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Article

Relationship Between Psychological Factors and Health-Related Quality of Life in Patients with Chronic Low Back Pain

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Abstract: Low back pain has frequently been mentioned as the most common sort of chronic pain and numerous studies have confirmed its influence on Health Related Quality of Life (HRQoL). The aim of this study is to assess the relationship between age, pain intensity, pain catastrophizing, depression, anxiety, pain-related anxiety, chronic pain acceptance and psychological and physical dimensions of HRQoL in patients with chronic low back pain (CLBP). Data were collected from 201 patients with CLBP using sociodemographic data, the SF-36 Health Status Questionnaire (SF-36), the Hospital Anxiety and Depression Scale (HADS), the Pain Anxiety Symptoms Scale Short Form 20 (PASS-20), the Pain Catastrophizing Scale (PCS), the Chronic Pain Acceptance Questionnaire (CPAQ-8) and the Numeric Pain Rating Scale (NRS). The linear regression model for dependent variable Physical Health (SF-36 PhyH) was statistically significant ($F(7,201) = 38.951, p < 0.05$), explained 57.6% of variance regarding Physical Health dimension of HRQL in patients with CLBP. The linear regression model for dependent variable Psychological Health (SF-36 PsyH) was statistically significant ($F(7,200) = 39.049, p < 0.05$), explained 57.7% of variance regarding Psychological Health dimension of HRQL in patients with CLBP. The findings of this study confirm that age, pain intensity, depression, pain-related anxiety, and chronic pain acceptance are significant predictors of the physical dimension of HRQoL, while pain intensity, anxiety, and depression proved to be significant predictors of the psychological dimension of HRQoL in patients with CLBP.

Keywords: chronic low back pain; health-related quality of life; psychological factors

1. Introduction

The International Association for the Study of Pain (IASP) definition of pain, which underwent its last revision in 2020, describes pain as an unpleasant sensory and emotional experience associated with actual or potential tissue damage; or similar to that experience associated with actual or potential tissue damage, with the important note that pain is always a personal experience influenced to varying degrees by biological, psychological, and social factors [1]. The traditional biomedical approach is ineffective in assessing psychosocial, and behavioral mechanisms that can change the manifestation and maintenance of pain [2,3]. According to Fillingim's biopsychosocial model of pain, the painful stimulus is processed through the biopsychosocial context of the individual, which leads to the experience of pain [4].

Chronic pain (CP) is defined as pain that lasts or recurs for more than three months [5]. It represents a significant public health problem reported by about 20% of adults in the world and is one of the most common reasons people seek medical help [6]. Low back pain (LBP) has frequently been mentioned as the most common sort of chronic pain [7,8]. Although many episodes of LBP improve significantly within six weeks and 33% of patients recover in the first three months, research has shown that 65% patients continue to report pain after 12 months [9,10]. Furthermore, up to 33%

of patients will have a relapse within one year after recovering from the previous episode [9,11]. According to the Global Burden of Diseases Study from 2017, LBP included 577 million people, including all age groups and genders and women had a higher prevalence than men. In 2020, LBP affected 619 million people worldwide, and it is estimated that the number of cases will increase to 843 million by 2050, mainly due to population growth and aging [12]. Research shows a negative impact of CLBP on the QOL [13,14].

Quality of life (QOL) is a broad concept that includes all aspects of an individual's life, while Health-related quality of life (HRQoL) focuses on aspects of quality of life related to an individual's health [15], including the level of people's daily functioning and the ability to live a fulfilled life [16]. Numerous studies have confirmed the influence of CLBP on HRQoL in a variety of life domains, including physical and mental health, social relationships, and functional abilities [8,15,17]. Psychological factors are also an important predictor for evaluating the effectiveness of CLBP treatment [18]. Hong et al. studied depression, anxiety, disability, and HRQoL in patients with CLBP and found that these patients have significant functional disability, significantly impaired psychological status, and impaired HRQoL [19]. Also, the research by Hnatešen et al. showed the existence of impaired HRQoL and significant emotional distress in patients with CLBP [13]. Therefore, some of the psychological factors, such as anxiety [20], depression [21], pain catastrophizing [22,23] and pain acceptance [22] are recognized as important predictors of HRQoL. A systematic review by Agnus Tom et al. pointed out a psychological status of the individual as a significant contributor to the QOL of individuals with CLBP. Numerous psychological factors, such as kinesiphobia, pain and fear avoidance beliefs, self-efficacy, anxiety, coping mechanisms, sleep quality, locus of control, and catastrophizing, were found to be significant QOL determinants in people with CLBP [15].

Despite the existence of numerous studies that have identified individual psychological factors as predictors of impaired HRQoL, a clinical environment that focuses more on the physical aspect still prevails. Hence, the aim of this study is to assess the relationship between pain intensity, pain catastrophizing, depression, anxiety, pain-related anxiety, pain acceptance and HRQoL in patients with CLBP with a goal of support existing findings and raising awareness of the importance of a biopsychosocial approach in the treatment of CLBP. Also, the research aims to emphasize the importance of psychological interventions in the treatment of CLBP.

2. Materials and Methods

2.1. Participants

This cross-sectional study was conducted at the Clinical Department of Pain Management at the University Hospital Osijek between March 2023 and May 2023. Using the G*Power program [24], the minimum required sample size for the purposes of conducting regression analysis was calculated. For a medium effect size with a significance level of 0.05 and a power of 0.80 minimum sample size was 102. Data were collected from 201 patients with CLBP. The inclusion criteria were that participants are 18 years of age or older and have CLBP (≥ 3 months). The exclusion criteria were acute pain, dominant pain in a part of the body other than the lower back and cancer pain, the presence of a psychotic disorder and moderate to severe cognitive impairment. The participants were also asked for written consent to voluntary participate in the study. The study was conducted with the approval of the Ethics Committee (R1-11662-2/2022.) and in accordance with the Declaration of Helsinki.

2.2. Measures

All participants were asked to complete the sociodemographic data, the SF-36 Health Status Questionnaire (SF-36), the Pain Anxiety Symptoms Scale Short Form 20 (PASS-20), the Hospital Anxiety and Depression Scale (HADS), the Chronic Pain Acceptance Questionnaire (CPAQ-8) and the Numeric Pain Rating Scale (NRS).

Sociodemographic data collected information about gender, age, residence, education level, working status, marital status, and duration of pain.

The SF-36 Health Status Questionnaire (SF-36) was used to evaluate health related quality of life. It consists of eight subscales: physical functioning, bodily pain, role limitations due to physical health, role limitations due to emotional problems, mental health, social functioning, vitality, and general health. The SF-36 questionnaire represents two general concepts of health: physical health (PhyH) and psychological health (PsyH) dimensions of HRQoL. The subscales evaluate health between 0 and 100 where 0 indicates poor health and 100 good health [25]. The SF-36 demonstrated good psychometric properties on the representative sample of Croatian adult population [26]. In the current study, Cronbach's alpha was acceptable for all subscales. The lowest Cronbach's alpha was for the subscale general health and it was 0.72, while the highest was for the subscale role limitations due to emotional problems and it was 0.91.

The Pain Anxiety Symptoms Scale Short Form 20 (PASS-20) was used to evaluate pain-related anxiety. The PASS-20 assesses pain-specific anxiety symptoms and consists of four 5-item subscales measuring cognitive anxiety responses, escape and avoidance, fearful thinking, and physiological anxiety responses. All items are rated on a frequency scale from 0 (never) to 5 (always). The total score is obtained by adding the sum of rounded values. A higher score indicates greater pain-related anxiety [27]. The PASS-20 demonstrated good psychometric properties on the CLBP sample with the Cronbach's alpha values for the subscales and total score ranged from 0.70 to 0.91 [28]. In the current study, PASS-20 also demonstrated good psychometric properties with the values ranged from 0.86 to 0.95.

The Pain Catastrophizing Scale (PCS) is a measure of catastrophizing associated with the experience of pain. It consists of 13 items in which the respondent's task is to recall the last painful experience and mark on a Likert scale to what extent they felt in relation to the statements. Responses are ranked from 0 (never) to 4 (all the time). The PCS includes three subscales: rumination, exaggeration, and helplessness. The total score is obtained by adding the sum of rounded values with a range of results from 0 to 52. The higher result denote a higher level of catastrophizing. Given that all three subscales are highly correlated, a total score is generally used [29]. The Croatian version of PCS showed the same 3-factor structure (rumination, magnification and helplessness). It also showed appropriate internal consistency with the Cronbach alpha of 0.88 [30]. In the current study, Cronbach's alpha was 0.95.

The Hospital Anxiety and Depression Scale (HADS) was used to measure anxiety and depression. The scale consisted of 14 items: 7 related to anxiety and 7 to depression. It is scored with 4-point (0–3) Likert-type responses, with three denoting the highest anxiety or depression level, so the possible scores ranged from 0 to 21 for anxiety and 0 to 21 for depression [31]. There are 3 categories of symptoms intensity, with a score lower than 7 being interpreted as asymptomatic, a score of 8 to 10 indicating mild or moderate symptoms, and a score of 10 or more suggesting clinically significant symptoms [32]. The HADS demonstrated good psychometric properties with the Cronbach's alpha values for the subscales ranged from 0.68 to 0.93 for anxiety and from 0.67 to 0.90 for depression [33]. In the current study, Cronbach's alpha was 0.88 for anxiety and 0.83 for depression.

The Chronic Pain Acceptance Questionnaire (CPAQ-8) was used to measure chronic pain acceptance. The CPAQ-8 consists of two subscales, each assessing a different aspect of pain acceptance. Activity engagement (AE) assesses the degree to which respondents report being active with the continuing experience of pain. Pain willingness (PW), assesses the degree to which respondents report being open to the experience of pain without the need to engage in unsuccessful pain control efforts. It is scored on a Likert scale (0–6), with lower scores indicating lower levels of AE and PW [34]. All CPAQ-8 scales demonstrated good internal consistency with the Cronbach's alpha higher than 0.80 [35]. In the current study, Cronbach's alpha was 0.74 for PW and 0.83 for AE.

The Numeric Pain Rating Scale (NRS) was used to measure the intensity of pain. The scale consists of a solid line bounded at the beginning and end of its length by numbers from 0 to 10. On the far left is the number 0, which indicates the absence of pain, while on the far right is the number 10, which indicates unbearable pain [36].

2.3. Statistical Analysis

Statistical analysis was performed with the IBM SPSS Statistics (release 24.0.0.0; IBM Corp., 2016. IBM SPSS Statistics for Windows, IBM Corp., Armonk, NY, USA) software tools, with statistical significance defined as $p < 0.05$. All data were tested for normality with skewness and kurtosis. After normality analysis, descriptive statistics were calculated for patient sociodemographic characteristics and for all applied scales (SF-36, PASS-20, HADS, CPAQ-8, and PSC). Pearson's correlation coefficient and linear regression analysis were conducted to examine the relationship between SF-36 (PhyH and PsyH) and the other variables (age, NRS, PASS-20, HADS, PCS, and CPAQ-8).

3. Results

This study involved 201 patients who met the inclusion criteria, agreed to participate, signed the informed consent form, and answered the questionnaires. Sociodemographic characteristics such as gender, age, education level, working status, marital status, and duration of pain are shown in Table 1. The mean age was 54.36 \pm 12.072 years (in a range from 27 to 82 years). The majority of the sample was female (78.6%), living in urban areas (65.7%), employed (63.1%), married (68.1%), had a secondary education (67.7%), and had CLBP for more than 7 years (51A.3%).

Table 1. Patients sociodemographic characteristics.

Characteristics	Value
Gender, n(%)	
Male	43 (21.4)
Female	158 (78.6)
Age (years), mean \pm SD	
	54.36 \pm 12.072
Residence, n (%)	
Urban	132 (65.7)
Rural	69 (34.3)
Working status, n (%)	
Employed	127 (63.1)
Unemployed	23 (11.4)
Retired	51 (25.5)
Marital status, n (%)	
Married	137 (68.1)
Divorced	20 (10.0)
Single	29 (14.4)
Widowed	15 (7.5)
Education level, n (%)	
Primary education	15 (7.5)
Secondary education	136 (67.7)
Tertiary education	50 (24.8)
Pain duration	
<1 year	38 (18.9)
1-3 years	32 (15.9)
4-6 years	28 (13.9)
>7 years	103 (51.3)

The data were tested for normality with skewness and kurtosis. Their result proved to be satisfactory for conducting parametric statistics. The summary of the scores of the applied questionnaires is presented in Table 2.

Table 2. Distribution of questionnaires scores.

Variables	Mean +/- SD	Minimum	Maximum
NRS	6.5 +/- 1.722	2	10
SF-PhyH	32.27 +/- 14.590	3.75	78.13
SF-PsyH	44.08 +/- 20.433	0	93.25
PSC	25.06 +/- 11.201	1	52
PASS-20	48.94 +/- 20.822	4	100
CPAQ-8	34.95 +/- 6.347	18	48
HADS-A	8.49 +/- 4.371	0	19
HADS-D	7.36 +/- 3.954	0	18

*SF-PhyH- Health Status Questionnaire-Physical Health, SF-PsyH- Health Status Questionnaire-Psychological Health, NRS- The Numeric Pain Rating Scale, PSC- The Pain Catastrophizing Scale, PASS-20- Pain Anxiety Symptoms Scale Short Form, CPAQ-8- Chronic Pain Acceptance Questionnaire, HADS-A-The Hospital Anxiety and Depression Scale (HADS)- Anxiety, HADS-D-The Hospital Anxiety and Depression Scale (HADS)-Depression.

Table 3 outlines Pearson's correlation coefficient among measured variables. Significant correlations were found between the SF-PhyH and SF-PsyH dimensions of HRQoL. Onwards, significant correlations were also found between SF-PhyH and age, NRS, PSC, PASS-20, CPAQ-8, HADS-A, and HADS-D. Significant correlations were also found between SF-PsyH and NRS, PSC, PASS-20, CPAQ-8, HADS-A, and HADS-D.

Table 3. Pearson's correlation coefficient among measured variables.

	SF-PhyH	SF-PsyH	Age	NRS	PSC	PASS-20	CPAQ-8	HADS-A	HADS-D
SF-PhyH	1								
SF-PsyH	0.74*	1							
Age	-0.20*	-0.11	1						
NRS	-0.53*	-0.42*	0.06	1					
PSC	-0.52*	-0.51*	0.04	0.38*	1				
PASS-20	-0.56*	-0.50*	-0.01	0.44*	0.68*	1			
CPAQ-8	0.32*	0.31*	-0.07	-0.08	-0.12	-0.19*	1		
HADS-A	-0.59*	-0.70*	0.12	0.27*	0.62*	0.626*	-0.29*	1	
HADS-D	-0.61*	-0.65*	0.17*	0.29*	0.51*	0.509*	-0.41*	0.76*	1

*SF-PhyH- Health Status Questionnaire-Physical Health, SF-PsyH- Health Status Questionnaire-Psychological Health, NRS- The Numeric Pain Rating Scale, PSC- The Pain Catastrophizing Scale, PASS-20- Pain Anxiety Symptoms Scale Short Form, CPAQ-8- Chronic Pain Acceptance Questionnaire, HADS-A-The Hospital Anxiety and Depression Scale (HADS)- Anxiety, HADS-D-The Hospital Anxiety and Depression Scale (HADS)-Depression, *- p < 0.05.

Furthermore, linear regression analysis was conducted to examine the relationship between SF-PhyH and SF-PsyH as the dependent variables and all the other variables (age, NRS, PASS-20, HADS-A, HADS-D, PCS, and CPAQ-8). The regression coefficients of the predictors for the dependent variable SF-PhyH are shown in Table 4. A significant model emerged ($F(7,201) = 38.951$, $p < 0.05$), explaining 57.6% of the variance of SF-PhyH. Age, NRS, HADS-D, PASS-20, and CPAQ-8 contributed significantly to this model.

Table 4. Summary of linear regression analysis for dependent variable SF-PhyH.

	R ² 0.576		Adjusted R ² 0.561	
Predictors	B	β	t	P-value
(Constant)	66.042		10.941	<0.0001*
Age	-0.130	-0.107	-2.247	0.024*
NRS	-2.725	-0.321	-6.196	<0.0001*
HADS-A	-0.450	-0.135	-1.656	0.099
HADS-D	-0.915	-0.248	-3.274	0.001*
PASS-20	-0.104	-0.148	-2.119	0.035*
CPAQ-8	0.250	-0.109	2.146	0.033*
PSC	-0.084	-0.064	-0.947	0.345

*SF-PhyH- Health Status Questionnaire-Physical Health, NRS- The Numeric Pain Rating Scale, HADS-A-The Hospital Anxiety and Depression Scale (HADS)- Anxiety, HADS-D-The Hospital Anxiety and Depression Scale (HADS)- Depression, PASS-20- Pain Anxiety Symptoms Scale Short Form, CPAQ-8- Chronic Pain Acceptance Questionnaire, PSC- The Pain Catastrophizing Scale, *- $p < 0.05$ p < 0.05.

The regression coefficients of the predictors for the dependent variable SF-PsyH are shown in Table 5. A significant model as well emerged ($F(7,200) = 39.049$, $p < 0.05$), explaining 57.7% of the variance of SF-PhyH. The following variables significantly contributed to this model: NRS, HADS-A, and HADS-D.

Table 5. Summary of linear regression analysis for dependent variable SF-PsyH.

	R ² 0.577		Adjusted R ² 0.563	
Predictors	B	β	t	P-value
(Constant)	76.964		9.122	<0.0001*
Age	0.002	0.001	0.030	0.976
NRS	-2.638	-0.222	-4.294	<0.0001*
HADS-A	-2.134	-0.458	-5.616	<0.0001*
HADS-D	-0.981	-0.190	-2.509	0.013*
PASS-20	-0.039	0.040	0.573	0.567
CPAQ-8	0.290	0.090	1.782	0.076
PSC	-0.110	-0.061	-0.890	0.345

*SF-PhyH- Health Status Questionnaire-Physical Health, NRS- The Numeric Pain Rating Scale, HADS-A-The Hospital Anxiety and Depression Scale (HADS)- Anxiety, HADS-D-The Hospital Anxiety and Depression Scale (HADS)- Depression, PASS-20- Pain Anxiety Symptoms Scale Short Form, CPAQ-8- Chronic Pain Acceptance Questionnaire, PSC- The Pain Catastrophizing Scale, *- $p < 0.05$ p < 0.05.

4. Discussion

The aim of this study was to investigate whether pain intensity, pain catastrophizing, depression, anxiety, fear of pain, and pain acceptance can predict the physical and psychological dimensions of HRQoL in patients with CLBP.

This study's sample consisted mainly of female participants. This ratio by gender can be expected because studies show a higher prevalence of CLBP in women [37,38]. The majority of participants had completed their secondary education, which matched the proportion of the adult population of the Republic of Croatia [39].

The findings of this study identified the existence of moderate intensity of pain and a lower self-assessment of physical than psychological dimension of HRQoL in patients with CLBP. These findings are in agreement with other studies [40,41]. For example, Stefane et al. also found moderate pain intensity and greater impairment in the physical dimension of QoL in CLBP patients [41].

Furthermore, the results of the study indicate a statistically significant correlation between the psychological and physical dimensions of HRQoL and all investigated psychological factors: pain catastrophizing, pain-related anxiety, chronic pain acceptance, depression, and anxiety. Numerous studies have already confirmed such findings and highlighted the connection between the mentioned psychological factors and the HRQoL of patients with CLBP [8,15,17,21–23]. As expected, this study found a positive correlation between pain acceptance and HRQoL, and a negative correlation between pain catastrophizing and HRQoL which is in accordance with the research findings from the study conducted by authors Semeru and Halim. Their explanation of such results is that acceptance provided the patient with physical pain relief, which improved their QOL. On the other hand, people who catastrophize about their pain have a lower QOL and are more likely to become angry, upset, and worried about their pain [22].

In a current study, pain intensity was proved to be a strong predictor of the physical and psychological dimensions of HRQoL in patients with CLBP. This finding agrees with the research of Mutubiki et al. who found a significant negative longitudinal relationship between NRS and HRQoL [42]. A similar result was obtained by Wettstein et al., where older patients, despite significant physical disability, achieved better results on assessments of psychological health and well-being compared to younger patients [43].

Looking separately at the psychological and physical dimensions of HRQoL, an interesting result was obtained in the research. It was shown that more psychological factors were significant predictors of the physical dimension of HRQoL, while fewer psychological factors significantly predicted the psychological dimension of HRQoL. Thus, in the prediction of the physical dimension of HRQoL, pain intensity stood out as the most important predictor, followed by depression, pain-related anxiety, chronic pain acceptance, and age as a demographic factor. In the explanation of the variance in the regression model of the psychological dimension of HRQoL, anxiety proved to be the strongest predictor. Along with it, the intensity of pain and depression also proved to be significant. Surprisingly, age, pain-related anxiety, and chronic pain acceptance were not significant predictors of the psychological dimension of HRQoL. Regarding age and HRQoL, in this study, age was shown to be a significant predictor of only the physical dimension of HRQoL. Other studies also give inconsistent results. Some studies have identified age as a significant predictor of the psychological health dimension of HRQoL [43,44], while another study revealed that age does not affect any dimension of QOL [45]. Although research finds a connection between depression and anxiety and HRQoL [46–48], in this study only depression was found to be a significant predictor of the physical dimension of HRQoL. Nevertheless, both anxiety and depression were found to be significant predictors of the psychological dimension of HRQoL. This finding can be explained by the significant influence of physiological symptoms of depression, such as fatigue and a lack of energy, on the physical dimension of HRQoL. Similar to the obtained result, in the research conducted by Hung et al., depression was the most powerful factor associated with disability of CLBP among depression, anxiety, and somatic symptoms [49]. As mentioned earlier, pain related anxiety proved to be a significant predictor of only the physical dimension of HRQoL. A meta-analytic review from Burke et al. confirms a significant level of pain-related anxiety in patients with CP compared to healthy individuals [50]. However, no studies that investigated pain-related anxiety as a predictor of HRQoL were found. The result of the study can be explained by the significant influence of pain-related fear on physical activity and consequently, on the physical dimension of the HRQoL of patients with CLBP. A similar explanation is offered by Marchal et al., who emphasize the importance of fear and depression as factors that influence the physical disability of CLBP patients [51]. Furthermore, the same trend as with pain-related anxiety was also found with the chronic pain acceptance factor, which proved to be a significant predictor of only the physical dimension of HRQoL. In contrast, the research by Viane et al. showed that acceptance of pain predicted mental well-being but did not account for physical functioning [52]. It can be assumed that in this study chronic pain acceptance played an important role in participation in activities despite the pain and led to a better assessment of the physical dimension of HRQoL. This explanation is similar to the perspective of Semeru et al., whose study investigated the relationship between chronic pain acceptance and the overall quality

of life of patients with CLBP and found that acceptance increased the patient's quality of life by giving physical relief from pain [22]. Unlike some research that emphasizes the importance of pain catastrophizing as a predictor of QOL in patients with CLBP [22,53], in this research, pain catastrophizing was not found to be a significant predictor of any HRQoL dimension. Although the research found a statistically significant correlation between pain catastrophizing and both dimensions of HRQoL, it did not stand out as a significant predictor in the linear regression analysis. It can be assumed that pain catastrophizing had a moderating effect on other factors included in the model, such as anxiety, depression, pain-related anxiety, and chronic pain acceptance. In accordance with this assumption, some studies using regression analysis found that catastrophizing and depression are significantly associated [54,55].

There are some limitations to this study that should be emphasized such as the cross-sectional design. Onwards, the study did not investigate the relationship between the duration of CLBP, the use of medications, the presence of other chronic diseases, and HRQoL. Also, some psychological factors, such as personality traits, coping strategies, or perception of illness were not included. Additionally, the research included a large number of instruments, which might have fatigued the patients and reduced their motivation and focus when completing the questionnaire and there is always potential recall bias in patient-reported measures.

Findings from this research can contribute to a better understanding of the predictive factors of HRQoL in patients with CLBP and could be applied in clinical practice to improve CLBP management, focusing on psychological interventions. The results support and highlights the important role of psychological factors that predict the psychical and psychological dimensions of HRQoL. Moreover, the new results of this study can contribute to raising awareness of healthcare professionals about the important impact of psychological factors on all dimensions of HRQoL in patients with CLBP. In conclusion, these findings can play an important role in the creation of interventions in the treatment of CLBP based on the biopsychosocial model and focused on the person as a whole, not only on his physical health. A future research direction may be to create a longitudinal study or research based on psychological interventions related to factors that have been shown to be predictors of HRQoL in patients with CLBP.

5. Conclusions

The results of the study identified a statistically significant correlation between the psychological and physical dimensions of HRQoL and all investigated psychological factors: pain catastrophizing, pain-related anxiety, chronic pain acceptance, depression, and anxiety. Furthermore, age, pain intensity, depression, pain-related anxiety, and chronic pain acceptance stood out as significant predictors of the physical dimension of HRQoL, while pain intensity, anxiety, and depression proved to be significant predictors of the psychological dimension of HRQoL in patients with CLBP. The results highlight the important role of psychological factors that predict the psychical and psychological dimensions of HRQoL and they can be call to action for incorporating psychological assessments and interventions in CLBP treatment.

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Conflicts of Interest: The authors declare no conflicts of interest.

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