QUALITY OF LIFE WITH BACK PAIN IN ACCORDANCE WITH LOCALIZATION (CERVICAL PAIN, BACK PAIN)

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ANNOTATION

This article is based on examination data of 486 patients, who were divided into two groups according to anatomical principles - patients with pain in the neck - cervical dorsalgia and in the lower back - lumbosacral dorsalgia. An analysis of the quality of life showed that according to the Vernon and Major test in patients with cervical dorsalgia, there was a significant decrease in the quality of life of patients and corresponded to moderate limitations in life activity ($p < 0.05$). Moreover, in patients with nociceptive pain the average scores were slightly higher, which corresponded to serious limitations in relation to patients with neuropathic pain. According to the Roland-Morris questionnaire, a decrease in the quality of life of patients with lumbosacral dorsalgia was established and corresponded to moderate limitations in life activity ($p < 0.05$). The result of the Oswestry questionnaire states depression of vital functions with moderate and severe pain.

Key words: *cervical dorsalgia, lumbosacral dorsalgia, quality of life.*

Lumbar and cervical dorsalgia in 82-95% of cases are caused by vertebro-neurological diseases (VND) [5, 12], in modern medicine they rightfully remain pressing problems.

The basis of dorsalgia is severe pain caused by irritation of the nerve endings of the soft tissues around the spine: "... muscles, ligaments, fascia; facet joints, nerves and spinal ganglia; intervertebral disc, vertebrae, dura mater" [4].

The causes of back pain are varied. Typically, back pain is associated with pathology of the muscles, nerves, bones, joints or other structures of the spine [7].

Lumbar dorsalgia often occurs at the age of 20-50 years, the maximum pain syndrome occurs at 50-64 years old; at 20-64 years old, 24% of men and 32% of women report back pain [9; 12]. The most interesting thing is that 12–26% of children and

adolescents also report the presence of lower back pain [14, 15]. Up to 67% of women in the population felt pain in the lower back, and the peak of pain is observed at 35–45 years of age [13, 17].

SUDs sharply reduce the vital activity and social interactions of patients, worsening their quality of life, upsetting the psyche and leading to social withdrawal and chronic emotional stress [1, 2]. Modern medicine attaches great importance to the quality of life of patients; many modern methods of therapeutic and surgical treatment are assessed from this point of view [3], the role of quality of life in chronic and disabling pathologies is colossal [6, 19], and the effectiveness of treatment is also assessed from this point of view and the patient's daily activities [8].

Quality of life is "an important independent indicator of the patient's condition, and its dynamics during treatment can be no less, and sometimes more important, than the usually assessed clinical parameters - data from laboratory and clinical instrumental studies, which are surrogate end points from the standpoint of the principles of evidence-based medicine" [8].

Purpose of the study: to evaluate the impact of back pain on the quality of life of patients.

Material and methods. We examined 486 patients who were divided into two groups according to the anatomical principle - patients with pain in the neck (cervical dorsalgia - CD) and in the lower back - lumbosacral dorsalgia (LSD).

Patients with CD - 214 people (Group I) - 86 (40.2%) men (22-60 years, average age - 37.9±5.4 years) and 128 (59.8%) women aged 21 to 55 years (average 41.1±6.1 years). Patients with LSD – 272 people (group II). Of these, 94 (34.56%) were men (average age – 38.2±5.7 years) and 178 (65.44%) women (average age – 43.6±5.1 years). All patients were of mature age, which is the peak of personal, social and professional performance. A comparison of both groups did not reveal significant differences in the main characteristics that determine the possibility of subsequent statistical analysis (number of patients, distribution by sex and age) (Table 1).

Table 1

Distribution of patients into groups by gender and age

Groups	I group		II group		Total	
Number of patients	214 (44%)		272 (56%)		486 (100%)	
Average age (M±δ)	39,8±5,8		41,4±5,4		40,2±5,6	
Gender	M	F	M	F	M	F
Number of patients	86 (40,2%)	128 (59,8%)	94 (34,56%)	178 (65,44%)	180 (37%)	306 (63%)
Average age (M±δ)	37,9±5,4	41,1±6,1	38,2±5,7	43,6±5,1	38,0±5,5	42,8±5,6

The causes of pain were suggested by 131 (26.95%) patients (59 (27.57%) in group I and 72 (26.47%) in group II) in a forced position, in 355 (73.05%) (155 (72. 43%) in group I and 200 (73.53%) in group II) - the pain intensified gradually after significant exertion.

An individual medical registration card has been created for each patient, displaying the full name, date of birth, exact age (in years) and gender of the patient, medical card number, anamnesis data, instrumental and clinical studies, terms and composition of therapy.

The quality of life in patients with CD was studied using the Vernon and Major test [18], and in patients with LSD - using questionnaires, the Roland-Morris Low Back Pain and Disability Questionnaire [16], and the Oswestry Disability Questionnaire. for pain in the lower back" [10].

Statistical data processing was carried out using Microsoft Office Excel-2019, including the use of built-in statistical processing functions.

Research results.

Quality of life of patients with cervical dorsalgia

At the time of treatment, the main complaint was pain of varying nature, intensity and localization in the posterior and lateral cervical areas in all 214 (100%) patients, while in 178 (83.18%) patients pain was noted not only in the neck area. Thus, pain in the shoulders was noted by 146 (68.22%) patients, more often the pain radiated to both shoulders - 91 (42.52%), much less often to one shoulder - 55 (25.70%), one shoulder blade - 94 (43.93%), less often in both - 74 (34.58%), in the back of the head - 56 (26.17%) and in 28 (13.08%) patients in the axillary region, which not only limited the movements of the head and neck , but also significantly disrupted the correct posture and head position of the patients. In a significant proportion of patients, the pain radiated to several areas, so the sum is more than 100%.

In parallel with pain, our patients noted such complaints as numbness of the limbs - 63 (29.44%), feeling of cold - 37 (17.29%), limitation of movement in the shoulder joint - 32 (14.95%).

In addition, patients complained of rapid neck fatigue from static loads (78.04% - 167 patients), heaviness in the neck, shoulders and shoulder blades - in 71.96% - 154 patients, and morning stiffness in the neck and shoulder girdle - in 69.16% – 148 patients, 26.64% – 57 patients had pain clearly felt at rest.

Upon treatment, pain at rest according to VAS averaged 4.3±0.3 points, i.e. was of moderate intensity, and after physical activity in 164 (76.64%) patients the intensity increased to 6.2±0.4 points - it became pronounced, gradually decreasing at rest. Pain was moderate in 111 (57.87%) patients, severe in 87 (40.65%) patients, severe in 11

(5.14%) patients. The weakest average pain was 3.0±0.4 points, and the strongest - 7.8±0.7 points.

In 123 (57.48%) patients, the pain was aching, dull - in 58 (27.10%) patients, tightening - in 106 (49.53%), pulling - in 78 (36.45%) and boring - in 43 (20.09%) patients. In 71 (33.18%) patients, pain was combined with a burning sensation in the neck and adjacent areas.

All patients had muscle dysfunction, leading to neck muscle tension, sharp palpation muscle soreness and a long period of pain after muscle irritation.

Tension of the neck muscles limited movement in the cervical spine, which led to inclination of the shoulder line in all patients, to asymmetry of the shoulders in a quarter, to kyphosis of the cervical spine in 43 (20.09%) patients of group I, and in 51 (23.09%) patients. 83%) of patients in this group have functional kyphosis of the cervical spine without structural changes on CT and/or MRI.

In addition, in most patients, pain was combined with a significant increase in muscle tone in the neck and shoulder girdle. The IMI averaged 9.3±0.4 points, i.e. II (moderate) degree of severity. The intensity of spontaneous pain according to the IMS was on average 2.6±0.17 points - average degree. According to the IMS, muscle tone during palpation was 2.8±0.15 points. Muscle soreness during palpation was detected in 78 (36.45%) patients in the form of a facial reaction to palpation, and a motor reaction was recorded in 96 (44.86%) patients, the average score was 2.5 ± 0.15 points, i.e. . II (moderate) degree of severity.

When assessing muscle syndrome, the duration of muscle pain upon palpation is of great importance. When analyzing this indicator, it was found that in 146 (68.22%) patients pain on palpation persisted for 45-60 seconds, in 51 (23.83%) patients pain persisted for an average of 1.2 minutes and only in 17 (7.94%) of patients, the pain went away immediately after palpation. The average score was 2.4±0.1 points, i.e. II (moderate) degree of severity.

A similar assessment of IMS was obtained for the degree of pain irradiation during palpation - 2.7±0.12 points. In 130 (60.75%) patients, pain radiated to adjacent tissues, which confirms the average intensity of the muscle syndrome.

The IMI in patients with nociceptive pain is significantly higher than in patients with neuropathic pain. The severity of spontaneous pain (SP) in patients with nociceptive pain averaged 2.8±0.13 points, i.e. moderate and severe pain; muscle tone (T) – 3.05±0.22 points, muscle soreness (B) – 2.7±0.21 points. A facial reaction to palpation was observed in 32 (42.11%) patients, and a motor reaction – in 41 (53.95%) patients.

In 141 (66.89%) patients, a moderate increase in muscle tone was noted, and in 73 (34.11%) patients, severe hypertonicity was observed. The degree of pain irradiation during palpation (DI) in patients with nociceptive pain averaged 2.8 ± 0.09 points and did not have a significant difference between the groups.

In general, the IMI was 13.6±0.21 ($p<0.05$) in patients with nociceptive pain, which corresponded to grade III severity, and in patients with neuropathic pain – 12.1±0.23, which also corresponded to grade III severity.

The average score of self-assessment of pain reached 22.3±2.4 points, which reliably indicated a decrease in the quality of life of CD patients and corresponded to moderate limitations in life activity ($p<0.05$). A more detailed analysis is presented in Table 1.

Table 1

The degree of disability according to the Vernon and Major test in patients with cervical dorsalgia (n=214)

Indicators	Number of patients with CD		Average score
	Abs.	%	
0–4 points (0–8%) no restrictions	0	0	
5–14 points (10–28%) slight limitation	35	16,4	13,2±0,15
15–24 points (30–48%) moderate limitation	159	74,3	24,2±0,17
25–34 points (50–64%) serious limitation	13	6,1	26,8±0,18
35–50 points (70–100%) full limitation	7	3,3	35,2±0,13

As can be seen from the table, 3.3% of patients with CD noted complete limitation due to neck pain (35.2±0.03 points), 6.1% of patients noted that they had serious limitations in their ability to live (26.8± 0.08 points), 74.3% of patients scored on the test corresponding to moderate disability (24.2±0.07 points), slight disability was found in 16.4% of patients (13.2±0.05 points) .

Moreover, in patients with nociceptive pain the average scores were slightly higher - 25.3±1.7 (Fig. 1), which corresponded to serious limitations, and in patients with neuropathic pain - 21.2±1.1 points ($P<0.05$).

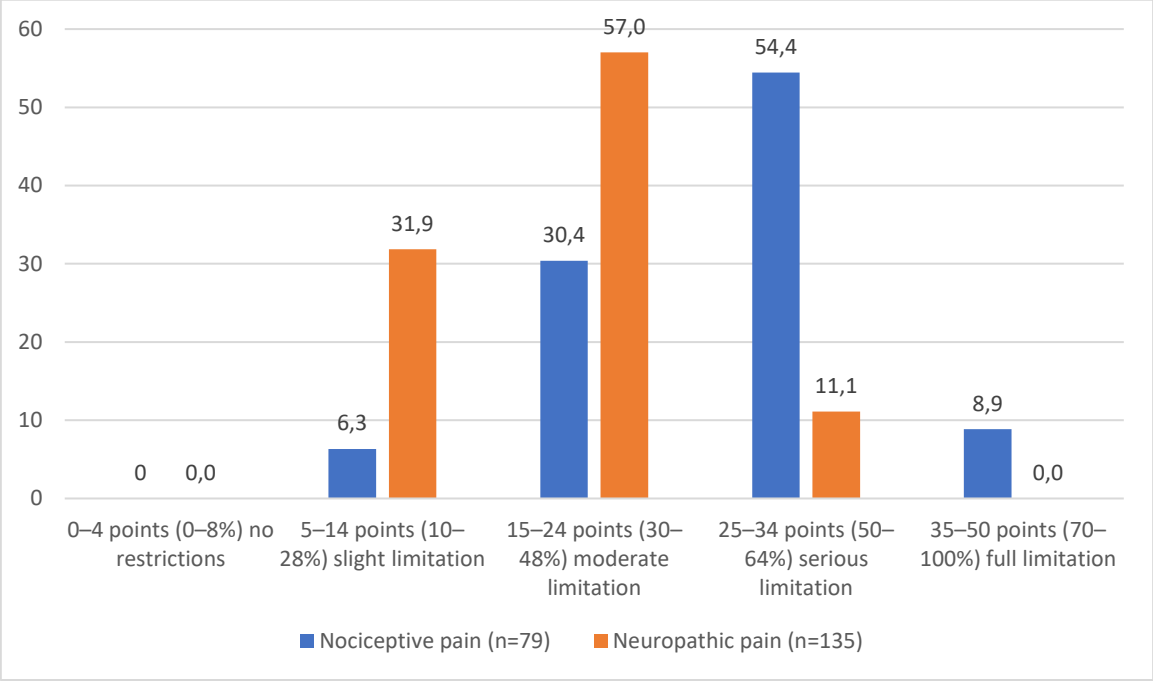

Fig.1. The degree of disability according to the Vernon and Major test in patients with cervical dorsalgia, depending on the type of pain

As can be seen from the diagram, moderate disabilities were noted 1.8 times more in patients with CD with neuropathic types of pain.

Quality of life of patients with lumbosacral dorsalgia

At the time of treatment, the main complaint was pain of varying nature, intensity and localization in the lumbosacral region in all 272 (100%) patients, while in 164 (60.29%) patients pain was noted not only in the lumbosacral region: pain in limbs were determined in 77 (28.31%) patients, in one - in 52 (19.12%), in both - in 25 (9.19%), in the buttocks - in 29 (10.66%), in the back the thigh surface - in 31 (11.4%), in the knee - in 39 (14.34%) and in 48 (17.65%) patients in the lower leg and foot, which limited movements and significantly changed the posture of the patients. In a significant proportion of patients, pain was localized in several areas, so the sum is more than 100%.

Patients with LSD complained of rapid fatigue from static loads - in 87.5% of cases (238 patients), heaviness in the lumbosacral region and lower extremities - in 76.1% (207 patients) and morning stiffness in movements in the lumbosacral region. region - 72.43% (197 patients), 27.94% (76 patients), pain was clearly felt at rest, numbness of the toes - in 11% (30 patients) and cold feet - in 15.07% (41 patients).

Upon treatment, pain at rest according to the VAS averaged 4.9±0.2 points, i.e. was of moderate intensity, and after physical activity in 86.5% of patients the intensity increased to 6.4±0.3 points - it became pronounced, gradually decreasing at rest. Pain

was moderate in 151 patients (55.51%), severe in 121 (44.49%) patients, and no patient reported severe pain. The weakest average pain was 3.2±0.3 points, and the strongest - 7.3±0.5 points.

In 166 (61.03%) patients, the pain was aching, dull - in 78 (28.68%), tightening - in 107 (39.34%), pulling - in 72 (26.47%) and boring - in 83 (30.51%) patients. In 90 (33.09%) patients, pain was combined with a burning sensation in the lower back and adjacent areas.

All patients had muscle dysfunction, leading to tension in the lower back muscles, sharp palpation muscle soreness and a long period of pain after muscle irritation.

Tension of the back muscles limited movement in the lumbar spine, which led to a tilt of the bicostal line in all patients, to asymmetry of the posterior superior iliac spines in a third of patients, and to lordosis of the lumbar spine in 95 (34.93%) patients of group II. 91 (18.72%) patients of group II had functional lumbar scoliosis without structural changes on CT and/or MRI.

In addition, in most patients, pain was combined with a significant increase in muscle tone in the lumbar region. The average IMI was 9.8±0.32, i.e. II (moderate) degree of severity. The intensity of spontaneous pain according to the IMS was on average 2.3±0.09 points - average degree. According to the IMS, muscle tone during palpation was 2.5±0.08 points. Muscle soreness during palpation was detected in 76 (27.94%) patients in the form of a facial reaction to palpation, and a motor reaction was recorded in 115 (42.28%) patients, the average score was 2.4 ± 0.1 points, i.e. . II (moderate) degree of severity.

Clinically, a positive Lassegue's symptom was identified (the average leg elevation angle was 41.3°) in 251 (92.28%) patients; Dejerine's symptom was detected in 131 (48.16%) patients - pain in the lower back or along the sciatic nerve increased with sneezing or coughing, any physical stress, the Hepi symptom was stated in 185 (68.01%) patients - sharp bending of the head to the chest while lying on the back with straight legs provoked acute pain in the lower back and/or along the sciatic nerve, which categorically confirms the presence of muscle- tonic syndrome.

The Roland-Morris questionnaire "Low back pain and disability" was used to diagnose disability – positive responses to more than 7 points out of 18 corresponded to impairment. The average score for self-assessment of pain reached 10.3±2.2 (Fig. 2), which reliably indicated a decrease in the quality of life of LSD patients and corresponded to moderate limitations in life activity ($p<0.05$).

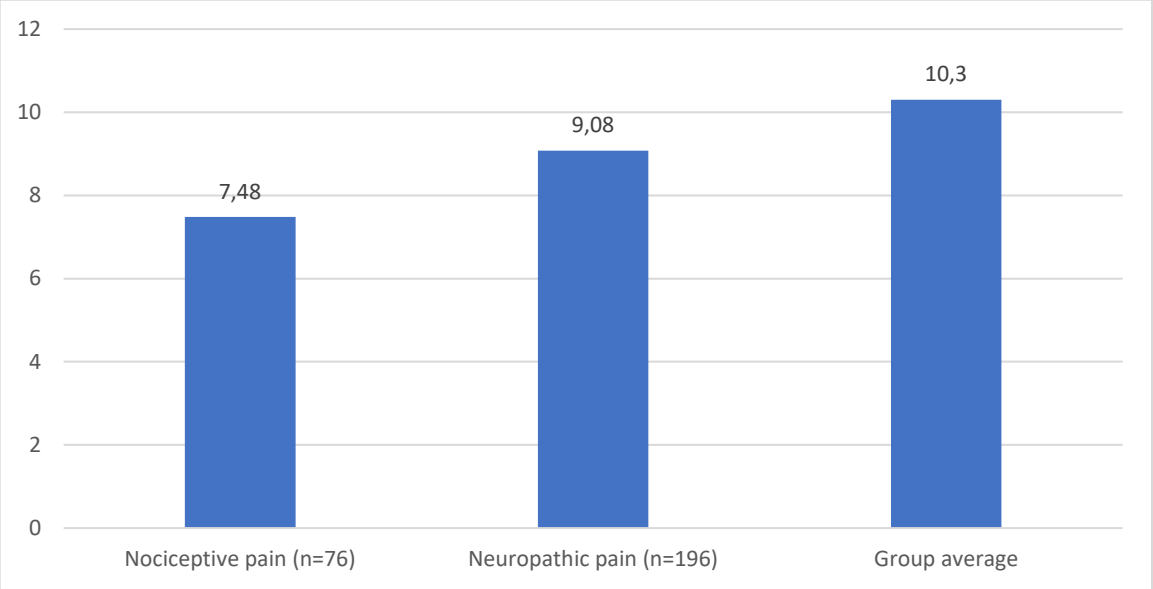

Fig.2. Scoring according to the Roland-Morris questionnaire depending on the type of pain in patients with LSD

For nociceptive types of pain, the average scores were 7.48±0.51, while for neuropathic types of pain, the average score on the Roland-Morris questionnaire was higher than 9.08±0.52 and was significant (P<0.05), which indicates a more pronounced impairment of life in patients with LSD.

We also analyzed “Disability in low back pain” using the Oswestry LSD questionnaire to diagnose impairment in daily physical functioning. The total score ranges from 0 (best functioning) to 50 (worst functioning).

The result of the Oswestry questionnaire in our patients was 31.1±2.4 and had a direct, moderately significant (p<0.05) relationship with the scores of the Roland-Morris questionnaire (r=0.55), which indicates both moderate and severe depression of life activity pain (Table 2).

Table 2

Quality of life in patients of the study groups according to the Oswestry questionnaire

	Type of pain				Number of patients with LSD (n=272)	
	Nociceptive pain (n=76)		Neuropathic pain (n=196)			
	abs.	% (M±m)	abs.	% (M±m)	abs.	% (M±m)
Minimum	14	18,4±1,6	24	12,2±1,5	38	14,0±1,2
Moderate	29	38,2±1,7	62	31,6±1,4	91	33,5±1,4
Expressed	27	35,5±1,4	85	43,4±1,6	112	41,2±1,5
Invalidating	6	7,9±1,6	25	12,8±1,3	31	11,4±1,2
Total	76	100	196	100	272	100

As can be seen from the presented data, in patients with neuropathic types of pain, the average score on the questionnaire was 38.2±3.8%, and in patients with nociceptive types of pain – 27.4±2.8%, which was significant (P<0.05).

14.0±1.2% of patients with LSD had minimal decline in quality of life other than heavy lifting. In 33.5±1.4% of patients, a moderate decrease in quality of life was noted: significant pain and difficulty when sitting, lifting objects and standing; self-care and sexual life, as well as sleep, have not changed significantly; 41.2±1.5% serious deterioration in quality of life due to constant pain and difficulties in daily life. In 11.4±1.2% of patients, the questionnaire revealed a disabling quality of life, i.e. Low back pain was affecting all aspects of the patient's life.

We also found that with the neuropathic type of pain, more pronounced impairments in quality of life were noted.

Conclusions

1. The average score of self-assessment of pain according to the Vernon and Major test in patients with cervical dorsalgia reached 22.3±2.4 points, which reliably indicated a decrease in the quality of life of patients and corresponded to moderate limitations in life activity (p<0.05). Moreover, in patients with nociceptive pain the average scores were slightly higher – 25.3±1.7, which corresponded to serious limitations, and in patients with neuropathic pain – 21.2±1.1 points (P<0.05).

2. The average score on the Roland-Morris questionnaire "Lower back pain and disability" for self-assessment of pain reached 10.3±2.2, which reliably indicated a decrease in the quality of life of LSD patients and corresponded to moderate limitations in life activity (p<0.05). The result of the Oswestry questionnaire averaged 31.1±2.4 points, which indicates depression of vital activity and moderate and severe pain. In patients with neuropathic types of pain, the average score on the questionnaire was 38.2±3.8%, and in patients with nociceptive types of pain – 27.4±2.8%, which was significant (P<0.05).

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