



# Musculoskeletal Disorders among a Sample of Iranian Medical Care Professions Working in Lorestan Hospitals: a Descriptive Study from Lorestan, Iran

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## ABSTRACT

**Aims:** Musculoskeletal disorders (MSDs) are of concern in health problem with highest prevalence and are one of the causes of occupational disability in Medical care professions (MCPs). This study aimed to describe the rate of MSDs among MCPs who working in Lorestan hospitals, Iran.

**Instruments & Methods:** Using a convenience sampling in this descriptive study, 100 MCPs from two hospitals of Azna and Aligodarz of Lorestan province were selected. Data collected through a demographic questionnaire by which the questions regarding different MSDs were asked. Data were entered into SPSS<sub>21</sub> and analysed using descriptive analysis.

**Findings:** Totally, 100 MCPs took part in the study and responded to the questions (responded rate 100%). Back pain and neck pain were the most common area of participants' complains respectively. Eighty seven participants (88%) of the MCPs stated they did not follow any pain treatment or pain management. Furthermore, the majority of the participants (N=64, 64%) of the participants believed that stress has not significant associate with their pain. However, thirty six participants (36%) stated that their pain has been worsening with increased stress.

**Conclusions:** This study revealed that the majority of the studied MCPs suffered from a kind if MSDs without any pain treatment/ management work up. Therefore, dong more studied to confirm these results in this special target group working in these hospitals and to explore the causes of pain is strongly recommended.

**Keywords:** Musculoskeletal Disorders, Musculoskeletal Pain Medical Care Professions, Hospitals, Iran

## Introduction

Musculoskeletal Disorders (MSDs) are certainly one of important health problems all over the world [1]. MSDs because of their nature is relatively associated with mediate - excessive disability among workers who working in numerous occupations[2]. Previously many research studies have been done to reveal an estimate of disorders and relevant causing factors in various jobs[3]. However, it has been argued that MSDs are one of the most common causes of occupational disability among MCPs (MCPs)[4]. MCPs are one of the essential health care providers who present their professions in

the hospitals[5]. One of the vital actions that could basically increase health of all workers is to provide their occupational health [6]. However, there are numerous professional risk factors causing MSDs such as sedentary lifestyle that could be resulted in MSDs among MCPs[7]. Work Musculoskeletal Disorders (WMSD) has been defined as a health problem that be caused or aggravated by work tasks such as nonstandard lifting, pushing, and pulling[8]. Current healthcare related scientific research studies focus on determining the risk factors associated with WMSDs[8], among health care providers such as nurses or other MCPs[9]. This study focuses on

WMSDs signifies the seriousness of the health problem and reflects the need to find preventative measures<sup>[8]</sup>. However, the occurrence of WMSDs was mainly investigated in the US, Canada, and Australia<sup>[8]</sup> and they are rarely studied in the Middle East, especially in Iran. Therefore, in present study, the researchers aimed to explore WMSDs among MCPs in the two hospitals of Lorestan province

#### Instruments and Methods

The current descriptive study was conducted from April 2019 to June 2019 on a convenience sample of 100 MCPs who were working in two hospitals of Lorestan province of Iran. Inclusion criteria included having at least one year of clinical working experience and working as a therapist for at least one month during the past 12 months. However, the MCPs who were not satisfied to be studied or did not fill the questionnaire completely were excluded the study.

The questionnaire that was adapted by Kuorinka et al<sup>[10]</sup> was used to collect data. This instrument was a self-administered questionnaire with closed questions. To apply this instrument in this study, it was reviewed by an expert panel and was tested for face and content validity and test-retest reliability. This questionnaire included two sections. Section one comprised of demographical questions and section two covered with questions for reporting MSDs during past 12 months.

To do this research, at the first, ethical approval was obtained from both hospitals' review boards. Then the goals and procedures of the study were explained to the MCPs and they were confirmed regarding the confidentiality of the study. All ethical principles of the study were considered during the research. To collect data, 100 copies of the questionnaire and consent forms were distributed among

MCPs at both hospitals. All participants signed consent form. Four days later, The MCPs' supervisors were contacted and were reminded for completing the questionnaires by MCPs. One week later, a total of 100 completed questionnaires were collected. All variables in the questionnaire were self-reported. Variables were measured on a nominal scale through using SPSS version 21. Descriptive statistics were used to summarize the demographic characteristics and frequencies of WMSDs among MCPs.

#### Findings

A total of 100 MCPs including 50 MCPs from each hospital (100% response rate) completed the questionnaires. The mean age of the participants from the first and second hospital were 25.25 ( $\pm 5.36$ ) and 23.14 ( $\pm 3.18$ ) years respectively. Of all participants, 20 MCPs (20%) were male and 80 MCPs (80%) were female Table 1 shows the rest data regarding demographic characteristics and WMSDs from the first hospital and Table 2 shows these data from the second hospital. According these Tables, at first hospital Low Back Pain (LBP) and at second hospital LBP and neck pain has the highest rate among WMSDs.

#### Discussion

This was the first study to examine musculoskeletal disorders and symptoms among MCPs in two hospitals located in Lorestan province. The findings of this study showed that WMSDs among MCPs in these hospitals were at high rate. It has been argued that this high rate of MSDs among MCPs might be due to nature of their occupation, inappropriate work practices and high risk behaviors due to back posture, incorrect body mechanics, and also unprotected environment.

In addition, these hospitals implemented secondary prevention, where the focus

**Table1.** Distribution of demographic and WMSDs variables among studied MCPs in first hospital.

Variable	No. (%)
<b>Age( Years)</b>	
20-30	21(42)
31-40	18(36)
41-50	11(22)
<b>Sex</b>	
Male	10(10)
Female	40(90)
<b>Marital status</b>	
Single	17(34)
Married	33(66)
<b>Educational level, y</b>	
< 14 years	1(2)
16 years	47(94)
Upper > 18 years	2(4)
<b>Job</b>	
Nursing	41( 82)
Midwife	-
Anesthesia	4(8)
Working in operating room	4(8)
Administrative	1(2)
<b>Type of shifting work</b>	
Constant	4(8)
Circulation	46(92)
<b>Suffering from Pain</b>	
Yes	35(70)
No	15(30)
<b>Place of pain</b>	
Low Back Pain	13(26)
Neck Pain	10(20)
Knee Pain	10(20)
Shoulder Pain	7(14)
Pelvic Pain	2(4)
Wrist Pain	8(16)
<b>Stress effect</b>	
Yes	20(40)
No	30(60)
<b>Treatment Follow up</b>	
Yes	6(12)
No	44(88)

WMSDs : Work –related Musculoskeletal Disorders .

MCPs: Medical Care Providers

**Table2.** Distribution of demographic and WMSDs variables among studied MCPs In second hospital

Variable	No. (%)
<b>Age, y</b>	
20-30	25(50)
31-40	15(30)
41-50	10(20)
<b>Sex</b>	
Male	10(10)
Female	40(90)
<b>Marital status</b>	
Single	18(36)
Married	32(64)
<b>Educational level, y</b>	
Under < 14	4(8)
Bachelor = 16	42(92)
Upper Bachelor > 18	4(8)
<b>Job</b>	
Nursing	35(70)
Midwife	8(16)
Anesthesia	4(8)
Working in perating room	2(4)
Administrative	1(2)
<b>Type of shift</b>	
Constant	6(12)
Circulation	44(88)
<b>Pain</b>	
Yes	37(74)
No	13(26)
<b>Place of pain</b>	
Low back Pain	10(20)
Neck Pain	10(20)
Knee Pain	10(20)
Shoulder Pain	10(20)
Pelvic Pain	1(2)
Wrist Pain	9(18)
<b>Stress effect</b>	
Yes	16(32)
No	34(68)
<b>Treatment follow up.</b>	
Yes	7(14)
No	43(86)

WMSDs : Work –related Musculoskeletal Disorders.

MCPs: Medical Care Providers

should be on preventing reoccurrence of pain incidences rather than applying primary prevention. Although this high rate of WMSDs among MCPs should be considered and paid more attention. However, it has been observed that WMSDs rate in other studies in Iran were higher. For instance, this rates were 88.33% among nurses in Shiraz of Iran [11], 70.4% [2], 91.9% among dentists in Shiraz of Iran [12]. Furthermore, it has been reported that the MSDs rate in Nigeria was 70.4% [13], 56.8% in Ethiopia [14] and 90.9% in South Africa Botswana [15].

One might think that these types of pains could be found only in underdeveloped or developing countries because of lack of safety guidelines and limited employees' rights and protection. However, it has been discussed that WMSDs are costly health problem worldwide [1].

Despite the strong points, there are a few limitations for the present study. First of all, the data used in this study were collected from a convenience sampling through self-report method that might interfere the results of this study to be generalized. Furthermore, small sample size and also data collected by self-report may fail to reflect the actual WMSDs among the MCPs. In spite of all these limitations, the consequences of this study were in the line of some previous evidences that conducted in Iran [12, 13]. In this study, the relationship between gender and musculoskeletal pain were not assessed. However, these assessments were implemented in previous studies [16-18]. Thus, exploring the association between WMSDs and demographic characteristics are strongly recommended in future studies.

**Conclusions**

This study revealed that the majority of the studied MCPs suffered from a kind of MSDs without any pain treatment/ management work up. Therefore, more studied to confirm these results in this special

target group working in these hospitals and to explore the causes of pain is strongly recommended.

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### **Conflict of Interests**

There is no conflict of interests.

### **Authors' contribution**

A G: performed all study stages and had complete access to all data for analysis. He confirmed the eligibility of the MCPs for the study. He was involved in drafting the article. M H D and FP supervised the whole study and approved the final version of the manuscript.

### **Ethical permission**

In the study all ethical principles were considered. Approval was obtained from the hospitals' Review Board.

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### **References**

1. Delshad MH, Tavafian SS, Kazemnejad A. Educational intervention for promoting stretching exercise behavior among a sample of Iranian office employees: applying the Health Promotion Model J Pain Res 2019;12:733-742. 10.2147/jpr.s183410.
2. Delshad MH, Tavafian SS, Kazemnejad A. Designing and psychometric evaluation of Stretching Exercise Influencing Scale (SEIS) BMJ Open 2019;9:e026565. 10.1136/bmjopen-2018-026565.
3. Delshad MH. The beliefs of computer operators about reducing sitting time at the workplace MOJ Yoga & Physical Therapy 2019;4:1-2.
4. Dong H, Zhang Q, Liu G et al. Prevalence and associated factors of musculoskeletal disorders among Chinese healthcare professionals working in tertiary hospitals: a cross-sectional study BMC musculoskeletal disorders 2019;20:175.
5. Edmunds LD, Gluderer S, Ovseiko PV et al. New indicators and indexes for benchmarking university-industry-government innovation in medical and life science clusters: results from the European FP7 Regions of Knowledge HealthTIES project Health Res Policy Syst 2019;17:10.

6. Pimouguet C, Sitta R, Wittwer J et al. Maintenance of occupational therapy (OT) for dementia: protocol of a multi-center, randomized controlled and pragmatic trial *BMC geriatrics* 2019;19:35.
7. Hanna F, Daas RN, Elshareif TJ et al. The relationship between sedentary lifestyle, back pain and psychosocial correlates among university employees. *Front Public Health* 2019;7:80.
8. Alnaser MZ, Aljadi SH. Physical therapists with work-related musculoskeletal disorders in the state of Kuwait: A comparison across countries and health care professions *Work* 2019;1-8.
9. Kirschling JM. University of Maryland School of Nursing: State of the School. Maryland, 2019;2(1).15-23.
10. Kuorinka I, Jonsson B, Kilbom A et al. Standardised Nordic questionnaires for the analysis of musculoskeletal symptoms. *Applied ergonomics* 1987;18:233-237.
11. Hosseini A, Choobineh A, Razeghi M et al. Ergonomic Assessment of Exposure to Musculoskeletal Disorders Risk Factors among Dentists of Shiraz, Iran *J Dent Shiraz* 2019;20:53-60.
12. Heidari M, Borujeni MG, Rezaei P et al. Work-related Musculoskeletal Disorders and their Association Factors in Nurses: A Cross-Sectional Study in Iran. *Malays J Med Sci.* 2019;26(2):122-130. <https://doi.org/10.21315/mjms2019.26.2.13>.
13. Akodu AK, Ashalejo ZO. Work-related musculoskeletal disorders and work ability among hospital nurses *J T U med sc.*2019; 14(3), 252-261. <https://doi.org/10.1016/j.jtumed>.
14. Mekonnen TH, Abere G, Olkeba SW. Risk Factors Associated with Upper Extremity Musculoskeletal Disorders among Barbers in Gondar Town, Northwest Ethiopia, 2018: A Cross-Sectional Study *Pain Res Manag* 2019;20-29.
15. Kgakge K, Chelule P, Zungu L. Prevalence and risk factors for self-reported work-related musculoskeletal disorder symptoms among nurses in a tertiary public hospital in Botswana. *Occupational Health Southern Africa*;25:92-96.
16. Moreira-Silva I, Azevedo J, Rodrigues S et al. Prevalence of Musculoskeletal Symptoms in Blue-Collar Workers: Association with Gender and Physical Activity Level. *Occupational and Environmental Safety and Health: Springer*, 2019, 467-475.
17. Zella MAS, May C, Müller T et al. Landscape of pain in Parkinson's disease: impact of gender differences *Neurol Res* 2019;41:87-97.
18. Imagama S, Ando K, Kobayashi K et al. Shoulder pain has most impact on poor quality of life among various types of musculoskeletal pain in middle-aged and elderly people: Yakumo study *Mod Rheumatol* 2019;1-15.