



## Low Back Pain and related Factors among referees to Health Centers in Dehloran, Iran

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**Background:** Various studies have reported the prevalence of low back pain in specific populations very differently. The aim of the present study was to determine the prevalence of low back pain and related factors among the referees to health centers in Dehloran, Iran.

**Material and methods:** In this cross sectional study, two hundred and seventy three referees to health centers in Dehloran, who aged between 20 to 45 years old and were satisfied to be studied, were entered to the study after providing signed written consent form. The data were collected using the valid/reliable researcher -made questionnaire. The validity of the questionnaire has been obtained by inserting the experts' views in the questionnaire and the reliability was measured through cronbach's alpha which was calculated as 78%. The data has been analyzed using SPSS16.

**Results:** The lifetime prevalence of low back pain among the studied participants was 52.38%. There were significant relationship between low back pain and education level, residency location, hours per day working with computer and sedentary life style. (All p value was < 0.05).

**Conclusion:** This study showed low back pain was prevalent among referees to health centers aged between 20 to 45 years old. Sedentary life style and much working with computer were related significant factors. Designing proper intervention to prevent low back pain among this target group is recommended.

**Keywords:** Low Back Pain Prevalence, Individually related factors, Iran

### Introduction

Low Back Pain (LBP) is considered as the pain between the twelfth rib and lower hip plait that lasts at least one day and obstructs the everyday regular life activities (Kamali Sarvestani et al., 2011). Low back pain is one of the most common problems the men have always been faced with, so that and nearly three-quarters of people are suffering from low

back pain at least once in their life time (Amini, Hosseini & Mohseni, 2010). Studies showed most people in the beginning of the third decade of their life complain about the lesions and pain of this area. Low back pain in both acute and chronic form is prevalent in all societies, and after respiratory disorders and headache, is the most common reason for which people visit their physician (Motaghi et al., 2011). As estimated, each year 18 million people in America visit their physician for the treatment of low back pain (Phipps et al., 2003). Several studies have shown that there are various individually risk factors that cause back pain. Personnel factors such as age, sex, height, weight, physical activity and marital status are associated with an increased risk of low back pain (Daneshjo., 2011). Today, especially in developing country, the elderly or

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certain occupational groups are paid more attention regarding low back pain (Shayestehazar et al., 2010). Several studies in Iran, have just examined the prevalence of low back pain among occupational or certain gender/age groups rather than among general population groups. Furthermore, the prevalence rates of back pain are so different from 28 to 84% (Mohseni-Bandpei et al., 2009, Aghakhani et al., 2007, Sedighi et al., 2009). Since there are not enough studies to document the low back pain prevalence and related factors among refers to health centers in Dehloran who aged, this study was done to response to this question.

### Material and methods

The present study is a cross-sectional research which conducted among the referees to three health centers located in Dehloran, Iran in 2015. This city is affiliated to Ilam province with 30000 residents and located in west of Iran. There are three health centers in this city which located in different geographically region. The participants of present study were recruited from referees to all three health centers. All ethical principals were considered in this study. Ethical committee of Ilam University of Medical Sciences confirmed the study. After providing the potential eligible participants with the research procedure and obtaining the signed written consent form; they were entered into the study. Referring to the health centers and aged between 20 and 45 years was inclusion criteria. However if there was someone who was not satisfied to be assessed, he/she was excluded from the study.

To collect data regarding related socio-demographic characteristics due to low back pain, 17 questions such as age, gender, education level, occupation, income, place of residency, suffering from back pain, pain duration, treatment duration of back pain, suffering from sciatica, having previous surgery on vertebra, hours of working with computers, doing exercise, and sedentary lifestyle were responded by the participants.

This initial questionnaire was developed based on literature review and research articles related to back pain. Its' validity was obtained after obtaining the views of experts and inserting them into the initial reforms. The questionnaires 'reliability was measured using alpha-Cronbach test that obtained as 78%.

The Virtual Analogue Scale (VAS) was used to assess pain intensity (Zahednejad, Salehi & Tajali., 2013). The scale is a 10 cm measuring line that its numbers have been graded from zero (no pain) to 10 (worst possible pain). The criterion for scoring in this scale is the number that takes the participants underlines.

Using Cochran formula with 95% confidence interval, the sample size in the present study was calculated as 269 participants. Simple randomly sampling started in July 2015 to obtain due participants. The sampling procedure continued until the completion of the sample size up to Aug 2015. In order to decide about the significant relationship between variables, the P - value less than 0.05 has been considered as statistic criteria. Due descriptive and analytical statistics were used to analyze data through SPSS16.

### Results

In all, 273 eligible participants completed the study. The mean age of the participants was  $27.01 \pm 4.73$  years old. Of all participants, 142 individuals (52%) were men and 159 individuals (58.19%) had academic education. The low back pain prevalence in the present study was 52.38%. The more details of participant's characteristics are shown in Table 1.

The mean Body Mass Index (BMI) of the participants took part in this study was  $23.98 \pm 3.28$ . According the results shown in this table, each participant used computer for  $70.01 \pm 80.5$  minutes per day in average, and did exercise for  $15.93 \pm 34.39$  minutes per day. The low back pain severity that was obtained through VAS, showed different rang from the minimum of 1 to the maximum of 6 of the ten-point scale and 68 participants (24.92%) rated their low back pain as 1 that is lowest pain severity (Table 1). The participants who rated their pain as zero were considered as participants without pain. The current study did not found a significant relationship between low back pain and demographic characteristics such as age, gender, BMI, occupation, and exercise duration (all P-value < 0.05). In addition, the relationship between LBP and education level, residency location, duration of computer using and sedentary life style were significant (Tables 2 and 3).

**Table 1. Distribution of some demographic characteristics of respondents.**

Studied variable	N (%) N = 273	Studied variable	N (%) N = 273	
<b>Gender</b>	Man 142 (%52)	<b>Residence location</b>	City 227 (%83.15)	
			Village 46 (%16.85)	
Woman 131 (%48)	<b>Back Pain</b>	Yes 143 (%52.38)		
<b>Education level</b>		No 130 (%47.62)		
	Illiterate 4 (%1.5)	<b>Sciatica pain</b>	Yes 3 (%1.1)	
≤ 12 years 33 (%12.1)	No 072 (%98.9)			
Diploma 77 (%28.21)	<b>Back surgery</b>	Yes 2		
2- year college education 38 (%13.9)		No 273 (%100)		
4-year college education 107 (%39.19)	<b>Sedentary Duration of sedentary position per day</b>	(M ± SD)	124.33 ± 107.88	
≥ 6-year college education 14 (%5.1)				
<b>Job</b>	Housewife 89 (%32.60)	<b>** Duration of back pain</b>	(M ± SD)	1.12 ± 0.20
			Teacher 12 (%4.4)	<b>**Duration of treatment</b>
Governmental Employment 44 (%16.12)				
Self-employment 96 (%35.16)				
Farmer 4 (%1.47)				
Driver 4 (%1.47)				
Others 24 (%8.78)				

By year\*\*

**Table 2. The relation between low back pain and some demographic variables among studied participants.**

Variable	Back Pain (N = 143)	P-value Test used
<b>gender</b>		P = 0.611 Chi-square
Man	76 (%53.15)	
Woman	87 (%46.85)	
<b>Education level</b>		P = 0.001 Chi-square
Illiterate	0 (%)	
Under Diploma	11 (%7.69)	
Diploma	44 (%30.77)	
Associate Degree	14 (%9.79)	
Bachelor	67 (%46.85)	
Master's degree or higher	7 (%4.90)	
<b>Job</b>		P = 0.107 Chi-square
Housewife	51 (%35.66)	
Teacher	7 (%4.90)	
Governmental Employment	26 (%18.18)	
Self-employment	47 (%32.87)	
Farmer	1 (%0.7)	
Driver	0	
Others	11 (%7.69)	
<b>Residency location</b>		P = 0.019 Chi-square
City	126 (%88.11)	
Village	17 (%11.89)	

**Table 3. Relation between LBP and some demographic variables participants.**

Variable	Low Back pain		p-value
	Yes Mean ± SD	NO Mean ± SD	
<b>Age</b>	27.60 ± 4.89	26.34 ± 4.49	0.416
<b>BMI</b>	24.52 ± 3.35	23.37 ± 3.1	0.560
<b>Time of computer use</b>	100.36 ± 8.36	36.12 ± 3.65	0.000
<b>Exercise time</b>	14.13 ± 3.61	17.93 ± 1.77	0.785
<b>Sedentary duration per day</b>	180.04 ± 9.27	62.13 ± 5.20	0.000

## Discussion

The prevalence of low back pain in the present study was 52.38% over the participants' life time. Different values for the prevalence of low back pain have been reported in various studies conducted in Iran. These discrepancies can be caused by the use of different methods in carrying out the studies or might be focused on different special occupational or age groups. The present study was carried out among the general population referring to the health centers in Dehloran- a city in west of Iran, while some of the previous studies have been done in special occupational groups such as nurses, ophthalmologists, bus drivers or pregnant women (Dabholkar, Yardi & Dabholkar, 2015; Sikiru, 2010; Rezaee et al., 2011).

Low back pain in the current study among men was more prevalent than women though the difference between them was insignificant. However this study showed statistically significant relationship between education level and low back pain. As well, the results of the present study did not find a significant relationship between low back pain with factors like age group, occupation, residency place, body mass index, and daily exercise duration while low back pain sufferers had higher age and BMI mean. In consistent with this study, the previous study (Daneshjo., 2011), showed no significant relationship between age and gender with low back pain while in the study by (Choobineh et al., 2012) the relationship between low back pain with age was insignificant but significant with body mass index. Because these discrepancies among the studies, doing more research to confirm the prevalence and related factors among different target groups are recommended. Despite doing less exercise activity in low back pain patients, results of the present study found no significant relationship between low back pain and daily exercise duration. Physical activity is one of the accepted methods in the scientific texts for the prevention of back pain and its suggested duration has been more than 20 minutes whereas, the mean participant exercise duration in the present study has been 15.93 minutes that was less than the recommended time. Results obtained in a previous study (Ebrahimi, Balouchi, Eslami, 2014) indicated that the mean pain duration among low back pain patients has been decreased significantly after exercise therapy program. This

mentioned study has been done on 16 women with back pain and physical therapy was part of the treatment program to reduce the patients' disability. In a existed study (Rezaee et al., 2011), the relationship between doing exercise and back pain in two groups of driver and non-driver participants was significant.

The present study showed mean age and BMI of the participants suffering from low back pain were higher compared to the healthy participants. In a study (Jespersen et al., 2012), the relationship of overweight and obesity with the back pain was significant that would be caused by the high weight of the participants. However Ahmadi study in 62.8% of the participants in the study had a BMI over 25. In our study, the relationships of low back pain with the daily computer use duration as well as sedentary duration were significant. Today, the computer use becomes an ingredient part of the workplace and the life of human beings, So as the most important occupational causes of musculoskeletal diseases that can be caused by repetitive movements and inappropriate body mechanics are observed at the time of computer using (Smuck et al., 2014). The current study found that participants that use computer more, are more likely to suffer from low back pain. Furthermore there were significant differences between participants suffering from low back pain and not sufferer in terms of computer using duration.

The mean sedentary duration among the participants who took part in the present study was more than 2 hours per day. The sedentary duration among the low back pain sufferers compared to healthy participants was about three times which indicated sedentary lifestyle could be one cause of low back pain prevalence at young aged sample of the current research. Overall, the participants in the present study were residing in the city. This issue caused researchers not to be able to compare the low back pain prevalence in two groups of city and village residents, so it is recommended more studies be conducted with a balanced number of samples residing in the city and countryside. However in our study, it was shown that there were a large number of lower back pain sufferers who were living in the city rather than in village. Despite strength points in present study, there are some limitations should be reported. Firstly, this study had a self-reported procedure for data collection, so there might be some information bias in this regard. Secondly, the data were collected from referees to these centers

which might not be representative of whole population living in

Dehloran. Furthermore, not applying an appropriate tool to precisely collect data of for physical activity and sedentary duration/working with computer that was likely to be a limitation in this study. However, the results of this study are consistent with many valid previous evidences (Khan., 2005).

### Conclusion

This study showed low back pain was prevalent among referees to health centers aged between 20 to 45 years old. Sedentary life style and much working with computer were related significant factors. Designing proper intervention to prevent low back pain among this people is recommended.

### Conflict of interests

The authors declare that they have no conflicts of interest.

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### Author contribution

RJ, LR, AB: Study Importation, Data collection and analysis, Writing the first draft of the Paper.

RJ, KS, OG: Study design and data analysis, editing and confirming the final draft of the paper.

RJ, KS, OG, MHD: Study design, confirming the final draft of the paper.

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