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The Effect of Assertiveness-Focused Cognitive-Behavioral Group Therapy on Women's Orgasm: A Randomized Clinical Trial

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Abstract

Objectives: Sexual dysfunction is a major health problem and orgasmic dysfunction is one of the common sexual complaints reported by women. The aim of this study was to determine the effect of sexual assertiveness-focused cognitive-behavioral group therapy (CBGT) on women's orgasm.

Methods: This randomized controlled clinical trial included 24 women with secondary anorgasmia referring to health centers in Tehran, Iran. After randomly assigning the participants to one of two groups of intervention (n=12) and control (n=12), an eight-session CBGT with the emphasis on sexual assertiveness training was administered to the intervention group. The primary outcomes were sexual assertiveness and the orgasm score of the participant. Sexual desire, sexual arousal, lubrication, sexual satisfaction, and pain were considered as secondary outcomes. Finally, the female sexual function index (FSFI) and the Hurlbert index of sexual assertiveness questionnaires were used for data gathering.

Results: After CBGT implementation, there was a significant difference between the intervention (5.33±0.62) and control (2.47±0.76) groups in the mean score of orgasm ($P<0.001$). In addition, the mean score of sexual assertiveness ($P<0.001$) and all other domains of FSFI ($P<0.001$) significantly increased after CBGT.

Conclusions: Sexual assertiveness-focused CBGT was effective in the treatment of secondary anorgasmia and increased their sexual function. To prevent marital conflicts, establishing counseling clinics in health centers can be established by authorities in order to correct ineffective sexual beliefs and self-assertiveness in the country.

Keywords: Cognitive therapy, Orgasm, Assertiveness

Introduction

Human sexuality is coordinated by the neurological, vascular, and endocrine systems and incorporates family, societal, and religious beliefs (1). A breakdown in any of these areas may result in sexual dysfunction (2). Based on the evidence, sexual dysfunction is a major health problem (3), and orgasmic dysfunction is one of the common sexual complaints reported by women (4). The overall prevalence of female sexual dysfunction and orgasmic disorder has been recently reported 43.9% and 29.2% in Iran, respectively (5). Women's orgasm obstacles are multi-dimensional (6), and experiencing feelings of inadequacy and failure in reaching orgasm strongly links to distress and negative emotions associated with sexual intercourse (7).

Sexual assertiveness, or the extent to which an individual is open about his/her own sexual preferences when communicating with his/her partner, is a key aspect of sexual satisfaction, and a partner's lack of knowledge about one's sexual preferences can lead to persistent sexual dysfunction (8,9). Sexual assertiveness may be difficult for women with traditional gender roles because they struggle to initiate desired sex (10).

Varied concealing and sexual health education methods have been used for improving women's sexual function (11-14). Nonetheless, given that the women's sexual attitude has an impressive effect on their sexual activity (15), cognitive-behavioral therapy (CBT) seems to be a promising approach that focuses on promoting changes in attitudes, sexual relationships, reducing anxiety, and increasing orgasmic ability and sexual satisfaction (16,17). In addition, the cognitive-behavioral approach emphasizing the role of cognition and thoughts in behavior can effectively contribute to improving individuals' assertiveness (18). However, few CBTs have yet been empirically investigated for the treatment of female sexual dysfunction (16).

Considering the high prevalence of sexual dysfunction, this study aimed to determine the effect of sexual assertiveness-focused cognitive-behavioral group therapy (CBGT) on women's orgasm.

Methods

Study Design and Participants

Based on the aim of this randomized controlled clinical trial study, three health centers were randomly selected

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Key Messages

- Sexual assertiveness-focused CBGT was effective in the treatment of secondary anorgasmia and increased women's sexual function.

and a convenience sample of 200 women referring to these health centers were enrolled, and then eligible participants were selected according to the inclusion criteria. Eligible women were married, aged 20-40 years, and with at least one-year experience of their marriage while not being on the verge of divorce, not pregnant, breastfeeding, or menopausal, not having any known medical conditions (e.g., pulmonary disease, cardiac disease, diabetes, and the like), and psychological disorders (including depression and anxiety). Moreover, they did not use any drugs affecting sexual activity, were not drug-addicted, were not away from their husbands for any reasons or in a polygamous marriage, and had sex during the past 4 weeks. Finally, those women who scored higher than the cut-off point on sexual desire and Lubrication and below the cut-off point on orgasm and arousal stimulation based in the Rosen's "female sexual function index" (FSFI), and scored below 50 on the "Hurlbert's index of sexual assertiveness". On the other hand, the exclusion criteria were an unwillingness to continue participation in the study for any reasons, pregnancy during the study, relocation, and the lack of completing the post-test questionnaire for any reasons.

According to the standard deviation of 1.2 and a mean difference of 1.5 found in a study by Ziaee et al (19) at a 95% confidence level with 80% power, the sample size was calculated as 12 people in each group. After collecting eligible women, participants were referred to a clinic for the treatment of sexual dysfunction. Then, each participant was clinically interviewed by a psychotherapist to identify any psychotic disorders, marital conflict, and eligibility for CBT. Finally, 24 women with secondary anorgasmia were selected and randomly assigned to control (n=12) and CBGT intervention (n=12) groups with an allocation ratio of 1:1. The block randomization method with a block size of 4 was used to randomize subjects through the Excel rand formula. Random allocation, participant enrollment, and assignment were conducted by the principal researcher (the corresponding author). Figure 1 displays the CONSORT flow diagram (20) of participant enrollments.

Intervention

The intervention consisted of eight 90-minute sessions of CBGT that were administered once a week in the intervention group by the principal researcher (a midwifery counselor trained in CBT) and under the close supervision of an experienced and accredited psychotherapist at the same clinic. Given that the subjects were selected from health care centers while not referring for the treatment of sexual dysfunction, the control group received no sexual intervention. However, if the intervention was effective, some sessions of sex education were held for the control group based on cognitive-behavioral techniques at the

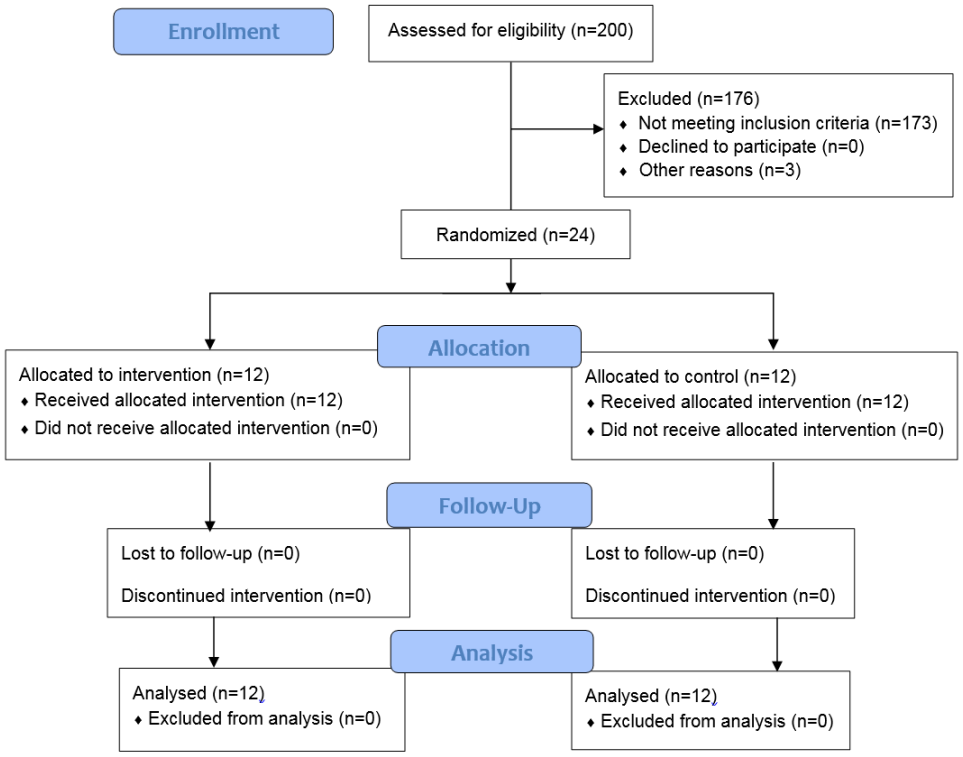

Figure 1. Consort Flow Chart of Participant Enrollments.

end of the study in order to respect ethical standards. Two weeks after the intervention, questionnaires were again completed by both groups at the same clinic. The content of therapy sessions (Table 1) was extracted from "Cognitive-Behavioral Therapy: basic principles and applications" by Leahy (21) and "human emotions and sexual responses" by Masters and Johnson (22). In the interval between meetings, participants were followed up by phone calls to do homework. This content was approved by five psychiatrists, psychologists, and counselors affiliated to Arak and Tehran University of Medical Sciences.

Outcome Measures

The FSFI (23) was used to examine orgasm. This 19-item questionnaire provides scores on six domains of sexual function, including desire (2 items), arousal (4 items), lubrication (4 items), orgasm (3 items), satisfaction (3 items), and pain (3 items). The obtained Cronbach's alpha coefficient in studies is more than 0.70, indicating that the acceptable reliability of this instrument and its strong validity have been shown across multiple studies (24). The Hurlbert index of sexual assertiveness (25) is a 25-ithem instrument that is rated on a 5-point Likert-type scale, ranging from 0 to 4. Total scores range from 0 (lower levels of sexual assertiveness) to 100 (higher levels of sexual assertiveness). Internal consistency ($\alpha = 0.86$), test-retest reliability (r=0.86), and concurrent, construct, and discriminant validity have been approved by Beck (26). In Iranian studies, its Cronbach's alpha coefficient was reported to be 0.92 (27). In our study, the primary outcomes were the sexual assertiveness and orgasm score of the participant. Other domains of FSFI including sexual desire, sexual arousal, lubrication, sexual satisfaction, and pain were considered as secondary outcomes.

Statistical Analysis

The data were analyzed using SPSS (Version 20.0, Armonk, NY: IBM Corp) through descriptive statistics (mean and standard deviation) and inferential statistics such as independent *t* test, paired sample *t* test, chi-square, and analysis of covariance (ANCOVA). A $P<0.05$ was considered statistically significant.

Table 1. The Content of Therapy Sessions

Session	Lesson
1st	• Introducing the trainer to the members and explaining the aim of therapy sessions • Making members familiar with each other and describing the goals of participation in the group • Describing the general tasks of the group members • Determining the sequence, duration, and number of sessions • Making participants familiar with the cognitive-behavioral model
2nd	• Providing a general introduction to the types of sexual dysfunction and its effects on the quality of marital life • Identifying irrational beliefs and thoughts about sex • Explaining the value and importance of the treatment • Providing sexual knowledge and information
3rd	• Assessing how to do sexual intercourse • Explaining the importance of foreplay before sexual intercourse • Recognizing individual rights to sexuality • Introducing a variety of communication styles in response to others
4th	• Cognitive restructuring and changing negative attitudes toward sexuality • Having sex dreaming and its practice with an emphasis on one's own role • Familiarizing individuals with various types of assertive behavior toward sexuality • Training self-stimulation with hand • Teaching penetration without orgasm
5th	• Having Sexual dialogue and sexual focus • Showing assertiveness to express the positive points and features of self (Positive self-talking) • Training effective communication skills • Doing self-stimulation in the presence of the husband
6th	• Familiarizing individuals with active listening skills and obtaining skills in initiating and continuing the conversation with the husband • Expressing positive and negative feelings about how to do sex with the husband in different positions • Training different positions of intercourse by showing videos
7th	• Learning to stimulate the husband and reaching orgasm in his presence • Teaching on how to use dreams, dialogues, and sexual focus and doing exercises on every other day
8th	• Having an overview of all sessions • Encouraging to continue the exercises • Explaining the likelihood of recurrence of symptoms after treatment and correct response at the time of the recurrence of symptoms • Saying farewell and determining a date for post-test

Note. Checking homework and removing uncertainties related to treatment were on the agenda of each session.

Results

The baseline characteristics of the participant are presented in Table 2. No significant difference was observed between the two groups in terms of age, husband's age, duration of the marriage, and the timing of the last childbirth, as well as qualitative variables including women's education, husband's education, marital status, and women's interest in their husbands (Table 2). The results of the Q-Q plot and the Kolmogorov-Smirnov test showed that the distribution of outcome variables is normal. Therefore, paired and independent t-tests were applied to compare scores in the two groups before and after the intervention. No significant difference was found between the two groups before the intervention in the scores of sexual disclosure, sexual desire, sexual arousal, lubrication, orgasm, sexual satisfaction, pain, and sexual function ($P>0.05$). Although the scores of all these variables significantly increased in the CBGT group after the intervention ($P<0.001$), no significant difference was observed in the control group and only the sexual satisfaction score represented a significant decrease ($P=0.02$, Table 3). To confirm the above-mentioned results and adjust the effects of pre-intervention scores, the ANCOVA was used to compare the two groups after the intervention. The results revealed significant differences ($P<0.001$) in the scores of sexual assertiveness and sexual function between the two groups after the intervention (Table 4).

Discussion

The findings of this study demonstrated that sexual assertiveness-focused cognitive behavior therapy has a significant effect on the secondary orgasmic disorder in women. Libman et al also concluded that cognitive-behavioral sex therapy is effective in changing the level of satisfaction in women with secondary orgasmic dysfunction (28). According to Brotto and Klein, the use of cognitive therapy techniques and sexual focus reduces anxiety while improving sexual function (29). These techniques help individuals focus on erotic stimuli instead of maladaptive thoughts. The results of the current study suggest that sexual assertiveness training by the cognitive-behavioral technique increases the sexual assertiveness score, and subsequently, improves sexual function in women. In fact, women's sexual assertiveness results in a greater partner understanding of sexual interests, and therefore, leading to a better balance of sexual rewards and costs and more sexual satisfaction (30). In line with our finding, Sistan and Baluchestan reported that assertiveness-based sexual counselling significantly increased all dimensions of sexual functions in married female students (31). Similar results were obtained in the study conducted by Babakhani et al among 15-45 years old married women (17). Santos-Iglesias et al revealed that women with higher sexual assertiveness had a better sexual function (32), and sexual self-disclosure had a significant relationship with sexual satisfaction for women (8), which corroborates with the findings of our study. Kelly et al also reported that women with anorgasmia are unable to express their sexual desires and preferences to their partners, which can be contributed to sexual dissatisfaction (33).

In the current study, sexual assertiveness-focused CBGT significantly increased sexual desire in the intervention group compared to the control group. Likewise, Trudel et al showed that CBT resulted in a 75% increase in sexual desire and satisfaction in women (34). In addition, the sexual arousal score significantly increased in the CBGT group in our study. However, Brotto et al found

Table 2. Comparison of Baseline Characteristics Between the Two Groups

Variables	Control	Intervention	*P* value*
Age (y)	39.17 ± 6.71	39.92 ± 7.79	0.803
Husband's age (y)	43 ± 5.76	45.83 ± 8.86	0.363
Duration of marriage (y)	17.09 ± 8.21	17.58 ± 9.05	0.889
Time elapsed since last childbirth (y)	9.58 ± 7.62	10.83 ± 7.46	0.689
Education			0.549
Diploma	9 (75%)	10 (78.3%)	
Academic	3 (25%)	2 (16.7%)	
Husband's education			0.411
Elementary	2 (16.7%)	4 (33.3)	
Diploma	4 (33.3%)	5 (41.7)	
Academic	6 (50.0%)	3 (25)	
Marital quality			0.865
Happy	6 (50%)	5 (41.7%)	
Average	4 (33.3%)	4 (33.3%)	
Boring	2 (16.7)	3 (25.0%)	
Woman's interest in the husband			0.824
Interested	10 (83.3%)	9 (75.0%)	
Indifferent	1 (8.3%)	2 (16.7%)	
Uninterested	1 98.3%)	1 (8.3%)	

Note. *Independent t test; Chi-square or Fisher's exact test. Data are presented as the mean ± standard deviation or N (%)

Table 3. Comparison of Sexual Assertiveness and Sexual Function Between the Two Groups Before and After the Intervention

Variables		Before the Intervention	After the Intervention	*P* Value*	Change Scores Before and After the Intervention
Sexual assertiveness	Control	44.58±11.58	43.67±11.30	0.23	-0.91
	Intervention	43.75±6.31	65.75±8.91	< 0.001	22
	P value**	0.83	< 0.001	-	< 0.001
Sexual desire	Control	3.80±0.78	3.65±0.80	0.6	-0.15
	Intervention	3.89±0.60	5.20±0.64	< 0.001	1.3
	P value**	0.75	< 0.001	-	< 0.001
Sexual arousal	Control	2.60±0.64	2.52±0.75	0.46	-0.07
	Intervention	2.12±0.71	4.72±0.69	< 0.001	2.6
	P value**	0.1	< 0.001	-	< 0.001
Lubrication	Control	3.58±0.46	3.51±0.65	0.61	-0.06
	Intervention	3.72±0.45	4.64±0.55	< 0.001	0.91
	P value**	0.45	< 0.001	-	< 0.001
Orgasm	Control	2.47±0.70	2.47±0.76	1	0
	Intervention	2.60±0.65	5.33±0.62	< 0.001	2.7
	P value**	0.55	< 0.001	-	< 0.001
Sexual satisfaction	Control	3.40±1.15	3.20±1.16	0.02	-0.2
	Intervention	3.43±1.14	5.53±0.58	< 0.001	2.1
	P value**	0.94	< 0.001	-	< 0.001
Pain	Control	4.93±1.14	4.95±1.13	0.34	0.01
	Intervention	4.43±0.83	5.63±0.49	< 0.001	1.2
	P-value**	0.23	0.69	-	< 0.001
Sexual function (Total score)	Control	20.78±2.88	20.39±3.37	0.12	0.39
	Intervention	20.24±1.66	31.0±2.14	< 0.001	10.76
	P value**	0.58	< 0.001	-	< 0.001

Note. Data are presented as the mean ± standard deviation. *Paired t-test; **Independent t-test.

Table 4. Analysis of Covariance Comparing the Two Groups After the Intervention by Adjusting Baseline Scores

Variables	Source	F	*P*-value	Partial Eta Squared	Observed Power
Sexual assertiveness	Before intervention	50.35	< 0.001	0.71	1.00
	Group	97.79	< 0.001	0.82	1.00
Sexual desire	Before intervention	42.20	< 0.001	0.67	1.00
	Group	69.94	< 0.001	0.77	1.00
Sexual arousal	Before intervention	15.92	0.01	0.43	0.96
	Group	109.39	< 0.001	0.84	1.00
Lubrication	Before intervention	9.76	0.05	0.32	0.85
	Group	22.99	< 0.001	0.52	0.995
Orgasm	Before intervention	8.33	0.09	0.28	0.79
	Group	125.60	< 0.001	0.86	1.00
Sexual satisfaction	Before intervention	12.86	0.02	0.380	0.93
	Group	57.91	< 0.001	0.734	1.00
Pain	Before intervention	53.35	< 0.001	0.718	1.00
	Group	27.45	< 0.001	0.567	0.999
Sexual function	Before intervention	47.16	< 0.001	0.692	1.00
	Group	286.34	< 0.001	0.932	1.00

that women in the mindfulness-based treatment group experienced higher subjective sexual arousal responses compared to the CBT group (35), which is not consistent with the result of our study. Several differences in the two studies may explain the difference in the results. Both studies differed in the studied subjects. The study of Brotto et al included women with sexual anxiety and a history of rape in childhood. These women experience higher levels of anxiety during sexual intercourse, leading to the lack of concentration, and mindfulness-based treatment, which teaches individuals how to live in the moment without judging, has a higher effect on these women. In addition, the two studies varied in terms of the CBT protocol and the number of sessions (two versus eight sessions).

In the current study, the sexual pain significantly improved after CBGT, which is consistent with the result

of the study by ter Kuile et al (16). CBT plays a key role in the treatment of sexual pain problems in women by reducing anxiety and avoidance behavior while increasing an understanding of sexual behavior and self-efficacy. To justify the effectiveness of CBGT in the treatment of sexual dysfunction, several possibilities are worth noting. The prescribed exercises for patients with sexual dysfunction lead to complex psychological reactions in individuals. For example, sexual focus exercises in training sessions reinforce pleasurable reactions while preventing unwanted sexual anxiety. Furthermore, the couple's intimacy and emotional relationship improves during the therapy, allowing individuals to freely express their emotions and experience more favorable feelings in their relationships. The elimination of unconscious feelings of guilt or fear of coitus and the replacement of wrong and inhibitory cognitions with correct thoughts and beliefs can justify the effectiveness of this treatment intervention (36). In a study in Karaj, Iran, counselling had a significant effect on all domains of sexual function, including orgasm in infertile women (37).

Thus, the cognitive-behavioral intervention has a significant impact on women with secondary anorgasmia and reduces psychological factors associated with poor sexual function in women. Although the acceptability of the therapy was highly good and a high patient cooperation was observed at all stages of treatment, this study has some limitations. Given that the level of education influences cognitive-behavioral interventions, only women with an education level of higher than a diploma were included in the study. In addition, the small sample size was another limitation of this study.

In conclusion, the use of CBGT is recommended for the treatment of secondary anorgasmia in women. Further research on larger samples is required to obtain results that are more reliable and have generalizable findings. It is suggested that cognitive-behavioral couple therapy be conducted for the treatment of orgasmic disorders compared to group therapy, and follow-up tests be done to investigate the stability of the treatment effect. Considering that there is a wide range of non-sexual communication problems in women with sexual dysfunction, more therapy sessions are suggested in future studies.

Authors' Contribution

MC, NSA and MR contributed to conception and design of the work. MC and BO contributed to data gathering, CBGT intervention, and interpretation of data. MC and MR contributed to data and statistical analysis. NSA was responsible for overall supervision and contributed to interpretation of the results. MC and MR drafted the manuscript, which was revised by NSA and BO. All authors read and approved the final manuscript.

Conflict of Interests

Authors declare that they have no conflict of interests.

Ethical Issues

This study was approved by the Ethics Committee of Arak University of Medical Sciences (Ethics code: 93-175-1). A written informed consent form was taken from the participants prior to the study. This study was registered in the Iranian Registry of Clinical Trials (Code: IRCT2014120920256N1).

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