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Comparison of the Effectiveness of Written Emotional Expression and Rational Emotive Behavior Therapy on the Health of Infertile Women

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A B S T R A C T

Purpose: The present study aimed to compare the effectiveness of the written emotional expression strategy and rational emotive behavior therapy (REBT) on the health of infertile women.

Methods and Materials: The research method is quasi-experimental, and data collection was conducted using a pre-test, post-test, and follow-up design (three groups), with two experimental groups and one control group. The statistical population of this study consisted of all infertile women living in Tehran in 2023, who had visited infertility centers due to fertility problems and had been classified as infertile by obstetricians and gynecologists. From this population, 45 women were selected using a convenience sampling method and were randomly assigned to two experimental groups (15 participants in each group) and one control group (15 participants). The experimental group undergoing the written emotional expression strategy received eight sessions of 15 to 30 minutes each, while the experimental group undergoing rational emotive behavior therapy received 12 sessions of 60 minutes each. The control group remained on the waiting list. The tools used in the present study included the General Health Questionnaire (GHQ; Goldberg, 1972). Data analysis was performed using SPSS version 24, through both descriptive and inferential statistics (repeated measures ANOVA).

Findings: The results indicated that both interventions (the written emotional expression strategy and rational emotive behavior therapy, in comparison to the control group) had an impact on the components of somatic symptoms, social dysfunction, depression, and anxiety/insomnia. Further, the amount of change in the written emotional expression group regarding the components of anxiety, insomnia, and depression was greater than in the rational emotive behavior therapy group.

Conclusion: Therefore, considering the effectiveness of the interventions, it can be concluded that both educational interventions, by employing their specific techniques, improved the health of infertile women.

Keywords: *Health, written emotional expression strategies, rational emotive behavior therapy, infertile women*

1. Introduction

In the past two decades, infertility has increased by approximately 50%. One in six couples of reproductive age suffers from infertility (Čegar et al., 2023). Infertility is recognized as a life crisis and poses a threat to the stability of individual and social relationships (Xie et al., 2023). Infertility ranks fourth among the 12 most significant life stressors following the death of a mother, father, or spouse based on the intensity of stress experienced by infertile women (Hoyle et al., 2022). Undoubtedly, the endurance of infertility treatment methods, which are often long-term and involve physical, psychological, and economic burdens—especially assisted reproductive techniques—leads to multiple outcomes and affects patients' life satisfaction (Mancuso et al., 2020). Infertility is not merely a medical issue, and infertile couples often face difficulties in all aspects of their lives (Sharma & Shrivastava, 2022). In Iranian culture, where extended families are prevalent, the problem of infertility is even more profound. Since parents and relatives play a significant role in couples' lives, delays in pregnancy cause anxiety for couples due to curiosity and pressure from family members and others (Roshani, 2021). Infertile individuals are more susceptible to severe depression and anxiety. Ignoring the emotional problems of infertile individuals and the secondary symptoms of infertility creates a vicious cycle that decreases treatment success (Swift et al., 2021).

As infertility assessment and treatment methods become more complex, the social and psychological consequences of this issue become more apparent. When a couple is unable to conceive while anticipating the birth of a child, they gradually consider the possibility of being infertile. This perception of infertility may have a significant impact on the psychological health of the couple (Salas-Huetos et al., 2023). Infertility is a significant source of stress in life, which, due to the immense stress it places on couples, can affect family relationships, reduce intimacy, instill fears of separation and divorce, foster feelings of hopelessness, unattractiveness, meaninglessness, and create identity confusion, depression, and other disorders such as anxiety, low self-esteem, irritability, and sexual dysfunction (Pozzi et al., 2021). In many societies, women are more likely to be blamed when pregnancy does not occur, leading to psychological distress, feelings of stigma and labeling, discrimination, social exclusion, and abandonment. Women facing severe social and cultural pressure to have children, combined with maladaptive coping strategies (such as avoidant and emotion-focused approaches), a history of previous psychological crises or disorders, and family members with disorders, are at high risk of developing psychological distress, such as depression and anxiety (Akrami, 2022; Ardakhani & Seadatee Shamir, 2022; Fusco et al., 2022; Godarzi & Khojaste, 2020; Jung et al., 2021). Particularly in collectivist cultures, there is a more negative view toward women who do not have children compared to those who do, and infertile women face significant social pressure, along with considerable stress and distress, to bear children (Barbara et al., 2021).

Therefore, infertile women often encounter severe psychological challenges that can negatively affect their health. These individuals typically face intense negative emotions such as depression, anxiety, and low self-esteem, stemming from the experience of infertility and the related conflicts. Hence, employing effective strategies to manage these negative emotions and improve the psychological well-being of infertile women is of great importance. One such effective strategy is written emotional expression. This process helps infertile women express and release their emotions in writing, which can lead to a reduction in psychological stress and improvement in emotional regulation. Enhanced emotional regulation can, in turn, contribute to better mental health (Ghorchian, 2022). The benefits of this therapeutic intervention, in terms of long-term improvements in psychological, physiological, behavioral, and social functioning, have been demonstrated in individuals who express their feelings and thoughts about stressful situations through writing. Research shows that written disclosure has both intra- and interpersonal effects and is effective in both the short and long term (Kállay, 2015). Sassu et al. (2020) conducted a study to assess the impact of written emotional expression on emotional disclosure and found that it positively influences various aspects of health, education, social well-being, and emotional well-being. The positive effects of written emotional expression stem from the fact that this type of intervention is a form of writing in which individuals describe their emotions without regard to conventional writing rules. Moreover, the low cost and simplicity of this method make it a significant tool for improving mental health and emotional regulation among many vulnerable individuals (Sassu et al., 2020). Thus, written emotional expression not only helps improve the psychological condition of infertile women but also has important implications for overall health.

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In addition to written emotional expression, another strategy that can help infertile women is rational emotive behavior therapy (REBT). This approach assists infertile women in identifying and modifying negative thoughts and beliefs about themselves and their infertility. By addressing these negative thoughts, negative emotions are reduced, which in turn improves their mental health. Improved mental health can also enhance the physical health of infertile women. Thus, REBT can effectively improve the psychological condition and health of infertile women (Artiran & DiGiuseppe, 2022). In REBT, it is believed that individuals are naturally inclined toward both rational, healthy thinking and irrational, unhealthy thinking, and it is these irrational thoughts that are the root of emotional disturbances (Ede et al., 2022). The term "irrational" refers to beliefs that are inflexible, inconsistent with reality, and illogical, which reduce an individual's mental health and hinder their achievement of goals. Irrational thoughts are costly and harmful, leading to increased stress and physical problems (Artiran & DiGiuseppe, 2022). In this context, Davis and Turner (2020) conducted a study aimed at examining the impact of Ellis's REBT on intrinsic motivation, self-determination, quality of life, and sleep quality in four triathletes. They concluded that by reducing the athletes' irrational beliefs, their health, quality of life, sleep, self-determination, and well-being significantly improved.

In conclusion, the use of written emotional expression and REBT strategies is highly important, and there is a strong need to provide these services to infertile women. These strategies can effectively improve the psychological condition and health of this group. Therefore, research in this area will significantly contribute to expanding knowledge about infertility, both in terms of physical and psychological aspects, understanding the problems of infertile women, and recognizing the psychological constructs and factors that influence infertility and its psychological consequences. Additionally, the importance and necessity of this research lie in the fact that its results will enable therapists, counselors, physicians, and professionals dealing with infertile women to diagnose and treat the psychological factors and stressors affecting infertile women, helping to reduce these pressures and improve psychological factors. Another essential aspect of conducting this research is that its results will be highly beneficial in marital counseling, particularly in increasing infertile couples' knowledge about the psychology of infertility and enhancing their coping skills to deal with crises. The findings will also be valuable to medical, psychological, academic, and research centers in improving the physical and psychological condition of infertile couples. Therefore, the present study seeks to answer the question: Is there a difference in the effectiveness of written emotional expression and REBT on the health of infertile women?

2. Methods and Materials

2.1. Study Design and Participants

The research method of the present study was quasi-experimental, and the design used in this research was a pre-test, post-test design with a control group and follow-up. The statistical population included infertile women residing in Tehran in 2023, who had visited infertility centers in Tehran due to fertility problems and had been classified as infertile by gynecologists and obstetricians. The sampling method used in this study was convenience sampling, and then the selected individuals were randomly assigned to experimental and control groups. To determine the sample size, given the experimental nature and the necessity of implementing the intervention, 45 infertile women were selected as the sample based on inclusion and exclusion criteria and were randomly assigned to three groups: Experimental Group 1 (written emotional expression strategy), Experimental Group 2 (rational emotive behavior therapy), and Control Group 3. The selection of infertility centers was done through convenience sampling from among those centers that expressed willingness to cooperate. As a result, and to ensure the cooperation of an infertility center, after necessary negotiations, the infertility institute was chosen as the target center due to the large number of clients. The selected sample was similar in demographic characteristics such as age, gender, education, occupation, income, cause of infertility, duration of infertility, number of surgeries, time of last surgery, etc. In addition to these characteristics, individuals with a history of chronic physical or psychological illnesses or those who had received services from psychiatric or psychological centers in the past six months were excluded from the study.

Forty-five infertile women were selected based on inclusion and exclusion criteria (inclusion criteria: married with a history of infertility and undergoing treatment for at least more than one year, aged 20-45 years living with their spouse, no known mental disorders or chronic physical illnesses, and a minimum literacy level sufficient to participate in the course. Exclusion criteria: absence from more than two sessions, severe marital problems, individuals

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with emotional, psychological, or behavioral disorders, receiving simultaneous treatments). After obtaining consent from the participants, they were randomly assigned to Experimental Group 1, Experimental Group 2, and the control group. Initially, the General Health Questionnaire was completed. In Experimental Group 1, the intervention was implemented according to the written emotional expression protocol, while in Experimental Group 2, the rational emotive behavior therapy was conducted according to the given protocol. The control group received no intervention. After the completion of the interventions and two months later, all participants in the three groups completed the questionnaire again.

2.2. Measure

2.2.1. General Health

The General Health Questionnaire is a self-report screening questionnaire developed by Goldberg in 1972. The aim of this questionnaire is not to achieve a specific diagnosis within the hierarchy of mental disorders, but rather to distinguish between mental illness and health, and it is designed for the general population. The questionnaire contains four subscales: somatic symptoms, anxiety and insomnia, social dysfunction, and depression. Each of these four subscales contains seven questions. Questions 1-7 pertain to somatic symptoms and general health, questions 8-14 pertain to anxiety, questions 15-21 pertain to social dysfunction, and questions 22-28 pertain to depression. The average time to complete the questionnaire is approximately 10 to 12 minutes. The scoring method for the General Health Questionnaire is that responses range from zero to three, with scores of zero, one, two, and three assigned to the respective options. Consequently, each participant's score in each subscale ranges from 0 to 21, and the total score for the entire questionnaire ranges from 0 to 84. Each participant's score in each subscale is calculated separately, and then the scores of the four subscales are summed to obtain the total score. A lower score indicates better mental health. By 1988, more than 70% of studies on the validity of the GHQ had been conducted worldwide. In order to estimate the reliability of the General Health Questionnaire, meta-analyses of these studies showed that the average sensitivity of the GHQ-28 was 84% (ranging from 77% to 89%) and the average specificity was 82% (ranging from 78% to 85%) (Mahdian et al., 2021; Qudsi & Asadzadeh, 2017). To evaluate the reliability of the General Health Questionnaire, Goldberg (1979) reported that internal consistency, measured by Cronbach's alpha, for the entire questionnaire was 95%. Internal consistency using Cronbach's alpha was reported as 93%. In this study, the internal consistency based on Cronbach's alpha was 0.805, indicating acceptable reliability for this questionnaire.

2.3. Interventions

2.3.1. Written Emotional Expression Strategy

The written emotional disclosure program was introduced by Pennebaker (2005). Based on this protocol, participants were asked to engage in self-guided emotional disclosure of unpleasant memories twice a week at a specific hour, for 15 to 30 minutes, over the course of one month, at home in a quiet room. Task forms and reminder sheets for emotional disclosure were provided to each participant in the experimental group. It should be noted that in this study, no feedback was provided to the participants as much as possible, and the researcher maintained contact with the participants via weekly phone calls and face-to-face meetings to monitor their progress and review their tasks (Ghorchian, 2022; Kállay, 2015; Sassu et al., 2020).

Session 1: In this session, the participant is asked to write about their traumatic experiences and painful secrets. The most important rule is to express their deepest thoughts and feelings about those painful secrets and traumatic experiences, and the discomfort they have experienced as a result. The participant is encouraged to use the first-person perspective, such as "I am very upset that...". They are also reminded to disregard grammar rules in their writing.

Session 2: The participant is asked to write about their traumatic experiences and painful secrets using structured language, including a high number of negative emotional words (such as guilt, sadness, and hatred), a few positive emotional words (such as joy, goodness, and love), a frequent use of causal words (such as because, due to, and reasoning), and a high usage of insight words (such as understanding, realizing, and knowing). This session follows a linguistically guided framework.

Session 3: The participant is instructed to continue writing about the same traumatic and painful experiences they discussed in the first session, following the same theme.

Session 4: The participant is asked to avoid using the first-person perspective in their writing and instead use third-person pronouns for all their sentences. For example, "Why did he/she do this?". The third-person "he/she" can refer either to the participant themselves or to someone from

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whom the participant has experienced harm (third-person perspective).

Session 5: The participant is asked to continue writing about the same traumatic and painful experiences discussed in the second session, following the same theme.

Session 6: The participant is instructed to continue writing about the same traumatic and painful experiences they wrote about in the third session, maintaining the same theme.

Session 7: The participant continues writing about the same traumatic and painful experiences they discussed in the fourth session, following the same theme.

Session 8: In this final session, a summary of the sessions is provided, and the post-test is administered

2.3.2. Rational Emotive Behavior Therapy (REBT)

The rational emotive behavior therapy program, based on Ellis's (1999) teachings, was designed for the study. The protocol involved eight 60-minute group sessions held twice a week in the mornings at the clinic (Artiran & DiGiuseppe, 2022; Davis & Turner, 2020; Ede et al., 2022).

Session 1: Introduction of the participants and a brief explanation of the REBT approach, focusing on the belief of demand thinking, "must" statements, and teaching how to replace demands with preferences. The session includes setting anti-must goals.

Session 2: Teaching the concepts of rationality and irrationality in REBT and guiding participants on how to transform irrational statements into rational ones.

Session 3: Explaining the difference between healthy and unhealthy emotions, introducing secondary emotions, and emphasizing that “I am responsible for all my emotions.”

Session 4: A brief explanation of the ABC model in REBT, with a detailed focus on identifying Activating Events (A). Participants are encouraged to describe activating events from their personal experiences.

Session 5: Explaining the emotional and behavioral consequences (C) and the beliefs (B) that cause them. The session includes teaching four core irrational beliefs and cognitive distortions, as well as examining irrational beliefs.

Session 6: Teaching participants how to challenge irrational beliefs logically, empirically, practically, and philosophically. The session focuses on creating new rational philosophies and internalizing these philosophies through self-talk.

Session 7: A comprehensive teaching of the ABC model, identifying activating events, consequences, and beliefs, along with assertive disputing of irrational beliefs and generating effective new philosophies. Participants review emotions arising from this process.

Session 8: Introducing the Shame-Attacking Exercise to facilitate positive cognitive changes. The session also includes practicing positive self-talk and conducting group exercises like “Dear Wise Dr. Lesson.”

Session 9: Assessing participants' overall self-rating and identifying moments of self-deprecation. The session includes teaching self-acceptance strategies.

Session 10: Teaching acceptance of others and life, developing social interest, and learning to accept ambiguity and uncertainty, as well as accepting life’s realities.

Session 11: Introducing calculated risk-taking and procrastination elimination, along with behavior shaping using reinforcement techniques.

Session 12: Fostering a sense of humor, encouraging engagement with attractive and captivating hobbies, and promoting flexible scientific thinking.

2.4. Data Analysis

For data analysis, SPSS version 24 software and descriptive and inferential statistics (repeated measures ANOVA) were used.

3. Findings and Results

In this section, a statistical description of the research variables is initially provided, followed by an examination of potential differences between the groups in the variables at different assessment stages (Table 1).

Table 1

Mean and Standard Deviation of Health by Assessment Stage in the Groups

Group	Variable	Statistic	Pre-test	Post-test	Follow-up
Written Emotional Expression Strategy	Somatic Symptoms	Mean	19.40	16.87	15.67
		SD	4.49	4.87	5.05
Rational Emotive Behavior Therapy	Somatic Symptoms	Mean	22.33	19.07	18.27
		SD	5.98	3.77	4.77

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Control	Somatic Symptoms	Mean	20.47	19.93	21.67
		SD	5.10	7.52	7.73
Written Emotional Expression Strategy	Anxiety and Insomnia	Mean	21.07	14.87	15.87
		SD	4.99	3.44	3.44
Rational Emotive Behavior Therapy	Anxiety and Insomnia	Mean	22.13	17.60	17.40
		SD	3.04	2.44	2.35
Control	Anxiety and Insomnia	Mean	20.47	20.13	20.00
		SD	2.97	2.72	2.07
Written Emotional Expression Strategy	Social Dysfunction	Mean	21.87	14.33	14.87
		SD	4.47	4.19	5.26
Rational Emotive Behavior Therapy	Social Dysfunction	Mean	19.40	15.33	17.07
		SD	4.67	3.60	4.77
Control	Social Dysfunction	Mean	21.27	19.93	20.33
		SD	4.46	7.05	5.79
Written Emotional Expression Strategy	Depression	Mean	21.93	14.07	13.93
		SD	4.65	3.92	4.46
Rational Emotive Behavior Therapy	Depression	Mean	23.40	19.73	19.47
		SD	3.64	3.62	4.50
Control	Depression	Mean	21.53	20.47	21.40
		SD	3.89	5.26	5.30

As observed, the mean scores in the written emotional expression strategy group and the rational emotive behavior therapy group show a reduction in the post-test phase compared to the pre-test phase. According to the results in Table 1, it can be concluded that the interventions of the written emotional expression strategy and rational emotive behavior therapy reduced the health-related disturbances in infertile women.

Table 2

Mixed ANOVA for Health Component Scores with Greenhouse-Geisser Correction

Variable	Factors	SS	df	MS	F	Sig	Eta ²
Somatic Symptoms	Within-group	139.57	1.34	104.47	5.22	0.01	0.13
	Test * Group	132.30	2.67	49.51	4.48	0.02	0.12
	Between-group	280.42	2.00	140.21	4.06	0.03	0.11
Anxiety and Insomnia	Within-group	385.13	1.24	311.00	66.05	0.001	0.61
	Test * Group	163.99	2.48	66.21	14.06	0.001	0.40
	Between-group	196.50	2.00	98.25	4.07	0.02	0.16
Social Dysfunction	Within-group	466.31	1.41	330.44	24.60	0.001	0.37
	Test * Group	202.84	2.82	71.87	5.35	0.001	0.20
	Between-group	341.38	2.00	170.69	4.03	0.03	0.13
Depression	Within-group	507.75	1.81	280.22	30.93	0.001	0.42
	Test * Group	276.83	3.62	76.39	8.43	0.001	0.29
	Between-group	570.73	2.00	285.36	6.84	0.001	0.25

The results in Table 2 show that for the within-group factor, the calculated F for the stages (pre-test, post-test, and follow-up) is significant at the 0.05 level for the components of somatic symptoms, social dysfunction, depression, and anxiety and insomnia ($P < 0.05$). Therefore, there is a significant difference between the mean scores of the pre-test, post-test, and follow-up for the components of somatic symptoms, social dysfunction, depression, and anxiety and insomnia across the three stages. Bonferroni post-hoc tests were conducted to examine differences between means in the treatment stages. The results showed significant differences between the components of somatic symptoms, social dysfunction, depression, and anxiety and insomnia in the pre-test and post-test, and pre-test and follow-up ($P < 0.05$). However, no significant differences were found between the post-test and follow-up stages, indicating that the components did not change significantly between these stages ($P > 0.05$).

Regarding the interaction between stages and groups, the calculated F value for the effect of stages (pre-test, post-test, and follow-up) among the three groups—written emotional expression strategy, rational emotive behavior therapy, and control—is significant at the 0.05 level for the components of somatic symptoms, social dysfunction, depression, and

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anxiety and insomnia (P < 0.05). This indicates a significant difference in the mean scores of these components across the three groups. The calculated F value for the between-group factor was also significant at the 0.05 level for the components of somatic symptoms, social dysfunction, depression, and anxiety and insomnia (P < 0.05), indicating a significant difference in the overall mean scores across the three groups. Bonferroni post-hoc tests were conducted to examine pairwise group differences, as shown in Table 3.

Table 3

Bonferroni Post-Hoc Test Results for Pairwise Comparisons of Mean Scores in the Three Groups

Variable	Group Comparisons	Mean Difference	Standard Error	Sig
Somatic Symptoms	Written Emotional Expression - REBT	-1.20	2.05	0.87
	Written Emotional Expression - Control	-3.07	2.05	0.02
	REBT - Control	-2.87	2.05	0.04
Anxiety and Insomnia	Written Emotional Expression - REBT	-2.73	1.06	0.03
	Written Emotional Expression - Control	-5.27	1.06	0.001
	REBT - Control	-2.53	1.06	0.04
Social Dysfunction	Written Emotional Expression - REBT	-5.60	1.89	0.02
	Written Emotional Expression - Control	1.00	1.89	0.99
	REBT - Control	-4.60	1.89	0.01
Depression	Written Emotional Expression - REBT	-5.67	1.58	0.001
	Written Emotional Expression - Control	-6.40	1.58	0.001
	REBT - Control	-4.73	1.58	0.01

From the results in Table 3, it can be concluded that the interventions (written emotional expression strategy and rational emotive behavior therapy, compared to the control group) had a significant effect on the components of somatic symptoms, social dysfunction, depression, and anxiety and insomnia (P < 0.05). Additionally, the amount of change in the anxiety and insomnia and depression components was greater in the written emotional expression group compared to the rational emotive behavior therapy group (P < 0.05).

4. Discussion and Conclusion

The present study aimed to compare the effectiveness of written emotional expression and rational emotive behavior therapy (REBT) on the health of infertile women. The results showed that both interventions (written emotional expression and REBT, compared to the control group) had a significant impact on the components of somatic symptoms, social dysfunction, depression, and anxiety/insomnia. Moreover, the amount of change in the written emotional expression group was greater in the components of anxiety, insomnia, and depression compared to the REBT group. These findings are consistent with the results of meta-analyses and individual studies (Ahmadi Tohoor Soltani et al., 2010; Nourbala et al., 2011; Yazdanfar et al., 2015), indicating that writing about psychological trauma immediately increases negative emotions similar to longer sessions. The implication of this finding is that engaging in the task of writing about psychological trauma, regardless of its duration, is an important factor in increasing emotional arousal.

Additionally, the results showed that the written emotional expression intervention significantly reduced anxiety, insomnia, and depression in infertile women. One explanation for these findings is that self-disclosure is a key element in the process of psychodynamic therapy. An individual who can courageously bring what is inside them to awareness and disclose it takes an important step in self-knowledge. Self-disclosure can lead to relief from neurotic symptoms, which are unconscious in nature. If we do not disclose what we know and are aware of (in the presence of the therapist), we create a defense against intimacy. Authentic and effective self-disclosure refers to revealing the content of the unconscious, which is not easily accessible and is only available through deep therapeutic connections. What hinders the disclosure of past memories is their painful alignment with anxiety and insomnia. The therapeutic process, by creating anxiety and pressure on those aligned memories, releases them from the grip of anxiety, reducing insomnia (Ghorchian, 2022; Yazdanfar et al., 2015). Afterward, the individual can bring painful memories to consciousness without experiencing anxiety and can stop expending energy to hide them. Furthermore, the results suggest that emotional disclosure improves mental health, strengthens the immune system, and reduces physical problems. Infertile women, by comparing their lives with

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fertile women, perceive themselves as experiencing irreversible failure, leading to depression. Thus, it can be concluded that the most important factor in the severity of depression is family, which plays a fundamental role in providing the resources necessary to overcome dependency and behavioral disorders. Additionally, infertile women, when faced with situations and problems, feel abandoned and isolated, lacking the strength and energy to confront stressful events, and they tend to withdraw and seek isolation.

The results of this study demonstrated the greater effectiveness of written emotional expression. To explain this finding, it can be argued that Freud's theory in classical psychoanalysis suggests that one of the methods of reducing stress and anxiety is the emotional expression of an event through verbal explanation and description, known as emotional catharsis. Freud frequently used this method in treating patients' conflicts. Consistent with Freud's theory, it can be said that when individuals write about their emotional experiences, their stress and anxiety significantly decrease, and their mental and physical health improves. The reduction in pregnancy-related phenomena may also contribute to the disclosure process (Nourbala et al., 2011; Sassu et al., 2020). This means that facing traumatic experiences helps individuals review life events, understand them better, and find new meaning in them. It is believed that just as repressed thoughts, emotions, or behaviors associated with an emotional outburst are stressful, writing and talking about experiences also reduce stress.

The results of this study showed that these two short-term therapeutic methods share common elements, such as recounting traumatic events, emotional expression, and emotional catharsis, but they differ in their mechanisms of suppressing acute stress responses. REBT is a bilateral psychological intervention that requires a therapist, incurs costs, and takes time, whereas writing is expressive and highly executable (Davis & Turner, 2020). An individual can benefit from it without psychotherapy skills, simply by following a basic instructional guide and self-administration. Another point is that in the process of emotional catharsis through writing, individuals can express their issues without embarrassment or censorship, dedicating time and attention to it. In fact, when a person writes about an emotionally charged event, that event becomes a narrative, and unclear emotions and ideas are transformed into meaningful words and phrases, allowing the person to gain awareness and understanding of their unspoken and unconscious fears and emotions.

Finally, it is important to note that these methods should not replace counseling and psychotherapy in cases where there are severe traumatic experiences. It is also crucial not to overlook the role of resistance, defense mechanisms, and unhealthy thinking patterns in the disclosure process. However, using these methods as complementary programs alongside other care services for infertile women, depending on available resources, is recommended in educational and care programs.

One of the limitations of this study is the limited sample of infertile women, which does not provide a good and sufficient representation of the population. Therefore, generalizing the results to other populations is logical and feasible only for the intended population, and caution should be exercised when applying the findings to other levels. Another limitation of this study is the use of convenience sampling due to limited resources and the difficulty of conducting a large-scale study with random sampling, which may have introduced unintended bias in the results. Given the findings of this study on the impact of written emotional expression strategies and REBT on infertile women, it is recommended that interdisciplinary research aimed at demonstrating the effects of counseling and psychotherapy services in areas where the need and importance have been confirmed by numerous studies and researchers be encouraged and strengthened.

Authors' Contributions

All authors significantly contributed to this study.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

In this study, to observe ethical considerations, participants were informed about the goals and importance of the research before the start of the interview and participated in the research with informed consent.

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