

Received: 15 December, 2023

Accepted: 03 January, 2024

Published: 04 January, 2024

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**Keywords:** Mindfulness training; Social adjustment; Self-esteem; Hope; Transgender individuals

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## Research Article

# The effectiveness of mindfulness training on social adjustment, self-esteem, and hope among transgender individuals in Tehran

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## Abstract

**Introduction:** This study aimed to assess the efficacy of mindfulness training in enhancing social adjustment, self-esteem, and hope in transgender individuals.

**Methodology:** This research employed a quasi-experimental design, incorporating pre-test and post-test measures, along with a control group. The study population comprised transgender individuals receiving support from one of the social support centres under the auspices of the Tehran Municipality in the year 1401 (2022). Fourteen participants from this population were selected using convenience sampling and randomly assigned to two groups: an experimental group and a control group. The experimental group underwent eight sessions of mindfulness training. Subsequently, during the post-test phase, both groups completed questionnaires. Data analysis involved multivariate and univariate analysis of covariance.

**Results:** The research findings revealed a statistically significant difference in mean scores of social adjustment, self-esteem, and hope between the control and experimental groups during the post-test phase. Mindfulness training contributed significantly to elevating the levels of these variables within the experimental group ( $p < 0.05$ ).

**Conclusion:** In light of the research outcomes, mindfulness training emerges as a promising intervention for positively influencing social adjustment, self-esteem, and hope among transgender individuals. Consequently, this educational program is recommended for the provision of psychological services within the target community.

## Abbreviations

MTP: Mindfulness Training Program; MTG: Mindfulness Training Group

## Introduction

Transgender phenomenon in societies that conform to the definition of roles, expectations specific to each gender, and the division of work based on being a woman or a man, means not being in the gender recognized by society and gender, which, as

a result, confronts this structure and Dealing with the resulting order ends [1,2]. Due to internalized collective expectations and definitions and low public acceptance in societies such as Iran, they face problems such as humiliation, discrimination, deprivation, exclusion, stigma, or open violence, which makes them more vulnerable than other people [3]. Gender is the most basic part of a person's identity from the beginning to the end of their life. By learning the perceptual, emotional, and behavioral patterns related to their gender, people go through the process of socialization and learn to behave according to



society's expectations of their gender. But sometimes there is a possibility of disturbances in this process; In this way, a person can biologically have the characteristics of a certain gender, but mentally and spiritually, they do not consider themselves to belong to that gender. As a result, their behavior and feelings are based on the characteristics of the opposite sex [4]. One of the most important criteria that can place people in specific groups from a social and cultural point of view is gender, which is considered essential for identity due to its formation by culture and society [5]. Gender refers to a pattern consisting of biological sex characteristics, chromosomes, external genitalia, internal reproductive system, hormonal composition, gonads, and secondary characteristics [6]. A person's perception of themselves as a man or a woman creates their sexual identity, which is in a two-sided interaction with gender; In other words, when people are aware of their biological nature and understand their gender and its appropriate roles in culture and society, it is considered a manifestation of their sexual identity [7]. Gender dysphoria occurs when there is a mismatch between a person's true gender and their sexual identity [8]. The majority of people in a society experience similarity and harmony between their sexual identity and their anatomical characteristics; But when a person does not accept their biological gender and tries to change their gender, then this conflict and lack of coordination become the basis of the diagnosis of gender dysphoria [9]. Transgenderism is the most extreme degree of gender dysphoria, where there is a contradiction in the person's mind and body in terms of sex, and the person seeks to express their opposite sexual identity in society. To put it more simply, there are people with a female soul in a male body and with a male soul in a female body. Among their characteristics, we can point out constant identification with the opposite sex and extreme annoyance and discomfort with their own gender. Since childhood, transgender people feel that they are trapped in the wrong body and want to live according to their opposite sex [10]. The prevalence of male-to-female transgenders is 0.005 to 0.014% and the prevalence of female-to-male transgenders is 0.002 to 0.003, in the fifth diagnostic and statistical manual of psychiatric disorders in 2013 [11]. In addition to the different prevalence of this population in relation to their identity, the treatment process of each one is also different, and different hormones are used for this process [12]. Among the problems that surround them, we can mention isolation and suicide, lack of trust, problems in relationships with others, rejection from the family, and a reduced sense of security. Also, due to the lowering of the spirit of teamwork, the occurrence of social incompatibilities due to the decrease in the feeling of satisfaction with life, and the reduction of the quality of life, there is a possibility of creating problems in organizations or larger departments [13]. In general, it can be said that people with gender dysphoria are more prone to mental disorders than other people, and feelings such as despair and fear of the future surround them [14].

Snyder describes hope as a person's ability to acquire ideas and direct oneself to achieve goals [15]. Hope is a valuable human response and is a multidimensional positive life force that provides an optimistic expectation of a wonderful outcome

and an effective adaptive mechanism, thereby enabling people to overcome current problems. Hope has a beneficial effect on people's health because it enables them to cope with conflict, achieve healthy goals, maintain quality of life, and promote health [16]. Hope at least includes the desire to get the result and it has the belief that it is possible to achieve the result, but its occurrence is not certain. A person is only considered hopeful if they at least intermittently devote mental energy to thoughts about what it will be like if the desired outcome occurs [17]. Transgender individuals experience problems due to the pressures of society and conflict with different cultures, which leads to a decrease in hope for them; this disappointment is rooted in the failure to meet the basic needs of life and being rejected by the society and people around them. Misplaced judgments, lack of empathy from others, and emotional and sentimental support diminish hope in them [18].

Self-esteem is without a doubt the most widely studied variable in behavioral and social sciences, where thousands of studies are conducted every year by researchers in psychology and related fields. Although countless popular books tout its extensive benefits, scientific research continues to debate whether these benefits actually exist [19]. Self-esteem, a person's assessment of their own worth as a person, is a fundamental psychological construct that helps people lead happy and healthy lives [20]. Modrcin-Talbott and her colleagues considered self-esteem as a person's perception of competence, deserving respect, and worth. Self-esteem is also defined as an internal attitude based on the structure of the personality, which is responsible for the psychological balance of the person and adaptive processes during life [21]. People suffering from gender dysphoria due to social deprivation over the years and lack of acceptance by society as a member of the other sex seek isolation and face difficulty in satisfying their basic emotional needs, and men have a more negative view of themselves and, as a result, of the world. They question their worth and respect due to feeling vulnerable and flawed [22].

Another important component in life is social adjustment. Social adjustment can be defined as a psychological process that involves managing new social norms and values for individual acceptance. Being accepted in the social relations of a university, city, and country; Creating an environmental network, and managing social freedoms in a new environment are important elements of social adjustment [23]. Social adjustment is the ability to adapt to changes in the physical, occupational, and social environment. In other words, social adjustment is the behavioral process of adapting to competing demands or needs that are challenged by environmental inhibiting factors [24]. Social adjustment is one of the traits that can be changed in individuals with gender dysphoria. Based on research, they experience many problems in terms of adaptation compared to others; In such a way that they act frustrated and weak in this area, therefore they should be examined because poor social adjustment leads to the emergence of individual, social, and mental health problems [25].

According to studies, one of the new approaches effective on these mental health components is mindfulness. Mindfulness

is a concept derived from Buddhism (and other spiritual traditions) and its roots go back thousands of years. However, the use of mindfulness in secular contexts has flourished, especially over the past thirty years [26]. This concept was first used by Kabat-Zinn in the field of psychology, and based on their definition of this approach, it can be said that it is the awareness that emerges through purposeful attention in the present moment and without judgment of the unfolding moment-by-moment [27]. This awareness is different from other meditative practices and meditation because, in this practice, attention to the present moment is accompanied by an orientation of curiosity, openness, acceptance, nonreaction, and non-judgment [28]. The purpose of the exercises of this approach is to develop the state of mindfulness. These practices can be formal (such as breathing, sitting, walking, and body scanning) or non-formal (such as mindfulness in everyday life) [29]. Mindfulness is an important basis for achieving liberation; Because it shuts down and stops the pressures of the world or the mental pressures of the person, which themselves are the cause of mental disorders, in an effective way, and therefore it is a suitable treatment for people suffering from gender dysphoria [8].

Due to the fact that in Iran, in addition to ordinary people, some scientific communities also do not understand and know about transgender individuals and their problems, and the taboos caused by culture and society lead to distance and lack of attention to them, the scientific investigation of their individual and social problems is mandatory [9]. Based on the conducted research, transgender individuals have major crises in social adjustment and compared to normal people in society, they may be disillusioned and weak, on this basis and considering the impact of social adjustment on individual and social commitments, the investigation of this issue around them is essential [30]. Studies show that transgender individuals are often isolated and have a negative view of themselves due to exclusions and not being understood by others as the other gender, which leads to their vulnerability. High self-esteem is an important source of support and it helps these people when they face negative events, and if it is formed in a person, it leads to their personal and social growth [22]. There are psychological conflicts and loss of hope caused by social and family isolation in them [14]. The pressures around them and the conflict between the gender roles from the society and the individual's belief end up causing serious problems for them, and along with the stigmas and labels caused by society's judgments, their social status diminishes, and as a result, hope decreases in them. Therefore, it is important to study this important component [18]. Some studies showed that group mindfulness has a positive effect on increasing the hope of people with gender dysphoria [14].

Unfortunately, no research has been done regarding the effectiveness of mindfulness on the mentioned components in these people, and since each of the mentioned components may be weakened and involve transgender individuals more than normal people, and due to the neglect of society and also the scientific community and the rarity of useful research for them and considering the effectiveness of the mindfulness

approach, research and study in this field are important. Based on this, the aim of the current research was to investigate the effectiveness of mindfulness training on social adjustment, self-esteem, and hope in transgender individuals.

## Materials and methods

The research method used in this research is a quasi-experimental one, in which the effect of the independent variable (mindfulness training) on the dependent variables of the research (social adjustment, self-esteem, and hope) was investigated in transgender individuals. According to the research method, pre-tests and post-tests along with the control group were required in this research. The statistical population of the research comprised transgender individuals receiving support from one of the social support centres under the auspices of the Tehran Municipality. The sampling method has been convenience sampling; Among these people, thirty people were selected, and according to the cut-off point of the questionnaires, fourteen people who had scores lower than the cut-off point were selected and then randomly divided into two control and experimental groups (7 people in each group) (Figure 1). Then the experimental group received eight sessions of mindfulness training and after the last session, the participants in both groups answered the questionnaires again as a post-test. The instruments in this study were as follows:

### A. California social adjustment scale

This questionnaire was created in 1939 by Thorpe, Clark, and Tiegs and was revised in 1953. The California Social Adjustment Questionnaire measures social adjustment in six dimensions: social activities, social skills, antisocial interests, school relationships, and social relationships. This questionnaire has 90 items, the answer to each question is yes or no, and according to the test correction key of all six scales, correct answers are given a score of "one" and incorrect answers are given a score of "zero". Then, the correct scores for the fifteen questions of each scale are added together and the score of each subscale is obtained. After that, the scores of all six scales (social patterns, social skills, antisocial interests, family relationships, school relationships, social relationships) are added together and the total score of social adjustment is obtained [31]. Also, the validity and reliability for the personal adjustment scale is about 0.89 to 0.91 and for the social adjustment scale is about 0.87 to 0.91. These coefficients are in the range of 0.60 to 0.87 for the subscales of the test and 0.92 to 0.93 for the whole test [31].

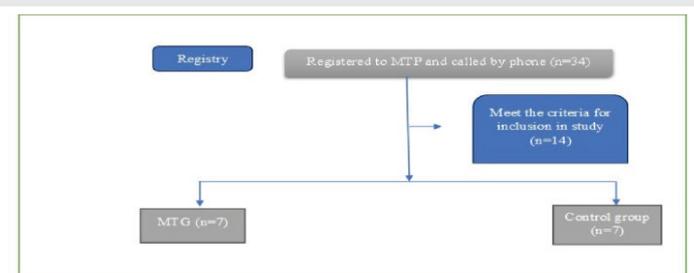


Figure 1: Mindfulness Training Program's process.

## B. Rosenberg self-esteem scale

This questionnaire was created by Rosenberg in 1965. The Rosenberg self-esteem questionnaire consists of 10 items, in which the subject is asked to answer them accurately based on a four-point Likert scale from completely agree to completely disagree, the current version is in its localized form with two answers, I disagree and I agree [32]. Cronbach's alpha coefficients for this scale were calculated as 0.87 for men, 0.86 for women in the first round, 0.88 for men, and 0.87 for women in the second round. This scale has satisfactory validity (0.77). It also has a high correlation with the New York and Gottman National Questionnaire in measuring self-esteem, so its validity is also confirmed [33].

## C. Snyder's hope scale

The hope questionnaire prepared by Snyder, Harris, Anderson, Holleran, Irving, et al. has 12 items and its purpose is to evaluate the level of hope in people. Its scoring method is based on a 5-option Likert scale. This questionnaire is designed for people 15 years old and above. Among these expressions, 4 expressions are used to measure agency thinking, 4 are used to measure strategic thinking, and 4 are deviant expressions. Therefore, this questionnaire measures two subscales of agent and strategy [34]. The validity and reliability of this questionnaire have been checked and confirmed by the professors of Mashhad University of Management and Experimental Study and Teacher Training. Bryant and Cvengros obtained the internal consistency of the whole test from 0.791 to 0.711 [35].

Kabat Zinn mindfulness protocol was used for training. The summary of the sessions is given in Table 1 [36,37].

## Findings

This study consists of both male-to-female and female-to-male transgenders. 50% of the sample population were ages eighteen to twenty-five, (4 people in control group and 3 people in experimental group), 35.72% in ages thirty-four to forty-one (3 people in control group and 2 people in experimental group) and 14.28% in ages twenty-six to thirty-three (2 people in experimental group) (Table 2). Table 3 displays mean and standard deviations of social adjustment, self-esteem, and hope scores in two groups at pre-test and post-test. Before performing the MANCOVA, the Box test was carried out to assess the homogeneity of the variance-covariance matrices and the results demonstrated homogeneous matrices ( $f$  Box = 0.50;  $p$  = 0.80). The equality of error variances was also assessed using Levene's test for each variable.

Table 4 shows the results of MANCOVA for social adjustment, self-esteem, and hope in two study groups. Based on the Bonferroni alpha correction of 0.05 divided by the number of dependent variables, the level of statistical significance for each variable was calculated as less than 0.016. Because the levels of statistical significance for social adjustment, self-esteem, and hope were less than this value, mindfulness training significantly increased social adjustment ( $p$  < 0.016), self-esteem ( $p$  < 0.06), and hope ( $p$  < 0.016).

## Discussion

The aim of the present study was to investigate the effectiveness of mindfulness training in improving social adjustment, self-esteem, and hope in transgender individuals. The findings of this research indicated that mindfulness training has a significant effect on increasing the investigated qualities in them.

The findings of the present study confirmed the hypothesis that mindfulness training has a significant effect on increasing the social adjustment of transgender people. The result of this study about the effectiveness of mindfulness on social adjustment is consistent with the previous studies in this field [38-43]. In explaining the effect of mindfulness on the social adjustment of transgender people, it can first be mentioned that transgender people experience a decrease in social communication and adaptation under the influence of negative influences from society; because they do not show the desire to express social interactions due to the labels and problems they receive from external factors. Based on this, mindfulness improves social interaction and communication by applying techniques such as exposure, cognitive change, self-management, relaxation, and acceptance. Therefore, by increasing social actions, we can expect improvement in social adaptation in them [42]. In addition, with mindfulness training, they learn to be aware of their positive and negative emotions, and by using and expressing positive emotions in different life situations, they can reduce their negative emotions and expression, and as a result, their social compatibility in social situations increases. In other words, transgender people may not be aware of their positive and negative emotions and may not be able to use them efficiently when they are in the community, because they evaluate themselves negatively in social situations due to psychological problems, but mindfulness makes them aware of the existence of negative emotions and their destructive effects and enables them to reduce their social communication problems by controlling these emotions [42].

On the other hand, based on the findings of the current research, the hypothesis that mindfulness training has a positive effect on increasing the self-esteem of transgender individuals has also been confirmed. The result of this study about the effectiveness of mindfulness on self-esteem is consistent with the previous studies in this field [44-47]. In explaining the result of this theory, it should be said that the total thoughts, feelings, emotions, and experiences of each person lead to creating a sense of worth in them. According to the sum of perceptions and experiences, a person considers themselves as an incompetent or valuable person. By increasing non-judgmental approaches, nonjudgmental acceptance, and focusing on the present moment, mindfulness enables people to organize their thoughts and feelings and suppress negative emotions. Therefore, with the help of mindfulness, self-critical thoughts are reduced and, on the other hand, positive self-beliefs and evaluation are strengthened, and as a result, self-esteem increases [46].

**Table 1:** Kabat Zinn Mindfulness Training Protocol.

<b>First</b>	Getting acquainted with group members and their expectations
	Conceptualizing the issue
	Explaining the method of mindfulness training and its role in health and well-being with research evidence
<b>Second</b>	Brief overview of the explanation of the previous session
	Explaining the relaxation and sitting gestures in this technique
	Performing relaxation for fourteen groups of body muscles with closed eyes: <ul style="list-style-type: none"> <li>Forearms: 5 min; arms: 5 min; the calf and the shin muscles: 10 min; thighs: 5 min; abdomen and the chest: 10 min; neck and shoulders: 10 min; jaws and lips: 10 min; eyes and the upper and lower part of the forehead: 10 min</li> </ul>
<b>Third</b>	Reviewing the previous session
	Performing relaxation exercises in six groups of muscles with closed eyes: <ul style="list-style-type: none"> <li>Hands and arms: 10 min; feet and thighs: 10 min; abdomen and chest: 10 min; neck and shoulders: 10 min; jaws and lips: 10 min; eyes and forehead: 10 min</li> </ul>
	Assigning homework to the group members (perform relaxation techniques for 20 minutes)
<b>Fourth</b>	Reviewing the previous session
	Training participants to pay attention to breathing, learn how to be mindful of breathing, learn to inhale and exhale with relaxation without thinking about anything else, and watch breathing with closed eyes: <ul style="list-style-type: none"> <li>Step 1: teaching to sit comfortably and calmly on the floor and keep the spine straight; practicing and learning it (10 min)</li> <li>Step 2: normal inhaling and exhaling with deeper inhaling and exhaling than before (15 min)</li> <li>Step 3: paying attention to the passage and exit of air during inhalation and exhalation, and observing it and paying attention to the movements of the chest and abdomen during inhalation and exhalation (15 min)</li> <li>Step 4: repeating soothing words in the mind while inhaling and exhaling (15 min)</li> </ul>
	Assigning homework (the technique of deep inhalation and exhalation before sleeping)
<b>Fifth</b>	Reviewing the exercises of the previous session
	Training the body scanning technique: <ul style="list-style-type: none"> <li>Step 1: paying attention to the movement of the abdomen and chest during breathing (15 min)</li> <li>Step 2: focusing on the body parts and their movements for deliberate awareness of all body parts such as arms, legs, eyes, mouth, ears and skin (20 min)</li> <li>Step 3: searching for the auditory perception by listening to the surrounding sounds, especially the sound of the trainer's foot and finger, and paying close attention to the sound of own breathing without paying attention to anything else (15 min)</li> <li>Step 4: searching for olfactory and gustatory systems by smelling and tasting sweets (10 min)</li> </ul>
	Assigning homework (exercise of taste awareness technique)
<b>Sixth</b>	Reviewing of the previous session
	Training mindfulness <ul style="list-style-type: none"> <li>Step 1: focusing attention on the mind without thinking about anything else, by concentrating on a mental point or a cross mark on an A4 paper (15 min)</li> <li>Step 2: instilling a negative thought about oneself through the trainer; inducing this thought several times and paying attention to it; terminating of thought based on the training instructions of the trainer; subjects' non-judgmental acceptance of thought and attention (though not deep attention)</li> <li>Step 3: instilling a positive thought about oneself through the trainer; inducing this thought several times and paying attention to it; terminating of thought based on the training instructions of the trainer; subjects' non-judgmental acceptance of thought and attention (though not deep attention)</li> </ul>
	Reviewing the previous session and its exercises
<b>Seventh</b>	Training complete mindfulness (sessions four, five, and six: each one 20-30 min)
	Assigning homework (complete steps)
	Post-test
<b>Eighth</b>	Recommending the usage of these techniques in daily life

The findings of the research also showed that the hypothesis of the effectiveness of mindfulness training on the hope of transgender individuals is confirmed; In other words, mindfulness training leads to an increase in hope in them. The result of this study about the effectiveness of mindfulness on hope is consistent with the previous studies in this field [14,15,27,48- 54]. In explaining the result of this hypothesis, it should be noted that mindfulness leads to the acquisition of self-management skills and flexibility in dealing with stressful events and the acquisition of physical abilities and mental health. If it provides the necessary skills to

change the challenges, it will lead to an increase in hope in the future conditions of people's lives. Mindfulness helps people to observe their thoughts and feelings without judgment and see them as simple mental events that pass and not consider them a part of themselves or a reflection of reality. This attitude prevents the intensification of negative thoughts in the rumination pattern. Mindfulness helps people in the way of modifying negative behavior patterns and automatic thoughts and regulate positive behaviors related to health. By combining vitality and seeing experiences in a clear way, positive changes are provided for having a positive and hopeful attitude [49].



**Table 2:** Demographic variables of the participants in the experimental and control groups.

Descriptive characteristic	Control group		Experimental group	
	n	%	n	%
Gender				
F to M	2	28.6	2	28.6
M to F	5	71.4	5	71.4
Marital status				
Single	6	85.8	7	100
Married	1	14.2	0	0
Educational level				
Illiterate	3	42.8	1	14.3
Diploma	2	28.6	5	71.4
Bachelor's Master's	2	28.6	1	14.3
Age				
18 - 25	4	57.2	3	42.8
26 - 33	0	0	2	28.6
34 - 41	3	42.8	2	28.6

**Table 3:** Means and standard deviation of social adjustment, self-esteem, and hope scores study group at pretest and post-test. (note: Rosenberg's self-esteem questionnaire includes a negative to positive rating; the negative numbers in the table are the result of this rating).

Variable	Group	Mean (SD)		Normality Tests	
		Pre-test	Post-test	Shapiro-Wilk	p
Social adjustment	MTG	27 (8.24)	30 (7.95)	0.961	0.831
	Control	30.86 (4.63)		30.86 (4.63)	
Self-esteem	MTG	-1.29 (3.14)	1.71 (3.25)	0.894	0.295
	Control	-0.14 (2.11)	-0.14 (2.11)		
Hope	MTG	16.29 (4.60)	19.29 (4.92)	0.970	0.895
	Control	18.57 (3.99)	18.57 (3.99)		

**Table 4:** Multivariate analysis of covariance for social adjustment, self-esteem, and hope in study groups.

Dependent variables	Sum of Squares	Mean of Square	F	P	Partial Eta Squared
Social adjustment	18.68	18.68	28.80	0.001	0.80
Self-esteem	17.70	17.70	24.48	0.002	0.77
Hope	28.25	28.25	27.87	0.001	0.79

## Conclusion

According to the research background and the findings of the current research, which shows the significant impact of mindfulness training on increasing social adjustment, self-esteem, and hope of transgender individuals, it can be seen that mindfulness focuses on the individual's attention to the present and prevents rumination. Giving importance to negative past and future events can encourage people to have a different view of life events. In this approach, people learn to be non-judgmental and impartial, observing the process of their thoughts and feelings and finding out the effect these factors have on their reactions to external stimuli. As a result, a person learns to focus on the here and now without interpretation or

judgment by using concentration and breathing exercises. As a result, they get rid of emotional and personality obstacles in life, such as disappointment and low self-esteem, and can solve the problems that stand in their way with calmness and concentration. In general, mindfulness can help transgender people in different parts of daily life. At the practical level, taking into account the effectiveness of mindfulness training in increasing social adjustment, self-esteem, and hope in transgender individuals, it is suggested to present mindfulness group training to the therapists and counselors in health centers and clinics to use this training method to increase social adjustment, self-esteem and hope in transgender individuals. Due to the fact that the current research was conducted only on social adjustment, self-esteem, and hope of transgender individuals; therefore, it is recommended to conduct research with different conditions and variables as well as other members of society. It is also suggested that the impact of social, occupational, economic, family, and support factors that can affect the results of research would be investigated. It is recommended to compare this treatment method with other methods because the combination of this method with other treatment methods could have a greater effect.

## Limitations

Among the limitations of the current research, we can mention the small size of the population and the sample; Also, due to the specificity of the studied community, the generalization of the results to other communities and people with special characteristics should be done with caution.

## Ethical considerations

Prior to the study, the participants were informed of the study, the intervention, and the benefits. Then every participant completed the questionnaires with consent part and they were assured that their results and identities would be kept confidential and under no circumstances their health information would not be disclosed to third parties.

## Acknowledgment

We thank all of the participants and people for their kind collaboration. This study did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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