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Original Article

Investigation of the Relationship Between Chronic Pain Acceptance, Life Satisfaction, and Treatment Regimen Adherence in Elderly Patients With Mobility Problems Visiting Educational Hospitals in Urmia, Iran

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Abstract

Introduction: Pain acceptance is a crucial and appropriate response for older adults with mobility issues to adapt to life changes. Investigating factors related to chronic pain acceptance can significantly assist nurses in better managing and providing self-care education to this patient group. Therefore, this study aimed to investigate the relationship between chronic pain acceptance, life satisfaction, and adherence to treatment regimens in older adults with mobility problems who were referred to teaching hospitals in Urmia.

Methods: This study employed a descriptive-correlational design. The statistical population comprised patients with musculoskeletal mobility disorders referred to the teaching hospitals of Urmia University of Medical Sciences between April and September 2021. Overall, 214 participants were selected using purposive sampling. Data were collected using a four-part questionnaire. Eventually, the data were analyzed using SPSS 16 and Pearson's correlation coefficient.

Results: The mean total score for pain acceptance was 70.46±10.53. The majority of participating older adults (62.3%) demonstrated low treatment adherence. Moreover, the mean overall life satisfaction score was 16.97±3.76. There was a statistically significant correlation between chronic pain acceptance and medication adherence (r=0.36, P=0.006). Additionally, a statistically significant relationship was found between chronic pain acceptance and life satisfaction (r=0.86, P<0.001).

Conclusion: In general, adherence to treatment and life satisfaction are valuable health outcomes that necessitate adaptation to the chronic pain associated with musculoskeletal mobility issues in older adults. Accepting these life challenges can lead to a more meaningful and satisfying life.

Keywords: Chronic pain, Life satisfaction, Aged, Treatment adherence

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Introduction

As a major clinical concern, chronic pain is a critical factor that leads to substantial deterioration in older adults' quality of life. Elderly people suffering from chronic pain face an increased risk of disability, and their clinical mobility abilities may also decline (1). The lifestyle pattern for living with chronic pain refers to a set of various strategies at both personal and social levels, which individuals suffering from chronic pain use in the course of their daily lives in order to achieve active adaptation to pain and resolve or make pain-related problems more tolerable (2).

To better understand chronic pain and its treatment, it is highly important to identify the causes of both physical and psychological responses to pain (3). In this regard, a wide variety of therapeutic approaches are used to manage chronic pain in older adults, including psychological interventions that target the emotional, behavioral, and cognitive dimensions of chronic pain through acceptance-based methods (4).

In contemporary theories regarding how individuals react and adapt to chronic pain, pain acceptance has become one of the most valuable and important concepts. In older adults, it refers to the acknowledgment of pain, as well as the limitations and disabilities it causes, which assists the individual in efforts to manage pain (5). In fact, acceptance of pain is the first step toward adapting to the changes created by pain in life. It enables people to continue daily activities in their environment while simultaneously

making efforts to control pain. Furthermore, with the acceptance of pain, an aindividual tends to cease ineffective attempts to reduce pain while focusing on engaging in meaningful activities and pursuing appropriate personal goals, which ultimately leads to improved psychological and physical functioning (6).

Therefore, in the process of managing chronic pain in older adults, clarifying the role of pain acceptance in relation to the lifestyle pattern for living with pain and the limitations caused by pain can facilitate pain management and control of its consequences, leading to smoother and more successful subsequent stages (7). Shirazi et al demonstrated that older adults with higher pain acceptance exhibited a more appropriate lifestyle for living with pain and experienced fewer limitations due to pain (7). In the study performed by Razavi et al, acceptance and commitment-based therapy sessions improved hopefulness and pain management in women suffering from chronic pain (8).

Older adults with motor impairments, like many chronic patients, experience varying degrees of chronic pain. Accordingly, this group of patients requires lifestyle changes and adherence to treatment regimens to improve their quality of life. On the other hand, disease acceptance is the first step in adherence to treatment regimens in chronic patients. Previous studies have shown the efficacy of acceptance and commitment treatment in lowering anxiety, sadness, and obsessive-compulsive disorder in patients (9) and the efficiency of acceptance-based training in enhancing mothers' self-compassion and quality of life when raising disabled children (10), considering how well acceptance and commitment therapy (ACT) works to lessen the anxiety, depression, and discomfort of cancer patients (11). However, to the best of our knowledge, no research in Iran has examined the association between chronic pain acceptance, life satisfaction, and treatment adherence among older adults with motor impairments. Thus, this study aims to look into these relationships in elderly individuals with motor impairments who sought care at educational hospitals in Urmia.

Materials and Methods

The population of this descriptive-correlational study included all patients with musculoskeletal movement disorders who were referred to the educational and medical centers of Urmia University of Medical Sciences. A total of 214 elderly patients with musculoskeletal movement disorders were selected using purposive convenience sampling between April and September 2021. Their chronic pain and pain intensity were diagnosed by a specialist physician (rheumatologist or orthopedist). The inclusion criteria required individuals to be free of other concomitant conditions (i.e., depression, psychological disorders, or other chronic and high-risk diseases) and have refrained from consuming analgesics within the past month. On the other hand, the exclusion criterion was the lack of willingness to participate in the study. After obtaining the necessary permissions, the researcher visited the orthopedic and rheumatology clinics of the university-affiliated hospitals, and patients with chronic musculoskeletal movement problems were recruited as participants. Each questionnaire was assigned a unique code, and responses were collected through self-report.

A four-part questionnaire comprising demographic data, the Morisky Medication Adherence Scale (12), the Life Satisfaction Questionnaire (13), and Chronic Pain Acceptance Questionnaire (14) made up the data collection tool. The Chronic Pain Acceptance Questionnaire is a 20-item measure of chronic pain acceptance that consists of two subscales: activity engagement (11 items) and pain willingness (9 items). A seven-point Likert-type scale is used to rate each item, ranging from 0 (not at all true for me) to 6 (totally true for me). Pain willingness issues are assessed in reverse, whereas activity engagement items are scored directly. These two subscales add up to the acceptance score, which ranges from 0 to 120, and higher scores indicate better acceptance of pain. In Iran, research has previously verified the validity and reliability of the questionnaire (11). The reliability of the questionnaire was be 0.89 in this study.

In addition, the Morisky Medication Adherence Scale is composed of seven binary (yes/no) questions and one five-point Likert-type item. The first seven items are scored as 0 for "yes" and 1 for "no." The eighth question is rated from "rarely" (4 points) to "always" (0 points). An overall score below 6 represents poor adherence, while scores of 6–7 and 8 demonstrate moderate and full adherence, respectively (12). The scale's validity has been confirmed in studies by Rashedi et al (13). and Ghanei Gheshlagh et al (14). In this study, the reliability of the questionnaire was 0.86.

Moreover, the Diener Life Satisfaction Scale is a standardized questionnaire comprising five items, each rated on a seven-point Likert-type scale. Scores range from 5 to 35, with higher scores reflecting greater life satisfaction (15). The validity and reliability of this questionnaire have also been confirmed in previous Iranian research (16). The reliability of the questionnaire in this study was 0.79.

SPSS software (version 16) was used to analyze the data. The demographic features of the patients were described using descriptive statistics, such as frequency distribution, means, and standard deviations (SD). The associations between medication adherence, life satisfaction, and acceptance of chronic pain were examined using Pearson correlation. Additionally, the independent samples t-test and one-way analysis of variance were utilized to investigate the relationship between demographic data and the variable of chronic pain acceptance. Eventually, the normality of the data distribution for medication adherence, life satisfaction, and acceptance of chronic pain was verified using the Kolmogorov-Smirnov test.

Results

The results (Table 1) revealed that the majority of elderly

participants with musculoskeletal movement disorders were women (152 individuals, 71.01%). Among them, 68 participants (32%) had knee osteoarthritis, and 139 individuals (64.95%) belonged to the age group of 60–69 years. Furthermore, there was a statistically significant positive correlation between pain acceptance and participants' age ($P<0.05$, r = 0.23) and duration of disease ($P<0.05$, r = 0.29). However, no significant correlations were observed between pain acceptance and gender ($P>0.05$, t = 3.56), family living status ($P>0.05$, F = 7.47), employment status ($P>0.05$, F = 7.83), or education level ($P>0.05$, F = 6.54).

Based on the findings, the mean total score of chronic pain acceptance among elderly patients with musculoskeletal movement disorders who attended the clinics affiliated with Urmia University of Medical Sciences was 70.46 with an SD of 10.53 (Table 2).

The mean overall life satisfaction score was 16.97 with an SD of 3.76, and most patients (37.70%) demonstrated moderate adherence to treatment (Table 3). Additionally, 62.3% showed low adherence, while 0% displayed high adherence. Significant positive correlations were found between chronic pain acceptance and medication adherence (r = 0.36, $P=0.006$), as well as between chronic pain acceptance and life satisfaction (r = 0.86, $P<0.001$).

Discussion

The results of this study confirmed that an increase in chronic pain acceptance was associated with better adherence to treatment regimens. Consistent with these findings, Shirazi et al concluded that chronic pain acceptance is significantly related to the lifestyle of individuals living with pain (7). Similarly, McCracken et al reported that pain acceptance correlates with decreased pain experience,

Table 1. Demographic Characteristics of Elderly Patients With Musculoskeletal Movement Disorders Referred to Clinics of Educational and Medical Centers of Urmia University of Medical Sciences

Variable	Categories	Frequency (Percentage)	Mean (SD) Pain Acceptance	Statistical Index	*P*-Value
Gender	Female	152 (71.02)	55.43 (3.72)	t = 3.56	0.054
	Male	62 (28.98)	48.19 (3.43)		
Family living status	With spouse	143 (66.82)	-	F = 7.47	0.13
	Single	40 (18.69)	-		
	With children	29 (13.55)	-		
	Nursing home	2 (0.93)	-		
Age		-	67.45 (5.6)	r = 0.23	0.043
Age group	60-69	139 (64.95)	-	F = 6.72	0.11
	70-79	43 (20.38)	-		
	80-89	31 (14.67)	-		
Education level	Below diploma	120 (56.48)	-	F = 6.54	0.062
	Diploma	54 (25.14)	-		
	University degree	40 (18.38)	-		
Employment status	Homemaker	88 (41.24)	-	F = 7.83	0.21
	Retired	83 (38.56)	-		
	Employed	43 (20.2)	-		
Duration of illness diagnosis		-	9.74 (2.43)	r = 0.29	0.03
	Knee Osteoarthritis	68 (32)	-	F = 8.46	0.14
	Low back pain	46 (21.3)	-		
	Shoulder pain	28 (13.2)	-		
	Hip pain	34 (16)	-		
	Neck and back pain	23 (10.3)	-		
	Ankle and foot pain	9 (4.2)	-		
	Wrist and hand pain	6 (3)	-		

Note. SD: Standard deviation.

Table 2. Scores of Chronic Pain Acceptance in Elderly Patients With Musculoskeletal Movement Disorders Attending Clinics of Educational and Medical Centers of Urmia University of Medical Sciences

Domains	Mean	Standard Deviation
Pain willingness (satisfaction with pain)	31.49	7.91
Activity engagement (commitment to activity)	32.35	8.7
Total chronic pain acceptance score	63.85	4.72

Table 3. Correlation Between Chronic Pain Acceptance With Medication Adherence and Life Satisfaction in Elderly Patients With Musculoskeletal Movement Disorders Attending Clinics of Educational and Medical Centers of Urmia University of Medical Sciences

Variables	Mean	Standard Deviation	Correlation Coefficient (r)	*P*-Value
Medication adherence	4.35	2.27	0.36	0.006
Life satisfaction	16.97	3.76	0.86	<0.001

lower psychological distress, reduced physical disabilities, and improved psychological well-being. They observed that pain acceptance plays a crucial role in the daily functioning of individuals with chronic pain (17).

In interpreting these findings, it appears that patients with higher pain acceptance achieve better adaptation in managing their condition. Moreover, learning appropriate ways to live with chronic pain constitutes an adaptive strategy that supports treatment adherence among patients with musculoskeletal movement disorders. Specifically, when patients psychologically accept that pain is an inherent aspect of their illness post-onset, it is easy for them to tolerate barriers to proposed treatments and accept the recommendations of caregivers and physicians.

In this regard, Hughes et al noted that patients who report the ability to tolerate negative emotions such as pain demonstrate superior social, physical, and emotional functioning (18). In other words, avoidance of the reality of pain renders chronic patients more vulnerable to their illnesses because inappropriate responses to the disease may facilitate disease progression and complications.

It appears that pain acceptance represents a behavioral change in chronic diseases. De Boer et al found that pain acceptance is strongly associated with greater engagement in daily life activities. Therefore, pain acceptance, rather than efforts to control pain, is accompanied by better adaptation (19). ACT is an important alternative to experiential avoidance, involving active and conscious acceptance of personal events related to an individual's characteristics and past experiences. Acceptance stands in direct opposition to avoidance; its value becomes more apparent when contrasted with avoidance, leading individuals to behaviors contrary to their health goals and outcomes (18). Consequently, patients who perceive pain as abnormal and overly restrict physical activities may be prone to greater complications (20).

However, our findings contradict those of Eaves et al, demonstrating that accepting pain would not always result in better health or fewer limits on a patient's quality of life. This is due to the fact that some patients may become frustrated as a result of growing acceptance and awareness of chronic pain, realizing that it is a lifelong struggle with no known treatment. These patients require continuous utilization of various coping strategies to manage their pain (21).

Gilmour et al also reported that various limitations during old age (e.g., activity restrictions) may relate more to reduced social roles than to chronic pain acceptance itself. Moreover, some elders might use these limitations as coping mechanisms. Hence, behavioural interventions like lifestyle modifications and supportive family and social environments are essential (22). Aligning with these perspectives, Hughes et al clarified that ACT focuses on reducing experiential avoidance while enhancing mindful awareness without judgment, rather than promoting positive thinking or emotional encouragement (18).

The results of this study indicated that elderly patients with chronic pain who have higher acceptance of their pain tend to have better life satisfaction. Similarly, Aghayousefi et al found a direct, significant relationship between pain acceptance and resilience in chronic pain patients (23). Additionally, Razavi et al concluded that ACT increased hopefulness and pain management in women with chronic pain (8). Likewise, McCracken et al confirmed the positive effects of pain acceptance, noting that patients learn to live in the present moment with their pain and make value-based life choices aimed at enhancing health. They further mentioned that patients develop a committed role in balancing current life and future orientation, interacting with pain rather than avoiding it, and fostering hope and meaningful living. Thus, pain acceptance not only helps in acknowledging pain but also motivates patients to enhance their quality of life through increased hope and purposeful living (24).

The results of studies are in line with those of research by Mason et al, showing that ACT improves the quality of life of chronic pain patients while reducing their pain (25). Patients with better pain acceptance tend to move toward meaningful life goals and engage fully with their experiences without resistance, which motivates them toward purposeful life efforts (26). While chronic pain acceptance does not directly affect biological pain factors, it helps improve patients' psychological aspects, such as emotions, expectations, and perceptions of pain (10). ACT changes how patients think, increasing their hope, self-efficacy beliefs, and resilience to challenges, thereby enhancing their quality of life (11).

Conclusion

In general, our findings indicated that pain acceptance is related to treatment adherence and life satisfaction in patients with musculoskeletal problems. Treatment adherence and life satisfaction, as valuable health goals, require adaptation to chronic pain conditions in elderly patients with musculoskeletal issues. In fact, acceptance of these hardships in life is the opposite of avoidance of suffering and can lead to a meaningful and satisfying life. In other studies, chronic pain acceptance is the willingness to face these pains and difficulties.

In practical applications, the findings of this study can serve as a valuable resource for teaching concepts of stress and adaptation in chronic diseases to students and nurses. These programs can include case studies or workshops demonstrating how pain acceptance can lead to reduced psychological stress and improved treatment outcomes. Additionally, clinical nurses can use these findings to educate patients and their families about self-care. Ultimately, strategies such as mindfulness training, brief psychological counseling, or developing self-care plans can help patients cope with their pain and receive effective emotional and practical support from their families.

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Authors' Contribution

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Competing Interests

None to declare.

Data Availability Statement

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Ethical Approval

This study was approved by the Ethics Committee of Urmia Islamic Azad University (ethical No. IR.IAU.TABRIZ.REC.1400.028).

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