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Comparing the Effectiveness of Emotionally Focused Therapy and Cognitive-Behavioral Therapy on Sexual Function and Health-Promoting Behaviors in Women with Polycystic Ovary Syndrome

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Abstract

Introduction: Polycystic ovary syndrome causes a decrease in sexual function and health-promoting behaviors. The present study compared the effectiveness of emotionally focused therapy and cognitive-behavioral therapy on sexual function and health-promoting behaviors in women with polycystic ovary syndrome.

Method: This semi-experimental study was carried out on women with polycystic ovary syndrome referred to the infertility clinic of Afzalipur Hospital in Kerman, in 2022. For this purpose, 45 patients were selected using convenience sampling and were then randomly placed into two experimental groups and one control group (15 people in each group). The experimental groups were subjected to the interventions of emotionally focused therapy and cognitive-behavioral therapy. The questionnaires on sexual function and promoting lifestyle were used. Data were analyzed using SPSS21 software and variance analysis.

Results: Findings revealed that the cognitive-behavioral therapy of emotionally focused therapy had significant effects on sexual function and health-promoting behaviors ($P<0.05$). The comparison of two therapies revealed that the effectiveness of cognitive-behavioral therapy on sexual function and health promoting behaviors is more than emotionally focused therapy. Moreover, there was no statistically significant difference between post-test and follow-up scores ($P>0.05$), which shows the lasting effect of the interventions on sexual function and health promoting behaviors in mothers with polycystic ovary syndrome.

Conclusion: According to the results, the use of cognitive-behavioral therapy can be more effective on sexual function and health-promoting behaviors in women with polycystic ovary syndrome.

Keywords: Emotionally Focused Therapy, Cognitive-Behavioral Therapy, Sexual Function, Health-Promoting Behaviors, Polycystic Ovary Syndrome

Introduction

Polycystic Ovary Syndrome (PCOS) is an endocrinopathy disorder, which appears in the early years of puberty with irregular menstrual cycles, ovulation, and acne [1]. This syndrome is associated with significant complications and reduced quality of life, so its early diagnosis and treatment is considered extremely important [2]. Among the complications caused by this disorder, reduction of femininity characteristics, sexual functions and Health-Promoting Behaviors (HPBs) can be mentioned [3].

The ovariansyndrome is associated with sexual dysfunction, especially if accompanied by

clear clinical and hormonal signs of hyperandrogenism [4]. Accordingly, infertility can harm people's mental health as well as their sex life [5]. Sexual function is a complex biological and psychological phenomenon that can be affected by many factors in women with PCOS [6]. Sexual function is how the body reacts at different stages of the sexual response cycle or as a result of sexual dysfunction including libido, erection, orgasm, and ejaculation [7]. In general, sexual function refers to sexual expressions and behaviors, physical intimacy and partner activities, desire and passion, attitudes and beliefs related to sex and emotional intimacy [8]. The sexual response cycle traditionally includes excitement, stability, orgasm, and withdrawal [9].

Among other variables related to PCOS, HPBs can be mentioned. HPBs are considered disease prevention and the determining factor in maintaining and improving health status. Since the health of women of reproductive age affects their long-term health and that of their family members, especially their children, it is necessary to promote their health [10]. Improving and promoting health-related behaviors plays an important role in ensuring the long-term health of women with PCOS [11]. Many women with PCOS are sedentary and represent an important at-risk population that could benefit from HPBs that target physical activity [12].

Among the treatments that seem to be effective on sexual function and HPB in women with PCOS are the treatments of emotionally focused and cognitive-behavioral. Emotionally Focused Therapy (EFT) can be defined as a therapeutic practice in which the therapist guides the client towards strategies that awareness, acceptance, expression, application, transformation of emotions and the experience of modifying emotions and feelings becomes possible with the help of a therapist. EFT is based on the premise that the most efficient way to change maladaptive emotions is not through changing the way you think or learning a new skill, but through activating more adaptive emotions [13]. Its effectiveness is increasing the awareness of emotions, expressing new emotions, coping with the difficulties of emotional regulation and appropriate emotional expression in the conditions of facing the problems of this syndrome [14] and it can probably be effective in treating the complications of the disease.

EFT is considered a fourth wave therapy and is effective in treating a wide range of mental and physical illnesses because it is a mind-body approach that includes direct interventions at the body level [15]. Patients with PCOS cannot think logically in distressed thoughts and behaviors, so it becomes difficult to identify their negative beliefs. In this way, EFT provides patients with a tool to deal with negative beliefs, with the help of which people can monitor their thoughts under control [16].

Cognitive-Behavioral Therapy (CBT) is also based on a simple and logical model of the relationship between cognition, emotions, and behavior and emphasizes three aspects of cognition: automatic thoughts, cognitive distortions and basic beliefs or schemas. CBT is based on the principle that dysfunctional automatic thoughts that are exaggerated, distorted, erroneous, or unrealistic play an important role in psychopathology [17]. In this therapy, the interpretation of the sufferers regarding the syndrome and its complications affects their emotions, thinking, and behavior to a great extent. Therefore, CBT can have a positive effect on the acceptance, change and control of the emotions and behavior of sufferers and help in reducing and improving the negative effects of the syndrome [14]. In a randomized clinical trial, Cooney et al. investigated the effect of CBT on weight loss and improving life-enhancing behaviors [3]. In the study of Correa et al. [18], the cognitive-behavioral approach in patients with PCOS caused a significant reduction in anxiety, depression, eating problems and improved general performance, and in addition, it significantly improved weight in the physical field. The results of Meston et al. [19] also showed that the better and more common method of therapy is CBT, which is effective on sexual function through cognitive reconstruction techniques and anxiety-reducing methods. Elizabeth et al. found that CBT along with behavioral sciences can be used in combination to overcome barriers to adapting to a healthy lifestyle [20]. In addition, the results of a meta-analysis study showed that CBT can help the patient's participation in lifestyle improvement through support and insistence [21]. Since PCOS is a chronic disease that requires lifestyle modification, CBT is an ideal treatment to effectively control the disease. Also considering that it is accepted that desirable behavioral changes can be made through cognitive changes. Therefore, intervention through CBT can influence behavior in addition to lifestyle modification.

The ultimate goal of CBT is to teach patients skills to improve their life quality through thought and behavioral patterns to control their perception of life events. However, the goal of EFT is to increase the ability of patients in order to improve skills to deal with acute stress and deal with unconscious beliefs through processing the damage caused by problems and illness [22]. The EFT model uses a case-specific conceptualization that assumes coping with specific stimuli rather than avoiding emotional experiences or emotional processing (as suggested in the CBT model). It is also assumed that, contrary to the main theories of CBT, change is facilitated not through emotional habituation to difficult stimuli, but through restructuring and reshaping of problematic emotional schemas through a sequence of emotional processing stages [23].

According to the background of the research, EFT and CBT approaches can predict success in the treatment of syndrome-related disorders such as PCOS and have lasting effects in their treatment. So far, no research has compared the effectiveness of EFT and CBT on sexual function and HPBs of women with PCOS. Therefore, it is necessary to conduct this research to avoid wasting time and energy. In line with the research gap, the question of the current research was: Is there a difference between the effectiveness of EFT and CBT on sexual function and HPBs of women with PCOS?

Method

The present study is a semi-experimental study with a pre-test and post-test design with a control and follow-up group. The statistical population in this clinical trial was women with PCOS who were referred to the infertility clinic of Afzalipur Hospital in Kerman in 2022. A total of 45 patients were selected using a convenience sampling method that had entry and exit criteria. The inclusion criteria were women aged 25-45, having a minimum education to be able to answer the questionnaires, completing an informed consent form stating that participation in therapy sessions is voluntary and not suffering from physical and mental diseases and substance abuse. The exclusion criteria were participating in interventional studies related to mental health at the same time, having an unexpected pregnancy and surgery, and having more than two absences in a way that prevents the person from following therapy sessions.

After the initial evaluation and the completion of the written and informed consent form, the participants answered the questionnaire of demographic characteristics including age, marriage, celibacy, and education. Then the participants were randomly divided into three groups of 15 people and matching was done based on marriage, age and education. The first group included 15 women with PCOS who received EFT during eleven sessions. The second group included 15 women with PCOS who received CBT during eighteen sessions, and the third group included 15 women with PCOS who were placed in the control group and did not receive any therapy. Also, a follow-up was done after three months.

The researcher referred to the infertility department of Afzalipur Hospital in Kerman, and selected 45 women who were suffering from PCOS in the age range of 25-45 years and were ready to cooperate. After introducing and stating the objectives and the necessity of conducting this research to comply with ethical points, the consent form for participating in the study was completed by the participants. They were allowed to withdraw from the study at any time they wished, and they were assured that all their information would be kept confidential. Then the questionnaires about women's sexual function and health-enhancing lifestyle were provided to them and collected after completion.

The tools used in this study were as follows:

Female Sexual Function Index (FSFI): The FSFI questionnaire was designed and validated by Rosen et al., 1997 [24]. This questionnaire measures sexual function in six areas, including sexual desire, arousal, slipperiness, pain, orgasm, and sexual satisfaction. The FSFI consists of 19 options based on a 5-point Likert scale, and the questions cover five domains of sexual functioning. A higher score indicates better sexual function, and the maximum acceptable score is 75, which indicates the best sexual status in various areas. The face validity of the questionnaire was investigated by Rosen et al. and Cronbach's alpha of the whole questionnaire was reported as 0.87 [24]. In Iran, in the research of Mohammadi et al. [25], the reliability of the questionnaire was calculated using Cronbach's alpha method of 0.82. Cronbach's alpha coefficient in this study was also 0.81.

Walker Health Promoting Lifestyle Questionnaire-HPLP: The HPLP questionnaire contains 52 questions and measures people's HPBs in six components including nutrition, exercise, responsibility for health, stress management, interpersonal support, and self-actualization. This questionnaire is scored based on a 4-point Likert scale from 1 never to 4 always. By calculating the average of the person's answers to all questions, a score for the overall health-promoting lifestyle is obtained. The range of the overall score for the health-promoting lifestyle is from 52 to 208. The closer the overall health-promoting style score is to 208, the better the health-promoting lifestyle. Generally, a score greater than 130 is more than average and less than 130 is less than average. Walker et al. estimated the reliability of this questionnaire at 94% [26]. The HPLP questionnaire in Iran has been approved by Mohammadi Zaidi et al. and its reliability for the areas of spiritual growth is 64%, acceptance of responsibility for one's health is 86%, interpersonal relationships is 75%, stress management is 91%, physical activity is 79%, nutrition Is 81% and for the whole questionnaire was reported as 82% [27]. In this research, Cronbach's alpha coefficient for nutrition (0.74), exercise (0.83), responsibility for health (0.76), stress management (0.83), interpersonal support (0.75) and self-actualization (0.73) were reported. Meanwhile, Cronbach's alpha coefficient of the whole questionnaire was reported as 0.79.

EFT and CBT for women with PCOS were performed based on the protocols of Johnson's emotionally focused [28] and Leahy's cognitive-behavioral [29], respectively. The EFT intervention was 11 sessions (each session in one week and for two hours), the CBT intervention was 18 sessions (each session in one week and for two hours), all of which were carried out in the infertility clinic of Afzalipur Hospital in Kerman. After the completion of the psychotherapy sessions, to follow up on the results of the treatment and the reliability of these two treatment methods as much as possible, after two months, two reminder sessions were held and the results of the treatments and their reliability were checked. The validity of the content of the therapy protocols was confirmed by 10 experts in the field of psychology. The summary of the therapy protocols is shown in Tables 1 and 2, respectively.

This research was approved by the ethics committee of the Islamic Azad University, Torbat-e Jam branch, with the ethical code IR.IAU.TJ.REC.1401.043.

The data were analyzed with the help of descriptive statistics and analysis of variance, using SPSS software version 21.

Table 1. Summary of EFT based on the Johnson Protocol [28]

Session	Content
First	Expressing the goals, creating unity, and empathetic reflection with the patient and how the therapist communicates with the patient with the syndrome. Initial interview, taking a pre-test, stating the rules and goals and the number of sessions and explaining and presenting EFT for the individual.
Second	Identifying negative interactive cycles at the same time as their emergence and describing how this cycle causes attachment insecurities to persist and create confusion for the patient.
Third	Discovering negative interactive cycles at the same time as it appears in the meeting; when a patient with a syndrome becomes isolated as a result of a complication such as obesity, infertility, and lack of physical fitness, the therapist should reflect on this behavior.
Fourth	Reframing the problem in the form of a negative cycle, underlying emotions and attachment needs, the cycle is framed as a common enemy and a source of deprivation and confusion for the patient.
Fifth	Changing and reconstructing interactive patterns. Summarizing and reviewing the task of the previous session. Increasing identity and recognition of emotions, attachment needs and unifying interactions that the patient has not yet achieved.
Sixth	Repeating the acceptance of new experiences that the patient has as a result of paying attention to his emotions when he has had exercises and experiences to improve and reduce the complications of the syndrome, as well as new answers he has given about to communicating with others.
Seventh	Making the patient express her needs and desires. She is withdrawn due to prolonged problems of withdrawal syndrome and in this case, she changes her interactive status.
Eighth	Stabilization, consolidation, and integration. Summarizing and reviewing the task of the previous meeting. Facilitating the creation of new solutions to solve old communication problems.
Ninth	Summarizing and reviewing the homework of the previous session. Because of the safe and reliable atmosphere that has been created, the person discovers new solutions to get rid of the symptoms of the syndrome.
Tenth	Here, the therapist reviewed the patient's progress and reminded them of this progress by highlighting the positive and new interactive cycle and comparing it with the previous ineffective cycle.
Eleventh	Supporting the individual's ability to continue the changes, generalizing the interventions to normal life during the recent weeks, reviewing how to continue the changes outside and at the end of the sessions and in normal life.

Table 2. Summary of CBT based on the Leahy Protocol [29]

Session	Content
First	Evaluation includes welcoming stating the purpose of treating the syndrome, reviewing the structure and rules of meetings, introducing the problems and complications caused by this syndrome, initial interview, and taking a pre-test.
Second	Familiarization with the therapy informing the patient about the diagnosis of her disease. Creating a list of therapy goals. Explaining the therapy process. Explaining to the patient how their thoughts can cause a decrease or increase in feelings.
Third	Behavioral interventions include determining and identifying behavioral goals. Providing instructions to the patient on reward-based planning and activity planning Encouraging the patient to increase self-reward-encouraging the patient to reduce passive behaviors
Fourth	Cognitive interventions include teaching the patient to make connections between automatic thoughts and feelings. Teaching the patient to categorize distorted automatic thoughts. Eliciting the patient's automatic thoughts and challenging them during the therapy session.
Fifth	Assignment: provide a worksheet for recording thoughts and feelings, classifying automatic thoughts, patient's spontaneous action to reward-based planning and activity planning, and increasing self-rewarding.
Sixth	Homework assessment, evaluation of depression and anxiety and problems caused by the syndrome.
Seventh	Teaching and practicing self-expression skills. Encouraging the patient to increase rewarding behavior toward others. Encouraging the patient to increase positive social contacts.
Eighth	Identifying the desired symptoms of depression, despair, lack of decision, self-criticism, lack of energy and lack of pleasure. Teaching clients to use the worksheet to record ineffective automatic thoughts daily.
Ninth	Providing a worksheet for recording the patient's dysfunctional automatic thoughts daily. Using special cognitive techniques to challenge automatic thoughts.
Tenth	Homework assessment, evaluation of depression and anxiety and problems caused by the syndrome.
Eleventh	Continuing training and practicing problem-solving skills. Teaching the communication skills of active listening, improving communication and empathizing with the patient.
Twelfth	Identifying and challenging automatic thoughts that are persistently problematic for the patient. Identifying and challenging inconsistent assumptions and examining the patient's schemas.
Thirteenth	Giving practice to the patient to use different techniques to challenge hypotheses and schemas, self-expression, self-reward and continuing to practice communication and problem solving skills.
Fourteenth	Homework assessment, evaluation of depression and anxiety and problems caused by the syndrome.
Fifteenth	Teaching and practicing problem-solving skills. Teaching communication skills to the patient, including active listening, communication correction, and empathy.
Sixteenth	Identifying and challenging problematic automatic thoughts and assumptions. Reviewing old automatic thoughts (from previous therapy sessions) and noting if these thoughts are still felt by the patient to be evaluated.
Seventeenth	Asking the patient to continue identifying and challenging their automatic thoughts, assumptions and schemas, creating a new list of adaptive assumptions and schemas, and writing a manifesto of the patient's rights and wishes.
Eighteenth	Summarizing and providing additional explanations.

Results

The participants in the present study included 40% in the age range of 25 to 35 and 60% from 36 to 45 years old. The education of the participants was 22% under diploma, 14% diploma, 10% postgraduate, 42% bachelor and 12% higher education. In Table 3, the mean and standard deviation of sexual function and HPBs scores have been presented.

To check the normality of the variables, the Kolmogorov Smirnov test was used (Table 4), and the results showed that the assumption of normality of all the variables in the pre-test and post-test was met and the distribution of all the variables was normal ($P > 0.05$). To check the homogeneity of the variance-covariance matrices, the M-box test was used ($M=9.33$, $F=1.42$, $P < 0.05$) and Levine's test was used to check the variances in the dependent variable (Table 4). The value of F in Levin's test for the sexual function variable ($F=1.39$, $P < 0.05$) and HPBs ($F=0.3$, $P < 0.05$) were not significant. So it can be said that the error variances in the research variables in the test and control groups do not have significant differences.

The Multivariate Analysis of Variance (MANOVA) was used to evaluate the effectiveness of EFT and CBT on the studied variables. As it can be seen in Table 5, the results show that the two experimental and control groups have a significant difference in at least one of the variables.

Table 6 indicates the results of MANOVA on sexual function and HPBs. Based on the results, the effectiveness of EFT on sexual function and HPBs was significant ($P < 0.05$). According to the eta square, it can be said that this effect size is 48% in sexual function and 44% in HPBs. Also, the results showed that the effectiveness of CBT on sexual function and HPBs is significant ($P < 0.05$). It can be said that the effect size of the eta square was 53% in sexual function and 46% in HPBs. Considering the value of the effect coefficient, the comparison of the two therapy approaches shows that the effect of CBT on sexual function and HPBs is more than that of EFT. In addition, the results of Table 7 show that there is no statistically significant difference between the post-test and follow-up scores ($P > 0.05$), which shows the lasting effect of the interventions on sexual function and HPBs in mothers with PCOS.

Table 3. Mean of Sexual Function and HPBs of Studied Groups

Variable	Stage	EFT	CBT	Control
		Mean ± SD	Mean ± SD	Mean ± SD
Sexual function	Pre-test	42.26 ± 13.05	50.73 ± 8.73	53.0 ± 7.97
	Post-test	65.46 ± 9.84	66.33 ± 7.06	53.93 ± 8.02
HPBs	Pre-test	107.06 ± 21.64	131.33 ± 17.23	122.13 ± 13.43
	Post-test	141.46 ± 19.0	159.46 ± 10.75	123.86 ± 13.66

Table 4. Results of Kolmogorov-Smirnov and Levin's Tests

Variable	Stage	EFT				CBT			
		Z		F	P	Z	P	F	P
Sexual function	Pre-test	0.13	0.2	0.01	0.975	0.105	0.2	0.66	0.421
	Post-test	0.12	0.2			0.138	0.153		
HPBs	Pre-test	0.08	0.2	1.374	0.251	0.1	0.2	2.92	0.098
	Post-test	0.08	0.2			0.125	0.2		

Table 5. Results of MANOVA in the Effectiveness of EFT and CBT on Sexual Function and HPBs

Test	Value	F	df hypothesis	df error	P	Effect Size	Power
Pillai's trace	0.86	6.03	10	78	0.001	0.43	0.99
Wilks' lambda	0.29	6.48	10	76	0.001	0.45	0.99
Hotelling's effect	1.82	6.87	10	74	0.001	0.47	0.99
Roy's largest root	1.45	11.45	5	39	0.001	0.59	0.99

Table 6. Results of MANOVA on Sexual Function and HPBs

Group	Variable	SS	df	MS	F	P	Eta-squared	Power
CBT	Sexual function	1702.53	1	3830.7	32.31	0.001	0.53	0.99
	HPBs	3718.53	1	3718.53	16.32	0.001	0.46	0.97
EFT	Sexual function	1320.03	1	1320.03	26.23	0.01	0.48	0.99
	HPBs	4992.3	1	4992.3	22.24	0.04	0.44	0.99

Table 7. T-test Results to Compare Post-test and Follow-up

Group	Variable	Mean ± SD		df	t-test	P
		Post-test	Follow-up			
CBT	Sexual function	66.33 ± 7.06	65.53 ± 8.07	14	1.73	0.106
	HPBs	19.46 ± 10.75	146.4 ± 15.41	14	1.91	0.076
EFT	Sexual function	65.46 ± 9.84	67.2 ± 7.31	14	0.68	0.504
	HPBs	141.46 ± 19.01	150.76 ± 16.03	14	0.88	0.389

Discussion

The present study aimed was to compare the effect of EFT and CBT on sexual function and HPBs in women with PCOS. The results showed that the effectiveness of EFT on sexual function was significant. Also, the results showed that the effect of CBT on sexual function is more than EFT. The results of the present study are in line with the results of Cooney et al. [3], Meston et al. [19], Tian et al. [30], and Varkovitzky et al. [31]. Moreover, Kheiri et al. [32] found that CBT is beneficial in increasing the frequency of sexual intercourse. In explaining this finding, it can be said that CBT can cause self-monitoring and goal-setting in women with PCOS. CBT, in creating cognitive restructuring to challenge the negative effects of the disease, beliefs related to the body and schemas using thought records are effective in improving this disease [33]. It makes a person have proper sexual function and also increases the level of HPBs, because the main goal of this treatment is to change beliefs and behaviors that affect a person's performance [34]. The main emphasis of this approach is on the effect that cognition, emotion and behavior have on each other [35]. EFT also organizes emotion and experience through emotional plans, which are made of lived emotional experiences. In this therapeutic method, primary maladaptive emotions that are hidden by secondary emotions are identified, and by reaching these emotions, it is possible to use adaptive emotions to change maladaptive emotional plans to maintain secondary symptomatic behavior [36]. Research has shown that EFT is an effective intervention method for reducing sexual dysfunction and improving body image for women [37]. Importantly, neurological studies have shown that CBT activates the brain. The functional changes in the amygdala, insula, and anterior corticolimbic circuits of the brain that control cognitive, motivational, and emotional aspects of physiology and behavior and can be effective in improving the functioning of people with chronic diseases [38]. Therefore, CBT compared to EFT can be more effective on sexual function because it can affect both the brain and behavior. Women with PCOS who are overweight and obese and have poor sexual function improved significantly after receiving CBT. This shows that it can increase the level of HPBs such as sexual function in this group of women [39]. Since in this CBT treatment model, cognition precedes emotion, it can have a greater effect on the mentioned variable, along with EFT, in which emotion precedes cognition.

In this study, the results showed that CBT and EFT are effective on HPBs. Moreover, the effect of CBT on HPBs was more than EFT. This finding confirmed the results of Humphreys et al. [40], Krueger et al. [41], and Timulak et al. [42]. Furthermore, Cooney et al. [3] compared the effects of CBT and its effect on HPBs such as weight loss, depression, and anxiety in women with PCOS, and results showed that CBT increases HPBs and reduces the symptoms of depression, and anxiety, as well as weight loss in affected women. Panidis et al. [43] showed that the treatment of PCOS improves HPBs. Consistent research can say that lifestyle modification plays an important role in the long-term health of people with PCOS. Women with PCOS should use a combination of lifestyle modification methods and HPBs, proper diet and exercise to get better results from treatments [44]. Basic ways to improve health are to use it in a healthy lifestyle and CBT is used in line with this issue. CBT can help women with PCOS to self-monitor, set realistic and attainable goals, and develop new coping skills to control or prevent the recurrence of complications. CBT can have significant effects on changing the way of thinking and dysfunctional behaviors that affect the patient's mood and behavior, resulting in sustainable improvement along with the change of negative and ineffective beliefs [33]. EFT helps patients to become aware of their feelings and rebuild abnormal cognitive-emotional schemas that are often the basis of increasing HPBs and eventually recover [45]. Therefore, it can be concluded that considering that CBT affects both cognitive and behavioral aspects, it can be effective in the direction of HPBs.

Since in the CBT model, cognition precedes emotion, it can have a greater effect on sexual function. Cognitive therapy is based on the basic assumption that people's interpretation of an event determines how they feel and behave [46]. In this plan, the patients' interpretation of the syndrome and its complications affects their feelings, thinking and behavior to a great extent. Therefore, CBT can have a positive effect on the acceptance, change and control of the emotions and behavior of sufferers and help in reducing and improving the negative effects of the syndrome, while EFT can be defined as a type of therapy based on attachment and bonding theories, the purpose of which is to help clients become more aware of their feelings and provide strategies to effectively deal with, regulate and change their feelings.

The impossibility of the participation of all women with PCOS in the research, as well as the limited sample of the current research, limited to a specific geographical region, has limited the generalizability of the research. This study was only done on women with PCOS, so one should be careful in generalizing the results obtained in similar studies on other chronic syndromes. Since this research was carried out in the city of Kerman, it is suggested to researchers to work on other communities as well. It is recommended that therapists use CBT to increase the level of sexual function and HPBs of women with PCOS. Moreover, due to the extent of physical and psychological complications of PCOS, psychological interventions based on new treatments are felt in this field, especially interventions based on experience.

Conclusion

According to the results of the research, CBT can improve the level of sexual function and HPBs in women with PCOS. Therefore, it is necessary to use this therapy to increase the level of sexual function and HPBs of women with PCOS. Also, therapists are advised to pay attention to the effectiveness of this therapy.

Conflict of interest

The authors declare that they have no conflicts of interest.

Ethical Approval

In order to comply with ethical issues, written consent was obtained from the subjects before entering the research. The subjects entered the research voluntarily and there was no compulsion in this case. The information about the subjects was kept completely confidential.

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