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Original Article

The Effect of Counseling Using Happiness Training on the Stress and Self-Efficacy of Infertile Women Undergoing In Vitro Fertilization Treatment: A Randomized Controlled Trial

Fereshteh Shaker[1], Mahnaz Shahnazi[1], Mojgan Mirghafourvand[2], Naiemeh Moheb[3], Khadije Hajizadeh[1*]

[1]Department of Midwifery, Faculty of Nursing and Midwifery, Tabriz University of Medical Sciences, Tabriz, Iran
[2]Social Determinants of Health Research Center, Tabriz University of Medical Sciences, Tabriz, Iran
[3]Department of Clinical Psychology TaMS.C, Faculty of Psychology, Islamic Azad Tabriz University, Tabriz, Iran

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***Corresponding Author:**
Khadije Hajizadeh,
Email: Hajizade_k@yahoo.com

Abstract

Introduction: Infertility is considered a major life crisis and imposes significant stress on infertile couples. This study aims to determine the effect of counseling using happiness training based on the cognitive-behavioral model on stress and infertility self-efficacy among infertile women undergoing In Vitro Fertilization (IVF) treatment.

Methods: In this randomized clinical trial, 60 infertile women undergoing IVF treatment were randomly assigned using block randomization with blocks of four and six and a 1:1 allocation ratio into two groups: a counseling group (n=30) and a control group (n=30). For the intervention group, counseling was conducted in eight 45 to 60 minute sessions with groups of 4 to 6 participants, weekly, at the Infertility Center of Jahad Daneshgahi in Tabriz, Iran. Data were collected using the Newton Infertility Stress Questionnaire and the Infertility Self-Efficacy Scale. Independent t-test and ANCOVA test were used for data analysis.

Results: ANCOVA results, adjusted for baseline values, showed that the mean infertility stress score in the counseling group was significantly lower than in the control group. Additionally, the mean infertility self-efficacy score in the counseling group was significantly higher than in the control group.

Conclusion: Considering the impact of infertility-related stress on the infertility treatment process, and based on the results of this study, it is recommended that happiness training counseling be integrated alongside other supportive and care-based treatments for infertile women.

Introduction

The World Health Organization (WHO) recognizes infertility as a reproductive health issue.[1] Infertility, which is defined as the inability to conceive after one year of regular unprotected sexual intercourse, is considered one of the most distressing life experiences [1]. Emotionally, it has been compared to the loss of a family member and often results in profound grief.[2] According to a systematic review, the global prevalence of infertility ranges from 12.6% to 17.5% on average.[3] Based on a meta-analysis, the prevalence of infertility in Iran varies from 11.5% to 15.7%.[4]

Infertility is seen as a major and sensitive life crisis that causes significant stress for infertile couples. It can threaten their mental health in different ways, leading to anxiety, social isolation, sexual problems,[5] helplessness, depression, and other psychological issues.[6] Furthermore, psychological and physical stress can impact female fertility and may extend the time needed to conceive.[7] Infertility is one of the issues that create ongoing stress, anxiety, depression, and negative feelings in women, raising dissatisfaction with marriage.[8] It is a serious crisis, and the psychological and emotional harm involved makes infertile couples experience increasing levels of infertility-related stress over time.[9]

Infertility-related stress is a group of symptoms that develop after an infertility diagnosis and often resemble those of post-traumatic stress disorder.[10-12] Infertility stress involves the interaction of physical conditions that predispose individuals to infertility, medical interventions, reactions from others, and an individual's psychological symptoms. It can last for years and recur with each diagnostic or treatment procedure.[11] A study in Iran found that 86% of infertile women experience infertility stress in their lives.[13] The infertility crisis and its psychological impact lead infertile couples to experience increasing levels of infertility-related stress over time.[9] Increased stress in women across personal, marital, and social areas during infertility treatment negatively impacts their self-efficacy.[14, 15] Self-efficacy beliefs are linked to lower stress levels; therefore, self-efficacy is a vital trait for coping with infertility and should be assessed before and during

Research Highlights

What is the current knowledge?

- Counseling in infertility centers is a low-risk, drug-free method to reduce stress and support emotional well-being.

What is new here?

- Clinical & educational applications: Integrate pre-IVF counseling and train clinic staff in happiness techniques (positive thinking, reducing negative emotions, self-acceptance).
- Training providers offers an easy, affordable method for psychological support.

treatment.[16] Increased stress in women across individual, marital, and social domains during infertility treatment negatively affects their therapeutic self-efficacy.[15]

Medical treatment interventions such as egg donation, sperm donation, embryo donation, intrauterine insemination, and in vitro fertilization (IVF) are some of the most common methods for treating infertility. IVF represents a major breakthrough in reproductive science and infertility treatment.[17] The connection between psychological issues and individuals undergoing IVF treatment is complex.[18] These individuals often start with feelings of hope and happiness at the beginning of treatment. However, as time passes, the lengthy process, physical side effects, and financial burdens can lead to increased stress and depression.[19] Patients undergoing IVF frequently exhibit higher levels of anxiety and depression during treatment cycles compared to those receiving other infertility treatments.[20] Recent research has demonstrated the impact of psychological interventions in reducing psychological issues and their significant link to higher pregnancy rates.[21, 22] The group cognitive-behavioral approach may be the most effective way to achieve both objectives.[23] Various therapeutic and educational methods have been employed to enhance the psychological and marital aspects of infertile individuals. One of these methods is cognitive-behavioral therapy (CBT), which has shown clinical effectiveness in multiple studies and has been proven to decrease depression and psychological symptoms, improve mental health in infertile women, and increase pregnancy rates.[24-26]

Fordyce is a prominent figure in the psychology of happiness and is recognized as a pioneer in happiness research and theorizing worldwide. By reviewing numerous studies, he developed a program called Happiness Training, which includes 14 principles with cognitive and behavioral components. Of these, eight principles are cognitive and six are behavioral. The eight cognitive components address fundamental topics regarding the reasons behind the involvement of specific thoughts and behaviors in creating happiness.[27] Numerous studies have examined the effectiveness of happiness training through the cognitive-behavioral approach. Examples include its effects on women with spontaneous miscarriage and anxiety,[28] marital satisfaction,[29] quality of life in women with premenstrual syndrome,[30] depression among mothers of premature infants,[31] self-efficacy beliefs and academic stress in students,[32] and marital adjustment in infertile couples.[33] Counseling influences perceptions, beliefs, attitudes, and behaviors, leading to lifestyle changes that support personal growth and mental health.[34]

Since infertility-related stress and decreased self-efficacy affect pregnancy[15] and happiness training has been shown to influence these two factors in other populations [28-33], it can also be explored for infertile women. Considering the need for research in this area, and despite some studies on the effectiveness of happiness training on various aspects of life [28-33], no study has yet examined the impact of happiness training on stress and self-efficacy in infertile women undergoing IVF treatment. Given the high prevalence and significance of psychological issues among women, especially infertile women, and the importance of happiness in their lives, this study was conducted to assess the effect of counseling with happiness training based on the cognitive-behavioral model on stress and infertility self-efficacy among infertile women undergoing IVF treatment.in infertile women undergoing IVF treatment.

Materials and Methods

This study was a randomized controlled trial (RCT) involving 60 infertile women who visited the Infertility Center of Jahad Daneshgahi. This study was conducted from December 20, 2024 to April 21, 2025 in Tabriz-Iran.

Inclusion criteria for this study included: infertile women with at least one year of primary infertility history undergoing IVF treatment, possessing at least middle school literacy skills, and scoring 184 or higher on the infertility stress questionnaire.

Exclusion criteria included: self-reported neurological or psychiatric disorders, chronic diseases (such as kidney or liver failure, etc.), self-reported use of psychiatric medications, having visited a psychologist in the past few months due to infertility, and the inability or uncertainty about attending all counseling sessions.

The sampling method was convenience sampling. The researcher visited the center and selected women who attended there through simple sampling. The study's objectives and strategies were fully explained to them. If they met the inclusion criteria and agreed to participate, they completed the infertility stress questionnaire as a self-administered test. Those who scored 184 or higher received a written informed consent form. After signing the consent, participants completed the remaining research questionnaires, including the demographic and fertility information form and the infertility self-efficacy questionnaire.

A total of 114 individuals were assessed, of whom 42 were excluded for not meeting the study inclusion criteria. The reasons included 25 with a score of 184 or lower, six due to self-reported neurological or psychiatric disorders, four because of self-reported use of psychiatric

medications, two for having visited a psychologist in the past few months because of infertility, and five due to uncertainty about attending all counseling sessions. Twelve individuals met the inclusion criteria but declined to participate, resulting in 60 infertile women who met all criteria and provided informed consent to join the study. These participants were then randomly assigned to either the intervention or control group. By the end of the study, no participants dropped out, and all 60 women were reassessed eight weeks later (Figure 1).

Participants who completed the pre-test questionnaires were randomly assigned to two groups—intervention (receiving counseling) and control (not receiving counseling)—using block randomization with blocks of four and six and a 1:1 allocation ratio through the website www.random.org. In order to conceal the allocation, the type of intervention was written on paper and placed in numbered opaque envelopes by a person who was not involved in sampling and data analysis. Envelopes were opened in the order of participant recruitment.

The sample size was determined using G-Power software based on the study by Rabieipour et al[35] Concerning the infertility stress scale in infertile women. The mean infertility stress score before intervention was 156.13, and after intervention, it was 124.90, reflecting an expected 20% reduction in score. The standard deviations for both groups were 30.43, with a significance level (α) of 0.05 and a power of 95%. Based on these parameters, 27 participants per group were needed. Accounting for a 10% dropout rate, the final sample size was set at 30 participants per group, totaling 60 participants.

Notably, the treatment process for each participant continued according to the specialist physician's recommendations. Alongside the necessary medical treatment, the intervention group attended counseling sessions based on the Happiness Training method grounded in the Cognitive-Behavioral Model. The researcher conducted these sessions in 8 sessions, each lasting 45 to 60 minutes, once a week and telephone followup was performed by the author in the interval between sessions to remind the next session and answer possible questions. In case of non-participation of any person in any session, she was invited to another group to hold the same session during the same week as outlined in Table 1. Some studies[30-33] were used in preparing the protocol, and the final content of the meetings was approved by the study consultant. No counseling sessions were held for the control group.

The instruments used for data collection in this study include a demographic and fertility characteristics questionnaire, the Newton Infertility Stress Questionnaire, and the Infertility Self-Efficacy Scale.

Demographic and Fertility Characteristics Form

This questionnaire includes questions regarding age, education level, employment status, income level, other related demographic information, and infertility.

Newton Infertility Stress Questionnaire (The Fertility Problem Inventory - FPI)

In this study, the Newton Infertility Stress Questionnaire was used to assess infertility-related stress. Developed by Newton and colleagues in 1999, it consists of 46 items. It employs a 6-point Likert scale from "Strongly

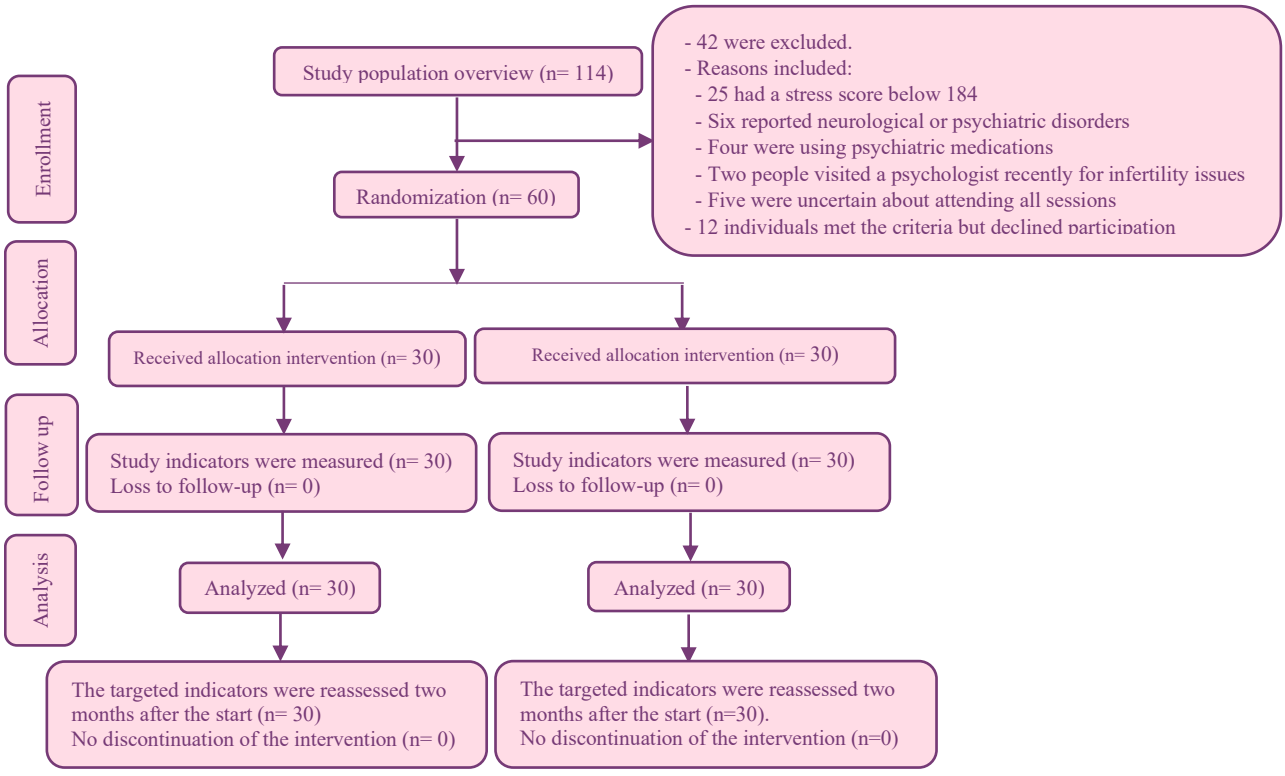

Figure 1. Study flowchart

Table 1. Summary of session content

Sessions content
Session 1: Introduction and getting acquainted among counseling group members, completion of questionnaires by participants, teaching Fordyce's theory, emphasizing the necessity of happiness in life.
Session 2 (Creating positive and optimistic thinking Increase social connection): Teaching techniques for expressing emotions, increasing optimism, and creating and strengthening intimate relationships in life.
Session 3 (Engaging in meaningful activities Reduce negative emotions): Teaching techniques to increase physical activity and social relationships, being productive and engaging in meaningful activities, learning enjoyable tasks, reducing negative and worrying thoughts, and coping strategies for stress.
Session 4 (Planning for goals): Defining time management and planning, methods for setting short-term and long-term goals, techniques to enhance social problem-solving skills, and creativity in building relationships with oneself and society.
Session 5 (Focus on the present and Cultivating a healthy personality): Focusing on self-care and living in the present moment and its benefits, efforts to enjoy daily activities, defining realism, principles of cultivating a healthy personality, and social and extroverted behavior.
Session 6 (Stopping discomfort and Reducing the level of expectations and aspirations): Training on adopting a positive attitude toward oneself, letting go of problems and negative feelings, reducing unrealistic expectations and controlling lofty desires, and improving skills and abilities necessary for life.
Session 7 (Strengthening intimate relationships): Teaching active social living and behaviors such as laughing, expressing gratitude, initiating conversations, appropriately expressing opinions, techniques to increase social intimacy, and learning to be authentic.
Session 8: Answering participants' questions, providing feedback, and completing questionnaires.

Disagree" = 1 to "Strongly Agree" = 6. Seventeen items are reverse-scored. The total score ranges from 46 to 276, with a cut-off score of 184; scores of 184 and above indicate high infertility stress.[36] The scale's reliability and validity have been confirmed in multiple studies. Newton et al[36] reported a Cronbach's alpha of 0.84, indicating good internal consistency. In Iran, Omani-Samani et al[37] validated the scale and confirmed its reliability with a Cronbach's alpha of 0.87, demonstrating high internal consistency. The infertility stress questionnaire was administered twice: once at the start to identify eligible participants, and again at the final counseling session for the intervention group, using a self-administered format.

Infertility Self-Efficacy Scale (ISE)

This scale was developed by Cousineau et al[38] in 2006. It consists of 16 items, and in its Persian translation [37], it uses a 5-point Likert scale ranging from "Not at all confident" (1) to "Completely confident" (5). The total score ranges from 16 to 80, with no cutoff point; higher scores indicate greater infertility self-efficacy. The reliability and validity of this scale have been confirmed in various studies. Cousineau and colleagues reported an internal consistency with a Cronbach's alpha of 0.94. Ebrahimifar et al[16] also confirmed the scale's validity and reliability in Iran, reporting a Cronbach's alpha of 0.90, indicating high internal consistency and reliability. The infertility self-efficacy questionnaire was completed by participants twice during the study: once at the first counseling session and again at the last counseling session, using a self-administered format.

After data collection, the results were analyzed using SPSS version 26. To ensure data quality, data entry was double-checked. The normality of the data was assessed with the Kolmogorov-Smirnov (K-S) test. All data were normally distributed. Independent t-tests, chi-square tests, and chi-square trend tests were used to compare the two groups regarding demographic and social characteristics. To compare the mean scores of infertility stress and infertility self-efficacy between the groups before the intervention, an independent t-test was applied, and after the intervention, ANCOVA was used with adjustment for baseline scores. A p-value less than 0.05 was considered statistically significant. All analyses were conducted based on the Intention-to-Treat approach.

Sampling for this study began after obtaining approval from the Ethics Committee of Tabriz University of Medical Sciences (IR.TBZMED.REC.1403.404) and registering the survey at the Iranian Registry of Clinical Trials (Registration Code: IRCT20240809062706N1, Registration date:23/08/2024), as well as coordinating and receiving permission from the Infertility Center of Jahad Daneshgahi in Tabriz.

Results

Table 2 shows the demographic and obstetric features of both groups. Statistical analysis revealed no significant difference between the intervention and control groups ($P > 0.05$)

The mean (SD) infertility stress score after the intervention was 164.3 (7.8) in the counseling group and 186.2 (12.7) in the control group. ANCOVA analysis, adjusting for baseline scores, showed that the mean infertility stress score in the intervention group was significantly lower than in the control group ($P < 0.001$).

Within-group comparisons using paired t-tests also revealed statistically significant differences in infertility stress scores before and after the intervention across all five subscales—social concerns, sexual concerns, relationship concerns, childfree lifestyle, and the need for parenthood—in the intervention group ($P < 0.001$) (Table 3).

The mean (SD) self-efficacy score after the intervention was 52.0 (3.0) in the counseling group and 48.7 (3.4) in the control group. ANCOVA analysis, adjusting for baseline scores, showed that the mean self-efficacy score

Table 2. Demographic characteristics of the study groups

Characteristics	Mean (SD)		*P* value
	Counseling group (n = 30)	Control group (n = 30)	
Age of woman (years)	33.6 (5.6)	34 (7.9)	0.845[a]
Age of spouse (years)	39.5 (6.6)	37.9 (7.5)	0.388[a]
Duration of marriage (years)	8.7 (5.2)	8.5 (5.2)	0.883[a]
Duration of attempting pregnancy (years)	7 (5)	6.3 (5)	0.576[a]
Awareness of the cause of infertility	**N(%)**		
Yes	25 (83.3)	20 (66.7)	0.139[b]
No	5 (16.6)	10 (33.3)	
Income			
Not sufficient at all	24 (80)	25 (83.3)	0.741[b]
Somewhat sufficient	6 (20)	5 (16.6)	
Education			
Middle School	8 (6/26)	3 (10)	
High School	5 (16.3)	8 (26.6)	0.313[c]
Diploma	11 (36.3)	12 (40)	
University	6 (20)	7 (23.3)	
Spouse's Education			
Elementary	2 (0.6)	1 (0.3)	
Middle School	7 (23.3)	7 (23.3)	0.533[c]
High School	5 (16.6)	1 (0.3)	
Diploma	8 (26.6)	14 (46.6)	
University	8 (26.6)	7 (23.3)	
Occupation			
Housewife	26 (86.6)	27 (90)	0.690[b]
Employed	4(13.3)	3 (10)	
Spouse's occupation			
Self-employed	17(56.6)	19 (63.3)	0.522[b]
Employee	6 (20)	6 (20)	
Worker	7 (23.3)	5 (16.6)	

[a]: Independent t-test, [b]: Chi-square test, [c]: Chi-square test for trend.

in the intervention group was significantly higher than in the control group ($P < 0.001$). Within-group comparisons using paired t-tests also demonstrated a statistically significant increase in self-efficacy scores before and after the intervention in the counseling group ($P < 0.001$) (Table 4).

Discussion

The findings related to infertility stress and self-efficacy in the counseling and control groups showed that there was a significant difference in the mean scores of infertility stress and self-efficacy between the two groups. Therefore, the intervention effectively reduced stress scores and increased self-efficacy scores, while no such effect was observed in the control group. Counseling Using Happiness Training.. A review of the literature by the researchers of the present study found no contradictory results in previous studies [24-26] on this subject.

Recent studies have shown that CBT reduces depression and psychological symptoms, improves mental health in infertile women, and increases fertility rates.[24-26] So far, the effectiveness of counseling using the happiness training method has been examined and confirmed in various areas, such as reducing anxiety in women with spontaneous abortion[28], improving quality of life in women with premenstrual syndrome,[30] alleviating depression in mothers of premature infants[31], enhancing marital adjustment in infertile couples,[33] and many other outcomes.

In line with our study's goal, multiple studies have demonstrated that CBT counseling and treatment significantly reduce infertility-related stress. Research findings show that this psychological intervention can effectively lower stress, anxiety, and depression in infertile women and couples, thereby helping improve their mental health.[39-41]

In the study by Talebi and Mirzaeian[39] conducted on infertile women, CBT significantly reduced infertility stress scores as well as marital dissatisfaction; this reduction was observed in the post-test and follow-up stages compared to the pre-test, while the control group showed no significant change. Similarly, in the

Table 3. Infertility stress scale comparison between the two study groups

Characteristics	Mean (SD)		Inter-group comparison	*P* value*
	Counseling group (n= 30)	Control group (n= 30)	Mean difference (Confidence Interval 95%)	
Total Stress; range score (46-276)				
Before intervention	188.6 (10.7)	185.2 (6.6)	3.3 (-1.3 to 7.9)	0.155[a]
After intervention	164.3 (7.8)	186.2 (12.7)	-21.8 (-26.8 to-16.8)	<0.001[b]
Intra-group comparison MD (95% CI); P	<0.001[c]	0.987[c]		
Social concerns subscale				
Before intervention	38.9 (5.6)	36.6 (3.1)	2.3 (–0.4 to 4.7)	0.055[a]
After intervention	32.6 (2.6)	38.2 (3.4)	-6.2(-7.7 to -4.6)	<0.001[b]
Intra-group comparison MD (95% CI); P	<0.001[c]	0.150[c]		
Sexual concerns subscale				
Before intervention	27 (3.2)	25.5 (2.8)	1.4 (–0.1 to 3.0)	0.068[a]
After intervention	23 (2.2)	26.6) (3.3	-4.5 (-5.6 to -3.5)	<0.001[b]
Intra-group comparison MD (95% CI); P	<0.001[c]	0.510[c]		
Relationship concerns subscale				
Before intervention	33.5(3)	31.4(3)	1.1 (–0.4 to 2.7)	0.160[a]
After intervention	28.2 (1.8)	32.8 (3)	-4.7(-5.9 to -3.5)	<0.001[b]
Intra-group comparison MD (95% CI); P	<0.001[c]	0.160[c]		
Child-Free lifestyle subscale				
Before intervention	33.5(3)	31.8(2.7)	1.7 (–0.2 to 3.1)	0.270[a]
After intervention	30.2 (2.9)	32.7 (2.7)	3.2-(-4.6 to -1.8)	<0.001[b]
Intra-group comparison MD (95% CI); P	<0.001[c]	0.760[c]		
Need for parenthood subscale				
Before intervention	55.7(3.5)	54(9.3)	1.7 (–0.1 to 3.6)	0.076[a]
After intervention	50.9 (3.3)	54.9 (3.9)	5.4-(-6.4 to -4.4)	<0.001[b]
Intra-group comparison MD (95% CI); P	<0.001[c]	0.170[c]		

[a]: Independent t-test, [b]: ANCOVA test, [c]: Paired t-test.
Higher scores on this scale reflect higher levels of Infertility Stress.

Table 4. Infertility self-efficacy scale in the two study groups

Characteristics	Mean(SD)		Inter-group comparison	*P* value
	Counseling group (n = 30)	Control group (n = 30)	Mean difference (Confidence Interval 95%)	
Infertility Self-Efficacy; range score (16-80)				
Before intervention	48.7 (3.6)	49.1 (4.5)	–0.4 (–2.5 to 1.7)	0.709[a]
After intervention	52.0 (3.0)	48.7 (3.4)	3.2 (2.0 to 4.4)	< 0.001[b]
Intra-group comparison MD (95% CI); P	< 0.001[c]	0.740[c]		

[a]: Independent t-test, [b]: ANCOVA test, [c]: Paired t-test.
Higher scores on this scale reflect higher levels of self-efficacy.

study by Mosharraf et al[40] virtual CBT-based counseling significantly decreased anxiety in infertile women, which could contribute to improving the infertility treatment process. On the other hand, Faroughameri et al[42] found that CBT not only reduced stress but also increased health-promoting behaviors in infertile women, potentially leading to improved quality of life and mental health. Additionally, in a study by Estrabadi et al[41] on infertile couples, CBT simultaneously reduced infertility-related stress and depression, indicating the effectiveness of this approach in improving the psychological status of the entire family. Moreover, Delpasand et al[43] demonstrated that teaching stress management skills using a cognitive-behavioral approach improved stress in infertile women and could be used as an effective intervention alongside medical infertility treatments. The only study examining the impact of happiness training on infertile couples is by Khakpour et al[33] which investigated the effect of counseling on marital intimacy and compatibility, showing improvements in both areas. In a study by Faramarzi et al[44] the impact of CBT and medication on infertility stress indicated that educational sessions had

a greater effect on reducing infertility stress compared to medication. Furthermore, Ashrafian et al[45] found that an integrative positive CBT approach could influence infertility stress and hopefulness in infertile women, reducing their infertility-related stress. The meta-analysis study by Wang et al[46] titled "Cognitive-Behavioral Therapy for Infertile Women" demonstrated that this type of intervention effectively improves depression, anxiety, and infertility-related stress.

The results also showed that after the intervention, there was a statistically significant difference in the mean infertility self-efficacy scores between the intervention group and the control group, with the intervention group demonstrating an increase in infertility self-efficacy. In line with the aim of our study, Pasha et al[47] in their study on the self-efficacy of infertile women, found that CBT, compared to fluoxetine drug therapy, resulted in a greater increase in infertility self-efficacy scores, indicating that CBT can be used as a psychological intervention to enhance the self-efficacy of infertile women. Similarly, the study by Yanık and Kavak[48] which focused on the self-efficacy of infertile women, showed that positive psychotherapy can increase the self-efficacy of infertile women. Additionally, the study by Vazirnia et al[49] demonstrated that both integrative therapy and emotionally focused couples therapy were effective in improving the health of infertile couples, particularly the infertility self-efficacy component.

This research is the first study in Iran to examine the impact of counseling using the happiness training method based on the cognitive-behavioral model on stress in infertile women undergoing IVF treatment. The intervention in our study was conducted in a group therapy format, which is one of the study's strengths. This study also used standardized and psychometrically validated tools for measuring infertility stress and self-efficacy in Iran. One limitation of the study was that the RCT was single-centered and that the intervention was not couple-based. Since the intervention in our study was counseling-based, blinding the participants or the researcher was not possible. Another limitation was the lack of evaluation of long-term effects. The results of this study can also serve as a basis for future studies and play an important role in complementing previous research and providing a model for future research. It is suggested that future research include infertile women receiving treatment with different infertility methods. Future research should focus on long-term outcomes, comparative effectiveness with other psychological interventions, and the potential impact on IVF success rates.

Conclusion

Results from various studies emphasize that CBT, as an effective psychological intervention, can reduce infertility-related stress and improve infertility self-efficacy. These interventions play a complementary and crucial role, particularly when medical treatments alone are insufficient. Considering the findings of the present study, which indicate the positive effect of counseling based on the happiness training method grounded in the cognitive-behavioral model on reducing infertility stress and increasing self-efficacy in infertile women undergoing IVF treatment, it appears that happiness training can help these women. Through cognitive and behavioral tasks such as positive thinking, reducing negative emotions, lowering expectations, emphasizing self-acceptance, avoiding worrisome thoughts, engaging in physical activities, strengthening social connections, intimacy, and expressing feelings, happiness training can enhance individual resources and lead to inner peace and happiness. These benefits ultimately result in stress reduction and increased self-efficacy. Therefore, counseling using the happiness training method based on the cognitive-behavioral model—an easy, affordable, and accessible approach—can be utilized as a complementary therapeutic method alongside other treatments in fertility centers to reduce the psychological burden on patients and facilitate the treatment process.

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Authors' Contribution

Conceptualization: Fereshteh Shaker, Khadije Hajizadeh
Data curation: Fereshteh Shaker
Formal Analysis: Khadije Hajizadeh, Mojgan Mirghafourvand
Investigation: Khadije Hajizadeh, Mahnaz Shahnazi
Methodology: Fereshteh Shaker, Khadije Hajizadeh
Software: Khadije Hajizadeh, Mahnaz Shahnazi
Supervision: Khadije Hajizadeh, Naiemeh Moheb
Writing – original draft: Fereshteh Shaker, Khadije Hajizadeh, Mojgan Mirghafourvand
Writing – review & editing: Fereshteh Shaker, Mahnaz Shahnazi, Mojgan Mirghafourvand, Naiemeh Moheb, Khadije Hajizadeh

Competing Interests

The authors have no competing interests.

Data Availability Statement

Data and materials of this study are available from the corresponding author upon reasonable request.

Ethical Approval

This study was conducted in accordance with the Helsinki Declaration and relevant guidelines. All participants were given the necessary information about the study and their informed written consent was obtained. The Ethics Committee of Tabriz University of Medical Sciences confirmed the study (Ethics Code: IR.TBZMED.REC.1403.404). This study began after obtaining approval from the registering the survey at the Iranian Registry of Clinical Trials (Registration Code: IRCT20240809062706N1, Registration date:23/08/2024),

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