

Prevalence of Work-Related Musculoskeletal Disorders in Iranian Physical Therapists: A Cross-sectional Study

Fatemeh Rahimi, MSc, PT,^a Khadijeh Kazemi, MSc, PT,^a Shahla Zahednejad, PhD, PT,^a Daniel López-López, PhD,^b and César Calvo-Lobo, PhD, PT^c

ABSTRACT

Objective: The purpose of this study was to determine the prevalence of musculoskeletal disorders among Iranian physical therapists.

Methods: A cross-sectional study was carried out. An online survey was completed by Iranian physiotherapists from June 2017 to August 2017. A total of 333 online questionnaires were sent, and 319 questionnaires were fully completed and used for data analysis. The Persian version of the Nordic Questionnaire was the main outcome measurement. This questionnaire identified work-related pain or discomfort in 9 parts of the body, including: (1) neck, (2) shoulder, (3) elbow, (4) wrists, (5) upper back, (6) lumbar, (7) thighs, (8) knee, and (9) ankle.

Results: The findings of this study showed the prevalence of musculoskeletal disorders was 94% in Iranian physiotherapists. Lumbar (65%), neck (57.4%), shoulder (50.2%), upper back (49%), and knee (45.5%) were the most prevalent regions of these disorders. While ankle (19.7%) and elbow (21.6%) disorders showed the lowest prevalence.

Conclusion: The prevalence of work-related musculoskeletal disorders was high in Iranian physiotherapists, especially in the lumbar, neck, shoulder, and upper back regions. (*J Manipulative Physiol Ther* 2018;xx:1-5)

Key Indexing Terms: *Musculoskeletal Diseases; Physical Therapists; Work*

INTRODUCTION

Musculoskeletal disorders include a wide range of inflammatory and degenerative conditions affecting muscles, tendons, ligaments, joints, peripheral nerves, and blood vessels.¹ These disorders are associated with high social and economic costs,² ultimately impacting the quality of life.^{1,3} Work-related musculoskeletal disorders

are defined as musculoskeletal injuries that are due to occupational events.^{4,5} These disorders are common in jobs requiring manual work, heavy lifting, or repetitive movements,⁶ and can lead to changes in occupational habits, reduced hours of time worked, or changes in work.^{5,7} The 3 primary risk factors associated with work-related musculoskeletal disorders are repetitive movements, inappropriate physical conditions, and high work pressure.^{8,9} Healthcare providers, especially those in direct contact with the patients, had the highest rates of musculoskeletal complaints.⁹ Although physiotherapists have sufficient knowledge of musculoskeletal injuries and prevention strategies, they are at risk of work-related injuries.⁵

Physiotherapists are exposed to these disorders by repetitive works, manual techniques, inappropriate position, and prolonged situations during treatment.^{10,11} As physiotherapists treat a large number of patients in a day, the risk of work-related injuries is high.¹² Special fields of physiotherapists (orthopedic, neurology, etc), conditions of workplace, age, and sex of physiotherapists are effective in the prevalence of these work-related disorders.¹³ Nearly half of the physiotherapists experience musculoskeletal pain in their early 5 years.^{6,9} The reasons for this early pain experienced among young physiotherapists include lack of

^a Musculoskeletal Rehabilitation Research Center, Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

^b Research, Health and Podiatry Unit, Department of Health Sciences, Faculty of Nursing and Podiatry, University of Coruña, A Coruña, Spain.

^c Nursing and Physical Therapy Department, Faculty of Health Sciences, University of León, Ponferrada, León, Spain.

Corresponding author: Shahla Zahednejad, PhD, PT, Musculoskeletal Rehabilitation Research Center, Ahvaz Jundishapur University of Medical Sciences, Golestan Boulevard, Ahvaz, Iran 6135715794. Tel.: +98 61 3374 3102. (e-mail: dr.shahzahed@gmail.com).

Paper submitted November 28, 2017; in revised form January 26, 2018; accepted February 28, 2018.

0161-4754

© 2018 by National University of Health Sciences.

<https://doi.org/10.1016/j.jmpt.2018.02.003>

enough experience of right positions during treatment and reluctance to get help from an assistant.^{3,14} Most physiotherapists experience the first symptoms of musculoskeletal pain before the age of 30.³ Lumbar spine, upper back region, neck, shoulders, hands, wrists, and knees are listed as the main areas of these disorders.^{4,10,12,15} Many studies have been conducted on these disorders in the community of nurses and other medical staff, but the physiotherapy community has been neglected.⁶ Because musculoskeletal disorders have a significant effect on the work and life of physiotherapists, the study of these disorders in the Iranian physiotherapy community seems to be necessary. Therefore, the purpose of this study was to determine the prevalence of musculoskeletal disorders among Iranian physical therapists.

METHODS

Study Design

In this cross-sectional study, an online version of the Nordic Questionnaire was distributed to examine work-related musculoskeletal disorders in the physiotherapy community. A text containing the study objectives and the link of the online questionnaire were sent to physiotherapy groups in different provinces and was available to physiotherapists. Furthermore, this study adhered to the International Recommendations for Reporting Observational Studies in Epidemiology to strengthen our research.¹⁶ The protocol was carried out in accordance with the Helsinki Declaration and the ethics requirements in human experimentation. The study was approved by the Research Committee of the Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

Procedure and Sample

The time required to complete this online questionnaire was about 5 minutes. The questionnaires were completed from June 2017 to August 2017, and about 333 questionnaires were accurately completed. Physiotherapists (21-73 years old) who were working in public or private centers were included in the study. Questionnaires that were not fully completed were deleted. Finally, 319 questionnaires were analyzed.

Nordic Questionnaire

The questionnaire consisted of 4 parts. The first part contained information on age, sex, marital status, employment location, average working hours, activity, and type of activity. The second part included 9 questions regarding pain and discomfort in the last 12 months, and the third part included 9 questions about pain and discomfort in the last 7 days. The last part related to the reduction of working hours and leaving the workplace because of pain and discomfort in the last 12 months. It should be noted that the Nordic Questionnaire is widely used in the study of work-related health.²

This questionnaire was used to identify pain or unpleasant sensation in 9 parts of the body, including the following: (1) neck, (2) shoulder, (3) elbow, (4) wrists, (5) upper back, (6) lumbar, (7) thighs, (8) knee, and (9) ankle. Validity and reliability of this questionnaire were carried out in the Persian language. Indeed, all of the items showed an acceptable validity. The intraclass correlation coefficient (>0.7), standard error of measurement (0.56-1.76), and Kappa coefficient ($\kappa = 0.78-1.00$) showed acceptable reliability of the Persian version of the Nordic Questionnaire.¹⁷

Sample Size Calculation

The sample size was calculated by means of the software from Clinical Epidemiology and Biostatistics Unit, University Hospital Complex of A Coruña, University of A Coruña.¹⁸ According to the Iranian Physiotherapy Association, there is an approximate prevalence of 7000 Iranian physiotherapists, thus the sample size calculation for an α level of 0.05 (confidence interval, $\alpha-1 = 95\%$), a proportion of 5% and a precision of $\pm 2.5\%$, provided at least $n = 280$ physiotherapists. Furthermore, assuming information loss of 15%, at least $n = 330$ physical therapists must be studied. Finally, $n = 333$ Iranian physiotherapists were recruited, and $n = 319$ were included in this research study.¹⁸

Statistical Analysis

Statistical analyses were carried out using IBM SPSS statistical software (Version 22.0, IBM Corp, Armonk, New York). Qualitative outcomes were presented as frequencies and percentages. The χ^2 test was used to compare the qualitative variables between the male and female sexes. The statistical tests were carried out regarding a 95% confidence interval, and statistically significant differences were considered if P value $< .05$.

RESULTS

In this study, 319 physiotherapists (99 men and 220 women) 21 to 73 years old, completed the online questionnaires. Of these, 121 were single, and 198 were married. The results showed that the average daily working hours of physiotherapists was 7.2 ± 2.5 , with a maximum working time of 13 hours and a minimum of 2 hours per day. Table 1 lists the frequency of people with out-of-working hours' activities, sports activities, and the frequency of people working in the clinic, hospital, or working in both places.

The findings of this study showed that the prevalence of musculoskeletal disorders was 94% in Iranian physiotherapists. The highest prevalence was related to the lumbar (65%), neck (57.4%), shoulder (50.2%), upper back (49%), and knee (45.5%), and the lowest was related to the elbow (21.6%) and ankle (19.7%). Table 2 shows the prevalence

Download English Version:

<https://daneshyari.com/en/article/8956601>

Download Persian Version:

<https://daneshyari.com/article/8956601>

[Daneshyari.com](https://daneshyari.com)