

Quality of Life of Patients with Back Pain

Jakość życia pacjentów z dolegliwościami bólowymi kręgosłupa

Bianka Misiak¹, Katarzyna Krystyna Snarska²

¹School of Medicine in Białystok, Poland

²Medical University of Białystok, Poland

Abstract

Introduction. Spinal pains regard people of different age and professions, being also a difficult problem which generates limitations in the professional, social and family spheres and it results in the deterioration of the quality of life.

Aim. Determination of the quality of life of patients with the degenerative disease of the spine before surgery by the assessment of the intensity of pain and mood.

Material and Methods. The research covered 90 patients with the osteoarthritis of the spine diagnosed, before surgery, hospitalized in the Department of Neurosurgery at USK in Białystok. The research was carried out based on our questionnaire prepared for the need of work as well as on standardized research tools and the BMI indicator.

Results. The research covered 40 (44.4%) women and 50 (55.6%) men at the average age of 48.5±12.3 years (18–78 years). The average value of the body weight index (BMI) was 26.8±4.6 kg/m² (16.3–38 kg/m²). Back pain mostly concerned lumbar (58;64.4%) and cervical (39;43.3%) sections. The average degree of pain according to the VAS descriptive scale was 57.8±23.3%. The strongest pain was felt by those whose illness affected absence from work and who indicated decrease of the quality of life. Depressive disorders occurred in 37 (41.11%) patients and were of mild and moderately severe nature. Average severity of pain in patients without depression was 52.83±20.86%, whereas in those with depression 64.86±25.12% (p=0.015). There was no evidence of the effect of the disease and the coexistence of depression on the performance of professional duties, quality of life, presence at work or limited contact with others. However, persons with depression significantly more often assessed their current health status as poor (p=0.011).

Conclusions.

1. Back pain often included one or two sections of the spine and the degree of pain perceived generated deterioration in the quality of life caused by an increase in absence from work, severity of depression, limited social interaction, and difficulties in carrying out physiological functions.
2. Depressive disorders more often occurred in patients with changes in the cervical and lumbar sections of the spine, in residents of large cities, married, retired and non-smokers, exposed however to stress. These people often underwent diagnostic tests, the number of hospitalizations increased and their duration was extended. (JNNN 2014; 3(3):107–115)

Key Words: back pain, quality of life, depression

Streszczenie

Wstęp. Bóle kręgosłupa dotyczą ludzi w różnym wieku i z różnych środowisk pracowniczych, są też trudnym problemem powodującym ograniczenia w życiu zawodowym, społecznym i rodzinnym, powodując obniżenie jakości życia.

Cel. Określenie jakości życia u chorych z chorobą zwyrodnieniową kręgosłupa przed zabiegiem operacyjnym, poprzez ocenę nasilenia dolegliwości bólowych i nastroju.

Materiał i metody. Badaniem objęto 90. pacjentów z rozpoznaną chorobą zwyrodnieniową kręgosłupa, przed zabiegiem operacyjnym, hospitalizowanych w Klinice Neurochirurgii USK w Białymstoku. Badania przeprowadzono w oparciu o kwestionariusz konstrukcji własnej sporządzony dla potrzeb pracy oraz standaryzowane narzędzia badawcze i wskaźnik BMI.

Wyniki. Badaniem objęto 40 (44,4%) kobiet i 50 (55,6%) mężczyzn w średnim wieku $48,5 \pm 12,3$ lat (18–78 lat). Średnia wartość wskaźnika masy ciała (BMI) wynosiła $26,8 \pm 4,6$ kg/m² (16,3–38 kg/m²). Dolegliwości bólowe kręgosłupa dotyczyły najczęściej odcinka lędźwiowego (58;64,4%) i szyjnego (39;43,3%). Stopień odczuwania dolegliwości bólowych według opisowej skali VAS wynosił średnio $57,8 \pm 23,3\%$. Najsilniejsze dolegliwości bólowe odczuwały osoby, wśród których choroba bardzo wpłynęła na absencję w pracy i wskazujące na obniżenie jakości życia. Zaburzenia depresyjne występowały u 37 (41,11%) badanych, i miały charakter łagodny i umiarkowanie ciężki. Średnie nasilenie dolegliwości bólowych u osób bez depresji wynosiło $52,83 \pm 20,86\%$, a z depresją $64,86 \pm 25,12\%$ ($p=0,015$). Nie wykazano wpływu choroby i współistnienia depresji na wykonywanie obowiązków zawodowych, jakość życia, obecność w pracy czy ograniczenie kontaktu z innymi. Jednakże osoby z depresją istotnie częściej oceniały aktualny stan zdrowia jako zły ($p=0,011$).

Wnioski.

1. Dolegliwości bólowe kręgosłupa częściej obejmowały jeden lub dwa odcinki kręgosłupa, a stopień odczuwanego bólu powodował pogorszenie jakości życia poprzez wzrost nieobecności w pracy, nasilenie zaburzeń depresyjnych, ograniczenie kontaktów społecznych oraz trudności w wykonywaniu czynności fizjologicznych.
2. Zaburzenia depresyjne częściej występowały u osób ze zmianami w odcinku szyjnym i lędźwiowym kręgosłupa, mieszkańców dużych miast, żonatych, przebywających na rencie i nie palących papierosów a narażonych na stres. Osoby te miały częściej wykonywane badania diagnostyczne, zwiększała się także ilość hospitalizacji oraz wydłużał się jej czas. (PNN 2014;3(3):107–115)

Słowa kluczowe: dolegliwości bólowe kręgosłupa, jakość życia, depresja

Introduction

Back pain is a huge civilization and social problem due to its frequent occurrence. It can affect people of various age and professions [1]. It is a very troublesome and difficult problem affecting an increasing number of societies. Back pain is one of the most common reasons for visiting the general practitioner [2].

Back pain may grow gradually, the pain then is dull, diffuse, intensified after sitting or standing, and after movements of the trunk, particularly when bending the trunk and it disappears after lying or may be felt only in one or several sections of the spine. Discomfort can radiate to distant parts, eg. limbs. The pain which lasts longer than three months despite healing of tissues or is related to a long-term disease process is defined as chronic pain [1].

In other cases back pain appears suddenly and may be related to an injury or to weight lifting. In such a case the pain is strong, there is a reflex spasm of muscles and immobilization of the torso in lordoskoliosis. Every, even the slightest movement of the trunk generates severity of pain. Acute pain usually disappears quite rapidly under the influence of lying, but less severe pain persists for the period of 2–3 weeks [1,3].

Regardless of the manner of treatment (conservative, surgical) the damage to the annulus fibrosus of the intervertebral disc is never completely healed. Relief of acute pain means only an interim improvement with the possibility of more or less painful relapses. Sometimes spontaneous cure may take place after a few years, due to the formation of a fibrous union of vertebrae [2,4]. Therefore, all daily activities must be subject to relevant modifications and the physical activity may be carried out only in the state of slight discomfort or pain.

Back pain negatively affects the quality of life, limits mobility, social and professional efficiency which very often has impact on the psyche of people suffering from them triggering anxiety, depression, anger or a sense of losing control in life situations [2,4]. Interdependence between pain and the mental state of the patient seems to act two-way. Pain affects the mental state and leads to emotional disorders, symptoms of frustration, tendency to abuse alcohol as well as the occurrence of anxiety-depressive syndrome. At the same time the mental state of patients largely determines the intensity of the pain perceived which often leads to the formation of the vicious circle difficult to break [4,5].

The aim of the study was the:

1. Assessment of the severity of pain and mood in patients with osteoarthritis of the spine before surgery.
2. Determination of the quality of life in patients with degenerative disease of the spine before surgery.

Material and Methods

The research included 90 patients diagnosed with a degenerative disease of the spine, before surgery, hospitalized in the Department of Neurosurgery at USK in Białystok. The research was carried out based on the questionnaire used in the study, prepared for the work and on standardized research tools:

- Visual Analogue Scale of Pain VAS (Visual Analogue Scale) — the patient assesses quantitatively activity of the disease or general health. On a straight horizontal line with a length of 100 mm the patient marks by means of the vertical line the pain

sition which according to the patient corresponds to the degree of severity of the disease, pain. The result is obtained by measuring (in millimeters) the distance from the beginning of the scale to the point marked by the patient, getting values from 0 to 100 — from no pain to pain strongest and unimaginable.

— Dr. Beck’s questionnaire, evaluating the patient’s mood in the last few days before the test.

The BMI index (Body Massey Index), where the BMI value <18.5 defines underweight, 18.5–24.99 — the correct value, ≥25.0 — overweight.

Statistical analysis was performed with the use of Microsoft Office Excel and test of independence Chi². P<0.05 value was adopted as the level of significance.

Results

The study included 40 (44.4%) women and 50 (55.6%) men with a mean age of 48.5±12.3 years (18–78 years).

The patients were mostly (42;46.7%) residents of cities over one hundred thousand citizens. 29 patients (32.2%) lived in cities with the population below one hundred thousand, 16 persons (17.8%) lived in the country, whereas 3 (3.3%) patients did not provide their place of living. Marital status of the respondents varied. The highest percentage included respondents who were married (64;71.1%). 26 patients (28.9%) were not married. 32 respondents (35.6%) had secondary education, 25 (27.8%) vocational education, 22 persons (24.4%) had higher education and 11 respondents (12.2%) basic one.

The average body weight of the respondents was 79.0±14.8 kg (46–130 kg), whereas the average height was 171.6±9.5 cm (154–196 cm). The average value of the Body Massey Index (BMI) amounted for 26.8±4.6 kg/m² (16,3–38 kg/m²).

The patients felt pain in various sections of the spine. Most frequently they concerned the lumbar (58;64.4%) and cervical sections (39;43.3%). Table 1.

Table 1. Occurrence of pain including the spine section

Spine section		N	%	Total N/%
Cervical	no	51	56.7	90 (100%)
	yes	39	43.3	
Thoracic	no	73	81.1	90 (100%)
	yes	17	18.9	
Lumbar	no	32	35.6	90 (100%)
	yes	58	64.4	
Sacral	no	58	64.4	90 (100%)
	yes	32	35.6	

The disease most commonly affected one (53;58.9%) or two (23;25.6%) sections of the spine. Less frequently the disease regarded three (9;10.0%) or four (5;5.6%) sections of the spine.

The degree of pain perception according to the VAS descriptive scale was assessed by the patients on average as 57.8±23.3%.

The effect of the severity of pain on social functioning

Assessing currently occurring pain severity and its frequency most patients said that it definitely occurred and evaluated its severity at the average of 63.60 ±21.292%, and that they rather occur, assessing the severity of symptoms at the average of 47.62±24.322%, p=0.017. The percentage of patients not convinced at the assessment of the currently occurring pain, felt it at the average of 47.92±23.4% (NS).

The patients assessing their health as very good and good, felt pain at 38.06±19.48%, whereas those considering their condition as neither good nor bad felt the pain at the average of 52.43±23.589% (p=0.028). It has been proved that there is statistical significance between the intensity of pain in patients describing their health condition as very good and good (38.06±9.48%) and the sensation of pain in those describing their health condition as poor and very poor (73.57±12.401%) (p=0.001). Also, it has been proved that there is statistical significance between the intensity of pain in patients with their health condition defined neither as good nor bad (52.43±23.589%) and pain in those whose condition was bad or very bad (73.57±12.401%) (p=0.001). Table 2.

Table 2. Current occurrence of pain and self-assessment of the health condition

Is pain occurring currently?	N	M	SD	p
Definitely occurring	57	63.60	21.292	0.017
Rather occurring	21	47.62	24.322	
Hard to say	12	47.92	23.400	
Total	90	57.78	23.345	

Assessment of the current health condition	N	M	SD	p
Very good and good	18	38.06	19.489	1–2 0.028
Neither good nor bad	37	52.43	23.589	1–3 0.001
Bad and very bad	35	73.57	12.401	2–3 0.001
Total	90	57.78	23.345	

There has been stated no correlation between pain and education of the respondents. It has been proved however, that there is a correlation between education

and the intensity of pain, where the higher education the weaker pain felt $r=-0.238$, $p=0.027$. Table 3.

Table 3. Correlation between pain and education of the respondents

Education	N	M	SD	min	max	p
Basic	11	67.73	20.416	20	90	ns
Vocational	25	61.20	22.045	0	100	
Secondary	32	55.31	25.207	0	100	
Higher	22	52.50	22.665	20	100	
Total	90	57.78	23.345	0	100	

The strongest pain was felt by those respondents whose absence from work was significantly affected by the disease (63.14±24.52%). The lowest degree of pain intensity, 48.95±20.77% on average, occurred in patients in the case of whom, the disease had no effect on their absence from work. Whereas in the case of the patients whose absence from work was slightly affected by the disease pain was felt in 55.54±21.66%. No significance between the intensity of pain and absence from work has been proved.

The strongest pain, 59.54±23.212% on average, was felt by the respondents who indicated lowering of the quality of life. Whereas the patients who did not indicate lowering of the quality of life felt pain in 48.13±22.351% on average. No significance between pain and the quality of life of the patients in their self-assessment has been indicated. Table 4.

Table 4. The effect of pain on the quality of life

Effect of disease on lowering the quality of life	N	M	SD	p
No response	6	48.33	24.833	ns
Yes	76	59.54	23.212	
No	8	48.13	22.351	
Total	90	57.78	23.345	

Average intensity of pain in the patients who claim that the disease limited their contact with other people was 60.0±34.641%, whereas in the case of those, whom the disease did not limit their contact with others it was 57.70±23.150% (NS).

The patients who had to follow doctors' instructions felt pain in a similar range as the patients who did not have to follow such instructions (57.86±18.884% vs. 57.76±24.185% NS).

With the patients both feeling and not feeling discomfort from the spine, the pain intensity was respectively 57.80±23.558% vs. 57.50±22.520% on average (NS).

The average pain intensity in patients having limitations in the performance of their physiological needs was 77.50±10.60%, and in the case of those without such limitations it was 57.33±23.390% (NS). Table 5.

Table 5. Correlation between pain and limitations in the performance of physiological needs

Limitation in the performance of physiological needs	N	M	SD	p
No	88	57.33	23.390	ns
Yes	2	77.50	10.607	
Total	90	57.78	23.345	

The average pain intensity in the patients, who according to their self-assessment have knowledge regarding degenerative disease of the spine, was 57.21±23.835%, and in the case of those without such knowledge it was 61.15±20.732% (NS).

Occurrence of depression and selected demographic data of respondents, diagnosis and risk factors for degenerative disease of the spine

Depressive disorders occurred in 37 (41.11%) respondents, and were of mild and moderately severe nature. Depression occurred in 21 (56.8%) women and 16 (43.2%) men with degenerative disease of the spine. It has been stated that depression statistically more rarely occurs in men $p=0.004$. Table 6.

Table 6. The occurrence of depression among patients with degenerative disease of the spine, including gender

		Gender		Total	
		woman	man		
Depression	Absence of depression	N	19	34	53
		%	35.8	64.2	100.0
Depression	Mild and moderately severe	N	21	16	37
		%	56.8	43.2	100.0
Total		N	40	50	90
		%	44.4	55.6	100.0

Depressive disorders occurred in the case of 18 (48.6%) persons suffering from degenerative disease of the spine in the cervical section, 9 (24.6%) with changes in the thoracic section, 22 (59.5%) with pain in the lumbar section, 13 (35.1%) patients with changes in the sacral section of the spine (NS).

The average age of the patients with degenerative disease of the spine and without depression was 47.83 ±13.33 years, and with depression 49.43±10.90 years

(NS). The average BMI index with degenerative disease of the spine and without depression was 26.47 ± 4.37 kg/m² whereas with depression it was 27.32 ± 4.88 kg/m² (NS).

No correlation between the occurrence of depression, the period of duration of the degenerative spine disease and the period of pain intensity has been proved. The average treatment period of the degenerative disease of the spine in the case of the patients without was 2.72 ± 0.50 months, and with depression 2.89 ± 0.31 months ($p=0.044$). The average number of hospital stays during the conservative treatment of back pain in patients without depression was 0.68 ± 1.16 , and with depression 1.27 ± 1.61 ($p=0.046$). The average number of operations due to hernia of the nucleus pulposus in patients without depression was 0.23 ± 0.42 , whereas in those with depression of 0.73 ± 1.04 ($p=0.008$). The average intensity of pain in patients without depression was, $52.83 \pm 20.86\%$, and with depression it was $64.86 \pm 25.12\%$ ($p=0.015$). Table 7.

Depressive disorders occurred in 18 (48.6%) residents of cities with the population exceeding 100 thousand, 14 (37.8%) residents of cities with the population below 10 thousand and 5 (13.5%) patients living in the country (NS).

In the group of 27 (73.0%) married persons there has been stated the occurrence of depressive disorders and 4 (10.8%) singles, 4 (10.8%) divorced and 2 persons being widows or widowers (5.4%) (NS).

With patients with basic education depression was diagnosed in 8 (21.6%) cases, in 11 (29.7%) with vocational education, in 12 (32.4%) with secondary education and in 6 (16.2%) with higher education (NS).

Depressive disorders occurred in 6 (16.2%) persons professionally active, 24 (64.9%) persons being on pension, 4 (10.8%) retired and 3 (8.1%) unemployed (NS).

Depressive disorders occurred in 19 (51.4%) persons — non-smokers and in 18 (48.6%) smokers.

Table 7. The prevalence of depression and selected features

Depression		Age (years)	BMI (kg/m ²)	Prevalence of disease (years)	Period of curing degenerative disease of the spine (months)	Period of pain intensity (months)	Number of stays in hospital in the course of conservative treatment	Number of surgeries due to hmp	Intensity of pain (%)
Absence of depression	N	53	53	15	53	13	53	53	53
	M	47.83	26.47	23.07	2.72	36.95	0.68	0.23	52.83
	SD	13.33	4.37	10.63	0.50	58.80	1.16	0.42	20.86
	min	18	18.8	17	1	15	0	0	20
	max	78	36.3	55	3	204	5	1	100
Mild and moderately severe	N	37	36	14	37	7	37	37	37
	M	49.43	27.32	28.71	2.89	49.89	1.27	0.73	64.86
	SD	10.90	4.88	12.82	0.31	50.58	1.61	1.04	25.12
	min	29	16.3	17	2		0	0	0
	max	68	38.0	58	3	120	6	3	100
p		ns	ns	ns	0.044	ns	0.046	0.008	0.015

Table 8. Prevalence of depression with patients suffering from degenerative disease of the spine and surgeries carried out due to hernia of the nucleus pulposus of the spine

Depression		N	Surgeries carried out due to hernia of the nucleus pulposus		Total
			no	yes	
Absence of depression	N	41	12	53	
	%	77.4	22.6	100.0	
Mild and moderately severe	N	21	16	37	
	%	56.8	43.2	100.0	
Total	N	62	28	90	
	%	68.9	31.1	100.0	

Depression occurred in 21 (56.8%) persons who had not been operated on due to hernia of the nucleus pulposus and in 16 (43.2%) patients who had undergone such surgery. It was stated in the interview that depression occurred significantly more often ($p=0.033$) with persons who had been operated on due to hernia of the nucleus pulposus. Table 8.

Depression occurred with 33 (89.2%) patients who did not suffer from spine injury and in 4 (10.8%) who suffered from it. It has been

proved that the people without depression significantly more often indicate that spine injuries generate the emergence of hernia of the nucleus pulposus ($p=0.016$).

In the group of 27 (73.0%) persons without obesity and of 10 (27.0%) with obesity there occurred depressive disorders. Table 9.

Table 9. Occurrence of depression in patients with degenerative disease of the spine and the co-existence of obesity

		Obesity		Total
		no	yes	
Depression	Absence of depression	N 32	21	53
		% 60.4	39.6	100.0
Depression	Mild and moderately severe	N 27	10	37
		% 73.0	27.0	100.0
Total		N 59	31	90
		% 65.6	34.4	100.0

Depression occurred in 29 (78.4%) persons not exposed and 8 (21.6%) exposed to stressful situations. It has been stated that the persons with depression significantly more often identify stress as a factor affecting the occurrence of hernia of the nucleus pulposus of the spine ($p=0.026$).

In the case of patients with depressive disorders, 24 persons had their spine the x-rayed (64,9%), and 13 (35.1%) did not (NS). Depression occurred in the case of 26 (70.3%) persons not diagnosed and in 11 (29.7%) diagnosed by means of computed tomography (NS). Depressive disorders occurred with 4 (10.8%) persons not diagnosed and with 33 (89.2%) diagnosed by means of magnetic resonance imaging (NS).

Prevalence of depression and social functioning

Depression occurred in 35 (94.6%) persons claiming that the disease does not impede the performance of professional duties and in 2 (5.4%) persons of the opinion that there are difficulties resulting from the disease (NS). Depression occurred with 3 (8.1%) persons claiming that the disease did not affect quality of their lives, 32 (86.5%) respondents claiming that the disease affected quality of their lives, and 2 (5.4%) persons not convinced in the matter whether or not the disease affected the quality of life (NS). Depressive disorders occurred also in 22 (59.5%) persons claiming that the disease had a significant impact on their absence from work, 9 (24.3%) in the case of whom the disease had a minor effect on their absence from work, and 6 (16.2%) who could see no impact of the disease on their absence from work (NS).

Depression occurred with 35 (94.6%) persons not identifying any effect of the disease on the limitation of contact with others and in 2 (5.4%) persons recognising such limitation resulting from the disease (NS). Depression occurred in 7 (18.9%) persons claiming that the disease generated the necessity to follow doctor's instructions and in 30 (81.1%) not considering such a necessity as necessary (NS). Depression occurred in 27 (73.0%) respondents claiming that pain absolutely occurs and 10 (27.0%) persons that pain 'rather occurs' (NS). It has been stated that people with depression significantly more often assessed their health condition as bad ($p=0.011$). Table 10.

Table 10. Prevalence of depression with the patient with degenerative disease of the spine and the current assessment of health condition

		Current assessment of health condition			Total
		Good	Neither good nor bad	Bad	
Depression	Absence of depression	N 14	25	14	53
		% 26.4	47.2	26.4	100.0
Depression	Mild and moderately severe	N 4	12	21	37
		% 10.8	32.4	56.8	100.0
Total		N 18	37	35	90
		% 20.0	41.1	38.9	100.0

It has been stated that the patients without depression significantly more often used the internet as a source of knowledge on the prevention of disease relapse than those with depression (34;64.2% vs. 15;40.5%) ($p=0.023$). However, there has not been indicated significance between the occurrence of depression and the use of the radio and/or television as a source of knowledge regarding the disease.

Discussion

Back pain is currently a very troublesome and difficult problem affecting an increasing number of communities of different age. It can be felt in one or several sections of the spine as well as radiate to distant parts such as limbs, for example [6]. It has been proved in our research that pain most often was located in the cervical (43.3%) and lumbar (64.4%) sections of the spine. Also, the number of sections covered by the disease process differed from 1 (58.9%) to 4 (5.6%). Greenough obtained different results where over 60% of respondents felt pain in the sacral section of the spine [7]. Freburger claims however,

[8] that pain in the lower section of the spine occurred in 80% of the respondents examined by her.

The correlation of obesity and back pain is often the subject of various scientific works. Jabłońska and partners [9] as well as Nowak and partners [10] draw attention to the negative effect of obesity on the occurrence of pain in the lumbar section of the spine. Obesity causing excessive lordosis of the lumbar section, and therefore faster wear of the lumbar spine was an important factor generating the occurrence of hernia of the nucleus pulposus at the level L4/L5 and L5/S1 [45]. Radziszewski [11] in turn, has stated that so far there is no unambiguous opinion explaining the correlation between obesity and back pain. However, there is agreement among various authors regarding the opinion that obesity occurs mainly in people with low physical activity which eventually causes weakening of muscle strength and improper functioning of the spine. The average BMI index with the examined patients was $26.8 \pm 4.6 \text{ kg/m}^2$ (16.3–38.0 kg/m^2) which indicates overweight. Persons with mild or moderately severe depression had higher BMI index than those not suffering from depression (26.46 ± 4.37 vs. $27.32 \pm 4.88 \text{ kg/m}^2$).

The spine is a very sophisticated structure enabling the man to maintain the upright position but each construction of this type has limited mechanical strength. An improperly performed attempt to lift too heavy weight, sudden movement or strike may contribute to its damage. Also, a small but long-lasting adverse load of the spine can result in “fatigue” and pain [12]. In the research carried out by Czaja and partners [13] most respondents defined their pain as medium -82%, or very strong -15%. The average of the felt pain was 6.5 ± 1.3 . Our research showed that the average intensity of pain in the respondents was $57.8 \pm 23.3\%$ according to the descriptive scale of pain (VAS). There has been also indicated the significance between pain intensity in patients with health condition determined neither as good nor bad and pain in people with health condition defined as bad and very bad ($p=0.001$).

The first clinical symptoms of spinal pain syndromes, according to many authors, are often of interim nature [1,9]. The disease proceeds with periods of exacerbation and remission, and pain is of overload nature and affects muscles, ligaments and intervertebral joints. Pain and the associated deterioration of functional capacity is the predominant symptom which may have an impact on the deterioration of the quality of life of patients. Research by Klimaszewska and partners showed that pain in the lumbosacral area was the most frequent one of clinical symptoms. Regardless of their work performed, patients also often feel pain. Most (45.51%) patients can function independently but this generates additional pain [12]. Opara [14] and Radziszewski [15] claim that the occurrence and intensity of pain are closely related to

each phase of motor activity of our body — movement, exercise, posture. In our research vast majority of patients (53.3%) were on pension or retired (22.2%).

According to Klimaszewska and partners [12] as well as to Ostrzyżek [16] pain syndromes in the lumbar-sacral section mostly affect men. Similar results were obtained in the U.S. National Health Survey in New Haven, who found that men felt pain slightly more often than women did [17]. That was confirmed by our studies where 55.5% were men.

The manner of dealing with back pain depends on the reason diagnosed as well as on its nature. In most cases treatment is based on drug treatment and rehabilitation as well as education of the patient regarding risk factors of back pain. However, in order to commence appropriate treatment diagnostics is performed. One of the most frequently mentioned diagnostic methods of the degenerative disease of the spine is computed tomography and/or magnetic resonance imaging [2,5]. Our research show that magnetic resonance imaging (86.7%) or spine x-ray (55.6%) were the most commonly used tests in diagnosing the disease.

Similarly to other neurological chronic diseases it affects in greater or lesser extent the quality of life, depending on the frequency of recurrence as well as on severity of symptoms [9]. Due to the fact that the disease mainly affects people professionally active, it is very often a reason for absence from work which quite frequently results in the loss of the job, the necessity to retrain the employee, and quite often to the deterioration of the economic status. Recurrence of pain often impairs the performance of social roles and, consequently, can lead to depressive disorders [18]. In our research depressive disorders took place in 37 (41.11%) patients, and age of the patients suffering from depression was higher (49.43 ± 47.83 vs. 47.83 ± 13.33 years). Also, the patients with depression were significantly more often hospitalized and the period of hospitalization was extended.

It arises from the results of research on the quality of life measured by Roland and Morris Scale that nearly a half of respondents (45%) assess the loss of quality of life as an average, slightly fewer people indicates a large loss of quality of life -37.5%. The analysis of the correlation between the degree of pain and the quality of life of the respondents showed that the stronger the pain, the lower the quality of life. Also, the quality of life is reduced with the increase of disability. The research carried out by Czaja has proved that pain has the largest effect on the quality of life and so does, to a smaller extend, the degree of disability. Socio-demographic data such as gender, age, education, nature of work, place of residence do not significantly affect the quality of life [13].

Back pain syndromes cause limitation in the professional, social and family life and therefore, the quality of life of those suffering from them is subject to considerable deterioration. Not only does the disease contribute to the fact that the performance of daily activities becomes more difficult, but it also reduces the ability to function in both social and economic spheres of life [12]. Pain not only generates suffering and makes one reduce one's life activity, it also lowers one's self-assessment and self-esteem. It has been proved in our research that the disease affects the quality of life, particularly in the case of patients with mild or moderately severe depression (86.5%), contributed to frequent absence from work (47.7%), however it had no effect on limiting contact with other people (96.7%).

The role of the educator in the field of healthy lifestyle should be performed by the nurse. Educational actions should assist the patient in conscious participation in the process of treatment and rehabilitation as well as prepare the patient to self-care and to taking responsibility for his or her own health [6,17]. However, our studies show that it was the internet which was the most common source of knowledge regarding the disease.

Conclusions

1. Back pain more often covered one or two sections of the spine, mainly lumbar and cervical, and it affected women.
2. The degree of pain decreased with the increase of respondents' education, whereas its intensity resulted in the increase of absence from work, limitation of social contact as well as difficulties in the performance of physiological needs.
3. Pain was more strongly felt by patients with depression, who more often assessed their health condition as poor.
4. Depressive disorders more often affected people with changes in lumbar and cervical section of the spine, residents of big cities, married, being on pension, non-smokers, exposed however, to stress. The patients with depressive disorders more frequently had diagnostic examinations performed, the quantity of hospitalization increased and its duration was extended.
5. The respondents more often indicated that back pain had resulted in the deterioration of the quality of life, affected their absence from work, however it had no effect on the necessity of following doctor's instructions.

Implications for Nursing Practice

Back pain considerably limits the possibility of functioning in various spheres, contributing to the deterioration of the quality of life. Therefore, the nurse should recognize patient's needs not only in the biological sphere but also in psychological one and ought to be able to connect their mutual effect in order to apply appropriate pharmacological, physiotherapeutic or educational-psychological measures for the purpose of improving patient's quality of life.

References

- [1] Dziak A. *Bóle krzyża*. PZWL, Warszawa 1994.
- [2] Drozdowska-Kubań Z., Żarski S. Twój, mój, nasz kręgosłup. *Res Publica Press*, Warszawa 1993.
- [3] Krawczak M. Dobowy system ochrony kręgosłupa. *Wychowanie Fizyczne i Zdrowotne*. 2003;11:11–16.
- [4] Kempf H. *Szkola Pleców*. SIC!, Warszawa 1994.
- [5] Dziak A. Leczenie bólów krzyża. *Rehabilitacja Medyczna*. 2006;6(1):26–43.
- [6] Ślusarz R. *Wybrane standardy i procedury w pielęgniarstwie neurochirurgicznym*. Naczelna Izba Pielęgniarek i Położnych, Warszawa 2007.
- [7] Greenough C.G., Fraser R.D. Assessment of outcome in patients with low-back pain. *Spine*. 1992;17:36–41.
- [8] Freburger J.K. et al. The Rising Prevalence of Chronic Low Back Pain. *Arch Intern Med*. 2009;169:251.
- [9] Jabłońska R., Ślusarz R., Królikowska A., Beuth W., Ciemnoczołowski W. Uwarunkowania wydolności funkcjonalnej chorych we wczesnym okresie pooperacyjnym leczenia dyskopatii lędźwiowo-krzyżowej. *Pielęgniarstwo Chirurgiczne i Angiologiczne*. 2008;4:144–150.
- [10] Nowak E., Nowak P., Zawadzka B. i wsp. Jakość życia chorych neurologicznie. *Studia Medyczne Akademii Świętokrzyskiej*. Kielce 2003;1:95–99.
- [11] Radziszewski K. Porównawcza retrospektywna analiza dolegliwości bólowych u chorych na dyskopatię lędźwiową leczonych zachowawczo bądź operacyjnie. *Polski Merkurusz Lekarski*. 2006;124:335–340.
- [12] Klimaszewska K., Krajewska-Kulak E., Kondzior D. i wsp. Jakość życia pacjentów z zespołami bólowymi odcinka lędźwiowego kręgosłupa. *Problemy Pielęgniarstwa*. 2011;19:47–54.
- [13] Czaja E., Kózka M., Burda A. Jakość życia pacjentów z dyskopatią odcinka lędźwiowo-krzyżowego kręgosłupa. *Pielęgniarstwo Neurologiczne i Neurochirurgiczne*. 2012; 3:92–96.
- [14] Opara J., Szary S. Systemy klasyfikacyjne i jakość życia w bólach krzyża. *Ortopedia Traumatologia Rehabilitacja*. 2004;6:373–381.
- [15] Radziszewski K. Stan funkcjonalny pacjentów z dyskopatią kręgosłupa lędźwiowego leczonych wyłącznie zachowawczo bądź operacyjnie. *Wiadomości Lekarskie*. 2008;6:23–29.
- [16] Ostrzyżek A. Jakość życia w chorobach przewlekłych. *Problemy Higieny i Epidemiologii*. 2008;89:467–470.

- [17] Hopman W.M., Towheed T., Anastassiades T. et al. Canadian Multicentre Osteoporosis Study Research Group. *CMAJ* 2000;163:265–271.
- [18] Radziszewski K. Analiza objawów depresyjnych u pacjentów z dyskopatią lędźwiową leczonych zachowawczo bądź operowanych. *Postępy Psychiatrii i Neurologii*. 2006; 15:77–81.

Corresponding Author:

Bianka Misiak
Wyższa Szkoła Medyczna w Białymstoku
ul. Krakowska 9, 15-875 Białystok, Poland
e-mail: emka33@o2.pl

Conflict of Interest: None

Funding: None

Author Contributions: Bianka Misiak^{A, B, E, F, H}, Katarzyna Krystyna Snarska^{C, D, E, F, G, H}

(A — Concept and design of research, B — Collection and/or compilation of data, C — Analysis and interpretation of data, D — Statistical Analysis, E — Writing an article, F — Search of the literature, G — Critical article analysis, H — Approval of the final version of the article)

Received: 24.06.2014

Accepted: 18.08.2014