



The Effect of Written Emotional Disclosure on Pain-Related Disability Perception and Life Satisfaction in Women with Chronic Lumbar Disc Herniation: A Pilot Study

Kronik Ağrılı Bel Fıtığı Olan Kadınlarda Yazılı Duygusal Dışavurumun Ağrı Engellilik Algısı ve Yaşam Doyumuna Etkisi: Bir Pilot Çalışma

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ABSTRACT

Aim: The aim of this pilot study was to examine the effects of the Written Emotional Disclosure Paradigm (WEDP) on pain-related disability perception and life satisfaction in women diagnosed with chronic lumbar disc herniation.

Material and Method: The sample consisted of 20 women aged 18–65 years who had been diagnosed with lumbar disc herniation and had experienced chronic pain for at least six months. Participants were voluntarily assigned to an experimental group (n=10) or a control group (n=10). The experimental group completed a structured written emotional disclosure task for 15–20 minutes per day over four consecutive days, focusing on stressful or traumatic experiences. The control group wrote about emotionally neutral daily activities. Data were collected using the Quebec Back Pain Disability Scale and the Satisfaction with Life Scale before the intervention and one month after its completion.

Results: Following the intervention, the experimental group demonstrated an increase in life satisfaction scores and a tendency toward reduced pain-related disability perception compared with the control group. However, these changes did not reach statistical significance.

Conclusion: Although no statistically significant effects were observed, the findings suggest that written emotional disclosure may have a supportive role in the management of chronic pain. Given the limited sample size, further studies with larger samples and longer follow-up periods are recommended.

Keywords: Chronic pain, lumbar disc herniation, pain-related disability, life satisfaction, written emotional disclosure paradigm

ÖZ

Amaç: Bu pilot çalışmanın amacı, kronik ağrılı lomber disk hernisi tanısı bulunan kadınlarda yazılı duygusal dışavurum paradigmasının (YDPP) ağrıya bağlı engellilik algısı ve yaşam doyumunu üzerindeki etkilerini incelemektir.

Gereç ve Yöntem: Çalışmanın örneklemini, lomber disk hernisi tanısı almış ve en az altı aydır kronik ağrı yaşayan, 18–65 yaş aralığında toplam 20 kadın oluşturmuştur. Katılımcılar gönüllülük esasına göre deney (n=10) ve kontrol (n=10) gruplarına ayrılmıştır. Deney grubundaki katılımcılar, ardışık dört gün boyunca günde 15–20 dakika stres verici ya da travmatik yaşantılarına ilişkin duygu ve düşüncelerini yazmış; kontrol grubundaki katılımcılar ise duygu içermeyen nötr konularda yazı yazmıştır. Uygulama öncesinde ve uygulamadan bir ay sonra Quebec Ağrı Engellilik İndeksi ve Yaşam Doyumu Ölçeği uygulanmıştır.

Bulgular: Uygulama sonrasında deney grubunda yaşam doyumunu puanlarında artış ve ağrıya bağlı engellilik algısında azalma eğilimi gözlenmiştir. Ancak bu değişimler istatistiksel olarak anlamlı bulunmamıştır.

Sonuç: Elde edilen bulgular, yazılı duygusal dışavurumun kronik ağrı yönetiminde destekleyici bir yaklaşım olabileceğini düşündürmektedir. Örneklem büyüklüğünün sınırlı olması nedeniyle, daha geniş örneklemlerle ve uzun izlem süreleriyle yapılacak çalışmalara ihtiyaç vardır.

Anahtar Kelimeler: Kronik ağrı, bel fıtığı, ağrıya bağlı engellilik, yaşam doyumunu, yazılı duygusal dışavurum

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INTRODUCTION

Low back pain is one of the most common musculoskeletal complaints in the general population and represents a major reason for seeking healthcare services. Epidemiological data indicate that worldwide, low back pain is the second most frequent cause of healthcare utilization after upper respiratory tract infections (1). Owing to its high prevalence and recurrent nature, low back pain constitutes a substantial clinical, social, and economic burden.

The etiology of low back pain is multifactorial and heterogeneous. Structural pathologies, including intervertebral disc degeneration, lumbar disc herniation, and spinal canal stenosis, are among the most commonly reported causes (2,3). Disc herniation may occur at any level of the vertebral column; however, the lumbar region is particularly vulnerable due to its role in bearing body weight and enabling multidirectional movement (4,5). Approximately 90% of all spinal disc herniations are reported to occur in the lumbar region (6).

Intervertebral discs are fibrocartilaginous structures that function as shock absorbers, allowing the spine to tolerate mechanical stress and movement. Lumbar disc herniation (LDH) occurs when disc material protrudes beyond its normal anatomical boundaries due to structural deterioration, resulting in mechanical and inflammatory processes. Low back pain is the most frequently reported and characteristic symptom of LDH and is often the primary reason for medical consultation (7).

Pain associated with LDH is typically persistent and may worsen during activities such as prolonged standing, bending, lifting, or movement, while decreasing during rest (8). In many patients, low back pain is accompanied by radicular pain radiating to the lower extremities due to nerve root compression or irritation. Additional symptoms may include paresthesia, muscle weakness, impaired mobility, and gait disturbances, leading to significant limitations in daily functioning and reduced quality of life. Treatment approaches for LDH vary depending on symptom severity and progression and may include conservative methods such as physical therapy, exercise, and pharmacological interventions, as well as surgical treatment in cases of progressive neurological impairment or emergency conditions (9, 10, 11).

Low back pain is experienced by nearly two-thirds of adults at some point in their lives, and lumbar disc herniation has been identified as a major underlying cause in a substantial proportion of cases (12). Because LDH frequently affects middle-aged individuals during their active working years, it imposes considerable socioeconomic costs and significantly restricts functional capacity (13).

Beyond physical impairment, chronic pain associated with LDH has profound psychological consequences.

Chronic pain is associated with decreased physiological functioning, reduced work capacity, and diminished quality of life, as well as adverse effects on psychological well-being and life satisfaction (14,15). Fear of pain exacerbation often leads individuals to avoid physical activity, which may result in long-term functional decline, increased disability, and heightened psychological distress (16).

Psychological conditions such as depression and anxiety commonly co-occur with chronic pain and are strongly associated with pain intensity and pain-related disability (17). Depression may intensify pain perception and functional impairment, whereas anxiety may reduce pain tolerance (18). These psychological factors further compromise daily functioning, social participation, and overall well-being, underscoring the need for comprehensive treatment approaches (19,20).

Contemporary health models emphasize a biopsychosocial perspective, highlighting the importance of addressing biological, psychological, and social dimensions of illness concurrently (21). Life satisfaction, a key component of subjective well-being, reflects individuals' cognitive and affective evaluations of their lives and is closely related to both physical and mental health outcomes (22,23). Chronic conditions such as low back pain have consistently been associated with reduced life satisfaction due to functional limitations, psychological stress, and restricted participation in daily life (24,25).

Given the high prevalence of chronic pain and its extensive use of healthcare resources, particularly in Türkiye, further research focusing on supportive and integrative interventions is warranted (26,27).

One such intervention is the Written Emotional Disclosure (WED) paradigm, introduced by Pennebaker and Beall, which involves writing about previously unexpressed thoughts and emotions related to stressful or traumatic experiences (6). WED has been associated with improvements in emotional processing, psychological well-being, and quality of life across various populations (28). The structured and private nature of writing is thought to facilitate emotional expression and cognitive integration of stressful experiences (29).

Although the potential benefits of written emotional disclosure have been explored in several chronic medical conditions, including rheumatoid arthritis and asthma, its role in pain-related disability perception and life satisfaction among individuals with chronic painful lumbar disc herniation remains largely unexplored. Given the limited number of studies in this specific population, the present study was designed as an exploratory pilot investigation. Accordingly, the aim of this study is to explore the potential role of written emotional disclosure in pain-related disability perception and life satisfaction among women diagnosed with chronic painful lumbar disc herniation.



MATERIAL AND METHOD

Ethical approval for this study was obtained from the Ethics Committee of the Rectorate of Istanbul Nişantaşı University. The research was reviewed and approved as ethically appropriate (Date: 06.05.2025, Decision No: 2025-05). The study was conducted in accordance with national research ethics regulations and the principles of the Declaration of Helsinki.

This study aimed to examine the effects of a structured written emotional disclosure intervention, consistent with the Written Emotional Disclosure Paradigm, on pain-related disability perception and life satisfaction in women with chronic painful lumbar disc herniation, using a pilot experimental quantitative research design. A pre-test-post-test control group design was employed. Participants were assigned to experimental and control groups using a non-random allocation procedure based on practical considerations, and pre-test and post-test measurements were obtained from both groups. Within this framework, participants in the experimental group were instructed to write about their thoughts and emotions related to stressful or traumatic experiences for a specified period, whereas participants in the control group wrote about emotionally neutral topics such as daily routines. Although the writing task was designed in accordance with the Written Emotional Disclosure Paradigm, the emotional content and depth of the texts were not formally analyzed. Therefore, the intervention is conceptualized as a structured emotional writing task consistent with, but not fully equivalent to, the traditional Written Emotional Disclosure Paradigm.

The Quebec Back Pain Disability Scale and the Satisfaction with Life Scale were administered to participants before the intervention and one month after its completion. Pain-related disability perception and life satisfaction were defined as the dependent variables, while the structured written emotional disclosure intervention was defined as the independent variable.

Sample

The study population consisted of adult women aged 18–65 years who had been diagnosed with lumbar disc herniation by a physician using clinical and radiological methods and who had experienced chronic pain for at least six months. Given the exploratory and pilot nature of the study, a small convenience sample was used. A total of 20 participants were included, with 10 women assigned to the experimental group and 10 to the control group.

Data Analysis

Statistical analyses were conducted using IBM SPSS Statistics 27. Descriptive statistics were calculated for demographic and study variables. Normality assumptions were assessed using skewness and kurtosis values. Baseline group equivalence was examined using independent samples t-tests for continuous variables and chi-square tests for

categorical variables. Within-group pre-test and post-test comparisons were conducted using paired samples t-tests, and between-group post-test comparisons were performed using independent samples t-tests. Given the limited sample size, effect size estimates (Cohen's d) were calculated for all main comparisons to evaluate the magnitude of observed effects. The significance level was set at $p < .05$.

RESULTS

As presented in **Table 1**, the experimental and control groups were completely homogeneous in terms of gender; all participants in both groups were female (100.0%, $n=10$). When age ranges were examined, the majority of participants in the experimental group were in the 41–50 age range (60.0%, $n=6$), whereas the control group showed a distribution mainly within the 31–40 (30.0%, $n=3$) and 41–50 (40.0%, $n=4$) age ranges. No statistically significant difference was found between the groups with respect to age ($\chi^2(3)=0.93$, $p=.817$).

Regarding body weight, the mean weight of the experimental group was ($\bar{X}=67.70$, $SS=6.50$), while the mean weight of the control group was ($\bar{X}=71.30$, $SS=10.18$). The difference between the groups was not statistically significant ($t(18)=-0.94$, $p=.358$). In terms of height, the mean value for the experimental group was ($\bar{X}=159.40$, $SS=5.48$), and for the control group ($\bar{X}=161.60$, $SS=6.10$); this difference was also not statistically significant ($t(18)=-0.85$, $p=.407$).

With respect to marital status, 90.0% ($n=9$) of participants in both groups were married, and no significant difference was observed ($\chi^2(1)=0.00$, $p=1.000$). When educational level was examined, 60.0% ($n=6$) of participants in the experimental group were university graduates, compared to 40.0% ($n=4$) in the control group; however, this difference was not statistically significant ($\chi^2(3)=2.07$, $p=.559$).

In terms of place of residence, 50.0% ($n=5$) of the experimental group lived in a city and 50.0% ($n=5$) in a district, whereas 90.0% ($n=9$) of the control group lived in a city. Although this difference was close to significance, it did not reach statistical significance ($\chi^2(1)=3.81$, $p=.051$). Regarding occupational distribution, 60.0% ($n=6$) of participants in the experimental group were homemakers, compared to 40.0% ($n=4$) in the control group; the difference was not statistically significant ($\chi^2(3)=3.73$, $p=.292$).

A statistically significant difference was found in income level ($\chi^2(3)=10.40$, $p=.015$). The majority of participants in the experimental group reported an income between 42,001–62,000 TL (50.0%, $n=5$), whereas half of the participants in the control group reported an income between 22,001–42,000 TL (50.0%, $n=5$). This finding indicates that the income level of the control group was lower compared to that of the experimental group.



No statistically significant differences were found between the groups in terms of smoking status, alcohol/substance use, presence of chronic illness, continuous medication use, duration of health complaints, use of analgesics, history of physical therapy, psychiatric disorders, or psychiatric medication use (for all variables, $p > .05$).

According to the table above, in order to evaluate whether the scores of the Life Satisfaction Scale and the Quebec Pain Disability Scale conformed to a normal distribution, skewness and kurtosis coefficients for the pre-test and post-

test measurements of the experimental ($n=10$) and control ($n=10$) groups were examined. Normality assumptions for the Life Satisfaction Scale and the Quebec Pain Disability Scale were evaluated using skewness and kurtosis coefficients, as presented in **Table 2**. Skewness values ranged between -0.68 and 0.72 , while kurtosis values ranged between -1.39 and -0.20 for pre-test and post-test measurements in both groups. All values fell within the acceptable ± 2 range, indicating that the data were normally distributed (Hahs-Vaughn & Lomax, 2020).

Table 1. Distribution by Demographic Variables

Variable	Category	Study Group n (%)	Control Group n (%)	χ^2	p
Gender	Female	10 (100.0)	10 (100.0)	–	–
Age Range	18–30	1 (10.0)	2 (20.0)	0.93	0.817
	31–40	2 (20.0)	3 (30.0)		
	41–50	6 (60.0)	4 (40.0)		
	51–65	1 (10.0)	1 (10.0)		
Weight (kg)	Mean \pm SD (Min-Max)	67.70 \pm 6.50 (58–80)	71.30 \pm 10.18 (56–90)	-0.94	0.358
Height (cm)	Mean \pm SD (Min-Max)	159.40 \pm 5.48 (151–171)	161.60 \pm 6.10 (151–170)	-0.85	0.407
Marital Status	Single	1 (10.0)	1 (10.0)	0.00	1.000
	Married	9 (90.0)	9 (90.0)		
Educational Status	Primary school	1 (10.0)	2 (20.0)	2.07	0.559
	Secondary school	1 (10.0)	3 (30.0)		
	High school	2 (20.0)	1 (10.0)		
	University	6 (60.0)	4 (40.0)		
Place of Residence	Province	5 (50.0)	9 (90.0)	3.81	0.051
	District	5 (50.0)	1 (10.0)		
Occupation	Housewife	6 (60.0)	4 (40.0)	3.73	0.292
	Worker	2 (20.0)	1 (10.0)		
	Civil servant	2 (20.0)	2 (20.0)		
	Self-employed	0 (0.0)	3 (30.0)		
Income Level	0–22,000 TL	3 (30.0)	2 (20.0)	10.40	0.015*
	22,001–42,000 TL	0 (0.0)	5 (50.0)		
	42,001–62,000 TL	5 (50.0)	0 (0.0)		
	82,001 TL and above	2 (20.0)	3 (30.0)		
Tobacco Use	No	7 (70.0)	7 (70.0)	0.00	1.000
	Yes	3 (30.0)	3 (30.0)		
Alcohol/Substance Use	No	10 (100.0)	9 (90.0)	1.05	0.305
	Yes	0 (0.0)	1 (10.0)		
Chronic Illness	No	8 (80.0)	6 (60.0)	0.95	0.329
	Yes	2 (20.0)	4 (40.0)		
Regular Medication Use	No	7 (70.0)	8 (80.0)	0.27	0.606
	Yes	3 (30.0)	2 (20.0)		
Duration of Illness Symptoms	More than 1 year	10 (100.0)	10 (100.0)	–	–
Painkiller Use	No	3 (30.0)	3 (30.0)	6.67	0.155
	Several times a year	4 (40.0)	0 (0.0)		
	1–2 times a month	2 (20.0)	4 (40.0)		
	1–2 times a week	1 (10.0)	1 (10.0)		
	Every day	0 (0.0)	2 (20.0)		
Physical Therapy Application	No	9 (90.0)	9 (90.0)	0.00	1.000
	Yes	1 (10.0)	1 (10.0)		
Psychiatric Disorder	None	9 (90.0)	9 (90.0)	0.00	1.000
	Yes	1 (10.0)	1 (10.0)		
Psychiatric Medication Use	Does not use	9 (90.0)	9 (90.0)	0.00	1.000
	Uses	1 (10.0)	1 (10.0)		

Table 2. Life Satisfaction Scale, Quebec Pain Disability Scale Scores' Kurtosis and Skewness Values

	Study Group (n=10)				Control Group (n=10)			
	Pre-test		Post-test		Pre-test		Post-test	
	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis	Skewness
Life Satisfaction Scale	-0.30	-0.31	-0.45	0.61	-1.39	0.72	-0.71	0.58
Quebec Pain Disability Scale	-0.20	-0.68	-0.55	-0.51	-0.49	0.00	-0.79	-0.20



Findings Related to Pre-Test Results

As shown in **Table 3**, no statistically significant difference was found between the experimental group ($\bar{X}=15.10$, $SS=2.23$) and the control group ($\bar{X}=17.80$, $SS=4.83$) in terms of Life Satisfaction Scale pre-test scores ($t(18)=-1.61$, $p=.133$). However, the effect size indicated a moderate magnitude difference between the groups (Cohen's $d=0.71$), suggesting that although the difference did not reach statistical significance, the magnitude of the group difference was meaningful.

Similarly, no statistically significant difference was observed between the experimental group ($\bar{X}=32.30$, $SS=13.96$) and the control group ($\bar{X}=32.70$, $SS=16.60$) with respect to Quebec Pain Disability Scale pre-test scores ($t(18)=-0.06$, $p=.954$). The effect size for this comparison was negligible (Cohen's $d=0.02$), indicating an almost complete overlap between the two groups in terms of pain-related disability at baseline.

Overall, these findings demonstrate that the experimental and control groups were comparable at baseline in terms of both life satisfaction and pain-related disability prior to the intervention, with the exception that life satisfaction scores showed a moderate, albeit non-significant, group-level difference.

Findings Related to Pre-Test and Post-Test Results

An examination of the results presented in **Table 4** indicated that there was no statistically significant difference between the pre-test ($\bar{X}=15.10$, $SS=2.23$) and post-test ($\bar{X}=16.00$, $SS=2.79$) scores on the Life Satisfaction Scale ($t(9)=-1.30$, $p=.225$). However, the effect size suggested a small-to-moderate

magnitude change (Cohen's $d=0.41$), indicating a limited improvement in life satisfaction following the intervention that did not reach statistical significance.

Similarly, no statistically significant difference was found between the pre-test ($\bar{X}=32.30$, $SS=13.96$) and post-test ($\bar{X}=28.00$, $SS=15.09$) scores on the Quebec Pain Disability Scale ($t(9)=0.73$, $p=.487$). The corresponding effect size was small (Cohen's $d=0.29$), suggesting a modest reduction in pain-related disability that was not statistically significant.

Overall, these findings indicate that although the intervention did not produce statistically significant changes in life satisfaction or pain-related disability within the experimental group, the observed effect sizes point to small to moderate practical changes, particularly for life satisfaction.

An examination of the results presented in **Table 5** revealed that there was no statistically significant difference between the pre-test ($\bar{X}=17.80$, $SS=4.83$) and post-test ($\bar{X}=18.10$, $SS=4.41$) scores on the Life Satisfaction Scale ($t(9)=-0.46$, $p=.656$). The effect size for this comparison was small (Cohen's $d=0.15$), indicating a negligible change in life satisfaction over time within the control group.

Similarly, no statistically significant difference was observed between the pre-test ($\bar{X}=32.70$, $SS=16.60$) and post-test ($\bar{X}=35.50$, $SS=22.44$) scores on the Quebec Pain Disability Scale ($t(9)=-0.55$, $p=.598$). The corresponding effect size was also small (Cohen's $d=0.17$), suggesting a minimal change in pain-related disability levels in the control group.

Overall, these findings indicate that neither life satisfaction nor pain-related disability exhibited meaningful change over time in the control group, as reflected by both the non-significant statistical results and the small effect size estimates.

Table 3. Comparison of Life Satisfaction Scale and Quebec Pain Disability Scale Scores by Group (Pre-Test)

	Study Group (n=10)		Control Group (n=10)		t	df	p	Cohen d
	M	SD	M	SD				
Life Satisfaction Scale	15.10	2.23	17.80	4.83	-1.61	18	0.133	0.71
Quebec Pain Disability Scale	32.30	13.96	32.70	16.60	-0.06	18	0.954	0.02

*** $p<.001$, ** $p<.01$, * $p<.05$ Test used: Independent Samples T-Test

Table 4. Comparison of Pre-Test and Post-Test Life Satisfaction Scale and Quebec Pain Disability Scale Scores of the Experimental Group

	Pre-Test (n=10)		Post-Test (n=10)		t	df	p	Cohen d
	M	SD	M	SD				
Life Satisfaction Scale	15.10	2.23	16.00	2.79	-1.30	9	0.225	0.41
Quebec Pain Disability Scale	32.30	13.96	28.00	15.09	0.73	9	0.487	0.29

*** $p<.001$, ** $p<.01$, * $p<.05$ Test used: Paired Samples T-Test

Table 5. Comparison of Pre-Test and Post-Test Life Satisfaction Scale and Quebec Pain Disability Scale Scores of the Control Group

	Pre-Test (n=10)		Post-Test (n=10)		t	df	p	Cohen d
	M	SD	M	SD				
Life Satisfaction Scale	17.80	4.83	18.10	4.41	-0.46	9	0.656	0.15
Quebec Pain Disability Scale	32.70	16.60	35.50	22.44	-0.55	9	0.598	0.17

*** $p<.001$, ** $p<.01$, * $p<.05$ Test used: Paired Samples T-Test

**Table 6. Comparison of Life Satisfaction Scale and Quebec Pain Disability Scale Scores by Group (Post-Test)**

	Study Group (n=10)		Control Group (n=10)		t	df	p	Cohen d
	M	SD	M	SD				
Life Satisfaction Scale	16.00	2.79	18.10	4.41	-1.27	18	0.219	0.57
Quebec Pain Disability Scale	28.00	15.09	35.50	22.44	-0.88	18	0.392	0.39

***p<.001, **p<.01, *p<.05 Test used: Independent Samples T-Test

Findings Related to Post-Test Results

As presented in **Table 6**, no statistically significant difference was found between the experimental group ($X=16.00$, $SS=2.79$) and the control group ($X=18.10$, $SS=4.41$) in terms of Life Satisfaction Scale post-test scores ($t(18)=-1.27$, $p=.219$). However, the effect size indicated a moderate magnitude difference between the groups (Cohen's $d=0.57$), suggesting that although the observed difference did not reach statistical significance, a meaningful group-level difference in life satisfaction was present at post-test.

Similarly, no statistically significant difference was found between the experimental group ($\bar{X}=28.00$, $SS=15.09$) and the control group ($\bar{X}=35.50$, $SS=22.44$) with respect to Quebec Pain Disability Scale post-test scores ($t(18)=-0.88$, $p=.392$). The effect size for this comparison was small to moderate (Cohen's $d=0.39$), indicating a limited magnitude of difference between the groups in pain-related disability following the intervention.

Overall, these findings indicate that although no statistically significant post-test differences were observed between the experimental and control groups in terms of life satisfaction and pain-related disability, the effect size estimates suggest the presence of moderate group differences, particularly for life satisfaction, which may be noteworthy in the context of the intervention outcomes.

DISCUSSION

The present pilot study aimed to explore the potential role of a structured written emotional disclosure intervention in pain-related disability perception and life satisfaction among women diagnosed with chronic painful lumbar disc herniation. Participants in the experimental group completed the written emotional disclosure intervention, whereas participants in the control group engaged in emotionally neutral writing tasks. Outcomes were assessed at baseline and one month after the intervention.

At the one-month follow-up, results indicated a tendency toward reduced pain-related disability and increased life satisfaction in the experimental group compared with the control group; however, these differences did not reach statistical significance. Consistent with the exploratory nature of the study, effect size estimates (Cohen's d) suggested small-to-moderate patterns of change, indicating potential clinical relevance despite limited statistical power. Although effect sizes were modest,

such magnitudes may still be meaningful in chronic pain populations, where change often occurs gradually. Accordingly, the findings are interpreted cautiously and discussed in relation to existing literature, methodological considerations, and implications for future research.

Sample size is a critical determinant of statistical power and the robustness of research findings (30). The relatively small sample size of the present study ($n=20$) may have increased the likelihood of Type II error, thereby limiting the detection of statistically significant effects. Although mean trends over time favored the experimental group, these changes may require larger samples to be reliably detected. Future studies with adequate statistical power may better clarify the consistency and magnitude of written emotional disclosure-related effects on pain-related disability perception and life satisfaction.

Importantly, a statistically significant baseline difference in income was observed between the experimental and control groups. Income is a plausible confounding variable for both life satisfaction and health-related outcomes; therefore, post-intervention differences should be interpreted with caution and without strong causal inferences. Future research would benefit from study designs that reduce baseline socioeconomic imbalance, such as stratified randomization or matching procedures.

Previous research suggests that the effectiveness of written emotional disclosure may depend on procedural factors such as the spacing of writing sessions and participant characteristics. Smyth's meta-analysis reported larger effects when writing sessions were spaced over longer intervals and indicated that effect sizes tended to be greater in men than in women (29). In the present study, writing sessions were conducted on consecutive days and included only female participants, which may have attenuated observable effects. Cultural norms and prior emotional sharing patterns may further influence responsiveness to written emotional disclosure among women.

Adherence to disclosure instructions and the depth of emotional expression appear to be additional moderators of intervention outcomes. Studies in chronic pain and oncology populations have shown that limited adherence or shallow emotional expression is associated with weaker effects, whereas deeper emotional engagement yields more favorable outcomes (31,32). In the present study, although



participants were instructed to disclose previously unexpressed emotions, written texts were not analyzed for emotional content. As a result, the extent of emotional disclosure could not be verified, which may have influenced post-test outcomes. Future studies incorporating content analysis may provide a more objective evaluation of the relationship between emotional depth and treatment response.

Evidence also indicates that the benefits of written emotional disclosure may emerge at longer follow-up intervals. Improvements in pain, psychological well-being, and biological markers have been reported at follow-ups ranging from several weeks to months (29,33,24,25,36). In the present study, outcomes were assessed one month after the intervention, which may have been insufficient to capture delayed effects in a chronic and treatment-resistant condition such as lumbar disc herniation. Longer follow-up periods are therefore recommended in future research.

Finally, chronic painful lumbar disc herniation is often resistant to single-modality interventions. Previous findings suggest that written emotional disclosure alone may yield limited effects, whereas its integration with psychotherapeutic approaches can lead to more meaningful psychological improvements (37). Accordingly, combining written emotional disclosure with structured psychological interventions may enhance its clinical utility for individuals with chronic pain.

CONCLUSION

This pilot study examined the potential effects of written emotional disclosure on pain-related disability perception and life satisfaction in women diagnosed with chronic lumbar disc herniation. The findings indicated a tendency toward increased life satisfaction and reduced pain-related disability in the intervention group; however, these changes did not reach statistical significance. Despite the absence of statistically significant results, the observed effect size patterns suggest that written emotional disclosure may have clinically meaningful potential in the context of chronic pain management. Several limitations should be acknowledged, including the small sample size, short follow-up period, and the absence of an analysis of the emotional content of the written narratives. Therefore, the findings should be interpreted with caution. Future research employing larger samples, randomized controlled designs, longer follow-up intervals, and qualitative or linguistic analyses of written content is needed to clarify the effectiveness of written emotional disclosure interventions. Within a biopsychosocial framework, written emotional disclosure may be considered a supportive adjunct to multidisciplinary approaches for the management of chronic lumbar disc herniation.

ETHICAL DECLARATIONS

Ethics Committee Approval: Ethical approval for this study was obtained from the Istanbul Nişantaşı University Ethics Committee (Date: 06.05.2025, Decision No: 2025-05).

Informed Consent: Prior to participation in this study, online written informed consent was obtained from all participants.

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