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The Evaluation of Individuals with Low Back Pain in Terms of Social Adaptation

Bel Ağrısı Olan Bireylerin Sosyal Uyum Yönünden Değerlendirilmesi

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Abstract

Objective: The aim of the present study is to assess individuals with low back pain in terms of social adaptation.
Materials and Methods: The population of this descriptive study included individuals with low back pain who were older than 18 years old. 372 individuals suffering from this pain were reached between 02.20.2021 and 03.18.2021 by using the snowball sampling method, one of the non-probabilistic sampling methods. A Personal Information Form, the Oswestry Disability index, and the Social Adaptation Self-Evaluation Scale were used to collect data. Data were gathered through a web-based survey.
Results: It was found that 32.5% of the participants suffering from low back pain were aged between 18-29 years and 60.9% of them were female. The Social Adaptation Self-Evaluation scale mean score of all participants was 40.81±8.86 and their Oswestry Disability index mean score was 15.81±9.43. There was a moderate negative correlation between the Social Adaptation Self-Evaluation scale and the Oswestry Disability index scores of the participants (r=-0.528, p=0.000).
Conclusion: Consequently, as low back pain increased, the level of social adaptation decreased, and this in turn affected the daily lives of people with low back pain. Knowing the risk factors for low back pain and social maladaptation is important for taking the associated measures, and it is thought that it would be beneficial to repeat the related studies in a more comprehensive and multi-centered manner.
Keywords: Low back pain, pain, social adaptation, social adaptation self-evaluation scale

Öz

Amaç: Bu araştırma, bel ağrısı olan bireylerin sosyal uyum yönünden değerlendirilmesi amacıyla yapılmıştır.
Gereç ve Yöntem: Tanımlayıcı tipte yürütülen bu araştırmanın evreni 18 yaş üzeri bel ağrısı olan bireylerden oluşmuştur. Olasılıklı olmayan örnekleme yöntemlerinden kartopu örnekleme yöntemi kullanılarak 20.02.2021-18.03.2021 tarihleri arasında 372 bel ağrısı olan bireye ulaşılmıştır. Verilerin toplanmasında Kişisel Bilgi Formu, Oswestry Bel Ağrısı ölçeği ve Sosyal Uyum Kendini Değerlendirme ölçeği kullanılmıştır. Veriler web tabanlı anket ile toplanmıştır.
Bulgular: Bel ağrısı yaşayan bireylerin %32,5'i 18-29 yaş aralığında ve %60,9'u kadındı. Tüm katılımcıların, Sosyal Uyum Kendini Değerlendirme Ölçeği puan ortalaması 40,81±8,86, Oswestry Bel Ağrısı ölçeği puan ortalaması 15,81±9,43 olarak bulundu. Bel ağrısı olan bireylerin Sosyal Uyum Kendini Değerlendirme ölçeği ile Oswestry Bel Ağrısı ölçeği arasında negatif yönde orta şiddette bir ilişki saptandı (r=-0,528, p=0,000).
Sonuç: Çalışmamızda, bel ağrısı arttıkça sosyal uyum düzeyinin azaldığı görülmüş ve bel ağrısı yaşayan kişilerin günlük hayatlarını etkilediği sonucuna ulaşılmıştır. Bel ağrısı ve sosyal uyumsuzluk için risk faktörlerinin bilinmesi, bu gibi durumlara yönelik tedbirlerin alınması açısından önemli olup, bu tür çalışmaların daha kapsamlı ve çok merkezli olarak tekrarlanmasının faydalı olacağı düşünülmüştür.
Anahtar kelimeler: Bel ağrısı, ağrı, sosyal uyum, sosyal uyum kendini değerlendirme ölçeği

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Introduction

Although low back pain is a common health problem worldwide, it causes significant economic and social burdens (1,2). Low back pain problems directly or indirectly affect the job performance of employees, the families of individuals, industry and the governments (2,3). In addition, low back pain can seriously affect the participation in daily life activities. The estimated frequency of recurrence of low back pain in many individuals with activity limitations is in the range of 24-80% (4). Many people suffer from low back pain in some periods of their lives. One study conducted in Afyon, Turkey reported that the lifetime prevalence of low back pain was 51% and the prevalence of chronic low back pain was 13.1% (5). Low back pain is highly recurrent and causes patients to feel sadness and despair, thus frequently resulting in impairing their quality of life and possibly developing depression and anxiety disorders (6).

Social functionality refers to a person's ability to function -motivation, behavior, self-perception, and activities included- at work, home, and in their social life. This also pertains to how they interact with their spouse, parents, friends, and interests, plus the satisfaction they gain from them (7). People who suffer from physical disorders and chronic pain (incl. low back) also tend to suffer from depression, because their pain has a negative impact on their psychology (8). Accordingly, the study was conducted to identify the social adaptation levels of individuals with low back pain by comprehensively evaluating their social functioning ability, which is one of common health problems in the society.

Materials and Methods

The Population and Sample

The population of this descriptive study consisted of people who had low back pain and were older than 18 years old in Turkey. In the study, the sample size was determined as 330 at α=0.05, 1-β=0.98, and effect size of 0.2 using G Power 3.1.9.7 program. Using the snowball sampling method, one of the non-probabilistic sampling methods, 372 individuals with low back pain were reached between 02.20.2021 and 03.18.2021.

A web-based survey was created to minimize face-to-face interaction due to the coronavirus disease-2019 pandemic. This survey form was shared on social media platforms (Facebook, Instagram, WhatsApp and Twitter etc.), and respondents were asked to share it with other people. At the beginning of the web-based questionnaire, the participants were asked whether or not they wished to participate in the study or not, hence allowing the researcher to obtain their consent.

Data Collection

The study was conducted with 372 individuals, who had low back pain and agreed to participate, between 02.20.2021 and 03.18.2021. The participants completed the survey form within 15-20 minutes. 24 forms were not included in the study because the individuals under the age of 18 and without low back pain responded to them.

Inclusion criteria;

- Having low back pain,
- Being over the age of 18,
- Using social media,
- Volunteering to participate in the study.

Data Collection Tools

The data collection tools used in this study were a Personal Information Form, the Oswestry Disability index (ODI), and the Social Adaptation Self-Evaluation scale (SASS).

The Personal Information Form: This form, which was developed by the researchers upon the literature review, has a total of 16 questions regarding the socio-demographic characteristics of the participants, as well as their low back pain complaints.

SASS: Bosc et al. (9) developed SASS in order to assess the areas of social functioning in ordering leisure time, family and environment, and the ability to cope positively. Its Turkish validity and reliability study was conducted by Akkaya et al. (10). All of the questions supplemented one another. They assess the respondents' sense of motivation, their behavior, their sense of self-perception, how interested they are in their various roles in life, and how much satisfaction they receive from them. The items 1 and 2 of the 21-item scale are answered according to the occupation status and is rated between 0-3 points. Minimum and maximum scores of the scale 0 and 60, respectively. A score of at least 35 on the scale indicates that the individual has normal social functionality and a score below 25 indicates that there is a problem with his/her social functionality. The Cronbach's alpha coefficient was 0.90 in overall scale (10). In this study, the Cronbach's alpha coefficient for SASS was calculated as 0.86.

ODI: The scale was developed by Fairbanks et al. (11) in order to evaluate the function disability. Its Turkish validity and reliability study was carried out by Yakut et al. (12). It measures daily life activities from 10 dimensions. The scale has 10 items and each item is rated between 0-5 points. The minimum and maximum scores of the scale are 0 and 50 points, respectively. 0 point means = No functional impairment, 1-10 points mean = Mild functional impairment, 11-30 points mean = Moderate functional impairment, and 31-50 points mean = Severe functional impairment. Its Cronbach's alpha coefficient was 0.91 (12). In this study, the Cronbach's alpha coefficient for the ODI was calculated as 0.90.

Statistical Analysis

The SPSS 24.0 (Statistical Packet for Social Sciences for Windows) software was employed to analyze the data. Whether or not the data were normally distributed was determined via Skewness and Kurtosis (±1) distribution test. In addition to descriptive statistics (percentage, frequency, average, standard deviation, minimum and maximum values) used in the data analysis, ANOVA was used to compare the normally distributed

independent variables. Kruskal-Wallis and Mann-Whitney U tests were used to compare the independent variables that did not show a normal distribution. The Pearson correlation analysis was employed to measure the correlation between SASS and ODI scores. Pearson's correlation coefficients were expressed <0.2 as very poor, 0.2-0.39 as poor, 0.4-0.59 as medium, 0.6-0.79 as high, and ≥0.8 as very high correlation. The Cronbach's alpha coefficient was calculated.

Ethical Considerations

The approval of the Kilis 7 Aralık University Ethics Committee (decision no: 6, date: 13.01.2021) was obtained to conduct the study. The web-based survey mentioned about purpose of the study. The participants were informed about participation on a volunteer basis and then their consents were obtained. This study was conducted in accordance with the Principles of Declaration of Helsinki.

Results

It was found that 32.5% of the participants were between the ages of 18-29, 60.9% were female, 68.4% were ≥university graduates, 83.6% had a moderate economic status, 38.8% were civil servants, and 31.3% had a chronic disease. The chronic disease was an endocrine system disease in 10.1% of them (Table 1).

Also, 43.4% of the participants had a body mass index of 18.5-24.9 kg/m^2, 20.4% were smokers, 60.9% were affected by a serious event in their life, 46.0% of them had no sleep pattern and their sleep time changed every day, 17.8% had limitations in daily life activities due to low back pain, 49.4% had low back pain for 1-5 years, 60.9% of them consulted a doctor for low back pain, 48.3% of them received medical help for low back pain, 63.2% of them had an examination for his/her pain. A statistically significant difference was determined between the SASS and the ODI mean scores of the subjects included in the

Table 1. The distribution of socio-demographic characteristics of the participants (n=348)

		n	%
The average age (years) 36.41±12.07			
Age	Age range of 18-29 years	113	32.5
	Age range of 30-39 years	97	27.9
	Age range of 40-49 years	89	25.5
	Age range of ≥50 years	49	14.1
Gender	Female	212	60.9
	Male	136	39.1
Educational level	≤Primary education	61	17.5
	High school	49	14.1
	≥University	238	68.4
Economic status	High	26	7.5
	Medium	291	83.6
	Low	31	8.9
Occupation	Civil servant	135	38.8
	Worker	95	27.3
	Retired	21	6.0
	Housewife	53	15.2
	Student	44	12.6
The presence of chronic illness	Yes	109	31.3
	No	239	68.7
Which system disease*	Respiratory system diseases	17	4.9
	Musculoskeletal system diseases	12	3.3
	Endocrine system diseases	35	10.1
	Digestive system diseases	12	3.4
	Cardiovascular system diseases	15	4.3
	Neurological system diseases	18	5.3
Total		438	100.0

*Those with chronic illnesses were calculated

study according to the status of being affected by a serious event in their lives, experiencing limitations in daily life activities due to sleeping habits, duration of experiencing low back pain, consulting a physician for low back pain and getting medical help, and having an examination. The SASS mean score for all participants was 40.81±8.86, and the ODI mean score was 15.81±9.43 (Table 2).

Out of the participants, 91.4% had a SASS score of ≤25 points (Figure 1).

Moreover, 59.5% of the participants experienced moderate functional impairment due to low back pain (Figure 2).

A moderate negative correlation was found between the SASS and the ODI scores of the participants (r=-0.528, p=0.000). In other words, as low back pain increased, the level of social functionality decreased. The level of education, occupation and the presence of chronic disease were negatively correlated with the SASS. A positive correlation was determined between the age and economic status and the SASS. The participants' age and economic status were negatively correlated with the ODI.

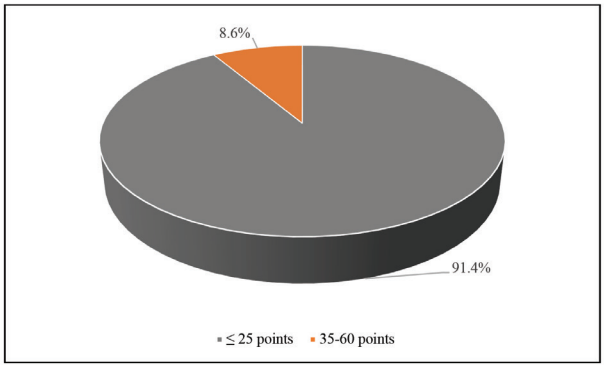

Figure 1. The distribution of SASS categorical values of the participants

SASS: The Social Adaptation Self-Evaluation scale

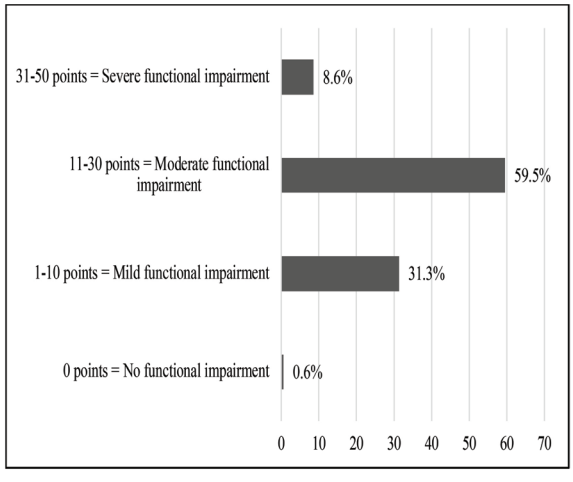

Figure 2. The distribution of ODI categorical values of the participants

ODI: The Oswestry Disability index

The educational level and presence of chronic disease were positively correlated with the ODI (Table 3).

Discussion

Low back pain is the most common musculoskeletal pain (13). It is a common and complex health problem that is difficult to manage with many important consequences such as job loss, disability and social adaptation disorder.

In the present study, which aimed to evaluate persons suffering from low back pain in terms of social adaptation, 32.5% of the participants were in the age range of 18-29 years. Chronic low back pain generally affects the middle age group (14,15). It was determined that 83.6% of the participants had a medium economic status and 60.9% of them were female. Considering the gender factor in patients with chronic low back pain, it was shown that women were more affected (16-18). Given that low back pain is a bio-psychosocial pathological disorder, this rate would be higher in women. In their case-control study, Marty et al. (19), evaluated the sleep quality in patients with low back pain and the female gender ratio was more common. In the study by Oksuz (20), female patients with low back pain were more common in all age groups than men. The present study revealed that female gender was more common, too.

In the current paper, 43.4% of the participants had a body mass index of 18.5-24.9 kg/m^2, 20.4% of them were smokers, 60.9% were affected by a serious event in their life, and 46.0% had no sleep pattern. Numerous studies have revealed the correlation between people with low back pain and sleep disorders (19,21,22). In their study with 268 patients, Marin et al. (23), reported that chronic low back pain adversely affected the sleep quality. A study involving 56 patients with chronic low back pain from Brazil, reported that chronic low back pain adversely affected the sleep quality (24).

It was determined in the present study that 49.4% of the participants had low back pain for 1-5 years, 60.9% consulted a doctor for low back pain, 48.3% received medical help for low back pain, 63.2% had an examination for low back pain and 17.8% of them experienced limitations in daily life activities due to low back pain. In the patients with low back pain, the physical endurance decreased, and functional capacity was lost due to pain, spasm, decrease in muscle strength and posture. The daily and social lives of patients experiencing these problems were restricted (25,26).

A statistically significant difference was determined between the SASS and ODI mean scores in terms of the status of being affected by a serious event, having limitations in daily life activities due to sleeping habits, the duration of experiencing low back pain, consulting a physician for low back pain and getting medical help, and having an examination. It was found that the SASS mean score for all participants was 40.81±8.86, and their ODI mean score was 15.81±9.43. 91.4% of individuals with low back pain had a SASS score of ≤25 points. In addition, a moderate negative correlation was determined between SASS and ODI in individuals with low back pain (r=-0.528, p=0.000).

Table 2. The comparison of some characteristics of individuals related to low back pain and risk factors for low back pain with the SASS and ODI mean scores

			SASS	ODI
		n (%)	$\bar{x}$ ± SD	$\bar{x}$ ± SD
Body mass index	<18.5 kg/m^2	9 (2.6)	37.00±9.09	13.88±10.67
	18.5-24.9 kg/m^2	151 (43.4)	41.50±8.18	15.94±9.48
	25-29.9 kg/m^2	117 (33.6)	40.82±9.42	15.23±9.28
	≥30 kg/m^2	71 (20.4)	39.84±9.23	16.73±9.51
	Significance[a]		p=0.331	p=0.682
Smoking status	Never smoked	175 (50.3)	41.86±8.47	15.34±9.26
	Sometimes	102 (29.3)	39.47±9.44	16.91±9.41
	Addicted	71 (20.4)	40.18±8.73	15.39±9.87
	Significance[b]		p=0.120	p=0.288
The status of being affected by a serious event*	Financial difficulties	60 (17.2)	38.03±10.17	18.10±10.88
	Disease	64 (18.4)	39.45±9.68	18.73±10.63
	Accident	37 (10.6)	38.02±9.38	16.43±10.90
	Death	51 (14.7)	42.68±7.93	13.11±7.62
	Significance[b]		p=0.004	p=0.014
Sleeping habit	I make sure to regularly go to bed at the same time and sleep in the same amount of time every day	100 (28.7)	43.67±6.37	13.25±7.34
	Some nights I only sleep a few hours, otherwise I sleep regularly	88 (25.3)	35.76±10.02	20.51±10.54
	I don't have a sleep pattern, my sleep time changes every day	160 (46.0)	41.81±8.41	14.83±9.08
	Significance[a]		p=0.001	p=0.001
The status of having disability in daily life activities due to pain	Yes	62 (17.8)	38.18±10.13	23.08±9.98
	No	70 (20.1)	43.16±6.27	7.46±5.00
	Partially	216 (62.1)	41.00±8.87	15.85±8.19
	Significance[b]		p=0.021	p=0.001
The duration of experiencing low back pain	<1 year	29 (8.4)	42.51±6.38	12.89±7.60
	1-5 years	172 (49.4)	41.53±8.85	14.33±8.53
	6-10 years	69 (19.8)	38.50±9.15	18.72±10.63
	≥11 years	78 (22.4)	40.65±9.14	17.57±9.96
	Significance[b]		p=0.042	p=0.005
The status of consulting a physician due to low back pain	Yes	212 (60.9)	39.51±9.53	19.13±9.55
	No	136 (39.1)	42.85±7.26	10.63±6.44
	Significance[c]		p=0.001	p=0.001
The status of seeking medical assistance for low back pain	Yes	168 (48.3)	39.01±9.73	20.35±9.70
	No	180 (51.7)	42.50±7.61	11.57±6.86
	Significance[c]		p=0.001	p=0.001
The status of having an examination for low back pain* **	Plain graphy	30 (8.6)	43.40±8.53	13.66±9.13
	Computed tomography	64 (18.4)	38.21±10.14	20.42±11.59
	Magnetic resonance	126 (36.2)	39.73±9.31	18.45±8.55
	Significance[b]	15.81±9.43	p=0.017	p=0.001
	Total		40.81±8.86	

SASS: The Social Adaptation Self-Evaluation scale, ODI: The Oswestry Disability index, SD: Standard deviation
*Only those who were affected by a serious event in their life were calculated.
**Only those who had an examination were calculated.
[a]ANOVA test. [b]KW=Kruskal-Wallis H test. [c]Z=Mann-Whitney U test. p<0.05

Table 3. The correlation distribution of SASS and ODI scores

		1	2	3	4	5	6
1. SASS	r p	1					
2. ODI	r p*	-0.528 0.000	1				
3. Age	r p*	0.414 0.000	-0.317 0.000	1			
4. Educational level	r p*	-0.483 0.000	0.482 0.000	-0.483 0.000	1		
5. Economic status	r p*	0.132 0.014	-0.257 0.000	0.054 0.317	-0.225 0.000	1	
6. Occupation	r p*	-0.122 0.022	0.076 0.156	-0.247 0.000	0.277 0.000	-0.030 0.580	1
7. The presence of chronic illness	r p*	-0.334 0.000	0.255 0.000	-0.324 0.000	0.323 0.000	-0.083 0.121	0.244 0.000

SASS: The Social Adaptation Self-Evaluation scale, ODI: The Oswestry Disability index
r=Correlation coefficient, *p<0.001

The age and economic status of the participants were negatively correlated with the ODI. Their educational level and presence of chronic disease were positively correlated with the ODI. In the literature, age, female gender, low socioeconomic status, and chronic disease were positively correlated with presence of low back pain (27-30).

In the present study, we aimed to determine the social adaptation levels of individuals with low back pain and to investigate the effect of low back pain severity on their social functioning. There is no study in the literature that examines the social adaptation of individuals with low back pain using the social adaptation scale.

The current study has some limitations. Firstly, the study does not have a control group. Secondly, the survey measured social adaptation and social functioning levels of the patients. However, the patient form did not contain data regarding a previous diagnosis of depression or similar mood disorders. The survey did not include any additional indexes assessing the mood either.

Conclusion

Low back pain negatively influences the social adaptation levels of individuals. In this study, it was concluded that as the severity of low back pain increased, social adjustment levels were also negatively affected. The individuals suffering from low back pain were affected in terms of their level of social adaptation, which negatively disturbed their daily life routines.

Finally, the present study has some limitations. Although the number of patients was sufficient, there was no control group. In addition, the present study, to the best of our current knowledge, is the only study that examined the social adaptation levels of individuals with low back pain in Turkey. Some studies have evaluated anxiety, depression, and quality of life in the individuals with low back pain. Knowing the risk factors for low back pain and social maladaptation is important for taking the measures for these conditions, and it was thought that it would be beneficial to repeat related studies in a more comprehensive and multi-centered manner.

Ethics

Ethics Committee Approval: The approval of the Kilis 7 Aralık University Ethics Committee (decision no: 6, date: 13.01.2021) was obtained to conduct the study.

Informed Consent: At the beginning of the web-based questionnaire, the participants were asked whether or not they wished to participate in the study or not, hence allowing the researcher to obtain their consent.

Peer-review: Externally and internally peer-reviewed.

Authorship Contributions

Surgical and Medical Practices: A.B., D.G.K., D.A., F.K., Concept: A.B., Design: A.B., Data Collection or Processing: A.B., D.G.K., D.A., F.K., Analysis or Interpretation: F.K., Literature Search: A.B., D.G.K., D.A., F.K., Writing: A.B., D.G.K., D.A., F.K.

Conflict of Interest: No conflict of interest was declared by the authors.

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