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Objawy lęku i depresji u pacjentów z przewlekłym zespołem bólowym kręgosłupa

Streszczenie

Wstęp. Zespoły bólowe kręgosłupa są jedną z najczęściej występujących przyczyn dyskomfortu życia współczesnego człowieka i mają konsekwencje zdrowotne, emocjonalne, społeczne oraz ekonomiczne.

Cel. Celem pracy była ocena nasilenia objawów depresji oraz lęku u pacjentów leczonych z powodu przewlekłych dolegliwości bólowych kręgosłupa L-S.

Materiał i metody. Przebadano 60 pacjentów Poradni Neurologicznej NZOZ „Neuro-Psycho-Centrum" w Lublinie leczących się z powodu przewlekłego zespołu bólowego kręgosłupa lędźwiowo-krzyżowego (30 kobiet i 30 mężczyzn) oraz 60 osób zdrowych (30 kobiet i 30 mężczyzn), które stanowiły grupę kontrolną. Wszyscy pacjenci byli leczeni zachowawczo. Średni wiek pacjentów wynosił 43 lata, a średni czas trwania dolegliwości powyżej 2 lat. Grupę kontrolną wybrano losowo spośród osób zdrowych z zachowaniem kryteriów płci, wieku, miejsca zamieszkania i poziomu wykształcenia porównywalnych z kliniczną grupą badaną. Poziom depresji u badanych osób określono na podstawie Inwentarza Objawów Depresyjnych Becka, a nasilenie lęku Kwestionariuszem Ch.D. Spielbergera STAI.

Wyniki. Stwierdzono istotne statystycznie różnice między pacjentami z zespołami bólowymi kręgosłupa L-S a osobami zdrowymi w zakresie nasilenia objawów depresji oraz lęku jako stanu i lęku jako cechy.

Wnioski. Pacjentów z przewlekłymi bólami kręgosłupa lędźwiowego charakteryzuje znacząco wyższy poziom lęku jako stanu i lęku jako cechy niż osoby zdrowe. Pacjenci z dyskopatią cierpiący z powodu zespołów bólowych kręgosłupa L-S mają znacząco wyższy poziom depresji niż osoby zdrowe. Różnice w zakresie nasilenia objawów depresji i lęku jako stanu oraz lęku jako cechy między mężczyznami z bólami kręgosłupa lędźwiowo-krzyżowego a mężczyznami zdrowymi są większe niż między chorymi i zdrowymi kobietami.

Słowa kluczowe: dyskopatia, lęk, depresja, bóle kręgosłupa.

Symptoms of anxiety and depression in patients with chronic low back pain syndrome

Abstract

Introduction. Back pain syndromes are some of the most frequent causes of discomfort in contemporary humans, which have health-related, emotional, social and economic consequences.

Aim. The aim of this study was to assess the severity of symptoms of depression and anxiety in patients with chronic low back pain.

Material and methods. The study included 60 patients of the Neurology Unit of the Non-public Healthcare Center Neuro-Psycho-Centrum in Lublin treated for chronic pain syndrome of the lumbosacral spine (30 women and 30 men) and a control group of 60 healthy subjects (30 women and 30 men). All the patients were treated conservatively. The mean age of the patients was 43 years and the mean duration of symptoms was more than two years. The control group was selected randomly from among healthy individuals and was matched to the clinical test group by gender, age, place of residence and level of education. The level of depression in the participants was determined using the Beck Depression Inventory, and the severity of anxiety was tested using Spielberger's STAI questionnaire.

Results. Statistically significant differences were found between patients with low back pain syndromes and healthy individuals regarding the severity of symptoms of depression and state and trait anxiety.

Conclusions. Patients with chronic low back pain are characterized by significantly higher levels of state and trait anxiety than healthy controls. Degenerative disc disease patients suffering from low back pain syndromes have significantly higher levels of depression than healthy individuals. The differences in the severity of symptoms of depression and state and trait anxiety between men with lumbosacral spine pain and healthy men are larger than those between female patients and controls.

Keywords: degenerative disc disease, (Intervertebral Disc Degeneration) anxiety, depression, spinal pain.

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INTRODUCTION

Osteoarthritis is the most common cause of joint pain and increasing motor disability in patients. According to studies commissioned by US government centers and independent organizations, each year 16 million citizens of the United States suffer from this illness [1]. In the medical literature and popular-scientific publications, osteoarthritis may have a varied nomenclature [2,3]. It is referred to as joint pain syndromes, osteoarthritis, degenerative changes, degenerative-proliferative changes, arthritis, and osteoarthrosis. The lesions and symptoms may affect one joint or a group of joints. The different terms used to refer to the disease show that these broad diagnostic concepts cover processes of different etiology and course which, however, are all characterized by progressive destruction of articular structures and limitations in the natural motor function of the affected joints. Spinal pain syndromes, especially in the lumbar and cervical regions, are the most common symptoms of osteoarthritis. As with other weight-bearing joints, various etiological factors may account for the disease. They include repetitive microtrauma, overweight, abnormal mechanics of the spinal column due to developmental or acquired abnormalities of lower limbs, and traumatic lesions to the skeletal elements and soft tissues of the spine [4]. Therefore, pain in the lumbar region may be caused by proliferative changes in the anterior or posterior spinal column or impairment of its passive stabilization provided by intervertebral discs, intervertebral ligaments and the ligaments of articular processes and vertebral arches [5]. A significant contributing factor is the impaired balance of the muscles of the spine, chest and lower limbs. In popular usage, all these sources of complaints are referred to as lumbar disc herniation or radicular syndromes. Regardless of the differences in the etiology and anatomical source of the disease, the dominant symptom and the most common complaint reported by patients is local pain, and in advanced forms, its radiation to the buttocks, hips or lower extremities. In addition, with the development of pathological changes in facet joints, the frequency and intensity of pain increases, the periods of exacerbation become longer, and susceptibility to treatment is reduced. Such a course of the disease forces patients at working age to limit their motor activity and reduce physical effort to a minimum. A sedentary lifestyle is usually at the root of excessive weight gain and increased risk of overload. Patients become regular attendees of successive outpatient units, physician's offices and treatment centers as they seek newer and newer forms of effective treatment. Reduced earning capacity due to pain makes these patients give up their work and enter the group of beneficiaries of various welfare schemes. The proportion of beneficiaries due to low back pain syndromes in Poland is 11% [6]. All these factors also significantly affect the mental health and the psychological profile of the patients.

AIM

The aim of the study was to answer the following research questions:

- are there differences (if any) between the level of depression in patients with low back pain syndrome and healthy individuals?
- are there differences (if any) between anxiety symptoms in patients with low back pain syndrome and healthy individuals?
- are there any differences in the severity of symptoms of depression and anxiety between men and women with back pain syndrome?
- do patients with back pain syndrome living in urban areas differ from those living in rural areas in the severity of symptoms of depression and anxiety?
- do professionally active patients with back pain syndrome differ from professionally inactive patients in the severity of symptoms of depression and anxiety?

MATERIAL AND METHODS

The study included 60 patients of the Neurology Unit of the Non-public Healthcare Center Neuro-Psycho-Centrum in Lublin treated for chronic pain syndrome of the lumbosacral spine (30 women and 30 men) and a control group of 60 healthy participants (30 women and 30 men). All the patients were treated conservatively. The mean age of the patients was 43 years, and the mean duration of symptoms was more than two years. The largest group of patients were aged between 40 and 50 years (62%) and between 20 and 39 years (32%). The youngest patient was 18 years old and the oldest was 64 years old. About 45% of patients with low back pain syndrome lived in cities and 55% in rural areas. In the clinical group, 16% of the participants had higher education, 30% secondary education, 33% vocational education and 21% primary education. Forty nine percent of spinal pain syndrome patients were professionally active. Seventy five percent of the patients were married. The control group (healthy individuals) was matched to the clinical group (spinal pain syndrome patients) by age, place of residence and level of education.

The level of depression in both groups was determined using the Beck Depression Inventory [7], and the severity of anxiety was tested using Spielberger's STAI questionnaire [8]. The STAI questionnaire is used for the evaluation of state and trait anxiety. Trait anxiety is understood as a personality disposition to respond to situations of stress. This acquired disposition to behave anxiously has its source in an individual's past experience. This experience incites the individual to respond with anxiety in the presence of stimuli that have triggered similar reactions in the past. State anxiety is defined as an anxious response to a particular situation and is not a personality predisposition.

RESULTS

The scores obtained by patients with low back pain syndrome on the Beck Depression Inventory scale show that 64% of the patients had mild depression. These persons scored from 11 to 27 points on the general scale of the Beck Depression Inventory. Fourteen percent of the patients had moderate depression. They scored 27 points on the Beck Scale.

To answer the question what differences (if any) exist there in the severity of depression symptoms between patients with the lumbosacral spine pain syndrome and healthy individuals, a comparison using Student's t-test was made

between the mean scores obtained by the two groups on the Depression Inventory.

Additionally, standardized effect size (Es) was calculated to determine the size of the difference between the mean scores obtained by the compared groups [9].

An analysis of the mean scores obtained on the Beck Inventory has showed that persons with low back pain syndrome are characterized by statistically significantly greater severity of depressive symptoms than those in the control group. The value of the standardized effect size indicates that the difference between the two groups is very high (Es>0.80).

As the next step, a comparison was made between the severity of depression in the clinical and the control groups, taking into account the division of the participants by gender.

Table 2 shows the results of Student's t-test obtained by women with the spinal pain syndrome and healthy female controls.

Women with low back pain syndrome had significantly higher scores on the general scale of the Beck Inventory than healthy women. The difference between the healthy women and the female patients was moderate (0.80>Es>0.50).

Table 3 shows the results of Student's t-test obtained by men with spinal pain syndrome and healthy male controls.

Similarly to women's group, men with spinal pain syndrome scored significantly higher on the Beck Inventory scale than healthy men. The difference between the compared groups of men is very high (Es>0.80).

TABLE 1. A comparison of severity of depression in low back pain patients and healthy individuals.

Beck Scale	Clinical group		Control Group		t	p	Es
	M	SD	M	SD			
General score	15.46	8.47	5.92	5.88	5.57	0.001	1.31

TABLE 2. A comparison of severity of depression in women with low back pain syndrome and healthy female controls.

Beck Scale	Clinical group		Control Group		t	p	Es
	M	SD	M	SD			
General score	13.79	7.89	7.89	6.91	2.45	0.02	0.80

TABLE 3. A comparison of severity of depression in men with spinal pain syndrome and healthy male controls.

Beck Scale	Clinical group		Control Group		t	p	Es
	M	SD	M	SD			
Beck general score	17.44	8.95	4.05	4.05	5.55	0.001	1.93

TABLE 4. A comparison of the severity of state and trait anxiety in patients (clinical group) and healthy individuals.

STAI scales	Clinical group		Control Group		t	p	Es
	M	SD	M	SD			
State anxiety	48.06	5.36	37.64	8.98	6.58	0.001	1.41
Trait anxiety	48.97	4.52	39.74	8.95	6.00	0.001	1.30

In the next stage of the study, a comparison was drawn between mean scores on Spielberger's STAI questionnaire obtained by patients with low back pain and healthy individuals (Table 4).

The scores obtained on the STAI questionnaire demonstrate that spinal pain patients are characterized by a statistically significantly higher level of state and trait anxiety than the individuals from the control group. The value of the standardized effect size indicates that the differences in state and trait anxiety between the two groups are very high (Es>0.80).

The next step was to make a comparison between the severity of anxiety in the clinical and the control groups, taking into account the division of the participants by gender.

Table 5 shows the results of Student's t-test comparing STAI scores obtained by women with spinal pain syndrome and healthy female controls.

Women with spinal pain syndrome obtained significantly higher scores on state anxiety and trait anxiety than healthy women. The difference between the two groups of women was high for state anxiety (Es>0.80) and moderate for trait anxiety (0.80>Es>0.50).

Table 6 shows the results of Student's t-test obtained by men with spinal pain syndrome and healthy male controls.

Similarly to women's group, men with spinal pain syndrome scored significantly higher on Spielberger's STAI questionnaire scales than did men from the control group. The difference between the two groups of men is high for both state and trait anxiety (Es>0.80) (Table 7).

TABLE 5. A comparison of the severity of state and trait anxiety in women with spinal pain syndrome and healthy female controls.

STAI scales	Clinical group		Control Group		t	p	Es
	M	SD	M	SD			
State anxiety	47.70	4.91	40.95	9.95	2.77	0.01	0.86
Trait anxiety	49.09	3.87	43.21	10.11	2.43	0.02	0.77

TABLE 6. A comparison of the severity of state and trait anxiety in men with spinal pain syndrome and healthy male controls.

STAI scales	Clinical group		Control Group		t	p	Es
	M	SD	M	SD			
State anxiety	48.44	5.84	34.50	6.79	7.87	0.001	2.20
Trait anxiety	48.84	5.17	36.45	6.31	7.72	0.001	2.15

TABLE 7. A comparison of the severity of depression in women and men with spinal pain syndrome.

Variables	Men		Women		t	p
	M	SD	M	SD		
State anxiety	48.44	5.84	47.70	4.91	0.55	n.s.
Trait anxiety	48.84	5.17	49.09	3.87	-0.22	n.s.
Beck general score	17.44	8.95	13.79	7.89	1.28	n.s.

TABLE 8. A comparison of the severity of depression and anxiety in patients with spinal pain syndrome coming from urban and rural communities.

Variables	Urban		Rural		t	p
	M	SD	M	SD		
State anxiety	48.00	4.66	47.86	5.60	0.11	n.s.
Trait anxiety	48.18	4.27	50.07	4.87	-1.63	n.s.
Beck general score	15.31	8.11	14.44	7.81	0.311	n.s.

TABLE 9. A comparison of the severity of depression and anxiety in professionally active vs professionally inactive patients with spinal pain syndrome.

Variables	Professionally active		Professionally inactive employed		t	p
	M	SD	M	SD		
State anxiety	47.71	4.15	49.21	6.08	-1.09	n.s.
Trait anxiety	48.57	3.98	49.59	4.91	-0.86	n.s.
Beck general score	15.31	8.49	17.91	9.57	-0.74	n.s.

There were no statistically significant differences in the severity of symptoms of anxiety and depression between men and women with low back pain syndromes.

Next, a comparison was made of the severity of symptoms of depression and anxiety between patients living in the city and those inhabiting rural areas (Table 8).

Patients with lumbosacral spine pain living in urban areas did not differ significantly in the severity of symptoms of depression and anxiety from those living in rural areas.

As the last stage of the study, the intensity of depression and anxiety was compared in professionally active vs. professionally inactive patients (Table 9).

Professionally active patients with spinal pain syndrome did not differ significantly in the severity of depression and anxiety symptoms from professionally inactive patients.

DISCUSSION

The results of the statistical analyses carried out in this study indicate that persons with chronic low back pain syndrome are characterized by significantly higher levels of depression and anxiety than healthy individuals. Depressive symptoms, measured using the Beck Depression Inventory, were present in 78% of the patients.

Our findings closely correspond to those of other researchers of the subject [10-14], who pay attention to the presence of depressive symptoms measured by the Beck Depression Inventory in about half of patients with chronic lower back pain syndrome [10-14]. Topolski [10], in a study of 101 patients with low back pain syndrome lasting more than three months, found symptoms of depression in 60% of these individuals. Kułak and Kondzior [11] emphasize that depression occurs in about 44% of patients with degenerative disc disease and, according to Ćwirlej et al. [12], symptoms of depression occur in about 54% of patients undergoing rehabilitation for chronic low back pain. Results of a study by Lenart-Domka et al. [13] performed on a group of 175 patients with lumbosacral spine pain syndrome showed the occurrence of depressive symptoms in 47% of patients. Jabłońska and Snicow [14], based on a study of 188 patients qualified for operative treatment of spinal disc herniation, found depressive symptoms in about 48% of patients in the preoperative period and in 25% in the early postoperative period. Similar results were obtained by Roch-Radziszewski [15], who emphasizes that the rate of depression in spinal disc herniation patients measured using Zung's Self-Rating Depression Scale (S-RDS) was significantly higher before the neurosurgical operation than 2–3 years after the surgery, with the rate of depression being lower in the operated patients than in those treated conservatively.

Turkiewicz-Maligranda and Rymaszewska [16] reported, on the basis of HADS (Hospitality Anxiety and Depression Scale) scores obtained from 97 patients with herniation of the lumbosacral region, that depressive symptoms occurred in 23% of their patients and elevated anxiety symptoms in 61% .

Jodzio et al. [17] found a statistically significantly higher level of depression in patients with low back pain syndrome compared to a healthy group. These authors [17] also pointed out the existence of a significant relationship between depression and severe trait anxiety. Our results are consistent with the results obtained by Jodzio et al. [17] as they demonstrate significantly higher levels of depression and trait anxiety in patients with lumbosacral herniation compared to healthy subjects. In our study, patients additionally scored significantly higher, compared to the control group, on the STAI Trait anxiety scale.

It should be noted that the differences in the severity of symptoms of depression, trait anxiety and state anxiety between men with lumbosacral herniation and healthy men were larger than between female patients and healthy women, as evidenced by the standardized effect size Es. These results suggest that men touched by low back pain syndrome, which limits their mobility, their careers, and fulfilment of social roles, react with more severe symptoms of depression and anxiety than women suffering from the same disease. This can be explained both by the fact that men usually perform harder physical work, and, therefore, the disease has a more limiting impact on their careers to the point of making them unfit for professional life, as well as by the image of man espoused in our culture.

It should be noted that gender, place of residence and professional activity does not significantly differentiate patients with chronic lumbosacral spine pain syndromes. These results are contrary to those obtained by Turkiewicz-Maligranda and Rymaszewska [16], who report that women with these symptoms were characterized by significantly higher levels of both anxiety and depression than men.

To recapitulate the results analyzed in the present work and available literature data, it can be said that there is little research on psychosocial functioning and mental disorders in people with spinal pain syndrome. At the same time, some authors [6,12] emphasize that diseases of the spine represent an important and most frequently reported health problem, which results in limited physical, occupational and social functioning.

The results obtained in the present study provided the basis for formulating the following conclusions:

CONCLUSIONS

1. Patients with chronic low back pain are characterized by significantly higher levels of state and trait anxiety than healthy individuals.
2. Patients suffering from low back pain have significantly higher levels of depression than healthy individuals.
3. The differences in the severity of symptoms of depression, state anxiety and trait anxiety between men with low back pain and healthy men are larger than those between female patients and controls.

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