



Comparison of the Effectiveness of Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy on Sexual Function and Quality of Life in Women with Hypothyroidism

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ABSTRACT

Objective: The present study aimed to compare the effectiveness of compassion-focused therapy and mindfulness-based cognitive therapy on sexual function and quality of life in women with hypothyroidism.

Materials and Methods: The study was a semi-experimental research with a pre-test-post-test design and a control group. The statistical population consisted of women with hypothyroidism who visited the Endocrinology Clinic of the Isfahan University of Medical Sciences in the second half of 2023. From this population, 45 participants were selected through accessible sampling and randomly assigned to the experimental group of compassion-focused therapy (15 participants), the experimental group of mindfulness-based cognitive therapy (15 participants), and the control group (15 participants). Data collection tools included the Rosen and colleagues (2000) Female Sexual Function Questionnaire and the World Health Organization (1996) Quality of Life Questionnaire. The compassion-focused therapy group received Gilbert's (2009) intervention package, while the mindfulness-based cognitive therapy group received Crane's (2009) intervention package for eight 90-minute sessions. The data were analyzed using multivariate analysis of variance (MANOVA) and the LSD post-hoc test.

Findings: The results indicated a significant difference in the effectiveness of the two therapeutic approaches on sexual function in women with hypothyroidism. According to the post-hoc test, mindfulness-based cognitive therapy had a significantly greater effect on improving sexual function than compassion-focused therapy. However, no significant difference was found between the two therapies in terms of their impact on quality of life.

Conclusion: Mindfulness-based cognitive therapy can be considered a useful therapeutic strategy for improving the psychological condition of women with hypothyroidism.

Keywords: Hypothyroidism, Sexual function, Quality of life, Compassion-focused therapy, Mindfulness-based cognitive therapy.

1. Introduction

Hypothyroidism is a condition that alters a patient's perception of their health due to the symptoms it induces. Hypothyroidism is the second most common endocrine disorder after diabetes, and even after the disease is managed, psychological effects are observed in affected individuals (Fan et al., 2024). Additionally, symptoms such as depression, mood changes, and decreased cognitive functioning can impact the patient's daily activities and affect various aspects of the individual's life (Danicic et al., 2021). Thyroid disorders are approximately ten times more prevalent in women than in men, making women more susceptible to their own diseases. Research findings have indicated that the female hormonal environment may be a contributing factor in this regard (Dehnavi et al., 2020).

Previous studies have shown that thyroid diseases may pose a risk to the sexual health of women with hypothyroidism and, if left untreated, can lead to sexual dysfunctions such as decreased sexual desire (Dehnavi et al., 2020; Romero-Gómez et al., 2020). Sexual function is an important aspect of marital quality of life and a genuine psychophysiological experience. According to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) by the American Psychiatric Association (2022), it is defined as a four-stage response cycle comprising sexual desire, arousal, orgasm, and resolution. Sexual issues affect the body, mind, and social behaviors of individuals, and neglecting sexual instincts in humans can result in irreversible consequences, leading to impaired emotional responses related to sexual function, personality, social, emotional, and friendship functioning (Zhang, 2023). Hypothyroidism also impacts sexual relationships. An increased prevalence of sexual dysfunction has been observed in both genders as a result of this pathology, with hypothyroidism often associated with delayed ejaculation and decreased sexual desire (Peng et al., 2023). In women, hypothyroidism is related to disorders in desire, arousal, lubrication, satisfaction, and orgasm, as well as painful intercourse (Romero-Gómez et al., 2020). Hypothyroidism disrupts women's sexual function to varying degrees, with the prevalence of menstrual disorders in women with hypothyroidism estimated between 25% and 70%. Additionally, ovulation and fertility functions are reported to be affected (Wang & Wang, 2020). Roa Duenas et al. (2024) demonstrated in a study that in women with hypothyroidism, all sexual domain scores significantly improved after adjusting thyroid-stimulating hormone and

thyroid hormone levels, and many of their sexual problems were resolved, although they continued to experience sleep disturbances (Roa Dueñas et al., 2024).

According to a study by Osnaya-Brizola et al. (2024), hypothyroidism is accompanied by symptoms such as fatigue, muscle pain, cognitive dysfunction, etc., which may disrupt the quality of life of affected individuals (Osnaya-Brizuela et al., 2024). In recent years, the concept of quality of life has been emphasized as an important indicator for assessing individual health, making judgments about the overall health of society, and identifying key problems in various aspects of individuals' lives in mental health research (Mbuyi et al., 2024). The World Health Organization (2020) defines quality of life as a concept encompassing physical health, psychological status, social relationships, and environmental conditions. It describes quality of life as a subjective concept of feeling well and being satisfied with life experiences, encompassing both positive and negative aspects of life and reflecting the way an individual perceives and reacts to their health status and other life aspects (World Health Organization, 2020).

The issue of quality of life impairment in patients with hypothyroidism is also related to limitations in daily activities and diminished occupational performance, as hypothyroidism is a predictor of long-term absenteeism, disability, and income loss (Molewijk et al., 2024). Additionally, patients with hypothyroidism are exposed to significant stress, and a low perception of quality of life can negatively impact disease management, diet, and lifestyle, leading to numerous immune system disorders and exacerbating the disease (Mitchell et al., 2020).

Given the aforementioned points, patients with hypothyroidism face numerous physical and psychological challenges and require psychological interventions. Mindfulness-Based Cognitive Therapy and Compassion-Focused Therapy are two therapeutic approaches utilized in the present study. Mindfulness-Based Cognitive Therapy is generally based on the cognitive vulnerability model for clients with physical or mental issues to better cope with them and learn healthier and more effective methods for problem-solving. Through mindfulness exercises and techniques, such as body scans, simple yoga exercises, and prolonged periods of sitting meditation, patients are taught to become aware of the rapidity and nature of their thoughts, their cognitive patterns, emotions, and physical sensations, including intense physical feelings and emotional discomfort, and to achieve a non-judgmental state (Barooti et al., 2024). Mindfulness-Based Cognitive Therapy

increasingly enables individuals to recognize and interrupt automatic maladaptive cognitive processes and redirect their focus from rumination and inefficient processes to other aspects of the present moment, such as breathing, mindful walking, or environmental sounds, thereby reducing rumination (Baguadi, Patli, & Disa, 2024).

Another psychological treatment is Compassion-Focused Therapy, which has attracted the attention of modern therapists for specific illnesses. Compassion-Focused Therapy, based on transformative psychology, neuropsychological science, Buddhist scientific philosophy, and evolutionary theory, was introduced by Gilbert (2015) as a type of third-generation therapy. The main element of Compassion-Focused Therapy is kindness combined with a deep awareness of one's own suffering and that of other beings, along with the desire and effort to alleviate it (Gilbert, 2015). Compassion is a crucial construct in moderating individuals' responses to distressing situations, including failure, rejection, shame, guilt, inadequacy, and other negative events (Petrochi, Otaviani, Jili, Matous, Baldi, et al., 2024). Compassion helps patients with chronic conditions accept their situation and associated limitations instead of feeling guilty or self-blaming. Overall, compassion assists patients with chronic and autoimmune diseases in better coping with their illnesses (Austin et al., 2021). Therefore, employing Compassion-Focused Therapy, which helps patients reduce their mental distress by decreasing self-blame, can be justified. Recent studies have confirmed the effectiveness of this therapy in reducing negative psychological symptoms in various populations (Babos et al., 2024).

Since the effectiveness of therapeutic interventions can be influenced by the integration of their key concepts and methods, comparing the effectiveness of the two intervention methods and examining the existing differences between these two approaches clarifies the impact of interventions on improving the physical and psychological symptoms of patients with hypothyroidism to utilize better interventions. Additionally, a review of the research background ensured that, to date, no study has compared the effectiveness of Compassion-Focused Therapy with Mindfulness-Based Cognitive Therapy on the psychological outcomes in individuals with hypothyroidism, highlighting a research gap in this area. On the other hand, given the importance of addressing the mental health problems of individuals with hypothyroidism more quickly, efficiently, and cost-effectively to minimize their distress, identifying the best and most effective psychological treatment to

enhance the physical and psychological health of these patients appears to significantly contribute to improving their performance. By identifying and implementing a better therapeutic intervention for these patients, it can play an effective role in reducing the psychological complications arising from this disease. Therefore, considering the aforementioned points, it is expected that comparing the effectiveness of the two introduced interventions in reducing the problems of individuals with hypothyroidism will provide a clearer perspective on the impact of these interventions. Thus, the main objective of this study was to answer the following question: Is there a difference in the effectiveness of Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy on sexual function and quality of life in women with hypothyroidism?

2. Methods and Materials

2.1. Study design and Participant

The present study was a semi-experimental investigation with a pretest-posttest design involving two experimental groups and one control group. The statistical population comprised women with hypothyroidism who attended the Endocrinology Clinic of the Special Clinic at Isfahan University of Medical Sciences during the second half of 2023. Forty-five women with hypothyroidism were selected as the sample based on the following inclusion criteria: diagnosis of hypothyroidism by an endocrinologist or through a blood TSH test (\leq ng/ml00/10), full consent to participate in the study, and a minimum educational level of a diploma. These participants were selected using accessible sampling and were randomly assigned to the compassion-focused therapy experimental group (15 participants), the mindfulness-based cognitive therapy experimental group (15 participants), and the control group (15 participants). However, during the treatment sessions, two participants from the mindfulness-based therapy group, two from the compassion-focused therapy group, and three from the control group withdrew from the study.

After obtaining the necessary approvals from the administrators of the Endocrinology Clinic at the Special Clinic of Isfahan University of Medical Sciences, 45 women with hypothyroidism were selected based on the inclusion criteria through accessible sampling. These participants were randomly assigned to three groups, each consisting of 15 individuals. Subsequently, pretests (including the Female Sexual Function Questionnaire and the Quality of Life Questionnaire) were administered to all three groups.

Following the pretests, the first experimental group underwent eight 90-minute sessions of compassion-focused therapy over two months, while the second experimental group participated in eight 90-minute sessions of mindfulness-based cognitive therapy over the same period. After the completion of the treatment sessions, posttests (including the Female Sexual Function Questionnaire and the Quality of Life Questionnaire) were administered to all three groups.

2.2. Measures

2.2.1. Sexual Function

This questionnaire was developed by Rosen et al. (2000). It consists of 19 questions and includes six components: sexual desire (2 items), arousal (4 items), lubrication (4 items), orgasm (3 items), sexual satisfaction (3 items), and sexual pain (3 items). The questions utilize a Likert scale ranging from 1 to 5, where higher scores indicate better sexual function. Rosen et al. (2000) reported a convergent validity coefficient of 0.66 with the Hatzinger Sexual Satisfaction Questionnaire (1994) and a reliability coefficient of 0.86 (Moghtaderi Esfahani et al., 2024). In the present study, the reliability of the questionnaire was calculated using Cronbach's alpha, yielding a coefficient of 0.87.

2.2.2. Quality of Life

This questionnaire was developed by the World Health Organization (1996) and consists of 24 questions. It measures quality of life in four domains: physical health (questions 15, 14, 13, 9, 8, 2, 1), psychological health (questions 24, 19, 17, 16, 6, 4), social relationships (questions 21, 20, 18), and environmental health (questions 23, 22, 12, 11, 10, 7, 5, 3). Each item is rated on a five-point scale: very poor (1), poor (2), average (3), good (4), and very good (5). The total score ranges from 24 to 120, with higher scores indicating better quality of life. The World Health Organization (1996) reported a concurrent validity coefficient of 0.54 and a reliability coefficient of 0.83 (Karbasi et al., 2024). In the present study, the reliability of the questionnaire was calculated using Cronbach's alpha, resulting in a coefficient of 0.81.

2.3. Interventions

2.3.1. Mindfulness-Based Cognitive Therapy (MBCT)

Mindfulness-Based Cognitive Therapy (MBCT) is a structured, evidence-based intervention that combines cognitive behavioral techniques with mindfulness strategies to help individuals become more aware of their thoughts and feelings in the present moment. The protocol developed by Crane (2009) consists of eight weekly sessions, each lasting 90 minutes, designed to enhance participants' mindfulness skills and cognitive restructuring to improve their psychological well-being (Akbarpoor et al., 2021; Bagewadi et al., 2024; Jovaišaitė, 2024).

Session 1: Group Formation and Introduction

The first session focused on forming the group, establishing essential principles, and discussing confidentiality agreements. Participants introduced themselves and shared their expectations for the course. The discussion included the impact of hypothyroidism on their lives. Practical exercises included mindful eating, specifically consuming raisins with full awareness, and a body scan to increase physical awareness.

Session 2: Exploring Thoughts and Emotions

In the second session, participants engaged in exercises aimed at recognizing and experiencing their thoughts and emotions. The session included another body scan and a mindfulness practice centered on the flow of breathing to enhance present-moment awareness.

Session 3: Identifying Pleasant and Unpleasant Experiences

The third session involved identifying and recording both pleasant and unpleasant experiences. Mindful movement exercises, breathing and stretching techniques, and a three-minute breathing space were practiced to cultivate awareness and acceptance of various experiences.

Session 4: Understanding Unpleasant Experiences

Participants in the fourth session identified unpleasant experiences and explored different dimensions of anger and stress, as well as cognitive flexibility. Mindfulness exercises included five minutes of mindful listening or seeing, seated meditation, a three-minute breathing space, and mindful walking to foster cognitive adaptability and emotional regulation.

Session 5: Breaking Habitual Patterns and Responding Mindfully

The fifth session focused on disrupting habitual patterns of reaction and practicing mindfulness techniques to respond to present experiences. Exercises included seated

meditation, awareness of breathing and the body, understanding how to respond to thoughts, emotions, and physical sensations, and a three-minute breathing space to reinforce mindful responses.

Session 6: Cultivating Positive Thoughts and Alternative Perspectives

In the sixth session, participants practiced generating positive thoughts and alternative viewpoints. The session covered relapse prevention strategies and coping mechanisms. Mindfulness practices included seated meditation, awareness of breathing and the body, and a three-minute breathing space to maintain mindfulness and resilience.

Session 7: Daily Activities and Recognizing Relapse Signs

The seventh session involved creating a list of daily activities and identifying pleasant and unpleasant aspects of these activities. Discussions centered on recognizing relapse signs and developing coping strategies. Mindfulness exercises included seated meditation, awareness of breathing, body, sounds, emotions, and thoughts, a three-minute breathing space, and addressing challenges encountered during exercises.

Session 8: Developing a Continued Practice Plan

The final session focused on establishing a sustainable monthly plan for home practice. Participants were encouraged to review and integrate the mindfulness techniques learned throughout the course to ensure ongoing practice and long-term benefits.

2.3.2. *Compassion-Focused Therapy (CFT)*

Compassion-Focused Therapy (CFT) is an integrative therapeutic approach that emphasizes the cultivation of self-compassion and compassion towards others to alleviate emotional distress. Based on Gilbert's (2009) protocol, the CFT intervention comprises eight sessions, each lasting 90 minutes, aimed at enhancing participants' ability to respond to their own suffering and that of others with kindness and understanding (Akbarpoor et al., 2021; Mousavi et al., 2022; Petrocchi et al., 2024; Wu, 2021).

Session 1: Introduction and Group Orientation

The first session involved introducing the group members to each other and, if applicable, the therapist. The purpose of forming the group and the significance of the issues to be addressed were articulated. The session included defining the role of positive psychological factors in illness and the psychological symptoms experienced by individuals.

Participants were introduced to Compassion-Focused Therapy and contemporary psychological approaches in treatment. The session concluded with establishing the overall structure of the sessions and familiarizing participants with the concepts of compassion and self-compassion.

Session 2: Revisiting Previous Content and Goal Setting

In the second session, participants reviewed the previous session's content and were taught strategies for shifting goals and criteria using insight and awareness techniques. The session included training on changing priorities and identifying important areas through gaining insight, followed by feedback from participants.

Session 3: Core Principles of Compassion

The third session revisited previous material and focused on teaching essential principles of compassion, including lifestyle principles, seeking calmness, avoiding avoidance, and engaging in meaningful relationships. Participants received feedback on their understanding and application of these principles.

Session 4: Enhancing Optimism and Social Connections

The fourth session built on the previous discussions by teaching key principles of optimism, intimacy with friends, choosing solitude, and techniques for calming breathing and achieving comfort. Participants learned about forgiveness, letting go, delaying gratification, acceptance, and forgetting, followed by feedback.

Session 5: Compassionate Letter Writing and Empathy Techniques

In the fifth session, participants reviewed earlier content and were trained in compassionate letter writing. The session included teaching empathy-based techniques and developing effective empathetic relationships, with opportunities for participants to receive feedback on their practice.

Session 6: Reducing Fear and Managing Psychological Distress

The sixth session focused on reviewing previous content and introducing techniques to reduce fear and confront vague psychological fears. Participants were provided with strategies for respiratory relaxation, effective social support, and received necessary feedback to reinforce their coping mechanisms.

Session 7: Mindful Breathing and Self-Affirmation

The seventh session involved reviewing prior sessions and teaching breath-counting meditation. Participants learned to address self-criticism, confront internal needs, practice self-compassion, and develop forgiveness towards

themselves. Feedback was provided to support their practice and understanding.

Session 8: Consolidation and Continued Practice

The final session focused on reviewing and concluding the Compassion-Focused Therapy techniques. Participants were provided with a summary of impactful strategies and techniques, ensuring they could continue practicing self-compassion and applying the learned strategies beyond the therapy sessions.

2.4. Data Analysis

To analyze the inferential statistics, the Multivariate Analysis of Variance (MANOVA) method was employed via SPSS-26.

Table 1

Mean and Standard Deviation of Pre-test and Post-test Scores of Sexual Function and Quality of Life in Women with Hypothyroidism, by Experimental Groups and Control Group

Dependent Variable	Group	Pre-test Mean	Pre-test SD	Post-test Mean	Post-test SD
Sexual Function	Mindfulness-Based Cognitive Therapy	80.41	55.5	20.57	26.9
	Compassion-Focused Therapy	26.41	2.6	60.50	93.7
	Control	93.40	43.8	40.00	59.7
Quality of Life	Mindfulness-Based Cognitive Therapy	46.60	49.14	73.02	16.00
	Compassion-Focused Therapy	60.59	67.14	72.82	15.00
	Control	33.59	70.12	6.60	68.14

Before presenting the results of the Analysis of Covariance (ANCOVA), the assumptions of the parametric tests were evaluated. Accordingly, the results of the Shapiro-Wilk test indicated that the assumption of normal distribution of the sample data in the variables of sexual function and quality of life in the experimental and control groups was met in both the pre-test and post-test stages ($p > 0.05$). Additionally, the assumption of homogeneity of

3. Findings and Results

As shown in Table 1, the mean scores of sexual function and quality of life in the two experimental groups (Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy) and the control group were approximately equal in the pre-test. However, in the post-test, the mean scores of sexual function and quality of life among women in the two experimental groups were higher than the mean scores of the control group.

variances was assessed using M Box and Levene's test, and the results were not significant, indicating that the assumption of homogeneity of variances in the two variables of sexual function and quality of life was satisfied ($p > 0.05$). Furthermore, the linear relationship of the dependent variables for the within-group interaction effects (Wilks' Lambda) also showed a significant difference.

Table 2

Results of Multivariate Analysis of Variance Comparing Compassion-Focused Therapy with Mindfulness-Based Cognitive Therapy on Sexual Function and Quality of Life in Patients with Hypothyroidism

Variable	Sources of Variance	Sum of Squares	Degrees of Freedom	Mean Square	F Value	Significance Level	Effect Size
Sexual Function (Post-test)	Group	70.326	1	70.326	38.4	0.04	13.0
Quality of Life (Post-test)	Group	50.7	1	50.7	3.0	0.86	0.001

The results in Table 2 indicate that the observed F-value shows a significant difference between the post-test mean scores of sexual function in patients with hypothyroidism

and the post-test mean scores of the control group, whereas there is no significant difference between the post-test mean scores of quality of life.

Therefore, it can be concluded that there is a significant difference in the effectiveness of Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy on sexual function in patients with hypothyroidism, and the effectiveness of the two methods on the aforementioned variable is not identical. Based on the effect size, 13.0% of the post-test scores of sexual function were due to changes

arising from the differences between the two intervention methods. Therefore, the main hypothesis for the two variables of sexual function and quality of life is partially confirmed. The results of the LSD post-hoc test in Table 3 demonstrate the comparison of the two intervention methods on the dependent variables.

Table 3

Results of the LSD Post-hoc Test Comparing the Means of Compassion-Focused Therapy with Mindfulness-Based Cognitive Therapy on Sexual Function and Quality of Life in Patients with Hypothyroidism

Variable	Groups	Mean Difference	Significance Level
Sexual Function	Mindfulness-Based Therapy – Compassion-Focused Therapy	60.6	0.04
Quality of Life	Mindfulness-Based Therapy – Compassion-Focused Therapy	0.20	0.86

According to the obtained results, the LSD post-hoc test indicated that the effectiveness of Mindfulness-Based Cognitive Therapy on improving sexual function was significantly greater than that of Compassion-Focused Therapy ($p = 0.04$). However, there was no significant difference between the two intervention methods in terms of quality of life ($p = 0.86$).

4. Discussion and Conclusion

The findings comparing the effectiveness of Compassion-Focused Therapy with Mindfulness-Based Cognitive Therapy on sexual function and quality of life in patients with hypothyroidism demonstrated a significant difference between the post-test mean scores of sexual function in patients with hypothyroidism and the post-test mean scores of the control group. However, there was no significant difference between the post-test mean scores of quality of life. Therefore, it can be concluded that there is a significant difference in the effectiveness of Compassion-Focused Therapy and Mindfulness-Based Cognitive Therapy on sexual function in patients with hypothyroidism, with Mindfulness-Based Cognitive Therapy having a greater impact on the aforementioned variables than Compassion-Focused Therapy.

A review of previous research on the superiority of Mindfulness-Based Cognitive Therapy over Compassion-Focused Therapy on the studied variables in the prior studies (Akbarpoor et al., 2021; Mousavi et al., 2022; Petrocchi et al., 2024; Wu, 2021) reported results consistent with the present study, indicating the greater effectiveness of Mindfulness-Based Cognitive Therapy compared to Compassion-Focused Therapy on the variable of sexual

function. However, it can be inferred that the reason for the greater effectiveness of Mindfulness-Based Cognitive Therapy is likely due to the imagery visualization technique, which is a component of Mindfulness-Based Cognitive Therapy but not present in Compassion-Focused Therapy. This imagery visualization technique can create a positive perception in patients regarding sexual relationships, enabling them to approach the process of sexual relationships with a better mindset and experience a more peaceful life (Akbarpoor et al., 2021). This is because sexual dysfunction due to negative and intense energy can create significant tensions in other aspects of life and disrupt the individual's physical and psychological peace. Additionally, Mindfulness-Based Cognitive Therapy utilizes conscious constructs towards the problem and moderates emotions without judgment, increasing awareness of psychological and physical feelings and helping patients accept emotions and physical phenomena as they occur. In contrast, Compassion-Focused Therapy increases self-compassion and kindness, leading patients with hypothyroidism to accept their problems and establish a more intimate sexual relationship with their spouses despite their life challenges. Therefore, Mindfulness-Based Cognitive Therapy was more capable (compared to Compassion-Focused Therapy) in teaching patients with hypothyroidism how to satisfy emotional needs and direct information processing resources toward neutral goals (Jovaišaitė, 2024), such as breathing or momentary awareness, to improve sexual function and sleep problems. Based on this, re-engaging attention in this manner prevents the increase or persistence of problems in sexual function and sleep problems and reduces the availability of faulty processing cycles.

Other results indicated that there was no significant difference in the effectiveness of the two methods (Mindfulness-Based Cognitive Therapy and Compassion-Focused Therapy) on the quality of life in patients with hypothyroidism. This can be attributed to the fact that the construct of self-compassion can serve as a type of emotion-focused coping strategy from many perspectives. This is because mindful awareness of one's emotions, not avoiding painful and distressing feelings, and approaching them with kindness, understanding, and a sense of shared humanity is required (Wu, 2021). In reality, in this model, patients first recognize their emotional experiences using mindfulness, then develop a compassionate attitude toward their negative emotions, and learn not to avoid or suppress their painful feelings (Neff, 2023). Therefore, they can first recognize their experiences and feel compassion towards them, and then adopt a compassionate attitude towards themselves, which requires adopting a balanced psychological outlook called mindfulness (Neff, 2023; Petrocchi et al., 2024). Mindfulness is a balanced state that involves full observation and acceptance of emotional and psychological phenomena that are aroused. When patients are not aware of their painful thoughts, they do not accept their experiences as they are, and this non-acceptance may manifest as a prevention of bringing these thoughts to awareness. In this therapeutic approach, instead of focusing on changing individuals' self-evaluations, their relationship with their self-evaluations changes. In Compassion-Focused Therapy exercises, similar to Mindfulness-Based Cognitive Therapy, calmness, a peaceful and compassionate mind, and mindfulness are emphasized, which play an effective role in calming individuals' minds, reducing stress, and negative future thoughts. For this reason, in the present study, the effectiveness of the two aforementioned methods on improving the quality of life in patients with hypothyroidism yielded identical results.

5. Limitations and Suggestions

Among the limitations of the present study are the small sample size and its execution in a specific city (Isfahan). Therefore, caution must be taken in generalizing the results, and attention should be paid to similar situations and cultural differences. Additionally, due to the time constraints of the researcher, it was not possible to examine the persistence of the results in the long term (implementing a follow-up test).

Based on practical suggestions, the findings of this study can provide useful information for counselors and

therapeutic psychologists to address clients' psychological problems using the two methods of Mindfulness-Based Cognitive Therapy and Compassion-Focused Therapy. Additionally, the "greater effectiveness of Mindfulness-Based Cognitive Therapy compared to Compassion-Focused Therapy on the variable of sexual function" is recommended to therapists; for clients, it is suggested to use the imagery visualization technique based on Mindfulness-Based Cognitive Therapy to prevent the onset of psychological decline and sexual dysfunction in clients.

Authors' Contributions

This article is derived from the masters' dissertation of the first author. All authors equally 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

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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