



Musculoskeletal Disorders among a Sample of Iranian office Workers in Khoi Health Center: a Descriptive Study from Khoi, Iran

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ABSTRACT

Aims: Musculoskeletal disorders (MSDs) are among the most prevalent health problems and one of the causes of occupational disability in administrative professions. This study aimed to describe the rate of skeletal disorders among Office Workers (OWs) in Khoi Health Center.

Method and Materials: In this descriptive study using convenience sampling, 100 OWs patients were selected from the Khoi Health Center under the supervision of the Khoi Faculty member of Medical Sciences. Data were collected through a demographic questionnaire in which questions were related to various MSDs, The Quebec Back Pain Disability Scale and Roland – Morris Disability Questionnaire were raised. Data were entered into SPSS 19 software and analyzed using descriptive analysis.

Findings: In total, 100 OWs participated in the study and answered the questions (100% response rate). Back pain and neck pain were the most common complaint areas of the participants, respectively (83%). Twenty participants (20%) of OWs stated that they did not pursue any pain treatment or pain management. Also, the majority of participants (N=100, 100%) believed that they have pain in different parts of the body. However, 85 participants (85%) stated that they frequently change their position to keep their back comfortable. However, the mean expression of pain by the participants was moderate, and 85 participants (85%) stated that they had difficulty sitting in a chair for several hours.

Conclusions: This study showed that most of the studied OWs suffered from some kind of chronic skeletal disorders without any treatment/pain management. Therefore, it is highly recommended to conduct further studies to confirm these results in this special target group who work in the Khoi health center and investigate the causes of pain.

Keywords: Musculoskeletal Disorders, Musculoskeletal Pain, office Workers, Health Center, Iran.

Introduction

Musculoskeletal disorders are a major health concern, especially for office workers. Recent evidence recommends that these disorders are very common in office workers^[1]. Investigating workplace psychosocial risk factors for musculoskeletal problems is becoming increasingly important due to the changing nature of work and rising healthcare costs^[2]. Various studies have been conducted on the estimation of disorders and related factors in different occupations^[3]. Work-related Musculoskeletal Disorders (MSDs) commonly involve the lumbar and cervical spine. Work-related MSDs are significantly associated with work disability and

the occurrence of this disability in static work postures, including long-term sitting^[4]. Musculoskeletal disorders are among the vital factors that involve people in work environments and are also considered to be one of the most important causes of absenteeism from work and inability to perform tasks^[5]. These disorders are among the most common problems caused by work in the world. According to the report of the American Statistical Organization (BLS), these disorders include a total of 32% of occupational diseases^[6]. Among office workers, the focus on WMSDs indicates the seriousness of the difficulty and the need to follow preventive measures^[7].

Table 1) Distribution of demographic and WMSDs variables among studied OWs in KhoHealth Center.

Variable	No. (%)
Age(Years)	
20-30	28(28)
31-40	42(42)
41-50	30(30)
Gender	
Male	50(50)
Female	50(50)
Marital status	
Single	25(25)
Married	75(75)
Educational level, y	
< 14 years	5(5)
16 years	78(78)
Upper > 18 years	17(17)
Job	
Office worker	100(100)
Janitor	-
Working in operating room	100(100)
Type of shifting work	
Constant	100(100)
Circulation	-
Suffering from Pain	
Yes	100(100)
No	-
Place of pain	
Low Back Pain	61(61)
Neck Pain	22(22)
Knee Pain	1(1)
Shoulder Pain	8(8)
Pelvic Pain	3(3)
Wrist Pain	5(5)
Stress effect	
Yes	80(80)
No	20(20)
Treatment Follow up	
Yes	80(80)
No	20(20)

WMSDs: Work –related Musculoskeletal Disorders.
OWs: Office Workers.

However, the occurrence of WMSDs is mainly investigated in developed countries and rarely studied in the Middle East, especially in Iran. Therefore, we investigated the prevalence of WMSDs in the administrative staff of Health Center in Khoi, Iran.

Method and Materials

The current descriptive cross-sectional study was conducted from September 2022 to October 2022 .

A convenience sample of 100 individuals who suffered from musculoskeletal pain participated in this study. The participants were sampled from the health center of Khoi city of West Azarbaijan province of Iran.

The questionnaire of this study was adapted from previous study^[8]. It was a self-administered questionnaire with closed questions. This questionnaire was reviewed by a professional panel and tested for face and content validity and test-retest reliability. The questionnaire consisted of two parts. The first part included demographic questions. The second part covered the musculoskeletal pain questions report during the last 12 months, including musculoskeletal types, pain anatomical areas or pain locations, pain report and treatment follow-up. Data were collected through a demographic questionnaire in which questions related to various MSDs, The Quebec Back Pain Disability Scale and Roland – Morris Disability Questionnaire were raised.

To do this research, at first, approval was obtained from the management of the health center of Khoi city. Then about 100 questionnaires and consent forms were collected from the administrative departments of the city. Four days later, the officials were contacted and reminded to have the administrative staff complete the questionnaires. A week later, a total of 100 completed questionnaires were collected.

This research was a cross-sectional

descriptive study. All variables related to WMSDs were self-reported. Variables were measured on a nominal scale.

The inclusion criteria included having at least one year of office worker experience and working in their job for at least one month during the last 12 months, and the exclusion criteria was not completing the questionnaire completely, or not being satisfied to participate in the study. Using available sampling, 100 professions of office workers of Khoi city health center in West Azarbaijan province were selected. SPSS 19 software was used for analysis. Descriptive statistics were used to analyse the data regarding WMSD among the office workers of health center in Khoi city of Iran.

Findings

In total, 100 OWs participated in the study and answered the questions (100% response rate). Back pain and neck pain were the most common complaint areas of the participants, respectively (83%). Twenty participants (20%) of office workers stated that they did not pursue any pain treatment or pain management. Furthermore, the majority of participants (N=100, 100%) believed that they have pain in different parts of the body. However, 85 participants (85%) stated that they frequently change their position to keep my back comfortable. However, the mean expression of pain by the participants was moderate, and 85 participants (85%) stated that they had difficulty sitting in a chair for several hours. On average, the working experience of the participating colleagues in completing the questionnaires was 19 years. The number of people who mentioned going to the doctor for their problem was only 21%. Out of this number, the doctor diagnosed 28% of the participants suffered from (N=28) arthritis and 46% of the participants (N=46) suffered from lumbar disc pain. These pains have been with people for more than 10

years and they were treated for more than 3 years. In Quebec scale it was found that the biggest problems of the office workers were as follows: it was difficult for them to sit on a chair for a few hours, they had a problem with lifting and carrying a heavy suitcase, and they also had a problem with walking a few kilometers.

In Ronald _Moris Disability Questionnaire (RDQ) Scale it was found that the following list contains sentences that are typically said by patients with back pain. One of the options that most from of the people were asked was as follows:

- _ I change my posture regularly so that my back pain is comfortable.
- _ Because of my back pain, I lie down to rest most of the time.
- _ Because of my back pain, I only stand for a short time.
- _ Because of my back pain, I stay in bed most of the time.
- _ I don't do heavy housework because of my back pain.
- _ I sit most of the day because of my back pain.

Discussion

This was the first study that investigated MSDs and the symptoms among the OWs of Khoi Health Center in West Azerbaijan Province of Iran. The prevalence of work-related musculoskeletal disorders (WMSDs) in this center was high and the results were similar to other studies related to WMSDs of office workers working in other cities of Iran. The prevalence was significantly high and probably due to the nature of the job, inappropriate work practices and behaviors, incorrect body mechanics, and inappropriate environment. In addition, the workers of Khoi Health Center in West Azarbaijan Province implement secondary prevention, instead of primary prevention, the focus is on preventing the recurrence of cases and pain. Although this prevalence of WMSD

among official workers is considered high which was lower than other results which reported in other studies [10-11]. The result was consistent with other previous studies. In addition, the results of other studies such as Kim et al. in Korean support the results of the current study [12].

Despite the strengths of the present study, there were several limitations. For example, for the first time, the data used in this research was collected from available people, which may interfere with the results of this study. Moreover, the small number of people, and the data which were collected by self-report might not reflect WMSDs among office workers. Despite all the stated limitations, the implications of this study were supported by various lines of evidences. The relationship between place of pain and musculoskeletal pain can be related to some similarities in work environments, which is consistent with what was observed in Kim et al [12].

Conclusions

This study found that the majority of OWs studied were suffering from some form of chronic skeletal disorders. Therefore, it is highly recommended to conduct further studies to confirm these results in this special target group who work in health centers and investigate the causes of pain.

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Authors ' Contribution:

RN: performed all study stages and had complete access to all data for analysis. He confirmed the eligibility of the OWs for the study. BR supervised the study. MHD was advisor of the study and analysed the data. All authors read the manuscript and

confirmed it. M H D was involved in drafting the article.

Conflict of Interests: There is no conflict of interests.

Ethical Permission: All ethical principles were considered in this study. Approval was obtained from the management of Khoi health center in West Azarbaijan province of Iran.

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References

1. Okezue OC, Anamezie TH, Nene JJ, Okwudili JD. Work-Related Musculoskeletal Disorders among Office Workers in Higher Education Institutions: A Cross-Sectional Study. *Ethiop J Health Sci.* 2020; 30(5): 715-724.
2. Yang H, Lu ML, Haldeman S, Swanson N. Psychosocial risk factors for low back pain in US workers: Data from the 2002-2018 quality of work life survey. *Am J Ind Med* 2023;66(1):41-53.
3. Or CK, Holden RJ, Valdez RS. Human factors engineering and user-centered design for mobile health technology: enhancing effectiveness, efficiency, and satisfaction. *Human-Automation Interaction: Springer;* 2023. p. 97-118.
4. Delshad MH, Tavafian SS, Kazemnejad A. Factor predicting the stretching exercise behavior in office employees working in Shahid Beheshti University of Medical Sciences in Tehran, Iran. *Rev Invest Clin.* 2019;71(3):178-185.
5. Etuknwa A, Daniels K, Nayani R, Eib C. Sustainable Return to work for workers with mental health and musculoskeletal conditions. *Int. J. Environ. Res. Public Health* 2023, 20(2), 1057; <https://doi.org/10.3390/ijerph20021057>
6. Vignola EF, Baron S, Abreu Plasencia E, Hussein M, Cohen N. Workers' Health under Algorithmic Management: Emerging Findings and Urgent Research Questions. *Int J Environ Res Public Health.* 2023; 10;20(2):1239. doi: 10.3390/ijerph20021239.
7. Delshad MH, Tavafian SS, Kazemnejad A. Psychometric Evaluation of the Short Form of Situational Influences Scale for Stretching Exercise among Office Employees Based on the Health Promotion Model. *J Rehabil Res Dev* 2019;6(4):188-192
8. Kirschling JM. University of Maryland School of Nursing: State of the School 2021. 2021.
9. Meyers AR, Al-Tarawneh IS, Wurzelbacher SJ, Bushnell PT, Lampl MMP, Bell JL, et al. Applying machine learning to workers' compensation data to identify industry-specific ergonomic and

- safety prevention priorities: Ohio, 2001 to 2011. *J Occup Environ Med.* 2018; 60(1): 55–7310.
10. Chinedu OO, Henry AT, Nene JJ, Okwudili JD. Work-related musculoskeletal disorders among office workers in higher education institutions: A cross-sectional study. *Ethiopian Ethiop J Health Sci.* 2020; 30(5): 715–724.
 11. Acaröz Candan S, Sahin UK, Akoğlu S. The investigation of work-related musculoskeletal disorders among female workers in a hazelnut factory: Prevalence, working posture, work-related and psychosocial factors. *Int. J. Ind. Ergon* 2019;74:102838.
 12. Kim MG, Kim K-S, Ryoo J-H, Yoo S-W. Relationship between occupational stress and work-related musculoskeletal disorders in Korean male firefighters. *Ann Occup Environ Med.* 2013;4;25(1):9. doi: 10.1186/2052-4374-25-9.