

Eczane Çalışanlarında Bel Ağrısının Sıklığı ve Risk Faktörleri

The Frequency and Risk Factors of Low Back Pain in Pharmacy Workers

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ÖZ

Amaç: Eczane çalışanlarında bel ağrısı sıklığı ve bel ağrısını etkileyen kişisel, mesleki ve psikososyal risk faktörleri ile ilişkisini araştırarak literatüre katkıda bulunmak.

Yöntem: Bu çalışmaya eczanelerde çalışan toplam 200 birey (124 kadın, 76 erkek) katılmıştır. Değerlendirici tarafından oluşturulan dört ayrı bölümden oluşan bir anket uygulanmıştır. Anketin ilk bölümünde; yaş, cinsiyet, ikinci bölümde; mesleki risk faktörleri, üçüncü bölümde; psikososyal risk faktörleri dördüncü bölümde; bel ağrısının özelliği yer almıştır. Katılımcıların mesleki yaşamı, gelir durumu, işyeri memnuniyeti ve ağrı düzeyi Görsel Analog Skala ile değerlendirilmiştir.

Bulgular: Yüz yirmi altı birey bel ağrısı yaşadığını belirtmiştir. Bel ağrısı kadınlarda %68.5, erkeklerde %53.9 olarak bulunmuştur. Gelir durumundan memnun olan 31 kişinin %41.9'u bel ağrısı yaşamadığını belirtirken, bel ağrısı olan kişilerin gelir memnuniyetleri ise %15.9'dur. Aile öyküsü bel ağrısı varlığı için en etkili risk faktörüydü.

Sonuç: Bel ağrısı görülme oranını azaltmak için gerekli düzenlemeler yapılmalı, postüral uyum, çalışma koşullarının düzenlenmesi ve koruyucu rehabilitasyon yaygınlaştırılmalıdır.

Anahtar Kelimeler: Bel ağrısı, Risk faktörleri, Sıklık, Eczacılar.

ABSTRACT

Objective: To contribute to the literature by investigating the frequency of low back pain in pharmacy worker and its relationship with personal, occupational and psychosocial risk factors affecting low back pain.

Method: A total of 200 individuals (124 female, 76 male) working in pharmacies participated in this study. A questionnaire consisting of four separate sections created by the evaluator was applied. In the first part of the questionnaire; age, gender, in the second part; occupational risk factors, in the third part; psychosocial risk factors, in the fourth part; the characteristic of low back pain. Occupational life, income status, workplace satisfaction and pain level of participants was evaluated with the Visual Analogue Scale.

Results: One hundred twenty-six individuals stated that they experienced low back pain. Low back pain in female was found to be 68.5% and 53.9% in male. Thirty-one people who were satisfied with their income status stated that they did not experience low back pain in 41.9%, whereas the income satisfaction of people with low back pain was 15.9%. Family history was the most effective risk factor for the presence of low back pain.

Conclusion: In order to decrease the incidence rate of low back pain, necessary regulation should be made, postural alignment, regulation of working conditions and preventive rehabilitation should be expanded.

Key words: Low back pain, Risk factors, Frequency, Pharmacists.

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Yazar Katkıları: A) Fikir/Kavram, B) Tasarım, C) Veri Toplama ve/veya İşleme, D) Analiz ve/veya Yorum, E) Literatür Taraması, F) Makale Yazımı, G) Eleştirel İnceleme

1. INTRODUCTION

Pain is a psychologically demanding physiological function that is vital and disrupts one's quality of life, prevents one from being productive and causes sleep disorders (1). Low back pain is defined as the pain felt between the 12th costa and the lower gluteal line, which is require treatment or limit normal activities, bad enough to changing the daily routine for more than a day. (2). Low back pain is a common public health problem in the community. Approximately 50-80% of the individuals who make up the society complain of low back pain in a certain period of their lives (3,4). It is assumed that 70–90% of individuals' experience low back pain at some point in their lives (5). It is known that 14% of the population over the age of 20 experience low back pain at least once in their lifetime and requires hospitalization for two weeks. It is known that 85% of those over the age of 50 experience low back pain at some point in their lives. Since human life is getting longer and longer, this disease is thought to increase further in the future (6). Low back pain not only affects people because of functional loss and quality of life, but it also affects the society significantly due to work force losses (7). In many studies, it has been stated that the rate of people with low back pain among those who could not go to work for more than a month due to illness was 15% (8). The complaint of low back pain, which causes loss of workforce in all societies, is the second most common cause of admission to physicians, the fifth among inpatient-treated diseases in a medical institution, and the third most common among surgically-treated diseases (9, 10). Epidemiological studies have shown that there are various risk factors that affect the frequency and prevalence of low back pain. These risk factors are divided into three personally, occupationally and psychosocially. Age, gender, body mass index, family history, smoking-alcohol use, physical activity levels are among personal risk factors; heavy lifting, sudden physical load are among the occupational risk factors; life dissatisfaction, boring, monotonous business life, income level dissatisfaction, are among psychosocial risk factors (11).The National Institute of Occupational Health and Safety reported that more than 60% of low back pain is due to excessive exertion. Physically heavy work, frequent bending, lifting, sudden tough movements and chronic traumas such as repetitive work cause low back pain (12). Studies investigating the frequency and risk factors of low back pain in some occupational groups in Turkey have been carried out, but only pharmacists have participated in a few studies on hospital workers. (13). In the literature review, no studies specifically addressing low back pain for pharmacy workers were found.

The aim of this study was to contribute to the literature by investigating the frequency of low back pain in pharmacy worker and its relationship with personal, occupational and psychosocial risk factors affecting low back pain. It is the first study on low back pain in pharmacy workers in the literature.

2. METHOD

In this study included a total of 200 participants (mean age 33.60 ± 9.653 years) working at pharmacies in Pamukkale district, of whom 124 females and 76 males, and who accepted to participate in the study. The occupational distribution of the participants consists of 46 pharmacists, 154 pharmacy technicians. All participants gave verbal and written approval and filled in the Voluntary Approval Form before the study. All participants were included in the study in accordance with the social distance rule. In this study, a questionnaire consisting of

four separate sections was applied to pharmacy workers. In the first part of the questionnaire; age, gender, marital status, occupation, family history, surgical history, smoking habit and exercise habits; in the second part, occupational risk factors (daily / weekly working hour, standing working time, sitting working time, working year, postural alignment (Do you pay attention to your posture while working? (yes/no); in the third part, psychosocial risk factors (occupational, life, income status and workplace satisfaction); in the fourth part, the characteristic of low back pain (severity of low back pain during working / resting / sleeping, a history of going to the doctor, diagnosis and treatment) and the best method of treatment of low back pain were questioned.

Occupational, life, income status, workplace satisfaction and pain level of participants was evaluated with the 10-cm-long Visual Analogue Scale (for the level of satisfaction 0: no satisfied, 10: satisfied; for the level of pain 0: no pain, 10: most severe pain).

Low back pain is considered pain localized between the 12th costa and the lower gluteal line, which is require treatment or limit normal activities, bad enough to changing the daily routine for more than one day in this study.

Exclusion criteria in the evaluation were as follows; be pregnant, surgery from the lumbar region, leaving the questionnaire halfway through or not want to answer.

Data Analysis

Statistical Package for the Social Sciences (SPSS 25.0) was used to perform all analyses. Continuous and categorical data were reported as mean \pm standard deviation and number (percentages), respectively. Inter-group comparisons were performed using Chi-square test for categorical variables. To determine the risk factors influencing low back pain logistic regression models was used. Statistical significance was determined as $p < 0.05$.

3. RESULTS

Two hundred participations with means age 33.60 ± 9.653 years were included in this study. Demographic characteristics of participants in the study were shown in Table 1.

Table 1. Demographic characteristics of participants (n=200).

Variables		X \pm SD
Age (year)		33,60 \pm 9,653
Gender	Female	124 (62.0)
	Male	76 (38.0)
Occupation	Pharmacist	46 (23.0)
	Pharmacy technician	154 (77.0)

Values are presented as mean \pm standard deviation (X \pm SD) or number (%).

One hundred twenty-six individuals stated that they experienced low back pain (63.0%). Low back pain in female was found to be 68.5% and 53.9% in male. Among the participations taken, low back pain was found statistically significant in female, married people, those with family history of low back pain and those with a history of surgery. In addition, although there was no statistically significant difference, it was seen that there were many people who did not exercise regularly and did not smoke (Table 2).

Table 2. Clinic Data of the Participants by Groups (n=200).

		No low back pain (n, %)	Low back pain (n, %)	p value
Age	18-29	33 (38.82)	52 (61.18)	0.445
	30-40	21 (30.43)	48 (69.57)	
	41-50	12 (40.0)	18 (60.0)	
	51- ↑	8 (50.0)	8 (50.0)	
Gender	Female	39 (31.45)	85 (68.55)	0.038*
	Male	35 (46.05)	41 (53.95)	
Occupation	Pharmacist	17 (36.96)	29 (63.04)	0.994
	Pharmacy technician	57 (37.01)	97 (62.99)	
Marital status	Married	41 (32.03)	87 (67.97)	0.05*
	Single	33 (45.83)	39 (54.17)	
Family history	No	49 (55.68)	39 (44.32)	0.0001**
	Yes	25 (22.32)	87 (77.68)	
Smoking habit	No	47 (33.81)	92 (66.19)	0.159
	Yes	27 (44.26)	34 (55.74)	
Physical exercise	No	44 (32.84)	90 (67.16)	0.082
	Yes	30 (45.45)	36 (54.55)	
Surgery history	No	53 (44.17)	67 (55.83)	0.01**
	Yes	21 (26.25)	59 (73.75)	

Values are presented as number (%). *p < 0.05, **p < 0.01.

When the factors related to the profession were questioned, it was found that there was a significant difference between the patients' responses to daily sitting time and attention to postural alignment with low back pain (Table 3).

Table 3. Occupational Factors by Groups (n=200).

		No low back pain (n, %)	Low back pain (n, %)	p value
Daily working hours	8 - 9 hour	22 (38.6)	35 (61.4)	0.956
	9.5 - 10 hour	41 (36.28)	72 (63.72)	
	10 hour	11 (36.67)	19 (63.33)	
Standing working time	4 hour and less	29 (38.67)	46 (61.33)	0.483
	5 - 9 hour	41 (37.96)	67 (62.04)	
	9 hour and more	4 (23.53)	13 (76.47)	
Sitting on working time	4 hour and less	31 (30.1)	72 (69.9)	0.037*
	5 - 9 hour	43 (44.33)	54 (55.67)	
	40 - 45 hour	22 (44.9)	27 (55.1)	
Weekly working time	46 - 50 hour	33 (37.93)	54 (62.07)	0.245
	51 hour and more	19 (29.69)	45 (70.31)	
	1 - 10 years	33 (34.38)	63 (65.63)	
Working year	11 - 20 years	24 (41.38)	34 (58.62)	0.754
	21 - 30 years	12 (34.29)	23 (65.71)	
	31 years and more	5 (45.45)	6 (54.55)	
Postural alignment	No	36 (30.77)	81 (69.23)	0.03*
	Yes	38 (45.78)	45 (54.22)	

Values are presented as number (%). *p < 0.05.

In the third part, in which psychosocial factors were questioned; 31 individuals who were satisfied with their income status stated that they did not experience low back pain in 41.9%, whereas the income satisfaction of individuals with low back pain was 15.9%.

In the section where the factors related to low back pain were questioned; 65 individuals were detected who were affected by pain while working, low back pain was detected in 101

individuals at rest and 105 people during sleep. The number of cases with low back pain and not going to the doctor was 73 (57.9%). Treatment for pain was also 36 individuals use medication; 51 individuals (40.5%) stated that the best treatment method was physiotherapy and rehabilitation.

Being a female had been found to be a risk factor for the risk of experiencing low back pain. The presence of family history, having a surgical operation, short sitting time, not paying attention to postural alignment, and dissatisfaction with income were also significant risk factors on the risk of experiencing low back pain. Family history was the most effective risk factor for the presence of low back pain (Table 4).

Table 4. Result from Regression Model of Risk Factors for Low Back Pain.

	Wald	p	OR (Exp B)	95 % CI
Individual risk factor				
Gender	4.23	0.039*	0.54	0.29-0.96
Family story	22.31	0.0001**	4.37	2.37-8.06
Surgical	6.48	0.011*	2.22	1.20-4.11
Marial status	3.73	0.053	0.56	0.30-1.00
Workplace risk factor				
Sitting on working time	4.3	0.038*	0.54	0.30-0.96
Postural alignment	4.65	0.031*	0.53	0.29-0.94
Daily working hours	0.03	0.860	1.09	0.44-2.71
Standing on working time	1.34	0.247	2.05	0.609-6.893
Psychosocial risk factor				
Income status satisfaction	8.43	0.004**	0.1	0.04-0.55

*p < 0.05, **p < 0.01. CI: confidence interval.

4. DISCUSSION

Today, with the advancement of technology, decreasing body movements increase the rate of low back pain. Therefore, studies on the frequency of low back pain and risk factors have gained importance (14). Health workers face more occupational health problems than other workers, and the most common of these is low back pain (15). There are many articles about hospital workers (15,16). However, the number of articles containing a professional group is very few. A study examining the risk factors for low back pain in pharmacy workers could not be found in the literature. In this study, found 63% low back pain in pharmacy workers. In studies related to health care professionals, it was found to be 76% in the Netherlands (16), 70% in Kuwait (17), and 57.7% in Tunisia (18). Alnaami et al. (2019) studies with 740 healthcare workers in 2019, found that the rate of low back pain was 73.9% (19). These studies in the literature include all health studies, but when looking at the results, the results support these studies. Violante et al. (2004) determined that the rate of low back pain lasting less than 3 months was 47.5% in their study with nurses in 2004 (20). Yokota et al. (2019) found the rate of low back pain to be 64.6% in their study on 1100 nurses in 2018 (21). Arasan et al. in their study on 478 nurses, they found the rate of low back pain to be 84% (22). In another study conducted at the hospital, 163 nurses participated in the study and the rate of low back pain was found to be 39.9% (23). The rates seen in studies on a single occupational group are similar to those in present study.

There are studies in the literature about gender being a low back pain factor. In particular, it has been stated in studies conducted on health workers that low back pain is higher

in female than in male (14,15,24-26). In present study, in connection with the literature, female had more low back pain than male. The fact that the participants in the research are mostly women also affects the effective results.

One of the risk factors in this study was to be married. It appeared as one of the risk factors due to the high incidence of women and the high burden of the woman in life with marriage. There are different studies in the literature. Reisbord and Greenland (27) obtained the same results in their study and found that being married is one of the low back pain factors. Şimşek et al. (2017) in a study they conducted on hospital employees, the fact that the cases were married was found as one of the risk factors (28). However, in the review study conducted by Manchikanti in 2000, the marital status of the cases was not included in the low back pain factors (24).

Another risk factor was family history. In many studies, family history had been shown as a risk factor in the literature (11,14,24). As a result that determined that family history is the most effective risk factor for pharmacy workers. The results are in support of the literature.

There are studies in the literature stating that smoking is a risk factor (11,14,15,26,29). However, could not reach parallel results with the literature. Smoking could not detect as a risk factor. Being healthcare workers and a high number of females; think that the fact that females have to quit smoking at certain periods may cause this.

Low back pain can occur due to occupational risk factors as well as personal factors. Many business groups are at risk in this sense. Healthcare professionals are particularly affected by this situation. Being in the same position for a long time, sitting time, sudden physical load, frequent weight lifting, and failure to maintain postural alignment are occupational risk factors (15,19,21,24). In present study, the fact that the sitting time was low and that the postural alignment could not be maintained was among the occupational risk factors. In this sense, preventive rehabilitation becomes important.

When the studies in the literature are examined, high job demands and low job satisfaction are shown as psychosocial risk factors (30). As a result of this study, a significant relationship was found between low job satisfaction and low back pain. In another study, depression and limitation were identified as independent risk factors (31). Being satisfied with the income level provides people with more comfortable living conditions psychologically.

In this study, it has been observed that being a female is a risk factor for the risk of experiencing low back pain. The presence of family history, having a surgical operation, short sitting time, not paying attention to postural alignment, and dissatisfaction with income are also significant risk factors for the risk of experiencing low back pain. Family history was found to be the most effective risk factor for the presence of low back pain. This may be due to genetic factors and habits acquired from families. In the literature, many risk factors such as smoking, sleep patterns, and income level have been stated, but no results supporting these results could be obtained (23). Limitations in the study can be stated as the low number of male individuals, not questioning the sleep quality, quality of life and knowledge level of waist ergonomics of individuals, and not being able to reach more individuals.

5. CONCLUSION

In conclusion, this study is the first in the literature to investigate the risk factors of low back pain in pharmacy workers. Standing for long times, long working hours and failure to

maintain postural alignment further increase the risk of low back pain in this profession group. In order to decrease the incidence rate of low back pain, necessary regulation should be made, postural alignment, regulation of working conditions and preventive rehabilitation should be expanded.

Ethical Consideration of the Study

This study was approved by the ethics board of XXX University (Date 28.04.2020) with 08 session numbered.

Conflict of Interest Statement

All authors declare no conflict of interest.

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