Acceptance of chronic low back pain in actively working patients

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ABSTRACT

Purpose: Assessment of pain intensity in patients with chronic low back pain in correlation with the clinical picture and illness acceptance.
Material and methods: The study group included 120 patients (67 males and 53 females) aged 43.07 ± 8.74 years (range: 18 – 62 years) diagnosed with lumbosacral spine discopathy. The study was conducted between 2008 - 2010. Assessment tools used for the study included: pain intensity scale and Acceptance of Illness Scale (AIS).
Results: Most often the pain was reported in the L4-L5 level of the lumbar spine. The duration of the illness ranged between 1-31 years (6.90 ± 6.47). The majority of the patients in the studied group were physical workers. Nearly half of the patients, 59 (49.16%) described their pain as moderate on a 5-point pain scale. No acceptance of illness according to the AIS scale was noted in 33 (27.5%) patients, the remaining 67 (72.5%) patients declared quite good and average good illness acceptance. We found no significant dependencies of the frequency of pain occurrence, pain intensity, its duration and the type of work.
Conclusions: Pain reported due to chronic low back pain by the majority of the patients was of moderate intensity. No correlation was found between the pain and illness acceptance.
Key words: low back pain , pain, illness, acceptance

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INTRODUCTION

Pain in the lower region of the spine, commonly called ”low back pain”, affects 80% of people at some point in their lives; it can be of varying intensity [1,2]. It is difficult to provide a good definition for this illness, and so the “low back pain” is a name used for any pain located in the lower region of the spine or originating in this region and radiating into the buttocks or down the leg on one or both sides. In over 90% of patients with acute pain and in 70% of patients with chronic pain, no alterations are found apart from radiographically visible degenerative alterations of the spine, on which back pain is blamed and to which medicine has still no solution [3, 4, 5]. In such cases, pain is the only clinical manifestation, and eliminating it equals curing the illness. This type of pain is the reason for 40% of patient visits to neurologists, rheumatologists and orthopedists, and also, one of the most common reasons to visit a family doctor. Very often it is not possible to clearly specify the type of mechanical damage in a particular case and that is why it is referred to as non-specific back pain [3, 4].

When the first episode of pain occurs, most often its cause and further development is not known. In such cases early diagnosis: low back pain, is considered the most appropriate and not prejudging its cause [6]. Back pain is a pervasive problem in societies worldwide. It is the most commonly reported health problem in all studied populations, regardless of the country [2,4]. It is one of the most leading reasons for a visit to the family doctor. Pain persisting beyond 3 months, despite of tissue healing or related to a long-term illness is referred to as chronic pain [6,7].

Classification of pain to acute and chronic is commonly agreed. It is accepted that the acute pain lasts up to 1 month, and the chronic pain lasts over 3 months. If the same pain lasts less than 3 months but recurs over time, it is also considered as chronic recurrent pain. It causes lowering of the physical, social and professional effectiveness, which often affects the mental health state of the back pain patients, resulting in anxiety, depression, anger or a feeling of loss of control over their life situation [7-10].

It causes many negative, psychological, social and economic consequences in patient’s environment. Due to the above, pain is considered a bio-psychosocial phenomenon, set in culture and economy of a particular country. The degree of illness acceptance significantly influences the process of adapting to the limitations set by the illness, dependence on others and self-esteem.

An important element in accepting the health status by the elderly is also their place of living. The aim of the study was to assess pain in actively working patients with chronic low back pain in correlation with the illness acceptance.

MATERIAL AND METHODS

Patients

The study involved 120 patients (67 males and 53 females) diagnosed with chronic low back pain staying under care of the Department of Therapeutic Rehabilitation, Regional Polyclinical Hospital in Białystok. Diagnosis was made by physical examination confirmed by imaging studies (computer tomography – CT or magnetic resonance imaging – MRI). Chronic low back pain was defined as a disease of the spinal column manifested by degenerative alterations of the intervertebral disks in the lumbar area.

Study inclusion criteria: patients diagnosed with chronic low back pain, aged 18 – 62 years, pain persisting for at least 3 months, performed diagnostic spine imaging tests (X-ray, CT or MRI).

Exclusion criteria: pregnancy, mental health disorders, cancer, female patients with gynecological diseases.

The study was approved by the Bioethical Committee of the Medical University of Bialystok (R-I-002/109/2009).

Analysis

Assessment tools used for the study included: pain intensity scale, Acceptance of Illness Scale (AIS).

Pain intensity scale

Scale of pain intensity in sciatica and low back pain: 0 – none, 1 – mild, 2 - tolerable, 3 – moderate, 4 – severe, 5 – unbearable [9]. Patients were asked to rate their present pain intensity.

Acceptance of Illness Scale (AIS)

In order to assess the degree of illness acceptance we used the AIS scale designed by Felton et al. (1984) from the Center for Community Research and Action, Department of Psychology, New York University, which was adapted for use in Poland by Professor Juczyński. The AIS scale consists of 8 questions describing consequences of ill health. Questions relate to the limitations set by the illness, lack of self-sufficiency, dependence on others and low self-esteem. Each question has a 5 answer scale: 1 – definitely agree, 2 – agree, 3 – do not know, 4 – disagree, 5 – definitely disagree. Assessing the degree of accepting the present health state was based on the total score, from 8 to 40.

Low total score means no acceptance of illness and emotional problems, whereas high total

score means acceptance of illness and of the present health state as well as positive emotions accompanying the course of illness [11].

To assess the degree of illness acceptance the total score was divided into 3 score ranges: 8-18 no acceptance of illness, 19-29 moderate acceptance and 30-40 good acceptance.

Statistical analysis

The obtained results were subjected to statistical analysis using Statistica 7.1 PL computer software. Nonparametric Yates' chi-square test and Spearman's correlation test were used for the statistical analysis. Assumed level of statistical significance was $p < 0.05$.

RESULTS

Clinical data of patients

The study involved 120 patients, 67 (56%) males and 53 (46%) females (Tab. 1). Mean age of patients was 43.07 ± 8.74 years (range: 18 – 62 years).

Mean age of female patients was 42.04 ± 8.87 years and male patients 43.94 ± 8.60 years, there was no statistical difference in age. Out of all patients, significantly more ($p<0.001$) 86% lived in the city and 14% in the country.

Statistically more ($p<0.001$) patients with chronic low back pain - 86 (72%) were married, 19 patients were single, 8 – widowed and 7 – divorced. Significantly more ($p<0.001$) patients had secondary education 75 (62.5%), 33 patients had higher education, 7 – primary education and 5 – other.

There were 53 (44.2%) patients working physically, 44 (36.6%) mentally, and 23 (19.2%) mixed - physically and mentally. The illness first occurred at mean age 35.48 ± 8.48 years. The duration of the illness ranged between 1 - 31 years (mean 6.90 ± 6.47).

Location of pain in chronic low back pain as follows: 50 (41.67%) lumbosacral region radiating down into the little toe, 36 (30%) lumbosacral region, and 34 (28.3%) popliteal fossa, calf and other.

Almost half of the patients, 59 (49,17%) reported experiencing pain every day ($p<0.01$).

Diagnostic imaging tests included: MRI – 56 (66.6%), CT - 24 (20%) and X-ray – 40 (33.3%). Spine discopathy diagnosed in imaging tests was found at the following levels: the L4-L5 level of the lumbar spine 45 (37.5%) and the L5-S1 level – 30 (25%), less often in the L3-L4 level – 17 (14.5%) and the L3-L2 level – 13 (11%).

In single cases the degenerative alterations were found at the L2-L3, L2-L5 and S1-S2 levels. (Tab. 1)

Work absence due to the illness accounted for average 2-300 (55.89 ± 71.37) days.

Pain intensity

Almost 35 (29.1%) of patients reported moderate pain and scored it as 3 on a 5-point Visual Analog Scale (VAS). They differed significantly ($p<0.001$) from groups with pain intensity 1 and 5, as well as groups with pain intensity 2 and 4 ($p<0.05$). (Fig. 1)

Nearly half of the patients, 59 (49.16%) described their pain as severe on a 5-point pain scale. This number differed significantly ($p<0.001$) from marginal groups of patients with mild and unbearable pain, n=4 and n=6, respectively. Compared with severe and tolerable pain the number was on average 28% higher (Fig. 2).

Pain intensity in relation to gender did not show significant differences, moderately severe pain, both in female and male patients, oscillated around 50% compared to the intensification of other factors (data not presented).

Illness acceptance

No acceptance of illness, according to the AIS scale, was noted in 33 (27.5%) patients, the remaining 67 (72.5%) patients declared 'quite good' and 'average good' illness acceptance. Comparing the results to the AIS scale we found no significant correlation between these factors ($p>0.05$).

We found no dependency between the AIS scale and the type of work (Tab.2).

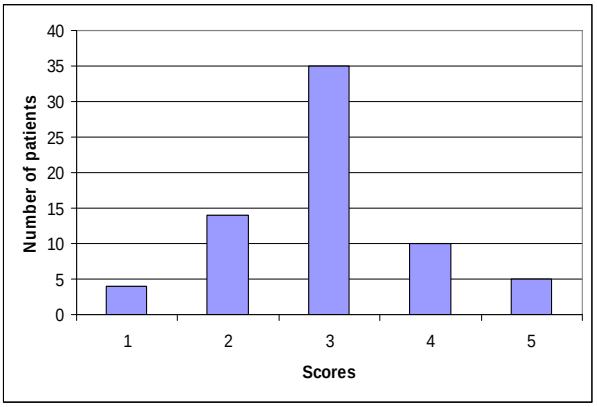

Figure 1. Number of patients with chronic low back pain according to the 5-point visual analog scale (VAS).

Table 1. Demographic and clinical data of patients with chronic low back pain.

	N =120	**%**
Age	43.07 ± 8.74	
Gender		
Male	67	56
Female	56	46
Place of living		
City	103 ***	86
Country	17	14
Marital status		
Married	86 ***	72
Single	19	16
Widowed	8	7
Divorced	7	6
Education		
Primary	7	5.8
Secondary	75 ***	62.5
Higher	33	27.5
Other	5	4.2
Type of work		
Mental	44	36.6
Physical	53**	44.2
Mental/Physical	23	19.2
Pain location		
lumbosacral region radiating down into the little toe	50	41.67
lumbosacral region	36	30
popliteal fossa, calf and other	34	28.3
Frequency of pain occurrence		
Once a month	14	11.67
Twice a month	31	25.83
Daily	59 ***	49.17
Other	16	13.33
Diagnostic imaging tests		
MRI	56**	66.6
CT	24	20
X-ray	40	40
Level of discopathy		
L4-L5	45 ***	37.5
L5-S1	30*	25
L3-L4	17	14.5
L3-S2	13	11
Other (L-2-L3, L2-L5, S1-S2)	15	12.5

*** P<0.001, ** P<0.01; *p<0.05 (Chi^2 test)

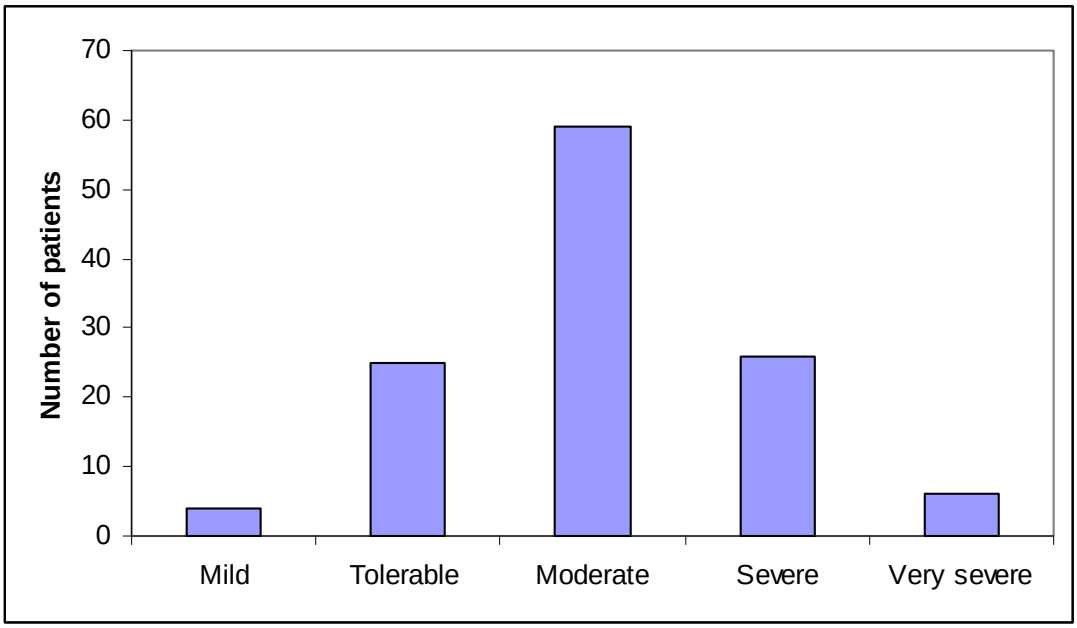

Figure 2. Pain intensity according to a 5-point scale in patients with chronic low back pain.

Table 2. The degree of illness acceptance according to the AIS scale vs. the type of work of patients with chronic low back pain.

Type of work	AIS scale							
	Moderate acceptance		Good acceptance		No acceptance		Total	
	N	%	N	%	N	%	N	%
Mental	12	10	20	16.6	11	9.2	35	29.2
Physical	22	18.3	19	15.8	13	10.8	44	36.6
Mental /Physical	6	5	8	6.6	9	7.5	23	19.2
Total	40	33.3	47	39.2	33	27.5	120	100

DISCUSSION

In this study, no correlation was found between the pain with the chronic low back pain and the illness acceptance. The majority of the patients reported /moderate pain. The studied group included fairly young patients, mean age of just over 40 years, working physically. The number of days of absence from work due to the illness was average 55.89 ± 71.37 days. Interestingly, the absence was not related to the intensity of pain and illness acceptance. Our results are confirmed by other studies on the pain in the lumbosacral spine [12-14]. Professional activity rate is considered valuable in assessing effectiveness of treatment. It is stressed that professional activity rates do not always directly correlate with other factors of assessment, such as pain intensity, degree of disability etc. [12,14]. Likewise, in our study, we did not find a correlation between the pain intensity and work absence. Ability to work, assessed on the basis of criteria accepted in the methodology of this study, reflects patient's individual self-evaluation of the readiness to start work. The final score is the

resultant of patients' level of disability and their mental health state resulting from the degree of the lumbar discopathy. Thorough analysis of patients with the lumbar discopathy should include various individual factors related to their personal life, family, social life, as well as working conditions and relationships [15]. The value of individual factors for predicting return to work is as important as the objective assessment of patients' health status. Patients returning to work had less personal and family problems, and good working relationships [15. No significant differences were noted in the diagnostic imaging tests (X-ray, myelography, CT) of patients returning to work and not returning to work [15].

It should be noted that radiological changes are not directly related to clinical symptoms. In the early clinical stage of discopathy the symptoms may not be accompanied by intervertebral space narrowing. Very often, in persons over 50 years of age various radiologically visible abnormalities are found; 67% of population is diagnosed with intervertebral disc degeneration, however, two-thirds of them are asymptomatic [16]. In the present study, one-third of patients had spine X-ray; the majority, 66% of patients had spine MRI. In a study on 98 asymptomatic patients, only 36% of cases had normal MRI scans. However, 52% of the patients had bulging disc, 27% had disc herniation, and 38% had alterations at two or more levels of the spine [17]. The above confirms that radiological tests of the spine do not always correlate with the pain ailments reported by the patients.

Differences exist in the individual pain tolerance, there are some individuals who handle pain better and others who respond more vigorously to even minor pain stimuli [6,7,13]. An important issue for a suffering individual who must learn to live with pain, in case when effective remedy to sooth it has not yet been found [8]. It is also a difficult situation for a doctor or any other healthcare practitioner, who tries to help the suffering patient and reaches for available remedies. Additionally, the pain ailments are a burden on society, since it should provide the medical, scientific and financial means enabling pain eradication or prevention [6, 13].

When the pain becomes overwhelming, it causes distress and influences other areas of life, including the life of people close to the suffering individual [1,6,13].

Clinical assessment of pain is very difficult and requires extensive experience and knowledge of the subject [6]. When assessing pain, it is important to consider its clinical features, i.e. the intensity, duration and location. The response to pain should also be assessed, especially the emotional and muscular, i.e. motor response. Pain intensity is the most difficult factor to assess. Various numerical scales are used for this purpose, e.g. 1-10 numerical scale, or equivalent comparing the pain to the strongest pain ever experienced by the patient. The scale most commonly used in practice, is simple and categorizes pain into excruciating, severe, moderate, mild and none. In this study, to assess the symptoms of lumbosacral spine discopathy, we used a 5-point scale [6]. Signs specific to low back pain are: leaning, stiffness, limping with a hand placed at the site of pain, facial expression of pain, and groaning [18]. Patient's behavior when in pain may be deliberate, to stress the intensity of suffering, which is commonly observed in practice. However, very often it is a subconscious behavior of individuals with low pain tolerance. In our study, we found no correlations between the duration of pain, its intensity, frequency of occurrence, or gender. In part, the above findings were confirmed in other studies [19-22].

In patients with low back pain, the degree of anxiety and depression is the lowest as compared to patients with cancer or patients with headaches [16]. It is probably related to different patho-mechanisms of pain in various study groups. In case of patients with psychogenic headaches it should be assumed that anxiety and depression are coexisting mental disorders. On the contrary, patients with chronic low back pain also report symptoms of depression [18, 19, 23,24].

Acceptance is a person's agreement to a decision, opinion, view, action, or a person's positive attitude. On the contrary, this notion means giving consent to something. Illness acceptance or the lack of it is an important element in treatment of many illnesses and especially the chronic illnesses [11]. Almost half of the patients 48.3% in our study, reported pain in the lumbosacral spine region and 25.8% did not accept it. The above findings were confirmed in other studies [23-25].

The epidemiologic data on the spinal pain syndrome lists groups of professionals related to hard physical work (e.g. miners) or long-term work in forced conditions e.g. office workers, teachers or professional drivers [13, 15].

Similarly, in the present study, we found the predominance of the physical and office workers or individuals working in forced conditions.

Huljen et al. [26] analyzed the correlation between the intensity of lumbar spine pain, and the physical activity. With the use of an accelerometer and an electronic diary they measured daytime physical activity of 66 patients with back pain for 14 days. What is interesting, they noted a moderate correlation between the physical activity reported by the patients and an objective level of physical activity. Additionally, the intensity of pain was not related to the physical activity of patients.

In part, the above results are unanimous with our findings. In our study group, the patients were also actively working despite the spinal pain.

Treatment of the spinal pain syndrome includes various physiotherapeutic (electrotherapy, laser therapy, ultrasound), kinesitherapeutic and operational methods. Manual therapy becomes widely used [27]. Patients in our study, also used various types of therapy (data not presented).

The limitations of our study, may among others, relate to the lack of analysis of such spinal pain risk factors as: smoking, overweight, height and chronic diseases, as well as applied methods of treatment.

CONCLUSIONS

1. The conducted studies and the analysis of their results demonstrate that the pain in the lumbosacral spine affects different areas of patient's life.
2. Chronic pain present in the studied patients lasted approximately 6 years.
3. Pain reported due to chronic low back pain by the majority of the patients was of moderate intensity.
4. No correlation was found between the pain and illness acceptance.
5. Work absence was not related to the intensity of pain and illness acceptance.

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