Jakość życia pacjentów z bólem odcinka lędźwiowego kręgosłupa

Quality of life in patients with lumbar spinal pain

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Streszczenie:

W ostatnich latach coraz więcej uwagi zwraca się na potrzebę holistycznego podejścia do pacjenta. Dlatego na przełomie kilkudziesięciu lat coraz to intensywniej obserwuje się rozwijające się badania dotyczące pomiaru, jakości życia, które uwzględniają i nie tylko sferę fizyczna człowieka, ale również jego strefy psychiczne i duchowe.

W przypadku tak częstych schorzeń, jakim są zespoły bólowe kręgosłupa, pomiar, jakości życia jest niezwykle istotny, ponieważ stanowią one plagę rozwijających się społeczeństw. Celem pracy było przybliżenie oraz rozpowszechnienie badań dotyczących, jakości życia. Badaniem zostało objęte 38 osób (23 kobiety i 15 mężczyzn) skarżących się na bóle odcinka lędźwiowego kręgosłupa. Grupa była zróżnicowana m.in. pod względem wiekowym. Przeprowadzone badania ukazują różny stopień pomniejszenia, jakości życia w zależności od ubytku sprawności w przebiegu choroby. Wnioski oparte na przeprowadzonej ankiecie ukazują potrzebę ujmowania, jakości życia w procesie rehabilitacji. Jej pomiar dostarcza wielu informacji na temat pacjenta, jego stosunku do choroby, jak również procesu usprawniania.

Słowa kluczowe:

jakość życia, Kwestionariusz Bólu Krzyża Rolanda i Morrisa, bóle dolnego odcinka kręgosłupa, Kwestionariusz Oswestry, Indeks Jakości Życia Ferrans i Powers

Abstract

In recent years, increasing attention has been drawn to the need of a holistic approach to patients. Studies involving the measurement of the quality of life and taking into consideration not only the physical, but also emotional and spiritual aspects of well-being, have been conducted with increasing intensity over the last few decades. In case of disorders as common as spinal pain syndromes, the measurement of the intensity of pain is particularly important, as these diseases are a scourge for the developing societies. The goal of this study was to present and popularize data on the quality of life. The study included 38 subjects (23 females and 15 males) complaining of lumbar spinal pains. The study group was diverse in many aspects, including age distribution. The studies revealed different levels of quality of live impairment depending on the degree of impairment as the result of the disease. Conclusions based on the survey demonstrate the need to include the quality of life in the rehabilitation process. Measurements of the quality of life provide much information on the patient, their attitude to the disease as well as the rehabilitation process.

Key words:

quality of life, Roland-Morris low back pain questionnaire, low back pain, Oswestry Disability Index, Ferrans and Powers Quality of Life Index

Contemporary medicine is increasingly characterized by the trend towards a holistic approach to the patient. Each patient is treated in a holistic manner, with consideration being given not only to their physical limitations, but also to the aspects associated with their emotional and social life. Today, when assessing the results of rehabilitation of patients with low back pain syndromes, we are not guided solely by the medical indicators, also taking into consideration factors constituting the patient's well-being as well as its changes due to the disease. Factors contributing to these emotional and social aspects affect the overall quality of life [1, 2, 3].

The quality of life is a multidimensional term that cannot be described in an explicit manner. At the turn of the centuries the meaning of the term was subject to constant changes to include ever newer elements and characteristics. The origins of the term date back to antiquity when the secret of human happiness and factors that would determine that happiness were sought for. The founding father of medicine, Hippocrates [4] considered that happiness, and therefore health, was an effect of the balance between the solid, the liquid and the mental aspect of the body. According to Aristotle, [4] human happiness consisted in the ability to attend to their current needs. In the Middle Ages, Christian philosophers focused mainly on ascesis and suffering which were supposed to be most important in life. In Buddhism, happiness could be attained only by nirvana.

After World War II in the United States, good life was associated only with financial well-being. Later on, the concept of the quality of life was extended from "having" to "being" to include new criteria of human functioning such as freedom, health, and education. Focus was also shifted from subjective criteria to objective conditions of human existence. First attempts at the development of measurement methods date back to the Inter-War period in the 20th century and later to the 1950s and 1960s. The breakthrough came about with studies conducted by Campbell in the 1970s [5]. Campbell proposed a simple scale including 15 aspects of human life that facilitated determination of life satisfaction in a population of US residents. According to Campbell, quality of life is the evaluated satisfaction in particular areas of human existence, such as health, family, work, social life. However, as Flanagan pointed out, particular areas of human life may be of different importance to study subjects. He proposed the use of a weight factor allowing to determine the importance of particular areas for the subject. Campbell's studies have stirred interest of representatives of different areas of science, such as sociology, economics, politics, philosophy, medicine and education. Each of these areas has different definitions of quality of life [5, 6].

A Polish researcher de Walden-Gałuszko [6] has defined the quality of life as self-assessment of one's own life at a particular moment. According to Farquhar [5], all definitions of the quality of life may be divided into two categories. The first one consists of definitions proposed by specialists, including global, complex, specific and mixed definitions. The other group includes the terms used in everyday language. Specific

definitions pertain to particular areas of human life and are associated with human health. Global definitions pertain to subjective quality of life. Complex definitions include both mixed and global assessments.

The problem of the definition of the quality of life has also been taken up by the WHO Quality of Life Group (WHO-QOL). The group has attempted to present its own definition of the quality of life. WHO definition, being an example of a mixed definition, states that quality of life is individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns [7].

Subjective assessment of satisfaction of the quality of life was also carried out in Poland. The measurement was carried out by a survey method in years 1983-1988 by the Social Studies Department of the General Statistics Office of Poland (GUS) and the Polish Academy of Sciences (PAN). The relationship between objective living conditions and emotional well-being was studied and described in years 1991-1997 by Czapiński, who also developed the Polish General Quality of Life Survey in 1998 [8].

The early 1990s witnessed the development of the definition of health-related quality of life (HRQoL). The theory combines different human life areas including physical status, mobility, emotional health, economic conditions, social status, as well as spirituality and somatic perceptions. Most commonly, the measurements are carried out to assess the quality of health care, the efficiency of psychological methods, efficacy of treatment, or the effect of medications on the quality of life, to appropriately plan the short-term and long-term medical care and to assess patients' health. Defining health as lack of diseases is a long-outdated concept. Currently, factors ensuring human health are required to improve the quality of life. According to the conducted studies, physical health of humans is affected by external environmental factors that have impact on individual's happiness. Also political factors, such as freedom, safety and equality, are important for the promotion of health. Cultural factors, including education, were shown to favor the access to healthier environments. At the same time, factors related to the physical environment, including clean air and clean water, are essentialities that largely affect human health as the incidence of diseases associated with environmental pollution is constantly rising. Social factors of existence include work, occupation and income. Health-related quality of life (HRQoL) is associated with the assessment of patients' functioning as well as their well-being and perception of health in the pyramid of needs including physical, emotional and social aspects of life [9].

The term of health-related quality of life is also associated with the names of Schipper, Spillker, Guayaff, and Patrick. Schipper [7] defined the quality of life as a functional effect of the disease and treatment as perceived by the patient.

According to Siegrist [7], the value of the studies of health-related quality of life is that they present the patient's point of view, possibly completely different from that of the health care professionals.

In 1988 Patrick and Erickson [9] defined the health-related quality of life as the lifespan modified by the disease, weakness, social factors, treatment and care. The disease is always a factor that disturbs normal functioning of humans to a different degree. It may also limit the patient's social contacts, leading to solitude. The experience of pain often reduces one's perception of safety and freedom. Hospitalization is associated with a change in surroundings and limitation of social contacts. In medicine, there are two dimensions for the assessment of the quality of life: objective assessment made by the medical staff who evaluate various clinical parameters, and subjective assessment including feelings and perceptions of the patients themselves. The most common instrument used to determine the quality of life consists of standardized questionnaires including questions grouped according to particular areas of life and addressing particular QoL-related issues. The surveys provide quantitative descriptions according to the scores measured against a scale [8]. Both questionnaires and analog scales should include psychometric criteria to provide reliable assessments. The first one is reliability, i.e. the level of detail used in the measurement of particular variable. The second one is accuracy, i.e. appropriate selection of scale and estimation whether the scale actually measures the particular variable. The third one is high sensibility of the scale. The importance of sensibility consists in detection of minor but potentially important changes [7, 10, 11]. In addition, tools used in the measurements of health-related quality of life are divided into generic (non-specific) and specific. Generic scales are used to measure the overall patient status. General scales may be used in both patients and healthy individuals. They may be important in various diseases; however, specialist questionnaires developed for particular nosocomial entities are recommended for more precise assessments. [7, 9, 10, 11, 12, 13, 14, 15, 16, 17].

For diabetes, one of the specific scales used to determine the health-related quality of life is the *Ferrans and Powers quality of life index, diabetes III version*. It consists of 34 questions that allow to assess four areas of patient's life: health, socio-economic status, as well as family and emotional status [18].

International Osteoporosis Foundation (IOF) recommends the *QUALEFFO-41* questionnaire. The questionnaire covers 5 areas of human functioning: presence and intensity of pain, physical functioning, social functioning and emotional functioning of the patient. The last area focuses on the subject's overall perception of their health [19].

Quality of life in patients with spinal pains is most commonly assessed using Roland-Morris Low Back Pain Questionnaire. The questionnaire consists of 24 statements regarding limitations to daily functioning. Subjects mark statements that best describe their state on the day of the study [20].

Low back pains have been known to mankind from the onset of history; however, we have observed a significant increase in the incidence of the disease within last few

decades. Limitation or lack of motion and predominance of sitting position while both working and resting is one of the main factors responsible for the development of lumbar spinal pain. Since the time when humans developed their upright posture, our spines have been forced to continuously support our head, torso and upper limbs. Therefore, our spines are continuously subject to compressive, distractive and shearing forces. Spinal pains are currently considered civilizational diseases and the disorders of the lumbar segment are one of the most common disorders of the structure and function of the motor organ. Current studies show that about 80% of population above the age of 40 had experienced at least one episode of pain of that type. The incidence of the disorder has increased to an enormous scale and currently constitutes one of the main reasons responsible for loss of limitation of gainful employment. Pain and discomfort associated with the disorder often leads patients to solitude and reduced social activity. Also disturbing are the statistical data showing that lumbar spinal pain syndromes are ones of the most common causes of visits at primary care physicians' offices. The treatment of this disorder is currently provided by specialists of different medical areas, including rheumatologists, neurologists and neurosurgeons as well as specialists in physical therapy and rehabilitation, and sometimes even psychologists and gynecologists [21, 22, 23, 24, 25, 26].

Factors promoting the development of lumbar pains may be associated with patients' lifestyle, including smoking, long periods spent in forced positions, e.g. while driving, constant exposure to vibrations and frequent engagement in some sports (football, bowling, golf, hockey). Other factors predisposing for pain are related to subject's occupation, particularly to occupations associated with significant physical efforts. Frequent movements of flexion and rotation, lifting heavy weights or remaining in the sitting position for long periods favor abnormal burden and loads to the spine that tend to accumulate over one's lifetime. Emotional factors that may be responsible for the disorder include stress and various personality disorders such as depression or hysteria. Other criteria responsible for lower back pain include overweight and obesity, passive lifestyle and postural defects. Other risk factors include high height (above 170 cm in females and above 180 cm in males), inefficiency of abdominal and hip belt muscles, developmental defects, injuries of motor organs, age of 40-59 years and pregnancy [24, 27, 28].

The low back pain syndrome is defined as pain located between the 12th rib and the inferior gluteal folds. Unfortunately, the cause of the disorder may be precisely identified only in a small percentage of patients. In such cases, we may refer to specific pains of the lumbar segment; however, these cases account only for about 10% of patients. The remaining 90% of disorders are non-specific pains of unknown etiology. They are experienced by pa-

tients between 20 and 55 years of age, are of mechanical character, and are experienced in the lumbosacral, gluteal and femoral regions, Non-specific pains are usually bone-related with no correlation to any structural changes. Most commonly, they resolve after several weeks. Non-specific low back pains are associated with numerous overloads of the spine caused by excessive burden and microinjuries [29, 30].

The diagnosis is based on X-ray imaging which usually reveals numerous lesions. Laboratory investigations are additionally recommended so as to rule out other diseases. The treatment of lumbar disorders is a complex task. The most common form is conservative treatment consisting of pharmacotherapy and physical therapy. Appropriate treatment depends of the stage of the disorder, the pain and its type, patient's age and ability level as well as concomitant diseases. When developing the treatment plan, one must not ignore the patient's lifestyle, The main objective of kinesitherapeutic procedures is to achieve the appropriate range of motion so as to improve the function of the motor organ and relieve the pain. In the acute periods, patients are recommended to remain in bed. This is followed by gradual introduction of milder forms of exercise. As the pain resolves, active exercise of upper and lower limbs, dorsal muscle stretching, and exercises strengthening the gluteal, dorsal and abdominal muscles are introduced. Much stress is put on maintaining the proper body posture during the everyday activities [31, 32]. The goal of the physical therapy in low back pain is to provide relaxation and improve circulation in periarticular soft tissues. Magnetotherapy, ultrasounds, electrotherapy and thermotherapy are therapeutically effective in lumbar spinal pains. Low-frequency magnetic fields accelerate regeneration, processes while also exerting analgesic and anti-inflammatory effects. Procedures including ultrasounds are also used to exert analgesic and anti-inflammatory effects while also accelerating lymphatic circulation to improve absorption. The treatment reduced the muscle tone by local heat production. Electrotherapeutic treatment of osteoarthritis involves the Träbert current characterized by strong analgesic effect and muscle tone reduction. Microcurrent transcutaneous electrical nerve stimulation (TENS) effective in both acute and chronic pains, is becoming increasingly used. The presented physical therapy procedures combined with pharmacotherapy are efficient in the treatment of low back pain syndromes [31, 32].

Objective

The main goal of the study was to present and highlight the importance of the studies of the quality of life studies being conducted in patients with low back pains.

Material

The study was conducted in a group of 38 (100%) subjects, residents of Świętokrzyskie voivodeship. Surveys were distributed in a random fashion. The study population included 23 females (61%) and 15 males (39%). Age distribution of all subjects covered the range of 28-86 years, including the range of 28-75 years for females and 29-86 years for males.

Method

The study involved a survey divided into two parts: the first part was delivered in the form of an interview with the patient while the second part consisted of a questionnaire comprised of three scales to determine the quality of life:

1. The Ferrans and Powers Quality of Life Index (QLI) covers all areas of human life divided into four subscales to include health and functioning, socioeconomical, emotional and spiritual health, and family. The entire questionnaire is divided into two parts of satisfaction and importance.

2. The Low Back Pain Questionnaire consists of 24 statements regarding the pain within the lumbar segment. The task of the subject is to mark the statement that best describes their status on the date of the study. Four disability levels are identified: 0-3 points: no disability; 4-10 points: low disability; 11-17 points: average disability, 18-24 points: high disability.

3. Oswestry Disability Index consists of 10 sections, including pain intensity, self-care (washing, getting dressed), lifting objects, walking, sitting, standing, sleeping, social live, traveling, changes in pain intensity. The maximum score is 50; the higher the score, the higher the disability: 0-4 points: no disability; 5-14 points: mild disability; 15-24 points: moderate disability, 25-34 points: severe disability, more than 35 points: complete disability.

4. Statistical methods included the basic descriptive statistics such as means, standard deviations, minimum and maximum values, contingency tables and percentages. Parametric tests were used as part of inductive statistics, including Student's t-test (the basis assumption of normal distribution was tested using the Shapiro-Wilk's test, equivalence of variance was tested using F- test), unidimensional ANOVA, and non-parametric chi-squared and Wilcoxon's tests The significance levels were 0.05, 0.01 or 0.001. Correlations between selected quantitative variables were also tested using Pearson's correlation coefficient.

Results

The study included 38 subjects suffering of lumbar spinal pains. The mean body weight of subjects was 71.45 kg. The most common subgroups of women consisted of subjects with vocational and secondary-level education. Similar trend was observed in male patients. Based on the chi-squared test results (chi-squared = 4.6518, df = 3, p = 0.1991), one may conclude that at the significance level of 0.05, male and female subjects were of the same educational background. A large majority of population consisted of subjects with no

concomitant diseases (76.32%). One half of the patients were satisfied with the outcomes of treatment. Based on the chi-squared test results (chi-squared = 9.7347, df = 3, p = 0.02096), one may conclude that at the significance level of 0.05, males and females are statistically different in terms of their evaluation of the physical therapy results. Imaging studies of lumbar segment were conducted in 65.22% of females and 73.33% of males.

The mean pain intensity VAS score in the study population was 4.71. The t-Student test for the age means did not allow to discard the equivalence hypothesis at the significance level of 0.05 (t = -0.6772, df = 36, p = 0.5026). The intensities of pain assessed by female and male subjects were comparable at the population level The t-Student tests for the overall QLI scores as well as the health and functioning, socioeconomic, and emotional and spiritual health subscale scores did not allow to discard the equivalence hypothesis at the significance level of 0.05. The intensities of pain assessed by female and male subjects were comparable at the population level The Wilcoxon test for the QLI family subscale allowed to discard the equivalence hypothesis at the significance level of 0.05 (W = 216; p = 0.1986). The intensities of pain assessed by female and male subjects using the family subscale were comparable at the population level.

Table 1. Oswestry disability index (ODI)

Oswestry disability index (ODI)	Females		Males		Overall	
	N	%	N	%	N	%
None	3	13,04	1	6,67	4	10,53
Mild	11	47,83	6	40,00	17	44,74
Moderate	6	26,09	4	26,67	10	26,32
Severe	2	8,70	1	6,67	3	7,89
Total	1	4,35	3	20,00	4	10,53
Overall	23	100	15	100	38	100

Based on the chi-squared test results (chi-squared = 2.6366, df = 4, p = 0.6204), one may conclude that at the significance level of 0.05, males and females are statistically different in terms of the scores measured by this disability assessment tool.

Based on the chi-squared test results (chi-squared = 6.1841, df = 3, p = 0.103), one may conclude that at the significance level of 0.05, males and females are statistically different in terms of the scores measured by this disability assessment tool.

Table 2. Low back pain questionnaire

Oswestry disability index (ODI)	Females		Males		Overall	
	N	%	N	%	N	%
No disability	17	73,91	6	26,67	23	60,53
No disability	4	17,39	8	26,67	12	31,58
Medium disability	1	4,35	0	26,67	1	2,63
High disability	1	4,35	1	26,67	2	5,26
Overall	23	100	15	106,68	38	100

Analysis of QLI and its relationship with the results of the disability assessment tools: ODI and RM

Oswestry disability index vs. overall QLI scores, health and functioning QLI subscale scores:

Unifactorial analysis of variance (ANOVA) for the quality of life index allowed to discard the equivalence hypothesis at the significance level of 0.001. Mean pain intensity at the population level was different in subjects with different disability levels.

Oswestry disability index vs. socioeconomical, emotional-social, and family QLI subscale scores: Unifactorial analysis of variance (ANOVA) for the quality of life index did not allow to discard the equivalence hypothesis at the significance level of 0.05. Mean pain intensity at the population level was not different in subjects with different disability levels.

Low back pain questionnaire vs. health and functioning, socioeconomical, emotional-social, and family QLI subscale scores: Unifactorial analysis of variance (ANOVA) for the quality of life index did not allow to discard the equivalence hypothesis at the significance level of 0.05. Mean pain intensity at the population level was not different in subjects with different disability levels.

Age vs. quality of life

Unifactorial analysis of variance (ANOVA) for the quality of life index did not allow to discard the equivalence hypothesis at the significance level of 0.05 (F = 2.2895; p = 0.139). Mean pain intensity at the population level was **not different** in subjects of different age groups.

Table 3. Age vs. overall quality of life index (QLI)

Main statistical – age parameters	<35	35-65	>65
Mean	19,8	21,51	17,68
SD	2,25	2,51	3,06
Minimum	15,36	15,83	12,39
Maximum	24,05	25,27	20,61

Age vs. quality of life index, health and functioning subscales:
Unifactorial analysis of variance (ANOVA) for the quality of
life index allowed to discard the equivalence hypothesis at the
significance level of 0.01 (F = 8.0263; p = 0.007507). Mean
pain intensity at the population level was **different** in subjects
of different age groups.
Age vs. quality of life index, socioeconomical, emotional-spi-
ritual health, and family subscales: Unifactorial analysis of
variance (ANOVA) for the quality of life index did not allow
to discard the equivalence hypothesis at the significance level
of 0.05. Mean pain intensity at the population level was **not
different** in subjects of different age groups.

Table 4. Type of occupation (intellectual/physical work) vs. the VAS pain score and disability level assessment tools (Oswestry and RM).

Type of occupation	Does not work		Physical		Intellectual		Overall	
VAS score	N	%	N	%	N	%	N	%
Mild pain	3	15,79	1	8,33	5	71,43	9	23,68
Moderate pain	15	78,95	11	91,67	2	28,57	28	73,68
Strong pain	1	5,26	0	0,00	0	0,00	1	2,63
Overall	19	100	12	100	7	100	38	100
Test results	chi-squared = 11.9627, df = 4, p = 0.01763							
Interpretation	There is a statistically significant difference between the occupation type and the estimated pain intensity.							
Oswestry disability scale	N	%	N	%	N	%	N	%
None	0	0,00	1	8,33	3	42,86	4	10,53
Mild	9	47,37	6	50,00	2	28,57	17	44,74
Moderate	5	26,32	4	33,33	1	14,29	10	26,32
Severe	3	15,79	0	0,00	0	0,00	3	7,89
Total	2	10,53	1	8,33	1	14,29	4	10,53
Overall	19	100	12	100	7	100	38	100
Test results	chi-squared = 13.2769, df = 8, p = 0.1027							
Interpretation	There is no statistically significant difference between the occupation type and the disability level as studied in the particular scale.							
Low back pain questionnaire	N	%	N	%	N	%	N	%
No disability	12	63,16	5	41,67	6	85,71	23	60,53
Low disability	6	31,58	6	50,00	0	0,00	12	31,58
Medium disability	0	0,00	0	0,00	1	14,29	1	2,63
High disability	1	5,26	1	8,33	0	0,00	2	5,26
Overall	19	100	12	100	7	100	38	100
Test results	chi-squared = 9.9726, df = 6, p = 0.1258							
Interpretation	There is no statistically significant difference between the occupation type and the disability level as studied in the particular scale.							

Disease duration vs. the quality of life

Disease duration vs. the quality of life: Unifactorial analysis of variance (ANOVA) for the quality of life index did not allow to discard the equivalence hypothesis at the significance level of 0.05 (F = 0.0096; p = 0.9226). Mean pain intensity at the population level was **not different** in subjects with different disability levels.

Disease duration vs. the quality of life, health and functioning, socioeconomical, emotional and spiritual health and family subscales: Unifactorial analysis of variance (ANOVA) for the quality of life index did not allow to discard the equivalence hypothesis at the significance level of 0.05. Mean pain intensity at the population level was **not different** in subjects with different disability levels.

Results of the examinations of correlations between particular quantitative variables such as age, weight, height, VAS score, QLI score (overall score and individual subscale scores), Oswestry disability index, Low back pain questionnaire. The interpretation of the correlation coefficient value is based on the report by Góralski [33] (Table 5 presents positive correlation coefficients; the *minus* sign stands for negative correlation of the same strength):

Table 5. Correlation coefficient values

Correlation coefficient variability range	Correlation strength
$\tau = 0$	None
$0 < \tau < 0,1$	Negligible
$0,1 \leq \tau < 0,3$	Weak
$0,3 \leq \tau < 0,5$	Average
$0,5 \leq \tau < 0,7$	High
$0,7 \leq \tau < 0,9$	Very high
$0,9 \leq \tau < 1$	Nearly full
$\tau = 1$	Full

Correlations are considered significant starting from the average level. Marked in red are significant correlations (correlation coefficients with significance value p). Positive correlation means that subjects pointing to higher scores e.g. in the QLI questionnaire also pointed to respectively higher values of another variable.

Values presented in Table 6 demonstrate a significant average correlation between the following pairs of variables: height and weight (quite obvious), QLI (family subscale) and weight (negative correlation), low back pain score and weight (positive correlation), QLI (family subscale) and VAS (positive correlation), QLI (emotional-spiritual subscale) and QLI (health-functioning subscale), QLI (emotional-spiritual subscale) and Oswestry score (negative correlation), weight and overall QLI score. Strong correlation was also observed between the

Table 6. Correlation coefficients within the study group

Weight	Wzrost	VAS	QLI overall	QLI health, function	QLI socio-econ.	QLI emot.-spritual	QLI family	Oswerty	Mapi	
0.24	-0.06	0.09	-0.28	-0.5	-0.003	-0.05	-0.12	0.6	-0.11	Wiek
p=0.1502	p=0.69	p=0.59	p=0.08	p=0.002	p=0.99	p=0.75	p=0.47	<0.001	p=0.52	Age
	0.41	-0.17	-0.32	-0.31	-0.27	0.09	-0.39	0.21	0.36	Waga
	p=0.01	p=0.32	p=0.05	p=0.05	p=0.099	p=0.6	p=0.02	p=0.2	p=0.03	Weight
		0.17	-0.03	0.01	-0.2	0.09	0.01	0.04	0.14	Wzrost
		p=0.3	p=0.85	p=0.93	p=0.23	p=0.57	p=0.96	p=0.83	p=0.38	Height
			0.16	0.09	-0.02	0.08	0.39	0.28	-0.02	VAS
			p=0.35	p=0.59	p=0.9	p=0.62	p=0.02	p=0.09	p=0.88	
				0.89	0.81	0.58	0.75	-0.56	-0.2	IJŻ całość
				p<0.001	p<0.001	p<0.001	p<0.001	p<0.001	p=0.23	QLI overall
					0.55	0.40	0.63	-0.67	-0.07	IJŻ zdr.,fun.
					p<0.001	p=0.01	p<0.001	p<0.001	p=0.67	QLI heal., fun.
						0.49	0.54	-0.32	-0.28	IJŻ socjo-ek.
						p=0.002	p<0.001	p=0.049	p=0.08	QLI soc.-econ.
							0.09	-0.31	0.007	IJŻ psych-duch.
							p=0.58	p=0.05	p=0.96	QLI em.-spirit.
								-0.25	-0.30	IJŻ rodz.
								p=0.12	p=0.06	QLI family
									0.18	Oswerty

age and QLI (health-functioning subscale) (negative correlation), age and Oswestry score (positive correlation), as well as between QLI scores in individual subscales.

Discussion

The largest percentage of subjects in the study group had vocational (39.47%) and secondary-level (28.95%) education. In the study by Klimaszewska et al. [27], more than one half of subjects (60.26%) had secondary level education. Since pain is a subjective feeling, the studies involved the assessment of pain using a VAS scale. The mean pain score in all subjects was 4.71. A higher mean pain score of 6.5 was obtained by Czaja [34]. The means of pain experienced by male and female subjects were similar both in our material and in the study by Czaja [34]. In addition, a relationship was detected in our study material consisting in mean estimation of pain intensity being different in different age groups across the population level. As demonstrated by studies conducted using the Oswestry questionnaire, the most populous group were mildly disabled patients. Other results were obtained by Pop et al. [35], as the subjects assessing their disability as mild-to-moderate amounted to as much as 78% of the entire population. In the Oswestry questionnaire surveys conducted by Czaja [34], the highest percentage of subjects (52.5%) assessed their disability to be moderate.

In addition, studies conducted in our own study material revealed that mean pain intensity at the population level was different in subjects with different disability levels. Another questionnaire used to measure the quality of life of patients with lumbar spinal pain was the Ronald-Morris questionnaire. According to this questionnaire, the highest percentage of subjects, amounting to as much as 60.53% consisted of subjects with no disability followed by low-degree disability (31.58%). Different results were presented by Czaja [34]. According to her results, the most populous group consisted of subjects with moderate disability (45%) followed by subjects with severe disability (37.5%). Stefanowicz and Kloc [36] highlighted that the numbers of patients suffering of lumbar spinal pain syndrome increases at a rapid rate. In 90% of cases, the pain resolves spontaneously. Lower spinal pains present a serious health problem that may be intensified day by day.

Conclusions

1. The pain intensity assessment was varied in the study population.
2. Lumbar spinal pain syndromes had different effects on limitations and the quality of life.
3. The type of occupation has an effect on the estimated pain intensity.
4. There is no statistically significant difference between the occupation type and the disability level.
5. Lumbar spinal pain syndromes cause mild disability as evidenced by the results of Oswestry questionnaire.
6. Introduction of quality of life questionnaires into the treatment program provides essential information on patients and their disease.

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