British Journal of Guidance & Counselling

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/cbjg20

The effectiveness of self-healing intervention program on pain-related anxiety and the severity of perceived pain in patients with migraine

Nasrin Shahbazi & Zohreh Latifi

To cite this article: Nasrin Shahbazi & Zohreh Latifi (2023): The effectiveness of self-healing intervention program on pain-related anxiety and the severity of perceived pain in patients with migraine, British Journal of Guidance & Counselling, DOI: 10.1080/03069885.2023.2170979

To link to this article: https://doi.org/10.1080/03069885.2023.2170979

Published online: 07 May 2023.

Submit your article to this journal

View related articles

View Crossmark data

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=cbjg20

BRITISH JOURNAL OF GUIDANCE & COUNSELLING
https://doi.org/10.1080/03069885.2023.2170979

Routledge
Taylor & Francis Group

Check for updates

The effectiveness of self-healing intervention program on pain-related anxiety and the severity of perceived pain in patients with migraine

Nasrin Shahbazi and Zohreh Latifi

Department of Psychology, Payame Noor University, Tehran, Iran

ABSTRACT

The research method was a randomised controlled trial with a pre-test, post-test, and follow-up design and a control group. A total number of 60 patients with chronic headaches were selected according to convenience sampling and randomly divided into experimental and control groups (n = 30 per group). The results showed that training based on the therapeutic approach of self-healing had a significant effect on pain-related anxiety and the severity of perceived pain dimension among the participants in the experimental group in the post-test and follow-up phases ($p < 0.001$). The self-healing training (the healing codes) could be used as a treatment approach to hold relatively stable effects to decrease the frequency of migraine headaches in healthcare centres and psychological services.

ARTICLE HISTORY
Received 4 February 2021
Revised 24 December 2022
Accepted 16 January 2023

KEYWORDS
Self-healing; pain-related anxiety; pain severity; migraine

Introduction

Headaches are considered as one of the most common personal experiences in contemporary societies, whose social and economic complications are remarkable (Rometsch et al., 2020). Migraine, as a recrudescent, pulsatile, and usually unilateral headache, usually occurs in painless gaps lasting for 4–62 hours (Baldacci et al., 2015). Approximately 3000 migraine attacks per million persons worldwide occur every day. The World Health Organization (WHO) estimates the worldwide prevalence of current migraine to be 10% and the lifetime prevalence to be 14%. The adjusted prevalence of migraine is highest in North America, followed by South and Central America, Europe, Asia, and Africa (Chawla, 2019; Scheffler et al., 2020).

Pain Anxiety is one of the chronic pain-related variables (Azizi et al., 2017), which is also a predictor of behaviour representing pain and physical impairments. It contributes to the development and evolution of chronic pain and anxiety disorders, and if not treated, it would appear in the forms of fear, sleep deprivation, depression, and incapability (Mohammadi-Fakhar et al., 2011). It also leads to insufficient psychological coping and the patient's non-cooperation (Byers et al., 2001; Rachor & Penney, 2020).

Negative moods are also considered as risk factors induced by chronic and migraine headaches (Lampl et al., 2016). In contrast, some studies have reported that even patients suffering from chronic pain, who share seemingly similar clinical symptoms, experience completely different degrees of psychological dysfunctions (Suljic & Mehicevic, 2017). In other words, pain only affects the mood when it interferes with life domains and influences the person's adaptive functions (Chen et al., 2017). The treatment of this disorder is mainly focused on two aspects of pharmacological and non-pharmacological treatment. The common non-drug treatments for this disorder encompass a

CONTACT Nasrin Shahbazi shahbazinsrn@gmail.com Department of Psychology, Payame Noor University, Tehran, Iran
© 2023 Informa UK Limited, trading as Taylor & Francis Group

combination of different methods such as muscular relaxation, cognitive reconstruction, teaching effective coping strategies, self-expression, and anger management (Appel, 2020).

On the other hand, self-healing is one of the new approaches, officially presented by Loyd and Johnson (Loyd & Johnson, 2005) known as The Healing Codes. These skills include the reconstruction of memories skills, the recognition of personality and behavioural traits disrupting individuals' peace of mind, self-healing skills, self-relaxation, praying, and practicing the healing codes to create a balance in cellular energy, reduce physiological stress, increase the body immune system, and augment the peace of mind and intellectual behaviours. Two questions are answered in this approach: 1) Given that humans are the only creatures given the power of thinking and reasoning,why do they not act wisely? 2) Why have physical diseases become greater and more debilitating despite medical advances? Loyd and Johnson (2011) believe that 95% of all physical and non-physical problems originate from physiological stress caused by destructive cell memories.

Stress occurs when the autonomic nervous system is out of balance. There is, indeed, no balance between the state of fight escape and the normal state of relaxation. This type of stress causes diseases which are not based on the individuals' external conditions that can be changed, but they are based on profound stress actually inside and completely independent of the current status of individuals. Indeed, changing the current status and alleviating the stressful issues, which have so far been considered by psychologists, may have little effect on physiological stress (Loyd & Johnson, 2011; Zarean & Latifi, 2020). Loyd and Johnson (2011) argue that the cause of stress in the body is a "destructive memory (cellular memory)." Destructive cellular memory is a memory stored in all cells of the body that reduces cellular energy and causes stress.

Lipton (2013) considers the unhealthy patterns of cellular energy, unnecessary concern, false images, and beliefs stored in the body and mind as causes of physiological stress. These beliefs and misconceptions in cellular memory make people misunderstand their current situation as a threat, while there is no threat in reality. This misinterpretation of the current situation causes the unhealthy activation of the "war or escape" system; the stress continuation weakens the immune system (Loyd & Johnson, 2005). Lipton (2016) believes that the feeling of revenge and malice due to destructive cellular memories in cancer diseases causes an involuntary imbalance in the autonomic nervous system, weakening the immune system against diseases. Therefore, this pressure can lead to various diseases, such as skin cancer (Lipton, 2016).

Latifi et al. (2020) suggest that all problems and devastating memories people face in their lives are related to one or more factors including: malice; harmful measures; false beliefs and negative emotions; selfishness vs. love; sadness and distress vs. happiness; anxiety and concern vs. comfort; anger, hopelessness, and intolerance vs. tolerance; exclusion and violence vs. kindness; being not good enough vs. self-esteem; controlling and restricting vs. trust; unhealthy pride, arrogance, and a deterrent image vs. humility; loss of control vs. restraint.

One approach focuses on individual effort to treat destructive memories, and the causes of physiological stress in personality traits, in addition to environmental conditions. This treatment emphasises spiritual excellence, having a healthy lifestyle, modifying internal conversations, correcting unhealthy concerns and beliefs, meditating, praying, and practicing special practices of healing codes (Soltani et al., 2020). In Iran, Latifi and Marvi (2018) localised this approach, prepared the relevant protocol, and applied it in the country with the approval of Dr. Loyd. Accordingly, the present study aimed to investigate the effectiveness of self-healing training in pain-related anxiety and the severity of perceived pain in patients suffering from migraine.

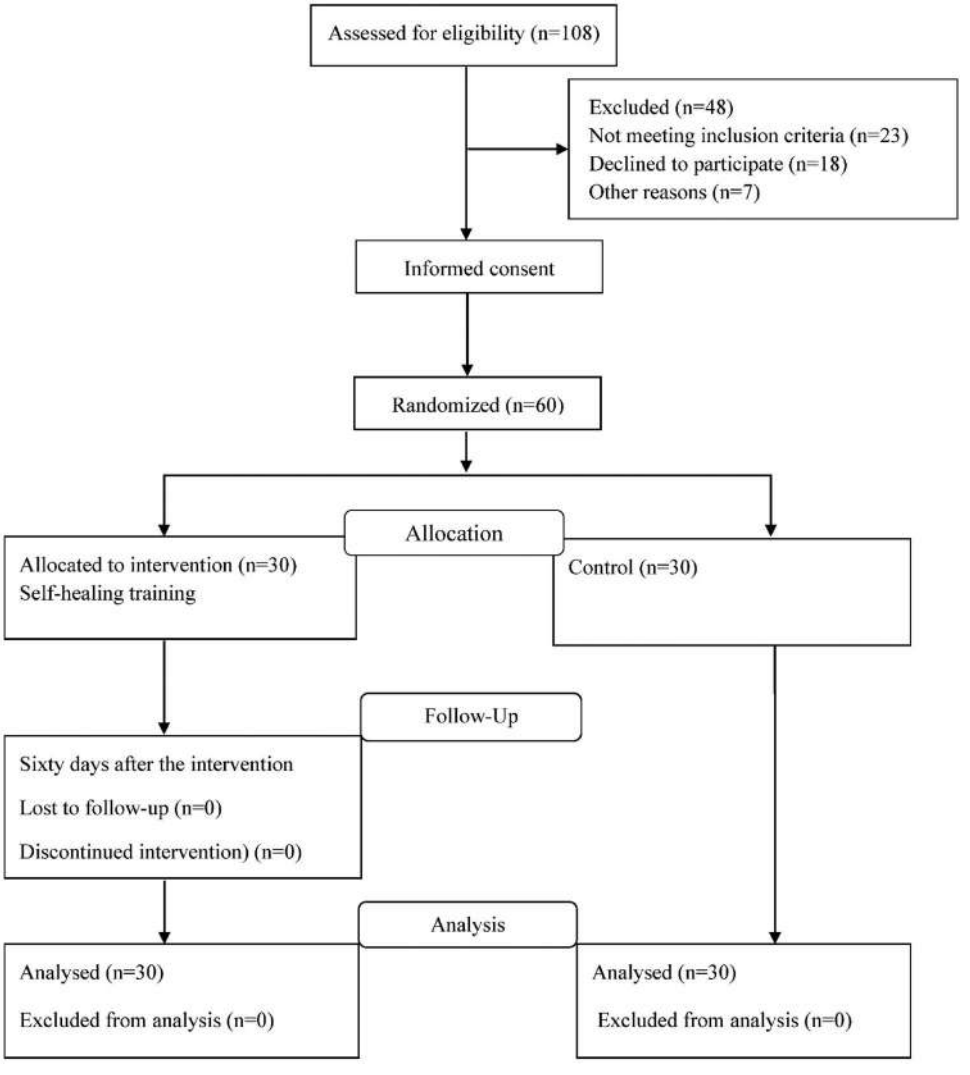
Methods

Participants

The study used a randomised controlled trial method for experimental and control groups in three phases (pre-test, post-test, and follow-up). The statistical population consisted of all patients from

Shahid Sadoughi Hospital in 2020, who were suffering from migraine. In this research, patients who were willing to participate in the study were selected using a convenience sampling technique with regard to the inclusion and exclusion criteria (Figure 1). Thirty participants were included in each group by use of G*power statistical software, with an effect size of 0.86, a test power of 0.90 and $\alpha = 0.05$. The inclusion criteria of the study included having the symptoms of migraine for three years confirmed via clinical interviews by clinical specialists, being in the age group of 20–50 years, not having received simultaneous psychological therapies, having an elementary level of education, and filling out the consent form indicating a willingness to cooperate in the study. The exclusion criteria were: Lack of cooperation, acute or chronic psychiatric disorders (through clinical interviews and tests by the counselor of the centre), and being under drug therapy.

Figure 1. CONSORT flow diagram.



Procedure

After the sampling procedure, participants in the experimental group underwent self-healing training in fourteen 90-minute group sessions (once a week) by a psychotherapist in the psychiatric clinic, while the control group received no intervention and remained on the waiting list until the end of the study. The psychotherapist implementing the intervention programme had completed specialised self-healing courses and workshops. The pre-test was performed at the beginning of the intervention, and the post-test was performed after treatment sessions. The follow-up phase was performed 60 days after the last session. The following training-therapeutic protocol was prepared by Latifi and Marvi (2018) in Iran. Table 1 presents the summary of the training sessions. In all sessions with an emphasis on confidentiality, all the group members were asked to participate actively in discussions and share their individual experiences with others. Introspection and finding destructive cellular memories and techniques to reduce the negative effects of these memories were the main subjects of the individualised sessions. The participants had to perform personal exercises during these sessions and the intervals between the sessions and answer the contemplative questions of the course trainer. Allocating time for isolation and contemplation was among the most fundamental exercises. In each session, the previous sessions were reviewed, and the tasks were emphasised.

Willingness to participate in the research, information confidentiality (confidentiality principle), and observance of participants' rights were the ethical considerations of the research.

Research instruments

The Pain Anxiety Symptoms Scale (PASS): The pain anxiety symptoms scale is a self-expression tool invented by McCracken et al. (1992) to assess anxiety and pain-related fear reactions in patients suffering from chronic pain. Pain anxiety assesses the symptoms of pain-related anxiety and includes three subscales: Symptoms of escape and avoidance of pain reduction-related behaviours, fearful assessment of pain, and the pain-related symptoms of physiological anxiety. The short version of this scale included 20 items and was developed by McCracken and Dhingra (2002) with regard to the main 40-question anxiety symptoms scale. The short version scores ranged from 0 to 100, and the participants are to answer the questions in a range of 0 (Never) to 5 (Always). A total mark and three points for the subscale were obtained; the total mark was generally related to many aspects of the patient's functionality, and the three subscales were effective in predicting different aspects of the patient's functionalities. The pain anxiety questionnaire subscales were avoidance (0–35 points), fearful assessment (0–40), and physiological reaction (0–25), with the total score of pain anxiety ranging from 0 to 100. Shanbehzadeh et al. (2017) reported a Cronbach's alpha of 0.91 for the Persian version of the PASS. Cronbach's alpha coefficients in this research were estimated to be 0.89.

McGill Pain Questionnaire: This questionnaire consists of 20 statements to evaluate individuals' perception of pain in different dimensions (namely Sensory, Affective, Evaluative, and Miscellaneous). This questionnaire is one of the most remarkable tools in measuring pain, which was first applied by Melzack (2005) on 297 patients suffering from various types of pain. In this regard, Dworkin et al. (2015) developed a revised version of McGill's scale. In the revised version, 15 items of the former version, which addressed the ability to adjust, comprehensive recognition of the senses, and affective descriptions of non-neuropathic pain, were maintained, and seven items were added based on the results of neuropathic pain studies and other clinical experiences. These items were added to the 15 items to represent sensory and affective pain. By revising the response framework and converting it into a 0–10 scale, the accuracy of the questionnaire increased in linear studies. Dworkin et al. (2015) reported the reliability of the questionnaire to be 0.86 based on Cronbach's alpha. This questionnaire has been assessed in Iran, and its validity and reliability are reported to be appropriate (Khosravi et al., 2013). Khosravi et al. (2013) reported the total Cronbach's

Table 1. Self-healing session protocol (20).

Sessions	Content of sessions
First	Meeting group members and establishing therapeutic relations, determining the objectives and rules of sessions, introducing occasional stresses, and teaching the management of occasional stresses, describing the body immune system, Task 1: To examine moods and prepare a more complete list of concerns, problems, and stresses by the group members
Second	Describing physiological stresses, hidden stresses, or destructive cellular stresses and false memory, Task 2: Self-examination and examining the existing stresses and practical performance of proper breathing and relaxation for at least once a day (the audio file of the muscular-respiratory is presented to members)
Third	Teaching to distinguish real and false problems, memorisation, considering the failures, conflicts, frustrations, and confusions Task 3: Memorisation by memorising files about traumas and highly effective incidents of life during all periods of life, shocks, and PTSD considering individual viewpoints, practical exercises: Meditation using roses
Fourth	Finding the roots of destructive cellular memories in 12 groups, introducing the grudge, harmful actions, false beliefs, and negative feelings Task 4: Gaining a more accurate knowledge of the dimensions of hidden beliefs and destructive cellular memories and concentrating on grudge group
Fifth	Performing glass elevator technique, memorisation about traumas and very effective incidents of life during all periods of life, shocks and PTSD considering individual viewpoints, performing empty chair technique at home with other memories, examining whether the emotions and resulted beliefs are healthy or unhealthy, contemplating about forgiveness, reading forgiveness materials
Sixth	Describing the puzzle of negative and positive feelings and teaching forgiveness techniques Task 6: Continuing mental challenges about the reduction of grudge and revenge feelings, introspection for the recognition of miserable me syndrome, examining unhealthy thoughts and believed lies, and recognising problematic feelings (namely anger, lust, pride, fear, grief, shame), and accepting the power of will, freedom and choice, and the responsibility for the consequences of personal behaviours
Seventh	Describing the destructive actions group, and false and destructive habits, and teaching the practices of empowerment and problem solving and changing the circumstances Task 7: Examining the role of miserable me syndrome in destructive habits, registering the used successes and skills alongside the three preventative groups
Eighth	Introducing and explaining 1–4 self-healing codes, including love, happiness, peace, and patience Task 8: Planning to create and strengthen healing codes in daily life, exercising the special healing codes, and registering the successes and improvement
Ninth	Introducing and explaining 5–9 self-healing codes, including kindness, righteousness, trust, humbling, and self-restrain, and teaching the reverse memorisation technique Task 9: Planning to create and strengthen the four healing codes in daily life, exercising the special healing codes, exercising the reverse memorisation technique, and registering achievements and improvements
Tenth	Describing the role of true demanding heartily, the effects of praying and focusing on demands during one's life, describing the scientific evidence-related effects of praying in self-healing, teaching the practical exercises of general healing codes Task10: Spending specific times of loneliness praying, establishing relationship with God, praying (promoting spirituality), silence exercises, isolation and physical and mental self-awareness, reviewing the effective exercises for individuals, acting based on self-worth system and creative imagination, being optimistic about future
Eleventh	Teaching average lifestyle, modifying lifestyle via the recognition of false habits and harmful actions, modifying sleep patterns, food, eating, drinking and entertainment, travel, exercise, hygiene, and cleaning habits Task 11: Practical performance of healing code and praying and true concentration sentences, Modifying lifestyle via the recognition and reduction of false habits
Twelfth	Improving quality of life regarding health, hygiene, intimacy and relationships (parents, spouse, children, relatives and others, educational growth, financial development, job improvement, improvement of home, neighbourhood, society, and social and useful activities) Task 12: Continuing the exercises of spiritual improvement, the recognition of dissatisfaction in particular fields, and acting to reduce the dissatisfaction
Thirteenth	Modification of inner conversation, reconsidering individual stresses, emphasising on constant self-care against physical and mental harms, managing emotions and relations Task 13: Providing exercises and modifying the inner conversation and self-care
Fourteenth	Planning for eternity, spiritual purposefulness of life, increasing inner needlessness (to be useful and to take care of oneself and others), introspection and allocating time to self-examining and isolation, reviewing the entire therapy sessions, emphasising on the continuity of practicing healing codes Task 14: Continuing previous exercises and recognising the shortcuts to peace and spirituality for oneself

alpha coefficients of this questionnaire to be 0.85 and Cronbach's alpha coefficients of each component to be >0.85 in their research. The Cronbach's alpha coefficients >0.70 for all variables in this study indicate the appropriate reliability of this questionnaire, indicating that the reliability of

this questionnaire is acceptable for all dimensions and the inter-compatibility of all the variables is at an appropriate level.

The research instruments were provided to the participants in the Persian version.

Statistical methods

The Shapiro-Wilk test was used to examine whether the distribution of the pre-test scores was normal. The results showed that the distribution of data was normal. To examine the Homogeneity of variances, Levene's test was applied, by which the homogeneity between the Covariate and independent variables was confirmed. Considering the significant value of Mauchly's test for subscales of pain-related anxiety and the severity of perceived pain, the hypothesis was not confirmed; hence, Greenhouse and Geyser correction test was applied ($\varepsilon < 0.75$). After collecting data in the present study, descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (the repeated measures ANOVA) are utilised to analyze the data.

Results

The participants included 60 women with migraine, aged between 20 and 50 years old. The demographic characteristics of the participants are shown in Table 2. The mean and standard deviation (SD) of pain anxiety and pain severity for the experimental group were 64.55 ± 19.37 and 93.05 ± 21.04 in the pre-test, 43.60 ± 10.79 and 37.40 ± 12.72 in the post-test, and 45.00 ± 10.72 and 39.55 ± 12.61 in follow-up phases, respectively. The mean ± SD pain-related anxiety and pain severity for the control group were 67.75 ± 14.58 and 93.70 ± 33.07 in the pre-test, 69.65 ± 14.93 and 99.30 ± 38.99 in the post-test, and 69.75 ± 15.09 and 99.15 ± 38.11 in follow-up phases, respectively (Table 3).

Considering Table 4 and the significance of factors within groups, a significant difference in three measurement times in the pre-test, post-test, and follow-up phases for pain anxiety and pain severity was confirmed ($p < 0.01$). Moreover, there was a significant difference in pain-related anxiety and pain severity between the experimental and control groups ($p < 0.05$). Therefore, self-healing training was effective in reducing pain anxiety and pain severity. According to the results of Table 4 and the significance of factors within groups, a significant difference was found for the subscales of pain-related anxiety, including fearful assessment of pain, cognitive anxiety, and physiological reaction, and the severity of perceived pain variance including sensory and neuropathic pain ($p < 0.01$).

There was a significant difference between experimental and control groups in all subscales and pain severity dimensions ($p < 0.01$); however, the between-groups effect was not significant in avoidance and sensory pain dimensions. Accordingly, self-healing training was not effective in the avoidance and sensory pain of patients suffering from migraine ($p > 0.05$). To examine the difference between the average pain anxiety and the average pain severity among the pre-test, post-test, and follow-up phases, the LSD post hoc test was used.

As shown in Table 5, the pre-test scores showed a significant difference in the post-test and follow-up phases in terms of pain anxiety and the subscales of fearful assessment, cognitive anxiety, and physiographical reaction, and also in the scale of sensory and neuropathic pain severity.

Table 2. Demographic characteristics of the participants.

			Education			Marital status	
Groups	Age (years)	Duration of illness (years)	Middle school n (%)	High school n (%)	College education n (%)	Single n (%)	Married n (%)
Experimental	38.82 ± 9.62	4.37 ± 1.81	14 (46.6%)	8 (26.7%)	8 (26.7%)	6 (20.0%)	24 (80.0%)
Control	40.49 ± 8.39	5.11 ± 2.08	16 (53.4%)	7 (23.3%)	7 (23.3%)	4 (13.3%)	26 (86.7%)
p	0.476	0.148	0.875			0.492	

Table 3. Descriptive findings of pain-related anxiety and the severity of perceived pain in experimental and control groups.

Scale	Subscale	Phase	Experimental group Mean ± SD	Control group Mean ± SD
Pain-related anxiety	Pain anxiety	Pre-test	64.55 ± 19.37	67.75 ± 14.58
		Post-test	43.60 ± 10.79	69.65 ± 14.93
		Follow-up	45.00 ± 10.72	69.75 ± 15.09
	Avoidance	Pre-test	18.10 ± 4.65	18.55 ± 4.89
		Post-test	15.75 ± 5.50	19.10 ± 4.96
		Follow-up	15.90 ± 5.34	18.95 ± 5.03
	Fearful assessment	Pre-test	13.85 ± 5.46	12.95 ± 4.18
		Post-test	8.05 ± 2.62	14.55 ± 4.08
		Follow-up	8.80 ± 2.52	14.75 ± 4.06
	Cognitive anxiety	Pre-test	17.95 ± 5.40	19.40 ± 4.08
		Post-test	11.10 ± 3.41	19.15 ± 4.38
		Follow-up	11.35 ± 3.45	19.15 ± 4.06
	Physiographical reaction	Pre-test	14.65 ± 5.93	16.85 ± 5.81
		Post-test	8.70 ± 1.92	16.86 ± 5.86
		Follow-up	8.95 ± 1.93	16.90 ± 5.80
The severity of perceived pain	Pain severity	Pre-test	93.05 ± 21.04	93.70 ± 33.07
		Post-test	37.40 ± 12.72	99.30 ± 38.99
		Follow-up	39.55 ± 12.61	99.15 ± 38.11
	Sensory pain	Pre-test	34.75 ± 11.71	34.80 ± 25.33
		Post-test	16.05 ± 6.34	34.90 ± 16.48
		Follow-up	16.65 ± 6.33	34.95 ± 16.34
	Emotional pain	Pre-test	37.30 ± 12.83	41.55 ± 14.40
		Post-test	14.75 ± 2.39	42.20 ± 17.49
		Follow-up	15.45 ± 3.22	42.20 ± 17.28
	Neuropathic pain	Pre-test	21.00 ± 6.27	17.35 ± 6.74
		Post-test	6.60 ± 2.39	22.20 ± 7.37
		Follow-up	7.45 ± 1.62	22.10 ± 6.70

The post-test scores for the mentioned scales and subscales were almost stable, and the effect of the intervention phase of self-healing training was permanent. These results indicate that self-healing training leads to the reduction of pain anxiety and severity. Regarding the findings, the research hypothesis indicating the effectiveness of self-healing training in pain-related anxiety and the severity of perceived pain in patients suffering from migraine was confirmed.

Discussion

The present study aimed to investigate the effectiveness of self-healing training in pain-related anxiety and the severity of perceived pain in patients suffering from migraine. The findings showed a significant difference among the pre-test, post-test, and follow-up phases for pain-related anxiety variance and severity of the perceived pain, and that self-healing training reduced the pain severity and pain-related anxiety in the patients. This finding is consistent with the research results of Azizi et al. (2017), Azimi et al. (2019), Chen et al. (2017), Rometsch et al. (2020), and Latifi et al. (2020).

Migraine is one the most exhausting and chronic disorders, and stress and psychological issues play an important role in its occurrence, persistence, and even in reduction of its symptoms (Diener et al., 2020). Regarding the above-mentioned results on the reduction of pain-related anxiety and the severity of pain perception, it could be noted that the major focus of self-healing training is on the recognition and treatment of destructive cellular memories and that these memories would pose stress in the body, change the cells to defensive mode, cause the autonomic nervous system to move from balanced mode to fight-or-flight mode, and generate disruption in the person. The participants would likely help their autonomic nervous system to become more balanced and stop the fight-or-flight mode in their brain by training and learning techniques such as creative imagination, reverse memorisation, forgiveness, letting go of the grudge, and the management of physiographical and occasional stresses (Charlson et al., 2014).

Table 4. The analysis of variance within and between subjects through three measurements of pain-related anxiety and the severity of perceived pain scales in the pre-test, post-test and follow-up phases.

Scale	Subscale	Within and between subjects' effects	Source	SS	df	MS	F	*p*	η_p^2
Pain-related anxiety	Pain anxiety	Within-subjects	Phase	2243.85	1.01	2212.44	26.48	0.01	0.41
			Group × Phase	3295.05	1.01	3247.94	38.88	0.01	0.50
			Error	3219.43	38.53	83.53			
		Between-subjects	Group	9720.00	1	9720.00	17.65	0.01	0.31
			Error	20920.36	38	550.53			
	Avoidance	Within-subjects	Phase	21.60	1.01	21.31	2.66	0.11	0.06
			Group × Phase	50.86	1.01	50.18	6.28	0.01	0.14
			Error	307.53	38.51	7.98			
		Between-subjects	Group	156.40	1	156.40	2.26	0.14	0.05
			Error	2627.51	38	69.14			
	Fearful assessment	Within-subjects	Phase	97.01	1.07	90.28	12.49	0.01	0.24
			Group × Phase	339.95	1.07	316.37	43.78	0.01	0.53
			Error	295.03	40.83	7.22			
		Between-subjects	Group	444.67	1	444.67	11.36	0.01	0.23
			Error	1487.31	38	39.14			
	Cognitive anxiety	Within-subjects	Phase	324.65	1.04	311.95	37.89	0.01	0.49
			Group × Phase	279.81	1.04	268.87	32.66	0.01	0.46
			Error	325.53	39.54	8.23			
		Between-subjects	Group	997.63	1	997.63	22.65	0.01	0.37
			Error	1673.66	38	44.04			
	Physiographical reaction	Within-subjects	Phase	224.71	1.03	216.75	20.98	0.01	0.35
			Group × Phase	228.35	1.03	220.25	21.32	0.01	0.35
			Error	406.93	39.39	10.32			
		Between-subjects	Group	1116.30	1	1116.30	18.13	0.01	0.32
			Error	2339.66	38	61.57			
The severity of perceived pain	Pain severity	Within-subjects	Phase	16059.35	1.01	15971.86	24.64	0.01	0.39
			Group × Phase	241064.51	1.01	23975.18	36.99	0.01	0.49
			Error	24762.80	38.20	648.10			
		Between-subjects	Group	49735.40	1	49735.40	5.91	0.02	0.13
			Error	319446.85	38	8406.49			
	Sensory pain	Within-subjects	Phase	2228.61	1.01	2218.40	26.15	0.01	0.40
			Group × Phase	2289.35	1.01	2278.85	26.86	0.01	0.41
			Error	3238.03	38.17	84.72			
		Between-subjects	Group	4612.80	1	4612.80	3.21	0.08	0.08
			Error	54591.16	38	1436.61			
	Emotional pain	Within-subjects	Phase	3112.20	1.01	3095.95	20.66	0.01	0.35
			Group × Phase	3468.80	1.01	3450.69	23.03	0.01	0.37
			Error	5721.66	38.19	149.78			
		Between-subjects	Group	11349.07	1	11349.07	8.49	0.01	0.18
			Error	50747.18	38	1335.45			
	Neuropathic pain	Within-subjects	Phase	564.01	1.02	549.66	11.03	0.01	0.22
			Group × Phase	2354.51	1.02	2294.62	46.05	0.01	0.54
			Error	1942.80	38.99	49.82			
		Between-subjects	Group	2358.53	1	2358.53	4.74	0.04	0.11
			Error	18896.50	38	497.27			

On the other hand, the anxiety of the patients suffering from migraine would be partially caused by the false assessment of pain and its consequences. In self-healing training, these unhealthy thoughts were identified via the recognition of senseless fears, believed lies, and unhealthy thoughts and reduced the related anxiety. Creating and strengthening nine healing codes such as patience,

Table 5. LSD post-hoc test for compare pain anxiety and pain severity in pairs.

Scale	Subscale	Phase (A)	Phase (B)	Mean difference (A-B)	SE	*p*
Pain-related anxiety	Pain anxiety	Pre-test	Post-test	9.52	1.83	0.01
			Follow-up	8.77	1.71	0.01
		Post-test	Follow-up	0.75	0.21	0.12
	Fearful assessment	Pre-test	Post-test	2.10	0.56	0.01
			Follow-up	1.62	0.49	0.01
		Post-test	Follow-up	−0.47	0.13	0.06
	Cognitive anxiety	Pre-test	Post-test	3.55	0.58	0.01
			Follow-up	3.42	0.54	0.01
		Post-test	Follow-up	−0.12	0.10	0.27
	Physiographical reaction	Pre-test	Post-test	2.97	0.62	0.01
			Follow-up	2.82	0.63	0.01
		Post-test	Follow-up	−0.15	0.09	0.13
The severity of perceived pain	Pain severity	Pre-test	Post-test	25.02	4.95	0.01
			Follow-up	24.02	4.92	0.01
		Post-test	Follow-up	−1.00	0.30	0.07
	Emotional pain	Pre-test	Post-test	10.95	2.37	0.01
			Follow-up	10.65	2.37	0.01
		Post-test	Follow-up	0.30	0.14	0.09
	Neuropathic pain	Pre-test	Post-test	4.77	1.38	0.01
			Follow-up	4.40	1.37	0.01
		Post-test	Follow-up	−0.37	0.05	0.07

peace, self-restraint, and modifying lifestyle, including sleeping and waking time, eating, practical and specific exercises of healing codes, meditation and praying, increased individual's patience and compatibility with this chronic pain, improved functionality, and reduced pain perception and related anxiety.

Among the limitations of this research, all the participants were female; hence, it should be taken into consideration and the findings should be applied and generalised with caution. Moreover, the researchers failed to control the effect of medications taken by the sample population even though it was shared in both experimental and control groups. It is suggested that to compare and investigate the effectiveness, along with the therapeutic approach of self-healing, other therapeutic approaches are applied in further research. In addition, regarding the spectrum of psychosomatic disorders, the effectiveness of this practice in other illnesses such as ulcers, sleep disorders, fatigue, backache, and others should be investigated in future research. It can also be adapted for special diseases with unknown origins, for which a definite cure has not been discovered yet. Longitudinal studies with long-term and multi-stage follow-up phases are suggested to investigate the persistence of treatment effects of this model in individuals suffering from chronic physical pain.

Conclusion

The findings of the study revealed that this programme could significantly reduce the severity of pain and pain-related anxiety in patients. In general, the probable reasons for the effectiveness of self-healing in the reduction of headache and related anxiety are reducing physiological stress by the exercises of muscular-respiratory body relaxation, shrine meditation, meditation with roses, radiant body scan, and particular exercises of healing codes, which were taught practically by presenting audio files and tasks, and increasing individuals' ability to tackle problems while promoting patience.

Declaration of competing interest

The authors declare that they have no conflict of interest.

Data availability statement

The data that support the findings of this study are available from the corresponding authors, upon reasonable request.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributors

Nasrin Shahbazi, PhD candidate, is a lecturer in Psychology at the University of Payame Noor. Her work investigates self-healing training on self-compassion.

Zohreh Latifi, PhD, is an associate professor of psychology at the University of Payame Noor. Her work investigates self-care, cellular memory and self-healing training on self-compassion.

ORCID

Nasrin Shahbazi http://orcid.org/0000-0001-6586-1547
Zohreh Latifi http://orcid.org/0000-0003-4202-8944

References

Appel, P. R. (2020). A philosophical approach to the rehabilitation of the patient with persistent pain. *American Journal of Clinical Hypnosis*, *62*(4), 330–343. https://doi.org/10.1080/00029157.2019.1709152

Azimi, Z., Haghayegh, S., & Norouzi, M. (2019). The moderating role of sleep quality in the relationship between state-trait anxiety with severity of symptoms in patients with a migraine headache diagnosis. *Quarterly Journal of Health Psychology*, *8*(30), 26–38. https://doi.org/10.30473/hpj.2019.39807.3965

Azizi, M., Aghamohammadian-Sharbaf, H. R., Mashhadi, A., & Asgari-Ebrahimabad, M. J. (2017). Meta-analysis of psychological factors of migraines in Iran. *Journal of Health Psychology*, *6*(2), 88–100. https://dorl.net/dor/20.1001.1.23221283.1396.6.22.6.0.

Baldacci, F., Lucchesi, C., Cafalli, M., Poletti, M., Ulivi, M., Vedovello, M., … Gori, S. (2015). Migraine features in migraineurs with and without anxiety–depression symptoms: A hospital-based study. *Clinical Neurology and Neurosurgery*, *132*, 74–78. https://doi.org/10.1016/j.clineuro.2015.02.017

Byers, J. F., Bridges, S., Kijek, J., & LaBorde, P. (2001). Burn patients' pain and anxiety experiences. *Journal of Burn Care & Rehabilitation*, *22*(2), 144–149. https://doi.org/10.1097/00004630-200103000-00011

Charlson, M. E., Loizzo, J., Moadel, A., Neale, M., Newman, C., Olivo, E., Wolf, E., & Peterson, J. C. (2014). Contemplative self healing in women breast cancer survivors: A pilot study in underserved minority women shows improvement in quality of life and reduced stress. *BMC Complementary and Alternative Medicine*, *14*(1), 349. https://doi.org/10.1186/1472-6882-14-349

Chawla, J. (2019, October 21). What is the global prevalence of migraine headache? *Medscape*. Retrieved from https://www.medscape.com/answers/1142556-170220/what-is-the-global-prevalence-of-migraine-headache

Chen, Y. F., Huang, X. Y., Chien, C. H., & Cheng, J. F. (2017). The effectiveness of diaphragmatic breathing relaxation training for reducing anxiety. *Perspectives in Psychiatric Care*, *53*(4), 329–336. https://doi.org/10.1111/ppc.12184

Diener, H. C., Förderreuther, S., Gaul, C., Giese, F., Hamann, T., Holle-Lee, D., … Tfelt-Hansen, P. (2020). Prevention of migraine with monoclonal antibodies against CGRP or the CGRP receptor: Addition to the S1 guideline: Therapy of migraine attacks and prevention of migraine. *Neurological Research and Practice*, *2*, 11. https://doi.org/10.1186/s42466-020-00057-1

Dworkin, R. H., Turk, D. C., Trudeau, J. J., Benson, C., Biondi, D. M., Katz, N. P., & Kim, M. (2015). Validation of the short-form McGill pain questionnaire-2 (SF-MPQ-2) in acute low back pain. *The Journal of Pain*, *16*(4), 357–366. https://doi.org/10.1016/j.jpain.2015.01.012

Khosravi, M., Sanambar, S., Moradi, S. H., & Zendedel, K. (2013). Persian-McGill pain questionnaire translation, adaptation and reliability in cancer patients: A brief report. *Tehran University Medical Journal*, *71*(1), 53–58. http://tumj.tums.ac.ir/article-1-38-en.html.

Lampl, C., Thomas, H., Tassorelli, C., Katsarava, Z., Laínez, J. M., Lantéri-Minet, M., Rastenyte, D., de la Torre, R., Stovner, E., Andrée, L. J., & Steiner, C., & J, T. (2016). Headache, depression and anxiety: Associations in the eurolight project. *The Journal of Headache and Pain*, *17*(1), 59. https://doi.org/10.1186/s10194-016-0649-2

Latifi, Z., & Marvi, M. (2018). *Handbook of self-healing codes*. Tehran, Iran: Marvi. (In Persian).

Latifi, Z., Soltani, M., & Mousavi, S. (2020). Evaluation of the effectiveness of self-healing training on self-compassion, body image concern, and recovery process in patients with skin cancer. *Complementary Therapies in Clinical Practice*, *40*, 101180. https://doi.org/10.1016/j.ctcp.2020.101180

Lipton, B. (2013). The honeymoon effects. *Published: Highly House*, *2013*, 20–30.

Lipton, B. (2016). *The biology of belief 10th anniversary edition: Unleashing the power of consciousness, matter & miracles*. Hay House Inc. Anniversary edition, October 11, 2016. https://doi.org/10.17493/nmr/2016/118223

Loyd, A., & Johnson, B. (2005). *The healing codes: Unlocking the cellular sequence of life, light of man ministries*. New York.

Loyd, A., & Johnson, B. (2011). The healing code: 6minutes to heal the source of your health, success, or relationship issue. In *Grand central life & style* (pp. 15–40). Hachette Book Group. First book edition: February. 2011.

McCracken, L. M., & Dhingra, L. (2002). A short version of the pain anxiety symptoms scale (PASS-20): preliminary development and validity. *Pain Research and Management*, *7*(1), 45–50. https://doi.org/10.1155/2002/517163

McCracken, L. M., Zayfert, C., & Gross, R. T. (1992). The pain anxiety symptoms scale: Development and validation of a scale to measure fear of pain. *Pain*, *50*(1), 67–73. https://doi.org/10.1016/0304-3959(92)90113-P

Melzack, R. (2005). The McGill pain questionnaire: From description to measurement. *Anesthesiology*, *103*(1), 199–202. https://doi.org/10.1097/00000542-200507000-00028

Mohammadi-Fakhar, F., Rafiee, F., Jamshidi, R., & Inanloo, M. (2011). The effect of jaw relaxation on pain anxiety of burn dressing: Randomized clinical trial with control group. *Iranian Journal of Nursing Research*, *5*(19), 58–67. http://ijnr.ir/article-1-782-en.html.

Rachor, G. S., & Penney, A. M. (2020). Exploring metacognitions in health anxiety and chronic pain: A cross-sectional survey. *BMC Psychology*, *8*(1), 81. https://doi.org/10.1186/s40359-020-00455-9

Rometsch, C., Denkinger, J. K., Engelhardt, M., Windthorst, P., Graf, J., Gibbons, N., … Junne, F. (2020). Pain, somatic complaints, and subjective concepts of illness in traumatized female refugees who experienced extreme violence by the "Islamic State" (IS). *Journal of Psychosomatic Research*, *130*, 109931. https://doi.org/10.1016/j.jpsychores.2020.109931

Scheffler, A., Messel, O., Wurthmann, S., Nsaka, M., Kleinschnitz, C., Glas, M., … Holle, D. (2020). Erenumab in highly therapy-refractory migraine patients: First German real-world evidence. *The Journal of Headache and Pain*, *21*(1), 84. https://doi.org/10.1186/s10194-020-01151-0

Shanbehzadeh, S., Salavati, M., Tavahomi, M., Khatibi, A., Talebian, S., & Khademi-Kalantari, K. (2017). Reliability and validity of the pain anxiety symptom scale in Persian speaking chronic low back pain patients. *Spine*, *42*(21), E1238–E1244. https://doi.org/10.1097/BRS.0000000000002149

Soltani, M., Latifi, Z., & Moosavi, S. (2020). The effect of self-healing education on self-compassion, body image concern and improvement of disease process in suffering from skin cancers. *Journal of Dermatology and Cosmetic*, *10*(4), 222–234. http://jdc.tums.ac.ir/article-1-5417-en.html.

Suljic, E., & Mehicevic, A. (2017). Correlation between the type of headache and depression in relation to gender. *Journal of the Neurological Sciences*, *381*, 939–940. https://doi.org/10.1016/j.jns.2017.08.2645

Zarean, F., & Latifi, Z. (2020). The effectiveness of self-healing (the healing codes) training on psychological capital and distress tolerance in women with addicted husbands. *Current Psychology*, https://doi.org/10.1007/s12144-020-00860-8