Windows was used for the statistical analysis. Windows generic informational items results. Percentages were used to represent the outcomes of the general knowledge and vocational sections, respectively. Personal characteristics of WRMDs and physiotherapists were compared using the P^2 test, including gender, age, years in practice, and hours per week spent providing direct patient care.

RESULTS

This research employed a cross-sectional approach to assess the frequency, root causes, and treatment of WRMD among Saudi physical therapists.

- **Demographic Data**

The response rate among Saudi PTs was 110 percent, with the vast majority of responders being women. The average age of Saudi PTs was 28.84. A breakdown by age range found that 83 percent of Saudi PTs were between the ages of 20 and 30, 33 percent were between the ages of 31 and 40, 6 percent were between the ages of 41 and 50, and 0 percent were above the age of 50. Saudi physical therapists, on average, are 172.56 centimeters tall and weigh 72.49 kg. Further demographic specifics were elucidated.

- **Work-related variables**

Literacy Level: The majority of Saudi PTs (90%) and MDs (80%) have at least a Master's. Among physiotherapists in Saudi Arabia, those with 1-10 years of clinical experience made up 87% of the workforce.

Occupational Hazards and Injuries in the Workplace Survey: Both groups had different working conditions. Sixty-seven percent of Saudi PTs work in state hospitals for six to eight hours a day, while five percent work for more than eight hours. General physical therapy (30%) or orthopedics (37% of PTs in Saudi Arabia) were the most common areas of focus.

Injuries at work were analyzed to determine their prevalence among Saudi PTs. Twenty-three percent of Saudi PTs reported having had a single musculoskeletal injury. In Saudi Arabia, 77% of PTs have had more than one injury. Yet, just 6% of Saudi PTs said they had not been injured in the preceding two years.

Table 1: Information on the questionnaire takers' backgrounds

	Saudi (n=110) Mean ± SD
Weight (kg)	72.49
Age (years)	28.84
Years as PT	6.47
Height (cm)	172.56
Hours per day in direct patient care	5.63

Table 2: Personal characteristics of the sample population

Characteristics		Saudi (n=110) %
Sex (gender)	Female	67
	Male	43
Age (year)	20-30	83
	31-40	33
	41-50	6
	> 51	0
Marital Status	Married	67
	Single	43
Education	Bachelor	90
	Master	20
	Diploma	0
	Doctor	0
Professional rank	PT	89
	Academic coordinator	4
	Senior PT	8
	PT assistance	9
Years as a PT (Professional experience)	1-10	89
	11-20	15
	21-30	6
	31-40	0
Working venues	UH	29
	H C	0
	PH	69
	PPC	0
	PRC	0
	Others	12
Area of specialty	Orthopedics	37
	Neurology	25
	General PT	30
	Pediatric	12
	Cardiopulmonary	6
Hours per day in direct patient care (working hours)	3-5	13
	6-8	89
	> 8 hours	8
Number of patients (caseload)	1-10 patient	74
	11-20 patient	36
	21-30 patient	0
	> 30 patient	0
Number of musculoskeletal injuries due to work within last 2 years	One only	27
	No	6
	More than one	77

Affected Areas: Low back pain (34%), neck pain (29%), knee pain (16%), and upper back pain (12%) were identified as the most common complaints by

Saudi physical therapists. Elbow and foot/ankle responders made up less than one percent.

Table 3: Responses from Saudi physical therapists on afflicted body parts.

Body parts	Percentage
Low back	34%
Neck	29%
Knee	16%
Upper back	12%
Elbow	4%
Ankle/foot	3%

Different Injuries

Muscle strain (26%), degeneration (23%), spinal disk problems (21%), tendinitis (19%), and ligament strain (7%) were indicated as the most prevalent forms of injuries among Saudi PT responders.

Table 4: Classification of Injuries Seen by Saudi Physical Therapists

Types of injuries	Percentage
Muscle strain	26%
Degeneration	23%
Vertebral disk problem	21%
Tendinitis	19%
Ligament strain	7%

Injuries Caused By: The majority of Saudi PTs (21%) had WRMD when they bend or twist. Manual treatment methods (14%), repeated labor (13%), and working when physically exhausted (13%), all contributed to a higher injury rate than other activities**.**

Symptom Recurrence: Saudi physical therapists reported that lifting (23%), bending/twisting (21%), standing for lengthy periods of time (11%), walking (11%) and doing manual treatment methods (9%) were the top four activities that brought on a return of symptoms.

- **Treatment of Wounds**

Workplace Trends: Most respondents altered their working practices in response to musculoskeletal ailments. In addition, 23% of Saudi PTs said they avoided lifting exercises, 13% took more frequent breaks, 11% switched positions often, and 9% stopped using manual methods in favor of relying more on other staff because of injuries. Work practices were also shown to be modified further.

Medication was used by 37% of Saudi PTs, followed by rest by 32%, medical attention by 22%, formal notification by 18%, exercise by 6%, and use of specialized expertise by 1%.

Work-related injuries have serious repercussions: As a result, 22% of Saudi PT responders missed half a day of work due to the injury. More than half (56%) of Saudi PTs report that their symptoms have worsened as a result of clinical practice, forcing them to make adjustments to the way they operate. Thirty percent of Saudi physical therapists polled said they had not reduced patient contact time due to injury. Despite injury, 43% of Saudi PT respondents said they wouldn't look for a new employment.

Table 5: Injury rates from common activities, as stated by survey respondents

Activities that led to injuries	Saudi(n=110) %
Modalities applied	11
Doing the same thing again and over	13
Bending/Twisting	21
Patients being transferred	9
Moving bulky objects or carrying sick people	7
Slipping-Tripping-Falling	2
Holding a position over an extended time	10
Using hands-on approaches in physical treatment	15
Tight or uncomfortable working conditions	3

When a patient makes a sudden or unexpected motion, the caregiver must	3
Putting up effort while feeling exhausted	14
Others	2

Table 6: The percentage of people whose symptoms flared up again when they returned to work

Activities that caused injure to recur	Saudi (n=110) PT (%)
Contorting or bending	18
Lifting	23
Keeping one's stance over an extended time	11
Using manual treatment techniques	9
Doing the same thing again and over	11
Patients being transferred	10
Working at a high level	0
Reaching	2
The Staircase	10
Squatting	0
Walking	11
Working in an awkward or cramped position	1
Others	4

Table 7: Changes in work behavior and other reactions as stated by respondents.

Coping strategies	Saudi (n=110) PT (%)
Avoid lifting	21
Shift your position in the workplace often.	11
Schedule shifts differently	6
Reduce the use of manual processes	12
Inspire therapeutic accountability in patients.	6
Boost the number of times you utilize machines.	0
Take on more paperwork	5
Care for patients in less time	12
Use more resources and staff	9
As soon as pain or other symptoms appear, rest.	11
Increase the frequency of your breaks throughout the day.	12
Integrate better biomechanics	7
Different Reactions	
Use of Expertise in a Field	1
Rest	32
Medication	37
Exercise	6
Going to the Doctor	22
Putting in a formal report	18

DISCUSSION

Similarly to their colleagues in other countries , physical therapists in Saudi Arabia have a high risk of developing WRMD. One hundred percent of Saudi PTs participated in the survey. [7-8] Our findings are comparable with those of other research showing that the risk is greatest among the young population, who accounted for 73% of all Saudi respondents. Saudi (67%) PT respondents were employed in a

public hospital environment, and 77% of Saudi PTs reported having more than one musculoskeletal injury in the previous two years. Based on these results, it seems that WRMD is more common among physical therapists who work in government-run hospitals.

According to the results of the research, a similar number of participants in each group had injuries. Among Saudi PTs, neck injuries were the most prevalent kind. Low back pain is a common complaint among physical therapists, and previous research has shown that it often manifests during the first five years of employment. Based on the findings, it was determined that additional mechanical aids and proper training are required to prevent WRMSD injury among recently graduated and younger certified physiotherapists .[9-10] Most Saudi PTs who were injured reported experiencing muscle strains as a result of repetitive motions including lifting and bending. It's possible that differences in clinic setups, staffing levels, patient loads, clinical experience, and understanding underlie the wide range of WRMSD prevalence rates reported by Saudi physiotherapists.

CONCLUSION

Even physical therapists in Saudi Arabia might suffer from WRMSDs. Injuries to the lower back and neck occur more often. The younger generation of physical therapists is more vulnerable. As a direct result of the injuries, self-protection tactics, preventative measures in the workplace, and an emphasis on ergonomics were introduced. Respondents' self-protective tactics for reducing the risk of additional injuries ranged greatly, including measures like avoiding lifting, switching to a less physically demanding task, and reducing the number of times they used manual approaches.

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