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The Effectiveness of Sexual Cognitive-Behavioral Therapy on Psychological Functioning and Self-Control in Married Women

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A B S T R A C T

Objective: The aim of this study was to investigate the effect of sexual cognitive-behavioral therapy on psychological functioning and self-control in married women.

Methods and Materials: The research method was a quasi-experimental design (pre-test and post-test with a control group). The statistical population included all married female students of the Islamic Azad University, Garmsar branch, in the year 2023. Considering the statistical population, 30 participants (15 in the experimental group and 15 in the control group) were selected purposefully and assigned randomly. Data collection instruments included the Depression, Anxiety, and Stress Scale (DASS), the Tangney Self-Control Scale (2004), and the sexual cognitive-behavioral therapy protocol.

Findings: The results indicated that sexual cognitive-behavioral therapy had a significant effect on psychological functioning ($P < 0.001$) and self-control ($P < 0.001$) in married women.

Conclusion: It can be concluded that sexual cognitive-behavioral therapy is effective in improving psychological functioning and self-control in women, and thus, it can be used to enhance psychological functioning and self-control in women.

Keywords: *Sexual cognitive-behavioral therapy, psychological functioning, self-control, married women.*

1. Introduction

The promotion of women's sexual health has become a growing field of research. One of the issues currently discussed in psychology and social harm is sexual functioning. Sexual functioning is a part of human life and behavior (Sadock & Sadock, 2007) and is a crucial aspect of quality of life. It is considered healthy when it is characterized by the absence of pain and discomfort during sexual activity, the absence of physiological problems, a healthy sexual response cycle in the four stages of sexual desire, arousal, orgasm, and resolution, subjective satisfaction with sexual performance, sexual behavior, and sexual awareness (Lin et al., 2020). Sexual dysfunction leads to psychological problems, one of which is impaired psychological functioning, such as depression, anxiety, and

stress (Mirzaei et al., 2016). Depression refers to a set of behaviors characterized by slowed movement and speech (Beck, 2019; Rassolnia & Nobari, 2024). Stress is a state that disrupts the normal psychological or physiological functioning of an individual. People experience stress when they perceive the demands of their environment as exceeding their coping resources (Levy, 2024; Seligman & Csikszentmihalyi, 2000). Anxiety is an emotional state characterized by feelings of tension, nervousness, worry, fear, and increased activity of the autonomic nervous system, resulting in elevated heart rate, blood pressure, and cardiac output (Levy, 2024). Anxiety is the most common psychological reaction to changes and new experiences and serves as a warning signal, much like pain, that indicates imminent danger and motivates the individual to take necessary measures to cope with or reduce its effects (Jiang, 2024).

Another issue in marital and sexual life is self-control. Self-control is one of the indicators of marital satisfaction and a dimension of family efficiency and optimal functioning. It refers to the dominance of reason, cognition, and internal planning when conflicts and tensions arise in relationships (Hofmann et al., 2013; Mirzakhanloo et al., 2024; Pan et al., 2024). Self-control can affect quality of life through the ability to avoid or eliminate unwanted thoughts, behaviors, and emotions. It is a single resource that can be applied or manifested in cognitive, emotional, or behavioral domains (Yang et al., 2017). Self-control also refers to the process by which individuals adapt their thoughts, behaviors, and emotions appropriately to align with their personal goals (Buyukcan-Tetik et al., 2018). Hofmann et al. (2013) define self-control as the ability to eliminate or alter internal responses, effectively cut off behavioral impulses, and refrain from acting on them. Self-control helps individuals cope with daily life, work, and social interactions (Hofmann et al., 2013). Research has also shown that people with high self-control are more likely to achieve positive outcomes and future goals, strive for career advancement, and are less focused on preventing negative outcomes than those with lower levels of self-control (Werner et al., 2023).

Given the significant relationship between sexual functioning problems in women and the emergence of personal, marital, and interpersonal issues, women need assistance in this area. Sexual cognitive-behavioral therapy (CBT) may be effective in achieving this goal. The term sexual cognitive-behavioral therapy emphasizes the importance of cognitive processes alongside environmental influences (Reavell et al., 2018). The sexual cognitive-behavioral therapy educational package includes: (1) understanding women's sexual disorders and the cognitive-behavioral approach, (2) defining normal sexual desires, physiological responses, and describing male and female sexual cycles, (3) teaching muscle relaxation, (4) effective communication training, (5) problem-solving skills, confidence-building, and anger management training, (6 and 7) cognitive restructuring related to sexual-psychological disorders, (8) improving sexual techniques and skills (sensate focus one), (9) improving sexual techniques and skills (sensate focus two), (10, 11, and 12) systematic desensitization for intercourse (Ali Akbari & Mohammadi, 2018).

Considering the effectiveness of sexual cognitive-behavioral therapy in sexual satisfaction, marital adjustment, sexual attraction, and the dynamics of sexual relationships, the hypothesis emerges that it may also play a role in improving sexual awareness, psychological functioning, and self-control in women with sexual functioning problems. Therefore, it is essential to investigate the effectiveness of sexual cognitive-behavioral therapy in enhancing sexual awareness, psychological functioning, and self-control in women. Sexual functioning problems have created numerous issues for these women in their marital lives, making the examination of these factors and components potentially beneficial. A review of previous studies revealed that the effectiveness of sexual cognitive-behavioral therapy on sexual awareness, psychological functioning, and self-control in married women with sexual and psychological dysfunction has not yet been tested. Thus, the present study seeks to answer the question: Does sexual cognitive-behavioral therapy affect psychological functioning and self-control in married women?

2. Methods and Materials

2.1. Study design and Participant

The research method was quasi-experimental (pre-test and post-test with a control group). The statistical population consisted of all married female students of the Islamic Azad University, Garmsar branch, in the year 2023, totaling 1,854 individuals. Considering that the minimum sample size for a quasi-experimental design is 30 participants, a purposive sampling method was used, focusing on the fields of study available at the Islamic Azad University, Garmsar. Based on the students' willingness to participate in the study, 30 individuals (15 in the experimental group and 15 in the control group) were selected purposefully and randomly

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assigned. Inclusion criteria included the absence of specific physical illnesses, willingness to participate in the study, and being married for at least six months to one year. Exclusion criteria included non-participation in other educational or counseling sessions and unwillingness to continue participating in the study.

2.2. Measures

2.2.1. Psychological Functioning

Depression, Anxiety, and Stress Scale (DASS) initially contained 46 items, later reduced to 21 items. It uses a four-point Likert scale ranging from zero to three and covers seven domains: health-care orientation, work environment, home environment, sexual relationships, family relationships, social environment, and cognitive helplessness. In the original study, Cronbach's alpha reliability for each subscale was reported as 0.47, 0.76, 0.77, 0.83, 0.62, 0.80, and 0.85, respectively. Construct validity, assessed using exploratory factor analysis with varimax rotation, indicated that these seven components collectively explained 0.63 of the total variance, with each subscale accounting for 0.18, 0.10, 0.09, 0.08, 0.07, and 0.05 of the total variance, respectively. In Iran, Babaei et al. (2015) reported a Cronbach's alpha of 0.77 for the scale (Babapouragadham, 2024).

2.2.2. Self-Control

Tangney Self-Control Scale, developed by Tangney, Baumeister, and Boone in 2004, consists of 13 items and aims to measure an individual's level of self-control. It uses a Likert-type scale ranging from "never" (1) to "very often" (5). The total score is obtained by summing all item scores, with a maximum score of 65 and a minimum of 13. A higher score indicates greater self-control. In Tangney et al.'s (2004) research, the scale's validity was confirmed through its correlations with academic achievement, adaptability, positive relationships, and interpersonal skills. Reliability was measured using Cronbach's alpha, yielding 0.83 and 0.85 in two different samples. In the Iranian context, Mousavi-Moghadam et al. (2015) reported acceptable validity and reliability for the scale (Afsharinia & Soozani, 2018).

2.3. Intervention

2.3.1. Sexual Cognitive-Behavioral Therapy

This 12-week training program consists of one-hour sessions held weekly. The sexual cognitive-behavioral therapy package for vaginismus, based on Ali Akbari's protocol (Ali Akbari & Mohammadi, 2018), includes:

Session 1: The first session introduces participants to common sexual disorders among women and provides an overview of the cognitive-behavioral approach. Participants learn about the psychological and behavioral aspects of these disorders and the principles underlying cognitive-behavioral therapy (CBT) as it applies to sexual health.

Session 2: This session focuses on defining normal sexual desires and physiological responses. It explains the sexual response cycle for both men and women, detailing the stages of desire, arousal, orgasm, and resolution. The aim is to provide participants with a clear understanding of healthy sexual functioning.

Session 3: Participants are trained in muscle relaxation techniques. This session emphasizes the importance of relaxation for reducing physical tension and anxiety, both of which can affect sexual performance. Practical exercises are provided to help participants develop and apply these relaxation skills.

Session 4: The focus of this session is on effective communication. Participants learn how to express their needs, desires, and boundaries in a healthy and constructive way. Techniques for active listening and clear, assertive communication are practiced to improve intimacy and understanding in relationships.

Session 5: This session covers problem-solving strategies, confidence building, and anger management skills. Participants learn to identify and address issues within their relationships, boost their self-esteem, and manage feelings of anger constructively. The goal is to strengthen emotional resilience and relationship satisfaction.

Sessions 6 and 7: These sessions are dedicated to cognitive restructuring in relation to sexual-psychological disorders. Participants learn to identify and challenge negative thought patterns that contribute to sexual dysfunction. Cognitive techniques are used to reshape these patterns into healthier, more adaptive ways of thinking.

Session 8: The eighth session introduces sensate focus exercises (Phase One), aimed at improving sexual techniques and skills. Participants learn to focus on non-demand, non-genital touching to reduce performance

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anxiety and enhance physical intimacy through mindful, sensory experiences.

Session 9: This session continues sensate focus exercises (Phase Two), building on the previous session by incorporating genital touching while maintaining a focus on pleasure and relaxation rather than performance. The aim is to deepen intimacy and foster a stronger physical connection between partners.

Sessions 10, 11, and 12: The final three sessions are dedicated to systematic desensitization for intercourse. Participants gradually confront anxiety-provoking situations related to sexual intimacy in a controlled and supportive manner. The goal is to reduce anxiety and increase comfort with sexual activities, using techniques learned throughout the program.

2.4. Data Analysis

Data analysis consisted of descriptive and inferential statistics. Descriptive statistics included measures of central tendency, mean, and standard deviation. For inferential statistics, given the research topic and if assumptions were met, analysis of covariance (ANCOVA) was conducted using SPSS22 software.

3. Findings and Results

The mean age of participants in the study was 38.16 ± 6.30 years. Educational attainment among participants was as follows: 36.7% had an associate degree, 40% held a bachelor's degree, and 23.3% had a postgraduate degree. This section presents the descriptive findings, including the mean and standard deviation of pre-test and post-test scores for the variables of self-control, sexual awareness, and psychological functioning in the experimental and control groups.

Table 1

Mean and Standard Deviation of Pre-Test and Post-Test Scores for Self-Control and Psychological Functioning in Experimental and Control Groups

Variable	Stage	Experimental Group M (SD)	Control Group M (SD)
Self-Control	Pre-Test	46.53 (6.63)	45.06 (4.18)
	Post-Test	51.66 (4.08)	45.93 (3.51)
Psychological Functioning	Depression		
	Pre-Test	5.93 (4.77)	7.00 (5.19)
	Post-Test	3.60 (3.33)	6.60 (4.70)
	Anxiety		
	Pre-Test	4.80 (3.87)	5.46 (3.22)
	Post-Test	3.33 (1.98)	5.33 (3.08)
	Stress		
	Pre-Test	7.73 (4.71)	7.73 (4.35)
	Post-Test	5.66 (3.15)	7.53 (4.30)

Table 1 shows that the mean scores for self-control in the experimental group increased significantly in the post-test compared to the control group. Additionally, the psychological functioning scores in the experimental group showed a significant reduction in the post-test compared to the control group. The Kolmogorov-Smirnov test results for the research variables in both pre-test and post-test for the control and experimental groups fell within the range of -1.96 to +1.96, and the test statistic was not significant, confirming the normality of the data distribution at the 95% confidence level. One of the assumptions for using ANCOVA is the homogeneity of variances, which was assessed using Levene's test. Since the test was not statistically significant at $\alpha = 0.05$, the null hypothesis of homogeneity of variances was accepted. Moreover, the results showed that Box's M test for the group variable was not significant ($F = 0.98$, Box = 6.70, $p = 0.433$), indicating that the assumption of homogeneity of the covariance matrix was met. Therefore, ANCOVA could be used to test the main research hypothesis.

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Table 2

Multivariate Analysis of Covariance Results for Psychological Functioning and Self-Control Scores

Source of Variance	Dependent Variable	Sum of Squares	Degrees of Freedom	Mean Squares	F Value	Significance Level	Eta Squared
Group	Psychological Functioning	259.30	1	259.30	22.66	0.001	0.47
	Self-Control	206.61	1	206.61	16.25	0.001	0.39

Based on the results and the F values in Table 2, there is a significant difference in the post-test mean scores for psychological functioning and self-control between the experimental and control groups. Thus, in these measures, the experimental group, which received sexual cognitive-behavioral therapy, performed significantly better in the post-test than the control group, which did not receive any intervention.

4. Discussion and Conclusion

The results indicated a significant difference between the mean post-test scores of the psychological functioning subscales between the experimental and control groups. Thus, for these subscales, there was a significant difference in the post-test stage between the experimental group, which underwent sexual cognitive-behavioral therapy, and the control group, which did not receive any intervention.

To explain these results, it can be stated that in sexual cognitive-behavioral therapy, the therapist demonstrates the irrationality of the client's reasoning and beliefs about situations, teaching them how to perform genuinely logical analysis (Ali Akbari & Mohammadi, 2018). Essentially, clients are helped to free themselves from distressing thoughts that elicit emotional responses such as fear, anxiety, or anger, and to replace these with more constructive thoughts (Khaneqahi et al., 2019; Lin et al., 2020). This therapy uses systematic cognitive restructuring, similar to systematic desensitization, to develop a hierarchy of situations the client struggles to handle, progressively moving toward more challenging scenarios. Clients imagine these distressing situations and describe how they typically cope. They then evaluate their responses logically and replace them with more appropriate cognitive responses. Once clients can handle an imagined situation, they proceed to the next item in the hierarchy. This therapeutic approach operates on the premise that cognitive change occurs as a by-product of behavioral tasks and the overall therapeutic process. It has recently been recognized that a more direct approach is necessary to restructure the maladaptive self-talk and attitudes of couples experiencing sexual problems. Given the importance of this therapy, it can be used to reduce sexual anxiety, promote relaxation, and facilitate systematic desensitization combined with assertiveness training, which are all useful in treating sexual disorders.

The results also demonstrated a significant difference between the mean post-test scores of the self-control scale between the experimental and control groups. Therefore, there was a significant difference in this scale in the post-test stage between the experimental group that received sexual cognitive-behavioral therapy and the control group that received no intervention.

To explain these findings, it can be said that one of the critical issues in marital and sexual life is self-control. Self-control can influence the quality of life through the ability to avoid or eliminate unwanted thoughts, behaviors, and emotions. It is a singular resource that can manifest or be applied in the cognitive, emotional, or behavioral response domains. Given the relationship between sexual functioning problems in women and the emergence of personal, marital, and interpersonal issues, they need support in this area. Sexual cognitive-behavioral therapy is likely effective for this purpose. Considering the proven effectiveness of sexual cognitive-behavioral therapy in sexual satisfaction, marital adjustment, sexual attraction, and the dynamics of sexual relationships, the hypothesis arises that it could also play a role in enhancing sexual awareness, psychological functioning, and self-control in women with sexual functioning problems.

Cognitive-behavioral therapies (CBTs) include strategies designed to alter the thinking, attitudes, perceptions, and behaviors of individuals with issues. CBT is a well-supported approach, both theoretically and empirically, for treating a wide range of psychological disorders. This approach combines cognitive and behavioral methods, emphasizing the identification of faulty, negative, and irrational beliefs that influence emotions and behaviors, and correcting these beliefs using cognitive and behavioral techniques. CBT can be applied in both individual and group therapy settings, yielding promising results.

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5. Limitations and Suggestions

The opportunity to conduct follow-up assessments and measure intervention stability over extended intervals was not available. Time constraints also limited the possibility of holding sessions with longer or more spaced intervals. Future research is recommended to address the following to achieve more generalizable results: To enhance the external validity of the findings, researchers interested in this field should conduct follow-up studies and assess the impact of the therapy used in this study on other samples to determine its generalizability accurately. It is also suggested to examine the effectiveness of these interventions in combination with or in comparison to other validated treatments.

Given the results showing the effectiveness of sexual cognitive-behavioral therapy on psychological functioning, researchers, clinicians, and counselors are encouraged to use this therapy to reduce anxiety, stress, and depression, particularly among employed women who face more responsibilities than homemakers and still manage marital duties. It is also recommended that this therapy be applied to couples facing specific issues to expand the evidence base on its effectiveness. Additionally, given the therapy's impact on sexual awareness, marriage counselors and specialists should consider using it with clients experiencing sexual difficulties, such as low sexual awareness, dissatisfaction, or lack of attraction. As sexual unawareness in both men and women may significantly contribute to marital issues, leveraging this therapy's benefits could greatly alleviate these problems.

Authors' Contributions

Authors contributed equally to this article.

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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