

Original Paper

# Effect of Existential Group Therapy on Infertility Stress in Infertile Men's Spouses



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## ABSTRACT

**Introduction:** Infertility creates a crisis in people's lives, resulting in many psychological consequences. One of these consequences is infertility stress. Infertile men's spouses are as stressed as infertile women in many areas.

**Objective:** This study aimed to investigate the effect of existential group therapy on infertility stress in infertile men's spouses.

**Materials and Methods:** This clinical trial was conducted on 91 women whose husbands were infertile and living in Shahrood City, Iran, from August 2021 to March 2022. The subjects were randomly divided into two groups (48 in the intervention and 48 in the control group). A random sampling method was used to select samples, and a random block of size 4 was used for allocation. Eight existential group therapy sessions were conducted for the intervention group. All participants completed the demographic information questionnaire and infertility stress questionnaire before and after the intervention. The obtained data were analyzed using the paired and independent t-tests.

**Results:** The mean±SD ages of the participants were 31.46±5.80 and 31.89±4.53 years in the intervention and control groups, respectively. Duration of infertility in the intervention and control groups were 5 and 4 years, respectively. Results showed significant differences between the mean±SD of the social concern subscale of the intervention group (28.35±10.36) and that of the control group (38.39±9.44), between the sexual concern subscale of the intervention group (28.68±8.72) compared to that of the control group (35.88±9.03), between communication concern subscale of the intervention group (29.28±12.18) compared to that of the control group (41.86±10.34), between lifestyle without children subscale of the intervention group (31.06±8.78) compared to that of the control group (37.13±8.78), and between need to be a parent subscale of the intervention group (37.55±9.22) compared to that of the control group (47.43±10.34) at the post-test (P=0.001). Results showed a significantly lower infertility stress total score for the intervention group (154.95±25.94) compared to the control group (190.02±25.91) at the post-test (P=0.001).

**Conclusion:** Existential group therapy counseling may be a useful approach to reduce the stress of infertility among couples who struggle with infertility.

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## Highlights

- Spouses of infertile men may be as stressed as infertile women.
- The stress of infertility in the wives of infertile men is high in all fields, including social concerns, sexual concerns, communication concerns, lifestyle without children, and the need to be a parent.
- Existential group therapy can reduce the stress of infertility in all fields.

## Plain Language Summary

Women who try to get pregnant but fail experience and feel stress, whether they are the cause of infertility or their husbands. Infertility caused by men also affects their wives, and the difficulties of treatment involve women. For this reason, women are stressed, which affects their whole lives. The results of the current study showed that existential group therapy could effectively reduce the stress of infertility in women whose husbands were infertile. According to the results, infertility stress of these women decreased in all fields, including social concerns, sexual concerns, communication concerns, lifestyle without children, and the need to be a parent. These results emphasized the importance of existential group therapy as a practical approach to decreasing the stress of infertility.

## Introduction

Infertility is a pregnancy failure after one year of regular unprotected intercourse [1]. Infertility is a common disorder all around the world, and the disorder has been even increasing in most parts of the world in recent years [2]. Studies show that about 50 to 80 million people worldwide experience some form of infertility [3]. A recent study estimated that the overall prevalence of infertility in Iran is 7.88% [4].

Infertility can be the worst experience in a couple's life, so infertile women often consider infertility the most stressful event in their lives and describe frequent and successive courses of treatment as repeated periods of crisis [5]. Infertility is regarded as a crisis in a couple's life with many psychological consequences [6]. In all cultures worldwide, infertility has been known as a stressful individual, marital, family, and social experience, threatening marriage stability [7].

Infertility stress comprises a set of symptoms revealed in individuals when diagnosed with infertility [8]. Infertility stress appears as a combination of five components: Social concerns, sexual concerns, communication concerns, the need to be a parent, and not accepting a child-free lifestyle [9, 10]. After the death of first-degree family members and the stress of divorce, infertility and its treatment have the most stress level for individuals [11].

A study showed that infertile men's spouses are as stressed as infertile women in many areas because women are more engaged with diagnostic and therapeutic procedures, even in male-induced infertility [12]. Women experience more concerns than their husbands. When women's husbands are infertile, they experience reactions such as anxiety, stress, depression, and sadness. These women are stressed due to losing the ability to become mothers [13, 14].

In most cultures, women are considered to be responsible for not having children. Men evade their responsibilities, which worsens marital problems. According to previous studies, the stressful experience of infertility can be associated with a wide range of psychological disorders, such as decreased self-esteem; increased stress, anxiety, depression, and anger; inefficiency feelings; marital problems; and cognitive and emotional problems [15, 16]. It is also noteworthy that lower stress levels are associated with higher marital quality [17].

Existential group therapy is a psychological intervention focusing on free will, autonomy, and the search for meaning. This treatment concentrates on the individual rather than the symptoms and emphasizes the capacity to make rational choices and maximize this ability [18]. Instead of depriving an individual of authority, existential group therapy emphasizes the patient-therapist relationship, honest confrontation, and change as a courageous action. Although patients cannot change the bitter events of life, this group helps them change their analysis, thinking, and perception [19]. This therapeutic

approach allows individuals to search for meaning, have a purpose, and create a positive relationship with psychological factors. It gives them more adaptation ability, life satisfaction, and psychological well-being [20]. The effectiveness of this method has been confirmed in various cases [21]. In a study, existential psychotherapy increased resilience in women with infertility [22]. Group therapy helps people recognize their strengths and weaknesses, identify their values and beliefs, compare them with others, improve them, and focus on current relationships instead of external problems [23, 24]. As a dynamic method, existential group therapy emphasizes understanding four basic issues: Death, freedom, loneliness, and meaninglessness [25]. This therapy helps people realize the meaning of their lives, be responsible, and profit from opportunities [26].

Considering the importance of infertility stress in the lives of infertile men's wives, this study was conducted to investigate the effect of existential group therapy on infertility stress in the wives of infertile men.

## Materials and Methods

The present study is a randomized clinical trial with two study groups: A counseling existential therapy group and a control group. It was conducted from August 2021 to March 2022. The research population of the study included women aged 20 to 45 who were accompanying their infertile husbands. They had moderate and high infertility stress and were referred to infertility clinics in Shahrood City, Iran.

To estimate the sample size, we used the following parameters in a similar study [27] as follows: The standard deviation of the first community was 13.2, the Standard deviation of the second community was 8, the mean difference between the two communities is 11.4 at a 95% confidence interval, and considering a test power of 80%. The sample size was then estimated at 43 participants, and 10% was added for dropout. Finally, 48 women participated in the intervention and 48 women in the control group (96 participants in total).

Ninety-six women who met all the inclusion criteria participated in the study after taking informed consent. The inclusion criteria were as follows: Willing to participate in research, being 20 to 45 years old, having infertility with male factor only, lacking children from a previous marriage, having at least primary education, lacking psychiatric disorders, not being a divorced applicant, and lacking sexual dysfunction in the wife of the husband. The exclusion criteria were as follows: Getting

pregnant during the study, reluctance to attend the meetings for any reason, failure to complete the questionnaires, and more than two absences from the counseling sessions.

The study subjects were selected from women with a history of primary infertility and male infertility referred to the infertility center. We used a random sampling method for selecting cases and a random block in size 4 for allocation. The women of the intervention group were divided by chance into six sub-groups of 6 women each, receiving the same existential group therapy separately (eight sessions for each sub-group). The sessions were held virtually (due to the conditions of the COVID-19 pandemic). The control group did not receive any intervention other than routine follow-up of the infertility center. Figure 1 shows the process of conducting the study in summary.

Existential group therapy was held for the intervention group in 8 sessions [18]. Table 1 presents a summary of the content of the meetings.

The data collection tools for conducting this study were a demographic information questionnaire and an infertility stress questionnaire, previously designed by Newton et al. [28]. This questionnaire has 46 questions with 5 subscales: Social concerns, sexual concerns, communication concerns, childless lifestyle, and the need to be a parent. It measures the stress of infertility based on a 6-point rating scale ranging from "1" (strongly disagree) to "6" (strongly agree) with questions such as (when I'm asked about children, I don't get upset). Considering that a high score in general stress indicates high stress in infertility, some questions are scored in reverse. The total stress level is calculated by adding all the raw scores in all five scales. The maximum score for the 10-question scale is 60, the minimum is 10, the 8-question scale is 48, and the minimum is 8. The maximum total score is 276, and the minimum is 46. Generally, a high score indicates high infertility stress.

Samani's research confirmed the reliability of Newton's infertility stress questionnaire in Iran [29].

The purpose of the study was explained to participants, who were included in the study after providing written informed consent. The electronically designed questionnaires were completed before the intervention and a week after the counseling sessions' end by the intervention and control groups. The control group received routine treatment during existential group therapy for participants in the intervention group. A summa-

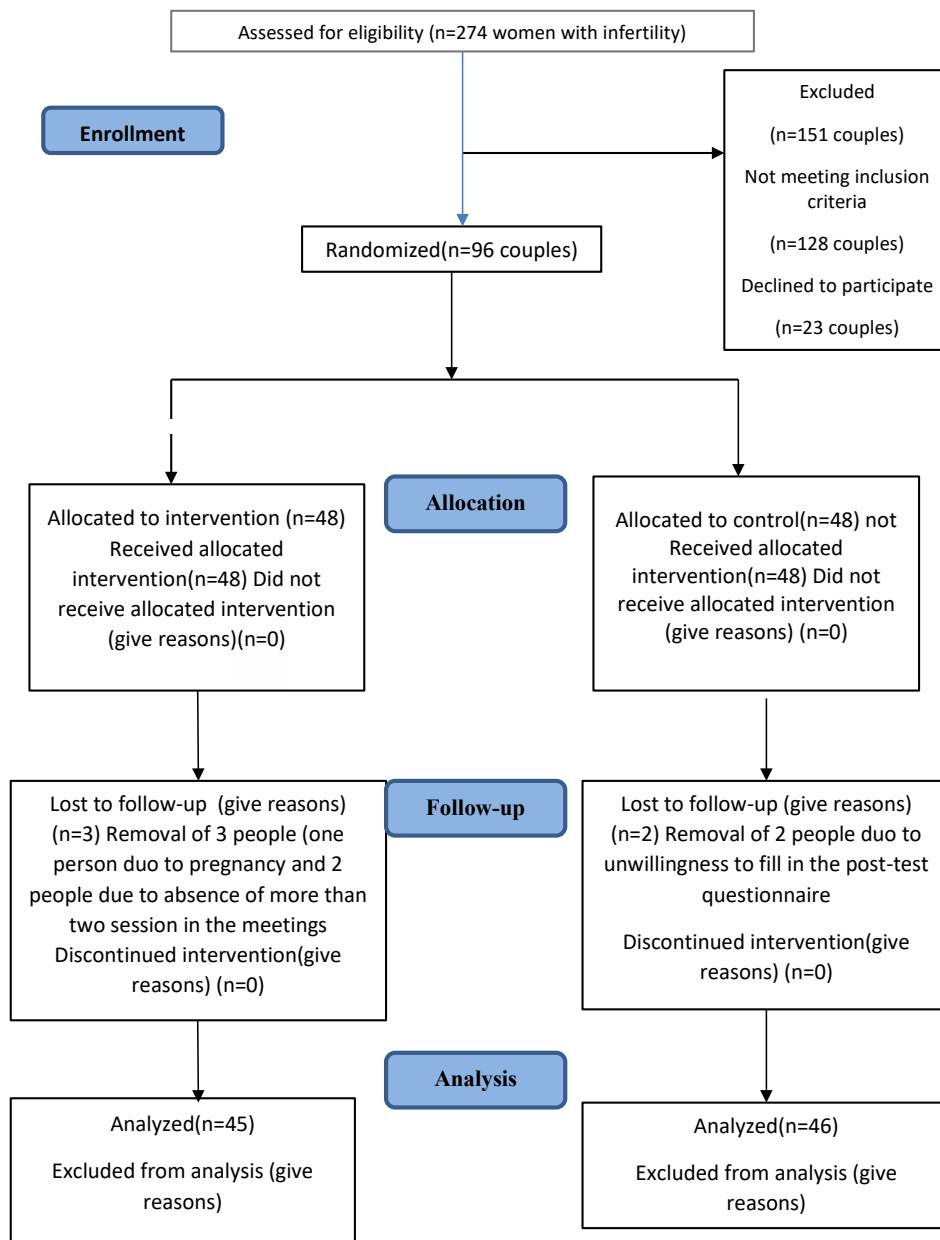


Figure 1. The CONSORT flow diagram of selecting participants

ry of the consultation sessions was given to the control group to observe the ethical aspects after the post-test. After completing the questionnaires, the collected information was entered into SPSS software, version 25 and subjected to statistical analysis. The normality of data was assessed using the Kolmogorov-Smirnov test. The data were analyzed by the chi-square test, Fisher exact test, and compare means t-test. A comparison of the groups was performed using the independent t-test. A comparison of stress scores before and after the intervention within each group was performed using the paired t-test.

## Results

The Mean±SD of the age of the participants in the whole population is 31.68±5.17 years. In comparing the two study groups, their mean age was comparable. Of the total participants, 73 female participants (80.2%) were housewives. The participants' percentages of employee, laborer, self-employed, and unemployed jobs were 34.1%, 20.9%, 41.8%, and 3.3%, respectively. The women's education percentages of middle school education, diploma and post-diploma, bachelor's and master's degrees, and above were 14.28%, 36.28%, 40.65%, and 8.79%, respec-

Table 1. Content of the sessions

Session	Goal	Content	Homework
1	Introduction Determining the problem Determining the goals of counseling sessions	Swimming with the general goals of existential group therapy Triple goals Enabling members to be honest with themselves Looking deeper and broader at themselves and the world around them Determining what gives meaning to their present and future lives	Discover concerns and the beginning of the discovery of values
2	Identify ways to increase self-awareness	Increasing self-awareness and increasing the power of choice in each person in the group Helping people discover their unique existence We tell people that we can determine our path in life or allow others and environmental forces to assess it.	Identify strengths and weaknesses Discovering experiential values
3	Identify influential people in life Discussion about autonomy	The discussion about the belief that we are ultimately alone means that we are the only ones who can give meaning to our lives, decide how to live, find our ways, and determine what we want to be and don't want to be. To be with others, we must be independent. In addition to this loneliness, we are social beings and need relationships.	Complete discovery of experiential values Discovery of attitudinal values
4	Understanding the concept of meaning	Death and nothingness: The group members must honestly ask themselves how they feel about the quality of their lives; assuming they know, they will answer the question. Existential anxiety: Existential therapy aims not to create a comfortable and safe life but to encourage group members to be more accepting of themselves and their sources of fear and insecurity.	Complete attitude values Building a hierarchy of values
5	Identify goals The search for meaning	They are searching for meaning. The group members answer to whether life has a purpose and meaning. Does not having children make their lives meaningless? Dealing with the members' experiences of feeling empty and worthless and telling the group members that they should live according to their expectations, not the expectations that others have of the individual	Write realistic goals
6	Identify values in goals responsibility	Discussion of responsibility They tell people that we are free-will beings, can choose different options, and are responsible for guiding our lives and shaping our destinies. How we live is the result of our own choices.	Analysis of goals Dividing goals into short-term, mid-term, and long-term goals
7	The search for originality and The topic of infertility	The search for authenticity: Self-affirmation and living based on the inner self and finding and keeping the depth of the essence Stop trying to eliminate the contradictions of life and live authentically; we must recognize and accept our limitations.	Extracting values from set goals Determining new goals based on neglected values
8	Conclusion Checking the achievement of goals	Summary of learned skills. Determining new goals according to neglected values. Ending meetings.	.....

tively. The spouse's percentages of education, diploma and post-diploma, bachelor's and master's degree and above are 18.68%, 45.05%, 27.47%, and 8.79%, respectively. The spouse's percentages of good, bad, and average economic status were 14.3%, 12.1%, and 73.6%, respectively. The chi-square test, Fisher exact test, and compare means t-test showed that the age, job, education, economic status, time of marriage, and duration of infertility were homogenous between the two groups. The median and interquartile

range of the participants' marriage duration in the entire population was 5. Based on the comparison test of the median of two independent societies, the duration of marriage is homogeneous in the two groups.

The median (interquartile range) of the participants' infertility duration in the entire population is 4. Based on the comparison test of the median of two independent societies, the duration of marriage is homogeneous in two groups (Table 2).

**Table 2.** Comparing demographic characteristics between groups

Group	Variables	Mean±SD/No. (%)		P
		Intervention (n=45)	Control (n=45)	
	Age (y)	31.46±5.80	31.89±4.53	0.698*
	Duration of marriage (y)	6±8.25 MED±IQR	4.25±4.88 MED±IQR	0.054***
	Duration of infertility (y)	5±5 MED±IQR**	4±4.38 MED±IQR	0.210***
Women’s jobs	Housewife	37(82.2)	36(78.3)	0.635****
	Employed	10(21.7)	8(17.8)	
Spouse’s job	Employee	13(28.9)	18(39.1)	0.544*****
	Manual worker	9(20)	10(21.7)	
	Freelance job	22(48.9)	16(34.8)	
Women’s education	Unemployed	1(2.2)	2(4.3)	0.283*****
	Intermediate education	4(8.9)	9(19.6)	
	High school education	17(37.8)	16(34.8)	
	Diploma	18(40)	19(41.3)	
Spouse’s education	Bachelor and above	6(13.3)	2(4.3)	0.788*****
	Intermediate education	7(15.6)	10(21.7)	
	High school education	20(44.4)	21(45.7)	
	Diploma	13(28.9)	12(26.1)	
The economic status	Bachelor and above	5(11.1)	3(6.5)	0.936*****
	Good	5(11.1)	8(17.4)	
	Bad	5(11.1)	6(13)	
	Mean	35(77.8)	32(69.6)	

\*T-tests for two independent samples, \*\*Interquartile range, \*\*\*The Mann–Whitney test, \*\*\*\*The chi-square test, \*\*\*\*\* The Fisher exact test.

The independent t-test showed no significant difference in total infertility stress scores between the control group and intervention group before the intervention. However, total infertility stress scores significantly differed between the two groups after the intervention (P=0.001). Additionally, according to the paired t-test results, total infertility stress scores were significantly different before and after the intervention in the intervention group (P=0.001). However, the control group’s scores were not significantly different before and after the intervention (Table 3).

The results of the independent t-test showed no significant differences in any scales of the infertility stress questionnaire between the control group and intervention group before doing the intervention. However, all of the scales were significantly different between the two groups after doing the intervention, including social concern (P=0.001), sexual concern (P=0.001), communication concern (P=0.001), lifestyle without children (P=0.001), and need to be a parent (P=0.001).

**Table 3.** Comparison of total infertility stress score between groups in different times

Group	Time	Mean±SD		P*
		Intervention (n=45)	Control (n=46)	
	Before	200.71±28.11	193.21±19.51	0.390
	After	154.95±25.94	190.02±25.91	0.001
	P**	0.001	0.810	---
	Before-after	45.76±28.61	20.05±3.21	0.001

\*The independent t-test, \*\*The paired t-test.

Additionally, according to the results of the paired t-test, the scores of infertility stress in all its five components were significantly different before and after the intervention in the intervention group. However, the control group's before and after scores were not significantly different (Table 4).

## Discussion

The results showed that existential group therapy could reduce the infertility stress in infertile men's spouses. At the same time, there were no significant differences in any subscales of the infertility stress questionnaire between the control group and intervention group before doing the intervention. The findings of the present study are in line with the results of previous research [22, 30].

Existential group therapy is a psychological intervention focusing on free will, autonomy, and the search for meaning. This treatment emphasizes the individual rather than the symptoms and people's capacity to make rational choices and maximize their abilities [18]. Likewise, Amini et al. investigated the relationship between perceived social support and infertility stress in infertile men's spouses. They concluded that stronger social support brings higher marital satisfaction in infertile men's spouses [12]. As a result, existential group therapy can improve the marital status of infertile men's wives by reducing social stress.

The difference between existential group therapy and other counseling methods is that different counseling styles try to control external events that determine a person's behavior. In these styles, a person always needs a counselor to help him or her think. Still, in existential counseling, we intend to face people's anxiety and ask them to examine themselves in different situations and think about the pros and cons of the situation.

This method may cause stress, but we have already said that our goal is to deal with the problem and face it.

Mokhtari Sorkhani et al. conducted a study investigating the effectiveness of integrated psychological counseling with a couple therapy approach on the quality of life of infertile women. They concluded that integrated psychological counseling could improve the quality of life among infertile women [31]. Their study was consistent with the present study because they also could protect women in stressful events by using a form of group counseling.

Consistent with the present study, some other research results showed that existential psychotherapy is essential in promoting mental health and the quality of human life. In addition, studies have shown that existential psychotherapy increases people's adaptation to stressful and intolerable situations and helps them cope with difficult and unfortunate situations by increasing resilience, which is consistent with the present study results [22, 30].

Kissane et al. studied the effect of cognitive-existential group therapy on the survival of people with breast cancer in the early stages. They concluded that cognitive group therapy could not improve survival in people with increased breast cancer, which was inconsistent with the present study's effectiveness. The reason for the discrepancy could be that psychosocial interventions in cancer patients cannot guarantee survival. Still, they can increase the psychological well-being of people in stressful situations [32].

Indeed, the women in the intervention group did not try to deal with anxiety but wanted to accept it. In this case, it helped the wives of infertile men to realize that mourning for infertility confronts them with other possibilities, such as family breakdown, divorce, and loss of

**Table 4.** Comparing infertility stress components between groups in different times

Group	Components	Mean±SD		P*
		Intervention (n=45)	Control (n=46)	
Social concern	Before	38.15±11.11	37.91±8.88	0.909
	After	28.35±10.36	38.39±9.44	0.001
	P**	0.001	0.598	---
	Before-after	9.80±11.74	-0.47±6.10	0.001
Sexual concern**	Before	34.33±10.24	35.60±8.79	0.750
	After	28.68±8.72	35.88±9.03	0.001
	P**	0.001	0.702	---
	Before-after	5.65±7.26	0.28±4.97	0.001
Communication concern	Before	40.53±8.78	42.17±8.34	0.363
	After	29.28±12.18	41.86±10.34	0.001
	P**	0.001	0.791	---
	Before-after	11.24±12.25	0.30±7.74	0.001
Lifestyle without children	Before	34.00±8.10	37.52±7.73	0.037
	After	31.06±8.78	37.13±8.78	0.001
	P**	0.002	0.653	---
	Before-after	2.93±5.97	0.39±5.85	0.043
Need to be a parent	Before	44.53±12.37	46.23±11.35	0.495
	After	37.55±9.22	47.43±10.34	0.001
	P**	0.001	0.148	---
	Before-after	6.97±10.36	-1.19±5.50	0.001

\*The independent t-test, \*\*The paired t-test.

social and economic opportunities. Consequently, the wives of infertile men take responsibility for their lives. This condition gradually challenges them to realize the meaning of their lives. According to the principle of existential counseling, humans are free beings who must accept the responsibility that comes with freedom [11].

Infertility is an unintended event that an individual faces, but the individual has the ability and freedom to choose the response to that event.

Existential education and psychotherapy can help a person change his or her perspective on the situation and shape a bright future for himself or herself.

The present study showed that several infertile men’s spouses are stressed in all areas, including social concerns, sexual concerns, communication concerns, worrying about a child free lifestyle, and the need to be parenthood. However, existential group therapy counseling has reduced this stress in these areas. Existential group therapy counseling can effectively reduce infertility stress in infertility treatment centers and family courts where couples intend to divorce due to infertility.

Finally, it should be noted that this study included only women whose infertility was caused by their spouses. Therefore, the results cannot be generalized to all infertile couples.



In the current study, the researcher aimed to investigate the effect of the existential group therapy approach on reducing the infertility stress of infertile men's wives. Still, since men also experience this infertility stress, although less than women, it is suggested to investigate the effect of this.

## Ethical Considerations

### Compliance with ethical guidelines

This study respected all the international and national criteria for a clinical trial. Before the initiation of this study, all required official permissions were taken, including the institutional ethical code from Shahroud University of Medical Sciences (Code: IR.SHMU.REC.1399.134) and the national registration code from the Iranian Registry of Clinical Trials (Code: IRCT20210117050060N1). Informed consent was taken from the participants after detailed explanations about the study and before starting the study. They were assured of being completely free to quit the study at any point they felt uncomfortable. They were also assured about the confidentiality of their names and personal information. After completing the post-test questionnaires, an existential group therapy counseling session, which included 8 sessions, was held for the control group to maintain ethical conditions and not deprive the control group.

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### Authors' contributions

Conceptualization, methodology investigation, project management, data analysis, and writing the original draft: Samira Ghorbani; Conceived the study, investigated, managed the project, provided methodology, supervised, reviewed, and edited the manuscript: Shahrbanoo Salehin; Helped investigate, supervised, reviewed, and edited the manuscript: Ali Mohammad Nazari, Seyedeh Solmaz Talebi, and Afsaneh Keramat; Approve the final version of manuscript: All authors.

### Conflict of interest

The authors declared no conflict of interest.

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