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Exploring the influence of religious orientation and learned helplessness on pain intensity in patients with chronic pain

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Original Article

Abstract

BACKGROUND: Chronic pain (CP) represents a complex and pervasive health issue, affecting individuals across diverse demographic and socioeconomic backgrounds. The main purpose of the study is to investigate how religious orientation (RO) and learned helplessness (LH) affect the intensity of pain experienced by individuals with CP.

METHODS: This study adopted a descriptive and correlational research design. The population under investigation comprised patients with CP referred to pain and physiotherapy centers in Tehran Province, Iran, from 2022 to 2023. A sample of 336 individuals were selected through available sampling methods. Data collection involved the administration of three instruments: the Religious Orientation Scale (ROS), Learned Helplessness Questionnaire (LHQ), and Graded Chronic Pain Scale (GCPS). The obtained data were analyzed by Pearson correlation and regression via SPSS software.

RESULTS: The findings indicated significant correlations between pain intensity (PI) and external RO (ERO) ($r = 0.653$, $P < 0.001$) as well as LH ($r = 0.796$, $P < 0.001$), with both showing positive associations. Conversely, the correlation between PI and internal RO (IRO) was negative and significant ($r = -0.789$, $P < 0.001$). Furthermore, the results of multiple regression analysis demonstrated that RO and LH collectively predicted 69% of the variance in PI.

CONCLUSION: This study contributes to our understanding of the multifaceted nature of CP and highlights the potential significance of addressing psychosocial factors, including RO and LH, in comprehensive pain management strategies. By incorporating these insights into clinical practice, healthcare professionals may better tailor interventions to meet the holistic needs of individuals living with CP.

KEYWORDS: Religion; Orientation; Learned Helplessness; Pain Intensity; Chronic Pain

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Introduction

Chronic pain (CP), marked by enduring or recurring discomfort that persists beyond the anticipated healing phase, poses a considerable hurdle for patients and healthcare practitioners.[1] Within CP management, pain intensity (PI) emerges as a paramount area of interest and investigation.[2] Individuals grappling with CP frequently encounter a spectrum of PIs, spanning from mild to severe, with fluctuations that can impede daily activities.[3] The assessment and effective

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management of PI play pivotal roles in customizing treatment modalities to align with each patient's unique requirements and desires.[4] Mura et al. found that 70.7% of emergency department (ED) patients experienced pain, mainly from trauma. Although only 32.46% received medication, significant pain reduction occurred after initial analgesic treatment.[5]

Religion holds a deeply ingrained position within human culture and society, profoundly influencing individuals' perceptions, behaviors, and overall well-being.[6] At the heart of investigating religion's impact on health lies the examination of religious orientation (RO) – the extent to which individuals embrace and internalize religious beliefs and practices.[7] Pain, encompassing physical, emotional, and spiritual dimensions, represents a universal human experience with profound implications for individuals' lives.[8] A complex interplay of physiological, psychological, and sociocultural factors shapes its manifestation.[9] Within this intricate web of influences, RO has emerged as a potentially significant factor in shaping perceptions of PI.[10] External RO (ERO) typically involves adherence to religious doctrines and practices driven by societal norms or external pressures.[11] In contrast, internal RO (IRO) reflects a deeply personal and profound connection to one's faith.[12] Understanding the distinct roles played by ERO and IRO in shaping perceptions of PI holds promise for uncovering the multifaceted nature of religious coping mechanisms and their implications for health outcomes.[13]

Pain is not merely a physiological sensation; it encompasses intricate psychological and emotional dimensions that profoundly influence an individual's overall well-being.[14] Amidst the myriad psychological factors shaping pain perception and management, learned helplessness (LH) stands out as a significant concept warranting attention.[15] LH denotes a state of passive resignation and a perceived lack of control stemming from repeated exposure to uncontrollable and aversive stimuli.[16] CP, characterized by persistent or recurring discomfort extending beyond the anticipated healing period, poses formidable challenges that can render individuals feeling powerless and overwhelmed.[17] Within the framework of LH, individuals may begin to regard their pain as insurmountable and beyond their influence, fostering feelings of hopelessness and resignation.[14] This sense of helplessness can exacerbate the perception of pain, contributing to increased PI and diminished mental health.[18]

This study seeks to investigate how RO and LH impact PI among patients with CP. By analyzing these variables within the framework of CP, we aim to clarify their separate and combined effects on pain experiences. Through a thorough examination, we aim to enhance our understanding of the psychological mechanisms underlying pain perception, with the ultimate goal of guiding the development of more effective interventions for CP management and improving patients' overall well-being. The main purpose of the study is to investigate how RO and LH affect the intensity of pain experienced by individuals with CP.

Methods

The current study adopted a descriptive correlational research design. The statistical population comprised patients with CP referred to pain and physiotherapy centers in Tehran Province, Iran (Lotus, Nik, Mehrabadi, Parto), during 2022-2023. Cochran's sample size formula was utilized to estimate a sample size of 300 individuals, and 336 participants were ultimately selected using an available sampling method to ensure an adequate sample size.[19] Inclusion criteria for the study encompassed personal satisfaction, experiencing CP within the past two years, absence of other chronic diseases, and an age

range of 18 to 45 years. Exclusion criteria involved non-membership in the research community, the opportunity to answer questions, and incomplete questionnaire responses. Data collection ceased upon reaching the predetermined sample size. Patients were informed about the research objectives, confidentiality of personal information, and data analysis procedures.

Measurements

Graded Chronic Pain Scale (GCPS): A tool extensively employed for evaluating the severity of CP and its impact on an individual's daily functioning, the GCPS was developed by Von Korff et al. in 1992.[20] Since its inception, this scale has undergone validation and found application in both clinical and research environments. Comprising seven items, the scale assesses PI stability or duration of pain and the resultant degree of disability using an 11-point numerical rating scale spanning from the absence of pain (0) to the most severe pain (10). Participant scores on the assessment are derived from three subscales: PI, disability score, and levels or grades of disability. In the current study, Cronbach's alpha coefficient for this scale was reported as 0.84.

Religious Orientation Scale (ROS): Originally introduced by Allport and Ross,[21] this questionnaire comprised a 21-item scale, with 11 items on ERO and 9 items focusing on IRO. Subsequently, in 1963, Feagin presented a 12-item version by incorporating an additional option highly correlated (0.61) with extrinsic orientation.[21] As a result, the first 12 items assess ERO, while the remaining 9 items evaluate IRO. Scoring for all questionnaire items followed this pattern: strongly disagree (5), disagree (4), agree (2), and strongly agree (1). Lower scores indicated individuals with IRO, while higher scores reflected ERO. Allport and Ross reported Cronbach's alpha coefficients of 0.79 and 0.82 for ERO and IRO, respectively. The test-retest reliability of this scale was determined to be 0.73 after one month.[21] In the present study, Cronbach's alpha coefficient for the total score (0.92) and sub-scales of ERO (0.84) and IRO (0.86) were obtained.

Learned Helplessness Questionnaire (LHQ): Developed by Quinless and Nelson in 1988, this questionnaire comprises 20 Likert-type items offering 4 response options, with scoring ranging from 1 (strongly disagree) to 4 (strongly agree).[22] Quinless and Nelson documented the questionnaire's validity as 0.79 and its reliability along with a Cronbach's alpha of 0.86. Upon assessing the original version of the scale alongside other existing questionnaires like the Beck Depression Inventory (BDI), a correlation coefficient of 0.25 was noted. Compared to the Rosenberg Self-Esteem Scale (RSES), a correlation coefficient of 0.62 was observed, with a reliability of 0.85. Utilizing varimax rotation and exploratory factor analysis (EFA), five primary factors emerged: internal-external, stability-instability, general-specific, control-helplessness, and personal selection conditions in situations where individuals deliberately participate.[22] In the present study, a Cronbach's alpha coefficient of 0.83 was reported.

Data analysis involved descriptive statistics tests [mean, standard deviation (SD), frequency, and percentage], Pearson correlation for examining relationships between two quantitative variables, and simultaneous regression. The significance level was set at 0.05. SPSS software (version 24, IBM Corporation, Armonk, NY, USA) was employed for data analysis. The Ethics Committee of Tarbiat Modares University, Tehran (IR.MODARES.REC.1401.197) approved the current study.

Results

The participants' age had a mean of 32.15 years with an SD of 6.02 years. Table 1 provides descriptive statistics for PI, RO, and LH, including mean and SD. Before data analysis, the criteria and hypotheses for regression

analysis were examined. The variance inflation factor (VIF) for predictor variables ranged from 1.63 to 3.75, well below the threshold of 10, indicating the absence of multicollinearity issues. Additionally, the Durbin-Watson Test yielded a result of 1.29, indicating no significant residual correlation as it fell within the acceptable range of 0 to 4. Furthermore, tests for skewness and kurtosis were conducted to assess the normality of variable distributions. Kline recommended that the absolute values of skewness and kurtosis should ideally fall within ±2.[23] As per table 2, the absolute values of skewness and kurtosis for all variables were less than one, indicating that the assumption of data normality was met (Table 1).

Table 1. Descriptive signs and the effects of analyzing the normality of research variables

Variables	Mean ± SD	Skewness	Kurtosis
Pain intensity	33.19 ± 11.55	0.84	1.76
External religious orientation	26.21 ± 9.86	0.74	1.03
Internal religious orientation	21.02 ± 5.94	0.92	1.47
Learned helplessness	60.08 ± 18.53	0.81	1.31

SD: Standard deviation

Table 2 displays the findings regarding the correlation between PI and RO, as well as LH. As depicted in table 2, ERO ($r = 0.653$, $P < 0.001$) and LH ($r = 0.796$, $P < 0.001$) exhibited positive and significant correlations. Conversely, the correlation between PI and IRO ($r = -0.789$, $P < 0.001$) was negative and significant. This suggests that as ERO and LH increase, the level of PI among patients with CP also increases. Conversely, an increase in IRO corresponds to a decrease in PI among patients with CP ($P < 0.01$).

Table 2. Results of correlation between religious orientation (RO), learned helplessness (LH), and pain intensity (PI)

Variables	1	2	3	4
External religious orientation	1			
Internal religious orientation	-0.653*	1		
Learned helplessness	0.640*	-0.844*	1	
Pain intensity	0.653*	-0.789*	0.796*	1

*P < 0.01

Table 3 illustrates the outcomes of the investigation into the role of RO and LH in predicting PI among patients with CP. As per the data presented in table 4, the correlation coefficient of predictor variables with PI in CP was 0.83, indicating a strong association. These three variables (IRO, ERO, and LH) collectively were able to significantly predict 73% of the changes in PI ($P < 0.001$). Furthermore, based on the beta values, it was found that LH ($\beta = 0.39$), IRO ($\beta = -0.34$), and ERO ($\beta = 0.18$) had a significant impact on predicting PI among patients with CP ($P < 0.05$).

Discussion

The present study investigates the role of RO and LH in predicting PI in patients with CP. The findings of this study offer valuable insights into the relationship between RO and PI among patients grappling with CP. These outcomes were in line with research conducted by Hasenfratz et al.[11] and Korkut et al.[12]

Table 3. Results of multiple regression analysis for religious orientation (RO) and learned helplessness (LH)

Variables	B	SE	β	T	P	Tolerance	VIF
Constant	26.63	4.47	-	5.95	0.001	-	-
External religious orientation	0.21	0.04	0.18	4.39	0.001	0.132	1.83
Internal religious orientation	-0.65	0.11	-0.34	-5.78	0.001	0.174	3.75
Learned helplessness	0.25	0.03	0.39	6.89	0.001	0.274	3.64
	R = 0.83	$R^2 = 0.69$	F = 256.74		< 0.001		

SE: Standard error; VIF: Variance inflation factor

Specifically, the positive and significant correlation between ERO and PI underscores the potential impact of seeking solace from ERO sources on pain perception. Individuals who rely heavily on ERO practices and beliefs may experience heightened PI, possibly due to a sense of dependency or a lack of internal coping mechanisms.[7] It is plausible that an overemphasis on ERO factors might lead to a perceived loss of control over pain management, thereby exacerbating the subjective experience of pain.[9]

Conversely, the negative and significant correlation between IRO and PI suggests that individuals who draw strength from personal faith and spiritual beliefs may experience lower levels of PI.[10] This finding underscores the potential resilience-enhancing effects of IRO, wherein a deep-seated connection to one's beliefs serves as a source of comfort, hope, and coping strategies.[13] IRO may empower individuals with CP to navigate their pain experiences with greater agency and resilience, thereby mitigating the impact of PI on their overall well-being.[12] However, it is essential to acknowledge the multifaceted nature of RO and its interplay with various psychosocial factors in shaping pain experiences.[11]

The results of this research shed light on the association between LH and PI among patients suffering from CP. These findings align with previous research by Wood et al.[17] and Samwel et al.[18] The positive and significant correlation observed between LH and PI suggests that individuals who exhibit characteristics of LH may experience higher levels of PI. LH, a psychological phenomenon characterized by a belief that one has little control over outcomes, can profoundly influence how individuals perceive and cope with pain.[16] Those who feel helpless in the face of their pain may be more prone to experiencing heightened levels of PI due to a perceived lack of efficacy in managing their symptoms.[17] This finding underscores the importance of addressing LH as a potential risk factor in CP management.[15] Interventions aimed at empowering individuals with CP to regain a sense of control over their pain experiences may prove beneficial in reducing PI and improving overall quality of life (QOL).[14] The concept of LH, rooted in cognitive-behavioral theory, suggests that individuals who perceive a lack of control over their circumstances may develop a sense of helplessness and vulnerability.[18]

The study's sample, drawn from pain and physiotherapy centers in Tehran Province, limits the generalizability of its findings to broader populations. Reliance on self-report measures may introduce bias and overlook nuances of RO, LH, and PI. Future research should include more diverse samples, use longitudinal and objective assessments, and explore interventions targeting RO and LH to better understand their impact on pain and mental health.

Conclusion

The findings of this study provide valuable insights into the complex interplay among RO, LH, and PI in individuals with CP. Through thorough analysis, we have elucidated the impact of both ERO and IRO on pain perception, demonstrating a positive correlation with ERO and a negative correlation with IRO. Additionally, our study underscores the detrimental effect of LH on pain experiences in individuals managing CP, as evidenced by a positive correlation between LH and PI. These results underscore the significance of considering not only the physical aspects of pain but also the psychological and spiritual dimensions in comprehensive pain management strategies.

Conflict of Interests

Authors have no conflict of interests.

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