

Effectiveness Mindfulness on Psychosocial Adjustment, Family Relationships ,Subjective Well-Being of women with MS

Abstract

This study investigated the effect of mindfulness on psychosocial adjustment to disease, family relationships, and subjective well-being of women with MS. In this study, a quasi-experimental design with a pre-test-post-test and control group was used. This study's statistical population included all women with MS referred to the Tehran MS Association who were invited to participate in this study. The random sampling selected 30 women with an age range of 20 to 50 years. In addition, they were randomly divided into two groups of 15 experiments and witnesses. A family performance questionnaire was used to assess family relationships, and a subjective well-being questionnaire to measure the variables from the Psychosocial Adjustment Questionnaire. The experimental group received mindfulness intervention during 8 sessions, but the control group did not receive any treatment. Statistical analysis was performed through the analysis of covariance. This intervention was effective on the three variables in the experimental group.

Keywords: Mindfulness, Psycho-social adaptation to disease, Family relationships, Subjective well-Being, MS

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Introduction

MS is an autoimmune disease that causes inflammation and degeneration of the nervous system. This disease is among the serve neurological diseases that cause many problems in a person's physical and mental functioning. (1). Researchers have more tendency to study this disease due to the increase in the prevalence of this disease and the multiple increases in the incidence rate of women compared to men (2). some environmental and genetic factors can increase the severity and susceptibility of MS. The affected person must make fundamental changes to acquire the necessary skills to adapt to this disease (3) due to its wide range of physical and psychological problems and the age of its beginning (4), which involves young adults, debilitating and progressive effects such as weakness in limbs, dizziness, ataxia, and its significant visual and physical problems (5) and psychological symptoms include fatigue, cornering, depression resulting from job loss, sleep problems, and related disorders. (6).

Increasing the person's tolerance or adaptation is a helpful and effective method in helping these people. Adaptation allows the person to integrate his recent difficult experiences (7) related to his personal goals, values, beliefs, and learnings in a useful and less harmful way (8). Will, effort, and family is very effective in achieving this goal. The main foundation of how a person deals with events and changes (9). Positive and negative aspects of life are formed in the family. Family relationships are one of the most influential components of personality traits that can help the affected person face fewer problems during this crisis.(10)

Deeper and more unsolvable life challenges are due to the undesirable and unpleasant relationships between family members. Now, the individual's mental health and quality of

life must be provided to some extent to achieve changes such as psychological adjustment and healthy family relationships (11). Subjective well-being is one of the variables closely related to this issue. Psychologists consider them to be one's self and correctness through self-knowledge and accepting one's inherent nature by accepting oneself in a human form with a set of positive and negative characteristics (12). These conditions are achieved due to using third-wave approaches such as mindfulness. Previous research has already recorded its effectiveness in chronic diseases (13). Mindfulness is a state that requires a person to observe his immediate experiences independently and away from his previous mental patterns and habits so that the person can reach the present moment without being lost in the past and future (14). People with MS suffer disruption in family relationships and their individuality due to the consequences of this disease. It is the disturbance and influence that their emotional and brain system accepts. All aspects of these people's lives change with the beginning of MS due to the important role of the brain. According to the research background of past studies related to these variables, this research is a qualitative type, and the relationship between subjective well-being and the change in the quality of a person's life has been explained through Narimani, Aini, and Aghvi's study (15).

In addition, among the effective treatments for these people, the role of the third wave of mindfulness therapy in the study of Rahmani et al. (16), Taghilou, Hosseini, and Sadaqat (17), has explained the effectiveness of this treatment in people with MS.

Although the second study did not have a follow-up, another background on the effects of mindfulness in MS patients, conducted by Pourormazanzadeh (18), pointed to the positive

results of this intervention. This study also did not have a follow-up in the target population(20) made a relational investigation that made the variable of family relations as the main component of his research. Due to the severity of the physical damage of this disease, its very effective psychological effects have been less addressed. Except for limited cases, which mostly emphasize these people's physical problems, their psychological dimension has been neglected in various fields. The results of Uraki and Sami (21) did not show the effect of mindfulness on MS, even though it was an intervention.

The current research removed the limitations of previous studies (conducting research in the form of intervention, having a control group, and changing the type of statistical test). Due to the women's prominent responsibility in the family, their mental health is introduced as an influencing factor. This factor can have many secondary problems of this disease in the positive family relationships, having a non-judgmental attitude to life, and accepting the current conditions as a new process of life, selected as the key variables of investigation in this field. It is necessary to repeat this research with the mentioned variables for re-examining this statistical population for those suffering from this disease. In addition, the importance of this research can be doubled due to the direct influence of women on the strength and progress of other family members and the role of families in the formation of society. MS is a chronic and traumatic disease that causes many psychological and spiritual problems; therefore, this research's importance can be considered from several aspects: Firstly, so far, no coherent study has been conducted to investigate the variables of psychosocial adaptation to disease, subjective well-being, and family relationships in this society, and it has not been published in the scientific field.

Secondly, the background of the studies is unrelated or conducted in other statistical communities. It also has limitations, such as not having a control or follow-up group.

Thirdly, studies show that a new component called subjective well-being can also be added to family relationships and adaptation.

Finally, it is tried to motivate researchers to emphasize the background and focus on the work about this society along with the mentioned variables by researching the factors mentioned above and measuring and examining the role of these variables.

methodology

A semi-experimental pre-test-post-test design with a control group was used in this research. After checking the research priority of the MS Association and coordinating with this center, applicants who are interested in cooperation were registered after explaining the process, ensuring that all the

given information is not available to a specific person or organization, obtaining a consent form from them, and explaining the hours of attendance and coordination for the day of the group therapy. Thirty people were selected and randomly placed in two control and control groups. Then, the subjects of both groups were evaluated through questionnaires on psychosocial adaptation to disease, family relationships, subjective well-being, and mindfulness before the test and the pre-test process was completed. Then, the independent variables were re-evaluated on the experimental group (post-test), and spss21 software was used to analyze the data and examine the research questions.

Research tool

subjective well-being questionnaire: Molvi et al. standardized a questionnaire to examine the subjective well-being variable. This questionnaire has 39 items that are scored based on the Likert scale with four subscales: life, will, Nowruz, and stress. This questionnaire's total validity is 0.92, and for the subscales, it is between 0.80 and 0.90.

Standard McMaster Family Assessment Questionnaire (to check family relationships)

This questionnaire has 60 questions and measures family performance (problem-solving, communication, roles, emotional response, emotional involvement, behavioral control, and general family performance). Epstein, Bishop, and Levin presented McMaster's family work model at McMaster University in the 1960s, one of the models presented in family work. This model is based on a systemic approach. The McMaster family assessment tool was also prepared by Epstein, Baldwin, and Bishop, based on the McMaster model, which defines six dimensions of family functioning.

The scale of psychosocial adaptation to the disease:

Drugtis designed this scale in 1960 with 40 questions to evaluate the psychosocial adaptation to the disease based on the medical disease or the residual effects. This scale has 40 questions and subscales such as attitude towards illness 6 questions, work environment 6 questions, family environment 6 questions, sexual relations 6 questions, development of family relationships 5 questions, social environment 6 questions, and psychological disorders 1 question. Questions are set based on a four-point Likert scale, including not at all = zero, slightly = one, to some extent = two, and completely = three. In addition, this scale has good validity and reliability in Iran.

Mindfulness Scale:

Ryan and Brian created the mindfulness questionnaire in 2003 with 15 items to measure mindfulness, alertness, and attention

to current events and experiences in daily life. The items are about being aware of emotional states, experiences, and activities, neglecting surrounding issues, doing activities without concentration, doing activities without being aware of them, and not knowing when to start and end daily activities.

The test questions are based on the mindfulness structure on a 6-point Likert scale from 1 to 6. Cronbach's alpha coefficient is reported from 80% to 87%.

Table 1 Summary of mindfulness sessions

Session	Description
Pre-session	Getting to know the group members and the therapist, explaining what will be done during the 8 sessions, to create initial confidence to perform the pre-test
First	Becoming aware of the automatic guide, meditation training "mindfulness of body and breath," an eight-minute exercise
Second	Focusing on the body using a four-minute meditation body scan
Third	Eight-minute "breath and body" meditation is a "three-minute breath."
Fourth	Staying away from thoughts, confusion of thoughts and sounds or voices and thoughts (eight minutes nothing is done)
Fifth	Meditation to find difficulties
Sixth	Three-minute breathing, friendship meditation
Seventh	being and doing (examination of these two states)
eighth	Physical and mental nutrition + link of learning with needs and plans + summary

The above table briefly shows 8 sessions of mindfulness intervention

Findings

Table 2 Descriptive findings

Variable	group	Test and control	AVERAGE	standard deviation
Psychological Adaption to disease	Control	Pre-test	31.87	7.130
		post-test	32.19	6.793
	experiment	Pre-test	32.33	6.715
		Post-test	35.40	4.896
Family relationships	Control	Pre-test	82.39	11.961
		Post-test	82.84	11.491
	experiment	Pre-test	83.20	11.824
		Post-test	85.67	10.203
subjective well-being	Control	Pre-test	69.29	17.078
		Post-test	69.63	15.811
	experiment	Pre-test	70.60	16.280
		Post-test	73.13	14.976

Table No2 deals with the demographic characteristics of the 30 people of the studied sample by comparing the average and standard deviation indices.

Main hypothesis: Mindfulness is effective in adaptation to the disease, family relationships, and subjective well-being of women with MS.

Table 3. Inter-subject effects test to compare adaptation to the disease, family relationships, and well-being of the experimental and control groups in the post-test

Variable	Source	sum of squares	Degrees of freedom	mean square	F	The significance level	Effect size
Psychosocial adaptation to the disease	between groups	60.711	1	60.711	16.535	0.001	0.398
	Intergroup	91.791	25	3.672			
Family relationships	between groups	33.921	1	33.921	7.897	0.009	0.240
	Intergroup	107.391	25	4.296			
subjective well-being	between groups	39.796	1	39.796	12.614	0.002	0.335
	Intergroup	78.870	25	3.155			

The table above shows the results of the inter-subject effects test to compare the psychosocial adaptation to the disease, family relationships and subjective well-being in the experimental and control groups in the post-test phase.

Table 14-4 shows that the F value obtained for all three variables is significant at the 0.01 level ($P < 0.01$).

Therefore, the null hypothesis is rejected, and the research hypothesis is confirmed

Due to the higher average total scores obtained from three questionnaires on psychosocial adaptation to disease,

subjective well-being, and family relationships of the experimental group in the post-test stage, which means improvement in this component, it is concluded that mindfulness with these variables has been effective in women with MS.

First hypothesis: Mindfulness has an effect on adaptation to the disease of women with MS

Table 4. The results of covariance analysis of psychosocial adaptation to the disease

Effect	Tests	Amounts	F	Degree of freedom effect	Error degree of freedom	Significance level	Effect size
group	Pillai effect	0.482	7.124	3	23	0.001	0.482
	Wilks Lambda	0.518	7.124	3	23	0.001	0.482
	Hotelling's work	0.929	7.124	3	23	0.001	0.482
	The largest zinc root	0.929	7.124	3	23	0.001	0.482

As observed, the significance level of all four relevant multivariate statistics, Pillai's effect, Wilks's lambda, Hotelling's effect, and the largest zinc root, is equal to 0.01 ($p < 0.01$). Therefore, the statistical null hypothesis is rejected.

In addition, a significant difference was shown between the

average scores of psychosocial adaptation to the disease, family relationships, and subjective well-being of the two experimental and control groups in the post-test. As a result, it is confirmed that mindfulness training has been effective.

Table5: The results of the analysis of variance to compare the psychosocial adaptation with the disease of the test group and the control group

Source of changes	sum of squares	Degrees of freedom	Mean square	F value	Significance level	Effect size
pre-test	888.799	1	888.799	258.600	0.001	0.702
group	60.151	1	60.151	17.501	0.001	0.393
error	92.798	27	3.437			
Total	1059.039	29				

As observed in the table above, the analysis of the covariance test compares the scores of psychosocial adaptation to the disease of people in the experimental and control groups in the post-test. The obtained F value is equal to 17.501, and its significance level is smaller than 0.01 ($P < 0.01$). Therefore, the null hypothesis is rejected. In addition, the research hypothesis is confirmed. Due to the higher average scores of the

experimental group in the post-test, it is concluded that mindfulness is effective and has increased the psychosocial adaptation to the disease of women with MS.

Second hypothesis: Mindfulness is effective in family relationships of women with MS.

Table 6: The results of the analysis of variance to compare the family relationships of people in the experimental group and the control group

Source changes	sum of squares	Degrees of freedom	Mean square	F value	Significance level	Effect size
pre-test	3194.738	1	3194.738	775.207	0.001	0.740
group	32.913	1	32.913	7.986	0.009	0.228
error	111.271	27	4.121			
Total	3365.935	29				

The results of covariance analysis are shown in the post-test to compare the scores of family relationships of people in the experimental and control groups. The F value obtained with the degree of freedom (1.27) is equal to 7.986, and its significance level is smaller than 0.01 ($P < 0.01$). Therefore, it is concluded that mindfulness intervention affects the family

relationships of women with MS. In addition, the eta's value shows that mindfulness treatment's effect on the mentioned variable is 0.228. As a result, the null hypothesis is rejected, and the research hypothesis is confirmed.

The third hypothesis: Mindfulness is effective on the subjective well-being of women with MS.

Table 7: The results of covariance analysis to compare the mental well-being of people in the experimental group and the control group

Source of changes	sum of squares	Freedom Degrees	Mean square	F value	Significance level	Effect size
pre-test	6558.156	1	6558.156	2171.402	0.001	0.640
group	39.887	1	39.887	13.206	0.001	0.328
error	81.546	27	3.020			
Total	6731.928	29				

According to the above argument The covariance analysis test is shown in the post-test to compare the subjective well-being scores of people in the experimental and control groups. The obtained F value equals 13.206, and its significance level is smaller than 0.01 ($P < 0.01$).

The results showed that mindfulness significantly affects the psychosocial adaptation of the person with the subjective well-being disease and their family relationship improvement. Mindfulness also caused an increase in the scores of the people in the experimental group after the intervention. Few researchers have used these treatments to reduce the problems of these patients despite the third-wave treatments in treating chronic physical diseases and proving the effectiveness of

Discussion and conclusion

these interventions on these types of diseases. This finding is consistent with the studies of Baba Khani (2018), Tabatabai, Golperor, and Aghaei (2018), Menshi and Hosseini (2016), Kivan and Khazari Moghadam (2016), Taghili and Makundi (2016), Adraki and Sami (2015). Jiuong&jeen (2019), Bertichi&flur (2019), Green and Moss (2020), Launger (2019); Kingery (2019); Pasandideh and Abol-Maali (2015), booset& Kolman (2020), Fuorer et al. (2019), Ghoulyn (2019), Sahami Fard (2020).

To explain this issue, Lazarus defines compatibility as the manifestation of this component when a person responds or reacts to life events. Adaptation is formed (23,22) when a person can create a balance and harmony between what is already institutionalized and the new process that is constantly and successively in front of him. Darwin considered this the principle of struggle for survival, and Piaget called it adaptation (25,36). Sternberg explains it as forming a new and different perspective on life's events in the mind which is acceptable behavior to the public. MS changes and transforms the normal and already existing conditions and plans; therefore, a method is required to turn the person's current conditions into the utmost harmony and balance (Stoock, 2020). Among the new interventions, mindfulness allows a person to accept unpleasant internal and external experiences with no judgment and attempt to change or control and reach this cognitive understanding level (34,33). Human conditions are stable, permanent, and lasting; on the other hand, understanding the present moment does not mean negating the past, future, or illness that has affected the person (40). Mindfulness does not try to remove or deny the mentioned things but seeks to enjoy the things available to the individual (3,38). subjective well-being is considered one of the indicators of quality of life. The multifaceted nature of this variable is closely related to mental health because it controls the factors such as material living conditions, health, education, leisure time, social interaction, and general life experiences. (35).

As mentioned, well-being is how a person evaluates himself, and the person's statements are the basis of evaluation (31). Non-judgment is among the nine mindfulness components used to explain subjective well-being (8). This characteristic involves intentional attention to the present with no previous context and presuppositions about whatever we will evaluate. Bakshipour and Ramzanzadeh (18,30) conducted a study considering the family as the first institution through which a person communicates with the outside environment. Therefore, this place needs many measures to become a suitable source for establishing security and peace, for example, the kind of communication its members have with each other (1). A superficial survey of people with MS

indicates problems such as anxiety, depression, sexual problems, establishing relationships, and changing their family roles due to the loss of normal life skills (15). This disease directly affects the brain's central nervous system; therefore, it damages the responsible parts of the brain for emotional understanding and happiness, called the amygdala and almonds. This issue directly changes the way of communication (7). As a result, Sempstoom (28) conducted meta-analysis research on the effective role of mindfulness in modulating the psychological symptoms of MS.

Today's turbulent and unpredictable days require people to have daily adaptations and constant updating to balance their lives and face daily events. For this reason, this issue requires more preparation when life changes from its usual course with unexpected common problems such as illness. MS is a multifaceted disease that requires the affected person's body and mind to fight simultaneously, forcing him to be equipped on both sides. Now, it is more effective to use treatments that focus on the mind and thoughts to face such challenges because the physical damage of the disease is extensive enough to hinder the damage to people's psyches.

According to previous studies, the relationship between mental peace and physical health is like a two-way street, and anyone improvement automatically leads to the improvement of the other. In addition, there is no definite cure for this disease. The current drugs and treatments only have the prevention and recurrence aspects. Therefore, it can be the most suitable option for better acceptance of this disease and dealing with mental problems. Mindfulness exercises change the activity of the amygdala part of the brain (the amygdala is responsible for responding to stressful factors).

Consequently, the mental background becomes calmer, there is less stress, and the person is better prepared and more dominant to face the event. According to patients' reported impact, using mindfulness techniques increases their mental concentration, efficiency, and productivity and observes the consequences of this disease from a newer perspective, and the result is seeing the created conditions without judgment and seeing the forgotten potential behind the defect. In addition, it is possible to be hopeful through psychological training because, in this type of intervention, it is prohibited to think about what has passed and worry about an event that may happen. This intervention aims to encourage them to be in the present moment and to see the possessions that belong to the person to avoid the troubles and discomforts surrounding them due to different things, including illness. Therefore, it is concluded that when the person is more aware, awake, and attentive to the current events of life, his mind is awake and wiser, his responses to life's stimuli are more effective, and his

heart is more conflict. Conflict of interest: There is no conflict of interest for the authors of this article

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Result:

In general, the results obtained from the present study showed that mindfulness intervention had a significant effect on the mental well-being, family relationships, and psychosocial adaptation of women with MS. Among the limitations of this research are non-attendance meetings, no use of infected men and no follow-up, and since only three sessions were held in person due to the Corona situation, and also, only infected women were investigated. The selected sample is not generalizable to the male population, thus it is suggested that future studies, while removing these limitations, should take action to increase the quality of life of patients with this disease, and that hospitals and medical centers should also adopt Necessary conditions for these people to be able to benefit from this type of third wave treatments at minimal cost and even free in most group treatments.

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