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The Effectiveness of Mindfulness on Pain Complaints and Psychosomatic Problems in Women with Chronic Back Pain

Abstract

This study aims to evaluate the effectiveness of mindfulness on pain complaints and psychosomatic problems of women with chronic low back pain. The present study was a quasi-experimental study with a pre-test-post-test design with a control-experimental group. The study's statistical population includes women aged 30 to 60 referring to Dr. Farkhani's physical medicine and rehabilitation clinics in Isfahan province. According to entry criteria, 60 women were selected based on the available sampling methods and a random selection, among which 30 people were in the experimental group and 30 were in the control group. The experimental group was exposed to mindfulness training during eight sessions of 90 to 120 minutes. Data were collected using McGill Pain Questionnaire (1997) to evaluate the level of pain complaints of the participants and Takata and Sakata's (2004) Psychosomatic Complaints Questionnaire to evaluate psychosomatic problems. Multivariate analysis of variance (MANOVA) and univariate analysis of covariance (ANCOVA) was used to analyze the data. The analysis results of covariance showed that mindfulness therapy (1992) was effective on the variable of pain complaints ($p = 0.0001$, $f= 7.86$) and patients' psychosomatic problems ($p = 0.0001$, $f=12.11$). The findings showed that mindfulness meditation training could significantly affect the psychosomatic problems of women with chronic low back pain.

Keywords: *mindfulness, pain complaints, psychosomatic problems, chronic back pain*

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Introduction

Pain is an uncomfortable sensation and a warning sign often triggered by painful or harmful stimuli. In addition, pain and illness cause mental pressure (1). According to the International Association for the Study of Pain, "pain is a natural and emotional unpleasant experience associated with actual or potential damage to tissues (2). In addition to accepting the subjective nature of pain as an inherent characteristic, this World Association of Pain definition pays attention to emotional factors as much as to sensory factors (3). Currently, much research has been conducted about chronic pain, for example, exciting factors, environmental, social, cultural, and motivational factors, the pain meaning for a person, cognitions related to pain, and strategies to deal with pain, and strategies to deal with pain in injuries (4). Psychosomatic disorders have emerged in the last few decades, which imposes an enormous economic expense on patients due to the complexity of their diagnosis (5). Psychosomatic disorders include disorders in which symptoms are directly related to brain damage or abnormal conditions in the brain's chemical environment (6). Psychosomatic disorders have a physical basis. Psychological factors can affect many physical conditions in many devices (7). Some physical pains or problems are of mental origins, such as tension headaches, migraines, neck pain, and even blood pressure or diabetes may occur due to mental pressure. In other words, all types of pain cannot be treated by medication (8). Psychosomatic pains or nervous and chronic pains are among the consequences of psychosomatic pains, causing problems in daily life or job problems, a person's overall health, and family relationships (9).

Takeyachi et al. (10) state that most of the back pain is mainly psychological. This pain has a spiritual origin and has nothing to do with the structure of muscles, joints, ligaments, and intervertebral discs. The location of the pain and the apparent change that is not consistent with any specific anatomical interpretation suggests the psychogenic nature of the pain (11). Depression, hysteria, and depression are included in this group (6).

Back pain is one of the most common chronic pains (12). The latest research illustrates that approximately 13.47% of adults in Latin America suffer from back pain (13). The statistics show that almost eight out of every ten people experience back pain at least once in their lifetime (14). Diagnosis of the leading cause of back pain is difficult due to the prevalence of back pain and the affecting factors, and there are various theories regarding the causes of back pain (15). Back pain is the second cause of illness in Iran, and 27% of Iranian have chronic back pain (5).

Mindfulness training, which emphasizes acceptance of pain instead of controlling or coping with pain, is among the psychological interventions that can affect patients' complaints of pain and psychosomatic problems that researchers have not noticed. Shahbazi et al. (16) showed that mindfulness effectively modulates negative behavioral patterns and automatic thoughts, which causes positive health behaviors.

Mindfulness meditation training reduces pain, anxiety scores, and psychological distress and improves emotion regulation (17). Cognitive behavioral therapy aims to maintain the effects of behavior modification and integrate cognitive activities to create therapeutic changes (18). In addition, Dryden and Karan (19) showed that mindfulness therapy could increase the feeling of control over pain and use positive coping strategies, reducing anxiety and psychological pressure in patients. It is worth mentioning that few studies have been conducted in the field of psycho-physical problems of patients (20, 21, 22, 23, 24, 25, 26). Some treatments are carried out in the field of chronic pain, such as psychological therapy, cognitive behavioral therapy, acceptance and commitment therapy, therapy, emotional regulation therapy, mindfulness-based therapy, codification model-based therapy, mindfulness-based stress reduction therapy, cognitive therapy based on the metatheoretical model and theoretical metacognition, cognitive-behavioral group therapy, mindfulness-based cognitive therapy, and cognitive therapy of presence of mind. This method was successful in various fields, including the effectiveness of mindfulness on the quality of life and disease perception of patients with irritable bowel syndrome (27), reduction of catastrophic and chronic pain intensity (28), and reduction and improvement of symptoms of patients with heart failure (29). This method has not been considered for the treatment of chronic back pain. According to the relevant statistics, a research gap has been identified in this field. The current research aims to solve this gap. As mentioned, the present study aims to investigate the effectiveness of mindfulness on patients' pain complaints and psychosomatic problems and answer the question of whether mindfulness is effective on complaints of pain and psycho-physical problems of women with chronic back pain.

Method

The current research is quasi-experimental with a pre-test-post-test design with a control-test group. This research considered mindfulness as an independent variable and complaints of pain and psychosomatic problems as dependent variables. This study's statistical population includes women aged 30 to 60 referred to physical medicine and rehabilitation clinics. The sampling method was based on the available method because research with an experimental design required a sample size of at least 30 people. In this research, McGill Pain Questionnaire (30) and Takata and Sakata Psychosomatic Complaint Questionnaire (31) were performed on the participants whom a trusted doctor approved. People with high scores on the questionnaire were selected, and 60 were selected as the sample group who had completed the satisfaction form and met the study criteria. Then, they were randomly replaced into two experimental and control groups (30 people in the experimental group and 30 in the control group). First, a pre-test was taken from both groups. Then, the experimental group received mindfulness training in 8 therapy sessions of 90 to 120 minutes (60 days) as a group through Instagram. Finally, according to the exit criteria, a post-test was taken from both groups after a few days.

Entry criteria include: Not taking medication to relieve pain and not having a physical or mental disability at the same time, and not having schizophrenia or other anxiety disorders. Exit criteria include: Passing less than three months from their treatment, getting sick during training, not continuing the treatment process, starting other treatments at the same time during the treatment, more than two sessions of absence during the treatment process, and failing to complete the questionnaires or anxiety problem in the process of treatment, the person's anxiety problem becomes so severe during the treatment process that the therapist was forced to start and use other treatments. The research tools that were used in the field are as follows.

McGill pain questionnaire

Melzak created the McGill pain questionnaire (1997) with 20 items. This questionnaire measure people's perception of pain from different dimensions (four dimensions of sensory perception of pain, emotional perception of pain, perception of pain evaluation, and diverse and diverse pains). The McGill Pain Questionnaire is one of the most prominent tools for measuring pain, which Melzak first used on 297 patients who suffered from various types of pain. Melzak et al. also developed a modified version of the McGill Pain Questionnaire for a short but valuable pain measure that has been used in 250 studies. McGill's pain questionnaire includes two independent factors: The first factor is sensory pain, which describes the pain in the individual, and the other is emotional pain, which describes the emotional impact of the pain experience. This questionnaire has 20 statements to measure people's perception of pain in different dimensions (sensory perception of pain, emotional perception of pain, perception of pain evaluation, diverse and diverse pains) (30). This questionnaire's validity has been confirmed in Dworkin's research (32). Its reliability was also calculated using Cronbach's alpha. The alpha coefficient was between 0.83 and 0.87 for all dimensions. Persian McGill Pain Questionnaire was performed on a total of 84 patients. The questionnaire was completed again after 24 hours for 30 patients who had retained stable conditions. Conclusion: In the present study, McGill's Persian Pain Questionnaire has sufficient cultural

adaptation and reliability to be used in epidemiological studies of chronic pain.

Takata and Sakata Psychosomatic Complaints Questionnaire

Takata and Sakata Psychosomatic Complaints Questionnaire (2004) is one of the short scales that diagnose psychosomatic complaints in a short period, which was created and validated in Japan. This scale consists of 30 parts and has a single-factor structure. Hajlo has validated this questionnaire (33). The answer to each part is done by choosing one of the options "never" (score 0) to "repeatedly" (score 3). The range of scores on this scale is between 0 and 90. This scale creator calculated its correlation by calculating Golberg's mental health scale and obtained its concurrent validity in two studies of 0.64 and 0.65. In addition, two studies used factor analysis to check the scale's construct validity. It is clear that in the first study (1997), 34.1%, and in the second study (1999), 31.1% of the variance of the sections was explained by one factor. This scale reliability was obtained using Cronbach's alpha method (1997) as 0.93, 1998 as 0.91, and 1999 as 0.92. The correlation between the scale parts was also reported to be equal to 0.50 or more in three different executions by the scale creators (30). The test-retest reliability of the scale of psychosomatic complaints was implemented and confirmed on two periods each month on a sample of 30 students (r = 0.83). Cronbach's alpha coefficient obtained on the original sample was equal to 0.85, which showed high internal consistency for the parts of this scale (33). Two experts (psychologists) approved this psychosomatic complaint scale to check the validity of the translated version. While completing this scale, ten students were asked to give their opinion about the difficulty in understanding the questions to determine the face validity of the scale, but no problem was reported.

Mindfulness training package

This research will implement the experimental group's primary stress reduction technique based on mindfulness. This treatment is held in a group for two months in an 8-session intervention of 90 to 120 minutes. This treatment has simple methods derived from meditation and yoga, creates awareness of the present moment and moment-to-moment contact with the patient body and mind changes, and includes stretching exercises and basic postures. This treatment program originally belonged to Kabat-Zinn (34), examined and explored more closely by Segal, Williams, and Teasdell in 2002, focusing more on the body which is mention in table 1.

Table 1) therapeutic protocol of training sessions

session	Goal	Content
1	Automatic guidance	At first, the group is formed - the rules and principles and purpose of forming the group are stated - the participants get to know each other - practice eating a raisin with the presence of mind and focusing on it.
2	Facing obstacles	Home practice: taking a shower every day to pay attention to daily activities
3	Mindfulness of breathing	Practicing thoughts and feelings - ten minutes of mind presence on the flow of breathing - physical examination practice. Homework: Forty-five minutes of physical examination reflection, focusing the participant's attention on daily activity and recording a daily report of the pleasant event experience.
4	Staying in the present	Practicing seeing and hearing - walking with the presence of the mind - practicing breathing and stretching with the presence of the mind - meditation in the sitting position focused on the awareness of breathing and the body - identifying and recording pleasant and unpleasant events that will be explored in the fourth week. Home practice: on the first, third, and fifth days of the week, breathing and stretching exercises should be done, and on the second, fourth, and sixth days, breathing exercises should be done consciously.

5	permission to attend	Breathing, body, sounds, and thoughts meditation practice - home practice: doing a three-minute breathing space exercise as a coping strategy when feeling unpleasant experience
6	Thoughts are not facts	Introducing a problematic state as a practice and exploring its effects on the mind and body - Allowing experiences to be present as they are without judgment - Home practice: After practicing three minutes of breathing space to explore a way to open up.
7	self-care	Negative moods and thoughts limit our connection to the experience even though they are not true - leading the participant to become aware of critical aspects of their situation that will prevent relapse symptoms.
8	Use of learnings	Concluding Reflection - Reviewing what was covered in the course - Saying what things in your life are most valuable to you that these exercises helped you achieve? - Giving a home program

In this research, physical medicine and rehabilitation clinics in Isfahan province were first invited. Then, 60 people were selected as the sample group who had filled the entry criteria with the approval of the trusted doctor and completed the consent form. They were randomly replaced into two experimental groups and a control group (30 people in the experimental group and 30 control group). First, a pre-test was taken from both groups. Then, McGill's Pain Questionnaire (1997) and Takata and Sakata's (2004) psychosomatic complaint were administered to the participants. Then, the experimental group received mindfulness training in 8 therapy sessions of 90 to 120 minutes as a group through Instagram, but no training was implemented in the control group. Finally, a post-test was taken from both groups after a few days and according to the exit criteria. After collecting the data from two groups using the questionnaire tool, the data were analyzed in SPSS 22 software using descriptive analysis methods, including percentage frequency, mean and standard deviation, and inferential analysis, including multivariate analysis of variance (MANOVA) and univariate covariance analysis (ANCOVA) to examine the hypotheses.

Findings

This research included sixty women with chronic back pain who were referred to physical medicine and rehabilitation clinics in Isfahan for treatment with an average age of 30 to 60.

Table 2) Average, standard deviation, lowest and highest score of symptoms of pain complaints and psycho-physical problems of two experimental and control groups

Variable	Group	Level	**Mean**	**The standard deviation**	**Minimum score**	**Maximum score**
Complaints of pain	Experiment	Pre-test	**55.76**	**11.81**	**34**	**74**
		Post-test	**47.56**	**11.50**	**27**	**70**
	Control	Pre-test	**54.93**	**12.05**	**34**	**75**
		Post-test	**54.93**	**12.05**	**34**	**75**
Psychosomatic problems	Experiment	Pre-test	**59.10**	**11.75**	**48**	**78**
		Post-test	**48.10**	**11.54**	**24**	**71**
	Control	Pre-test	**58.36**	**11.10**	**48**	**79**
		Post-test	**58.36**	**11.10**	**48**	**79**

The results in Table 2 show that the mean and standard deviation scores of the test group's pain complaints variables are 55.76 and 11.81 in the pre-test stage and 47.56 and 11.50

in the post-test stage, respectively. This statistical index in the control group is 54.93 and 12.05 in the pre-test and post-test stages, respectively. In addition, the above table results show that the average scores and standard deviation of the psychosomatic index of subjects of the psychosomatic problems test group are 59.10 and 11.75 in the pre-test stage and 48.10 and 11.54 in the post-test stage, respectively.

This statistical index is 58.36 and 11.10 in the control group in the pre-test and post-test stages, respectively. Univariate analysis of covariance was used to investigate these observed differences further.

First, its presuppositions should be checked using the covariance analysis method. The assumption that each person's score in the dependent and independent variable is independent of all other subjects' scores is valid. The normality of the dependent variable and the independence of this assumption group was also checked. Lune's test checked the homogeneity of the error variance in the experimental and control groups. The results indicated that the assumption of homogeneity in the two variables of pain complaints (p=0.511, p=0.438) and psychosomatic problems variable (p=0.638), f = 0.224) is maintained in these two groups, and the test is significant. Therefore, it can be said that the data had a normal distribution. The results of the Mbox test (p=0.33) were examined under the assumption of homogeneity of the regression slope (calculation f of the interaction between variance and independence), which is related to the variable of pain complaints (p=0.0001, f=7.86) and psychosomatic problems (p=0.0001, f=12.11). Wilks's lambda test (p=0.0001, b=34.890) was examined under the assumption of homogeneity of the regression slope. Concerning the pain complaint variable, it showed that the F value of the interaction of the independent variable and covariance is 7.86, and the variable of psychosomatic problems with the F value of the interaction of the independent variable and the covariance is 12.11, which are significant at the level of 0.0001. The homogeneity of the regression slope has been observed in both variables. According to the presuppositions of covariance analysis, univariate covariance analysis (ANCOA) is used to examine the research data.

Table 3) The results of covariance analysis of the effectiveness of mindfulness on pain complaints and psychophysical problems of women with chronic back pain

Effect	**Value**	**F**	**Degrees of freedom**	**Degree of freedom error**	**Significance level**
Pillay effect test	**0.559**	**34.890[b]**	**2.000**	**55.000**	**0.0001**
Wickels lambda test	**0.441**	**34.890[b]**	**2.000**	**55.000**	**0.0001**
Hotelling effect test	**1.269**	**34.890[b]**	**2.000**	**55.000**	**0.0001**
Exclusive rank	**1.269**	**34.890[b]**	**2.000**	**55.000**	**0.0001**

Table 3 shows that Pillai's test statistic (b = 34.890 (F = 34.890) is significant in influencing the research variables (pain complaints and psychosomatic problems) of the experimental groups at the confidence level of 0.0001. It is concluded that mindfulness significantly affected at least one of the variables of pain complaints and psychosomatic problems. The effect size of the test according to the establishment of the assumptions of covariance analysis to analyze the research data used the single covariance analysis method (ANCOVA) to examine hypothesis one and two.

Table 4) Results of univariate covariance analysis (ANCOVA) of the first hypothesis

Source	sum of squares	Degrees of freedom	mean square	F	Significance	Eta squared	Statistical power
Research stages	139683.75	1	139683.75	6.01	0.0001	0.94	1.00
group	2680.01	1	2680.01	7.86	0.0001	0.21	0.991
Error	8053.23	58	138.84				
Total	150417.00	60					

As it shows in table 4, univariate analysis of covariance was used to test the first hypothesis. The F value obtained is significant at the (P<0.0001) level. Therefore, hypothesis 1 of the research is confirmed and concluded with 99% confidence that mindfulness is effective on pain complaints of patients with chronic back pain. The obtained effect index indicates that the reduction of the variance percentage from 0.94 to 0.21 shows that mindfulness has influenced the pain complaints of women with chronic back pain living in Isfahan province. In other words, the pain complaints of chronic back pain patients have changed and decreased due to mindfulness training.

Table 5) Results of univariate covariance analysis (ANCOVA) of the second hypothesis

Source	sum of squares	Degrees of freedom	Mean square	F	Significance	Eta squared	Statistical power
Research stages	189731.26	1	189731.26	2.986	0.0001	0.94	1.00
group	3969.06	1	2969.06	12.11	0.0001	0.32	0.999
Error	8261.66	58	142.44				
Total	00.201962	60					

The table above reports the results of univariate covariance analysis between pre-test and post-test psychosomatic problems. Table 5 shows that the F value obtained is significant at the P<0.0001 level. Therefore, hypothesis 2 of the research is confirmed. It is concluded with 99% certainty that mindfulness effectively affects the psychophysical problems of women with chronic back pain. The obtained effect index indicates that the reduction of variance percentage from 0.94 to 0.32 shows that mindfulness has been influential in the psychophysical problems of women with chronic back pain living in Isfahan province. Furthermore, mindfulness training has decreased the psychosomatic problems of women suffering from chronic back pain. The squared value of eta to calculate the variable effect size of psychosomatic problems in experimental and control groups was obtained by dividing the changes of that factor by the total changes. The squared value of the eta coefficient in the variable of psychophysical problems (0.32) is greater than the squared eta of the variable of pain complaints; therefore, it is concluded that the number of changes in the variable of psychophysical problems in the experimental and control groups was more significant.

Discussion

The present study was conducted to investigate the effectiveness of mindfulness on pain complaints and psychosomatic problems of women suffering from chronic back pain. The covariance analysis results showed this training is practical and has improved the women suffering from chronic back pain.

The first hypothesis showed that mindfulness has reduced patients' pain complaints with chronic back pain. Therefore, the results are consistent with the following research: Abdullahi et al. (35) showed that the exercise-mindfulness intervention improves the quality of life and pain of patients with carcinoma cancer. Haqdoost et al. (36) showed that the mindfulness method based on stress management is an effective treatment method for death anxiety, pain catastrophizing, pain acceptance, and pain intensity in prostate cancer patients.

To explain the findings, it is acknowledged that it seems necessary to find more valuable strategies and treatments for treating these patients due to the prevalence of chronic pain. Therefore, this research investigated the Effect of mindfulness-based stress reduction treatment on pain complaints of patients with chronic back pain. Several researchers admit that new intervention strategies lead to better results. For this reason, there is a third generation of integrative and innovative treatments, which can be called acceptance-based models, such as Mindfulness-Based Cognitive Therapy and Acceptance & Commitment Based Therapy (37). Kabat-Zinn presented a new theory at the University of Massachusetts Medical Center (1979): therapeutic cognition is based on mindfulness (38). This treatment teaches mindfulness skills in dealing with life's stresses and cultivating awareness of the present moment, and it includes meditations related to thinking, relaxation, and Hana yoga (39). Mindfulness means paying attention to the present in a unique, purposeful, and non-judgmental way (40). Mindfulness therapy is derived from cognitive behavioral therapy and is considered one of the preferred elements of psychological treatment models. Educational and mindfulness-based therapy methods emphasize physical activities, such as sitting, meditation, walking, and some yoga exercises. This primary treatment mechanism is self-control of attention because it repeatedly focuses on a neutral stimulus, such as breathing, and creates a suitable attention environment (41).

Calm tone techniques return the flow of oxygen burning in the body to a normal state and increase relaxation and reduce pain which is also used in mindfulness (42). Mindfulness helps a person take care of his mental health and enjoy his life more by being aware of his behavior, emotions, thoughts, and motivations by focusing his attention and meditation exercises. Mindfulness treatment examines managing thoughts and feelings, being in the moment, and not judging. Asadolahi et al. (43) find that this state can increase the quality of life, continuous performing mindfulness exercises, the recognition and awareness of women with chronic back pain from their body, emotions, and thoughts, and the quality of life of women with chronic back pain (44). The results indicated that mindfulness could positively affect the pain complaints of women with chronic back pain. It is also concluded that patients experience more and more attention to the body through mindfulness exercises. This awareness prepares the subsequent control that all these factors can ultimately increase patients' quality of life with chronic pain. Therefore, the first hypothesis is confirmed. The second hypothesis analysis showed that the research's independent variable affected the dependent variable because the significance level of the pain complaint variable was less than 0.05. In other words, mindfulness has reduced the psychophysical problems of women suffering from chronic back pain. In addition, the effectiveness in psychophysical problems has been higher than the variable of pain complaints, and the psychophysical problems of patients have decreased more. Therefore, the second hypothesis of the research is also confirmed.

Analyzing the findings of the second hypothesis indicated that mindfulness is effective on the psychophysical problems of women with chronic back pain. Therefore, the results obtained with the results of other research, including cultural research (45), showed a significant difference between the experiment and control groups in the psychosocial performance scores in the post-test (0.05). Abdul Qadri et al. (46) indicated that mindfulness therapy was an effective treatment for increasing the patients' hope with chronic back pain ($P<0.001$), but it was ineffective regarding their beliefs about pain.

It is acknowledged that this training helps a person to change his relationships with his internal states, thoughts, and feelings due to the focus of mindfulness training on internal and personal processes and reducing the internal symptoms of stress and anxiety (attention, thoughts, and one's imagination). In addition, teaching mindfulness techniques and mental relaxation normalizes the flow of breathing and reduces the external symptoms of anxiety (heart palpitations, palpitations, pressure drop, sweating, and difficulty breathing) (47). Germer et al. (48) also state that mindfulness exercises can change our attitude toward pain and create opportunities for a person so that pain does not cause suffering. On the other hand, psychological factors also cause chronic back pain and disability (49).

Mindfulness-based training programs combine mindfulness exercises with elements of cognitive therapy to target the vulnerability processes that are the depression attacks goal. In this model, mindfulness exercises help chronic pain patients to interrupt the activation of depressive patterns in response to pain and physical dysfunction. They are likely to learn to relate to their problem with automatic thoughts and feelings related to an attitude of acceptance and openness and in a non-reactive, non-judgmental way because it is very effective in reducing depression and reducing the feeling of pain. Mindfulness also increases physical monitoring and body awareness, improving body mechanisms and self-care. In addition, traditional relaxation training and mindfulness meditation are accompanied by an increase in parasympathetic activity, which can lead to deep muscle relaxation, reduced tension and arousal, stress and anxiety symptoms, and chronic pain in women with chronic back pain. Mind presence-based cognitive therapy has been effective in reducing physical and mental symptoms. Learning to cope with negative emotions and thoughts and positively experience mental events are essential aspects of mindfulness-based therapy. Mindfulness-based therapy also causes the mental representation of the things in life beyond human control but can be thought through deep breathing and thinking. Cognitive changes are due to emphasizing the conscious attention to the time of the mood, being exposed to unpleasant feelings and thoughts, and not avoiding the feelings, which can reduce and improve the symptoms (7). Setting up a protocol treatment based on practicing thoughts and feelings, eating raisins and concentrating, examining the mood and thoughts, and emotions of the patient, practicing meditation on breathing and thoughts, breathing as a conscious mind, 3-minute breathing and meditation in a sitting position and walking as a coping strategy in an unpleasant experience can affect psychosomatic problems that cause feelings of worry, heartache, stress, depression, psychosomatic pains such as back pain, abdominal pain, headache, body pain, arm pain (50). People with psychosomatic problems may consider this problem a medical condition because they have too many thoughts, feelings, or worries about their physical symptoms. In addition, this problem affected their performance and reduced their ability

People are usually disappointed when they do not get a proper diagnosis and depend on the medicine without efficiency. Therefore, it is impossible to treat psychosomatic problems just by visiting a specialist doctor. These people can observe visible changes in their treatment process only by taking

advantage of the guidance of a psychotherapist who knows mindfulness. For example, a person's mind is involved in a past habit pattern of eating raisins practice, and often they do not have a choice about where their mind goes. Therefore, they feel their inner in this exercise. They think about their own experiences for a moment, and at another moment, they observe the thoughts going through their minds and even calm their mind. The three-minute breathing space exercise tries to extract the patient from his automatic guidance mode to make him aware of his current situation and directs his attention to the sensations associated with the flow of breathing at a particular point in the body (4).

Conclusion

This research results showed that according to the Eta coefficient in the second hypothesis (Eta = 0.32), mindfulness is mainly based on the improvement and reduction of psychophysical problems of women with chronic back pain. This treatment method successfully improves women's quality of life with chronic back pain. Like other training methods, using mindfulness techniques has limitations and is not long-lasting; therefore, more research should be conducted in this field. According to the embargo situation, this treatment is affordable and not dependent on drug consumption. Therefore, it is suggested to use this educational technique for patients with chronic back pain.

One of this research's limitations is that people self-reported their information due to the corona period and compliance with health protocols, which may be related to bias.

Due to the Corona period, we could not hold a treatment program in person, and the meetings were held through Instagram. Therefore, it is recommended to carry out this research in other communities and regions in future research. In addition, the research results can be generalized by expanding the research and repeating it in other statistical communities. Similar research should be carried out for other patients with chronic pain to enable generalizations. The questionnaire method is insufficient; observation, interview, and action research are also needed to conduct the research. Finally, the results obtained with different tools should be compared and investigated more with this research.

Ethical considerations

All ethical considerations were explained in a session (before the treatment program), and participants gave consent due to the research's importance. The ethics committee has approved the present research of the University of Mashhad with the code of ethics IR.ACECR.JDM.REC.1401.001.

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Conflict of interest

This article has no conflict of interest, according to the authors.

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