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Research Paper: The Effectiveness of Yoga in Reducing Women's Anxiety

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Abstract

The study purpose to investigate the effect of yoga on women's anxiety. The research method was quasi-experimental. The statistical population of the research included women who visited yoga clubs in Rasht City in 2022. For this purpose, 30 women who had a high score according to the Beck Anxiety Inventory (BAI) were selected by purposive sampling method and were divided into two experimental (15 individuals) and control (15 individuals) groups. Then, yoga exercises were performed for 8 ninety-minute sessions for the participants of the experimental group, and the control group did not receive any exercises during this period. And then the said questionnaire was again implemented in both groups. The data were analyzed using covariance analysis and SPSS 27 software. The findings indicated that yoga exercise was effective in reducing women's anxiety ($p < 0.05$). Therefore, it can be concluded that counselors, psychologists, and psychiatrists can use yoga exercises to reduce women's anxiety.

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1. Introduction

Anxiety is a warning that alerts the individual that a threat is coming and helps them take action to deal with the threat (Sadoks & Sadoks, 2016). Anxiety is a normal, emotional, rational response to potential hazards, however, it can be problematic if anxiety symptoms are prolonged, irrational, severe, or occur in the absence of stressful or arousing events (Woldegerima et al., 2018). About 30 to 40 percent of people in Western societies suffer from disorders related to anxiety at some stage of their lives, and in America and Europe, anxiety disorders are considered one of the most expensive types of mental disorders (Ganji & Ganji, 2016).

Studies indicate that 20 to 65 percent of women suffer from anxiety and depression. In general, it can be said that all these tensions are programmed in the woman's body, but their psychological dimension depends on the history of her personal, family, and social life (Rahmani et al., 2009). In other words, a woman's body's biological structure is built in such a way that she is more prone to anxiety and stress than men (such as hormone fluctuations and childbirth), but the severity and manner of it are related to psychological issues such as upbringing and family environment. Achieving health development in the world is not possible without paying attention to the importance of women's health and considering gender differences in various aspects of health and development policies and programs, as well as implementing women's empowerment and development programs. Women's health is the surest way to achieve live a quality life for everyone, and capacity building and empowering them to participate are the main prerequisites for improving health and also achieving community health goals (Etemadi et al., 2014). Studies have indicated that psychological and physical interventions help improve psychological problems (Brenes et al., 2018; Kuvacic et al., 2018).

In addition to psychological treatments, physical activity and exercise are among the methods used to prevent or treat psychological problems, including anxiety (Marques et al., 2017; Evazei et al., 2019).Yoga is one of the common physical activities whose psychological effects have been confirmed in various research (Patel et al., 2012; Pascoe et al., 2017).Yoga is a Sanskrit word, that means the unity of mind and body, in which emphasis is placed on promoting peace and consciousness (Yurtkuran et al., 2007). Yoga is a set of physical exercises of posture selection (Asana), controlled breathing (Pranayama), and release and relaxation (Shavasana)[1] (Villien et al., 2005). A key pose in yoga is the relaxation pose at the end of the session. In this posture, the individual completes the movements s/he has done before by lying down for 5 to 10 minutes and progressive relaxation (Yurtkuran et al., 2007).

In recent decades, in most countries of the world, yoga has been mentioned as the key to achieving physical health and mental peace. Studies have indicated that yoga has positive effects on cognitive and emotional function,

[1] "Savasana" is commonly known as the corpse pose

and also that the implementation of yoga breathing techniques reduces the process of thoughts and emotions such as fear, anxiety, and worry (Aghili & Afzali, 2017). In this regard, Yoshihara et al. (2014) indicated in their research that yoga is effective in reducing women's depression. In a systematic review, the benefits of yoga were also indicated to be greater than conventional exercise interventions for health status, aerobic fitness, and strength training (Patel et al., 2012). In Iran, studies have confirmed the effectiveness of yoga in various areas such as psychological well-being and women's happiness (Babaei Bonab, 2020) and reducing anxiety and depression of people with psoriasis (Jalilvand et al., 2021). Considering that for the growth and development of sports psychology in the field of rehabilitation sciences, for people in need of psychological treatments, scholars have suggested conducting research on the effectiveness of yoga as a complementary medicine to improve people's mental health (Piri & Ghasemi, 2017). This study aimed to investigate the effect of yoga exercises on women's anxiety in Rasht city.

2. Method

This research method was quasi-experimental and its design was pretest-posttest with a control group. The statistical population of the study was women referring to yoga clubs in Rasht city in 2022. Before conducting the research, five clubs were randomly selected from five districts of Rasht city (north, south, east, west, and center of Rasht city), and then by referring to the clubs, the Beck Anxiety Inventory was administered to individuals and 47 of them had a high level of anxiety (cut-off point 15). Considering that the minimum sample size in quasi-experimental research was suggested to be fifteen individuals (Wilson et al, 2007), 30 of them who were ready to participate in the research were selected by purposive sampling method, and a Hatayoga course was performed on these women.

Hatayoga consists of exercises for different parts of the body, which are done in the form of gentle stretching, stopping, and returning from movement along with deep breathing, control and relaxation, and thought concentration. Hatayoga exercises were performed for 8 weeks with 3 sessions per week each session lasting 90 minutes in a sports health center under the supervision of trained specialists who have a certificate from the Iran Sport for All Federation and a bachelor's degree in physical education. After the completion of eight sessions, the Beck anxiety inventory was again performed on both groups and the data were analyzed using SPSS version 27 software and the covariance analysis test. The inclusion criteria included the following: not having a history of acute mental illness, not taking neuropsychiatric drugs, and being willing to cooperate. The exclusion criteria were having a history of acute mental illness and pharmacotherapy[2]. Also, the participants were asked to sign the consent form after fully reading the details of the research and it was decided that all their information would remain confidential.

[2] AKA: pharmacological therapy or drug therapy

Beck Anxiety Inventory (BAI): This inventory contains 21 items that were compiled in 1990 by Beck and Steer. and includes common symptoms of anxiety. The participants responded to the amount of their resentment in the last week by putting crosses in the column before. Methods of scoring answers are none [0], mild [1], moderate [2] and severe [3]. Thus the range of an individual's score can fluctuate from 0 to 63. The cut-off points for mild, moderate, and severe levels are 8, 11, and 15, respectively (Beck & Steer, 1990). The reliability and validity of the test were obtained by Beck (1990) above 0.9 with Cronbach's alpha and split-half methods, respectively. The reliability of the Iranian version was 0.83 using Cronbach's alpha method and the validity was 0.92 using the correlation method (Kaviani & Mousavi, 2008).

3. Results

The studied sample was 30 women with anxiety in Rasht City with an average age of 24.7 and a standard deviation of 3.9. The mean and standard deviation of the research variables are reported in Table 1.

Table 1

Mean and standard deviation of the experimental group's anxiety scores

test	Experimental		Control	
	Mean	Std. deviation	Mean	Std. deviation
Pre-test	15.27	3.06	15.2	3.11
Post-test	7.72	2.08	15.9	3.21

According to the results of Table 1, the average anxiety in the control group in the pre-test and post-test was 15.2 and 15.9, respectively, and the average anxiety in the experimental group in the pre-test and post-test was 15.27 and 7.72, respectively. As can be seen, the changes in the anxiety variable of the control group's pre-test and post-test stages were non significant, but the changes in the anxiety variable of the experimental group's pre-test and post-test stages were significant.

Also, to perform the covariance analysis test, the p-value of the Kolmogorov-Smirnov's test was scrutinized in all variables, which was greater than 0.05 (pre-test of the experimental group, $p<0.05$, $z=0.441$, and post-test of the experimental group, $p<0.05$, $z=0.152$, pre-test of the control group, $p<0.05$, $z=0.421$, and post-test of the control group, $p<0.05$, $z=0.189$) and therefore the normality of the variables was confirmed. Levene's test ($p<0.05$, $F=0.239$) was also not significant, which indicated that the assumption of equality of anxiety variance was the same in both experimental and control groups.

Table 2
Summary of the results of covariance analysis of the effect of yoga on anxiety

	Sum of squares	Df	Mean squares	F	Significance level	Effect size
Post-test	127.7	1	127.7	11.32	0.001	0.72

As can be seen in Table 2, the obtained results indicated that the F value equal to 11.32 was significant at the error level of less than 0.01. Therefore, yoga exercises were effective in reducing the anxiety symptoms of affected women. The effect size value indicated that 72% of the variance of anxiety can be explained through group differences.

4. Discussion

The findings of the research indicated that there is a significant relationship between performing yoga and reducing the level of anxiety in women. This research is in line with the research of Babaei Bonab (2019), Jalilvand et al. (2021), Aghili and Afzali (2017), Piri and Ghasemi (2017), Woldegerima et al. (2018), Pascoe et al. (2017), Yoshihara et al. (2014). , Patel et al. (2012).

In explaining the obtained results, it can be said that on the one hand, the release of several hormones from different body glands as a result of yoga exercises and its effect on the nervous system and excess oxygen consumption causes relaxation and relieves anxiety and increases the level of psychological well-being (Mehrabizade et al., 2013). On the other hand, the difference in anxiety between the two experimental and control groups can be seen as a result of doing exercises that increase positive aspects and provide situations to divert people's attention from threats and emergencies (Kamarzarrin et al., 2012). By performing yoga exercises, sets of physiological changes occur in the body, which is the opposite of psychological tension (Pascoe et al., 2017). The positive role of yoga in managing anxiety can also be elucidated in the framework of the attention diversion technique. In addition, the research indicates the effect of yoga on reducing cortisol hormone levels and reducing perceived stress in people (Zallipour & Momeni, 2013). The Yoga method, by emphasizing muscle relaxation, can cause attention bias to pleasant inner feelings, and as a result, a person focuses less on stressful situations and stimuli (Memarian et al., 2017). Moreover, in elucidating the effects of yoga in reducing anxiety and depression, it can be said that yoga classes have a strong focus on breathing and start with more active postures and gradually end in slower and meditative postures. Emphasis on breathing, meditation, and gradual relaxation of posture slows down the physiological stress response and thoughts, and this physiological and psychological relaxation is incompatible with anxiety. Meditation and mindfulness components of yoga intervention increase the state of relaxation as the main feature of the intervention. Also, yoga is attractive to patients and since the participants receive yoga intervention in yoga gyms, they do not have a therapeutic view of yoga and do not consider participating in the yoga program as

a shame for receiving psychological counseling, and therefore yoga does not create resistance to the treatment of anxiety symptoms in these patients. On the other hand, yoga is offered by sports trainers and this issue decreases the effect of mistrust of mental health counselors. Yoga has the potential to reduce some of the barriers associated with mental health treatment (Brenes et al., 2018).

One of the limitations of the current study is the non-random selection of the sample, which may not be considered representative of the entire population. Furthermore, the study was conducted only on women, it is better to conduct a similar study on men and in larger groups to generalize the results better. Another limitation of this study is the lack of a follow-up phase. Yoga exercises are an enlivening, safe, and effective exercise method for reducing anxiety, which can be easily implemented at any age and in any person with minimum facilities. Therefore, yoga exercises are recommended for people who experience a high level of anxiety, and considering the mentioned benefits, this method is recommended to treatment seekers in medical centers by mental health specialists and also by other health care providers along with other treatment methods. It is suggested to carry out this investigation over a longer period and to carry out a long-term follow-up to check the durability of the effects of yoga exercises on reducing anxiety.

5. Conclusion

Based on the results of this research, it is concluded that yoga exercises can effectively reduce the anxiety of affected women compared to before the start of the project and also compared to the control group. According to these results, participation in yoga classes is suggested to women suffering from anxiety to benefit from the physical and mental benefits of yoga exercises.

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Conflict of interest

The author declares that there is no conflict of interest.

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