

## The Effectiveness of Acceptance and Commitment Therapy on Sexual Arousal, Intimacy and Self-concept of Female Sexual Interest/Arousal Disorder

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(Received: 1 Feb 2021; Revised: 17 Feb 2021; Accepted: 21 Feb 2021)

### Abstract

**Introduction:** Sexual satisfaction is one of the most basic aspects of marriage and is a key factor in the quality of human life. Sexual arousal disorder is a clinical diagnosis for female sexual dysfunction characterized by decreased libido and sexual arousal accompanied by anxiety. The present study is the first clinical trial in Iranian society to evaluate the effectiveness of Acceptance and Commitment Therapy (ACT) on arousal, intimacy and sexual self-concept of women with sexual arousal disorder.

**Method:** In a randomized clinical trial, 30 women with a diagnosis of sexual interest/arousal disorder were selected from patients referred to medical centers in Isfahan using purposive sampling based on screening and were assigned into two treatment and wait-list groups using block randomization method. The designed treatment package based on acceptance and commitment was presented to the experimental group for eight weekly sessions. The three indices of arousal, intimacy and sexual self-concept were evaluated in three-time stages and the data were analyzed using repeated measures analysis of variance (rANOVA).

**Results:** Preliminary results showed that ACT had a significant effect on the three indices of arousal, intimacy and sexual self-concept (all  $p$ 's  $< 0.05$ ). Secondary results showed that the effectiveness of treatment remained stable until the 3-month follow-up stage (all  $p$ 's  $< 0.05$ ).

**Conclusion:** The results of this study indicate the effectiveness of ACT on the indices of arousal, intimacy and sexual self-concept. These findings indicate the role of the concept of acceptance in the treatment and promotion of sexual problems. These findings can be associated with clinical applications in the field of couple therapy.

**Declaration of Interest:** None

**Keywords:** Acceptance and Commitment Therapy, Sexual Arousal, Sexual Dysfunction, Sexual Behavior.

## ***Introduction***

**M**arriage has been described as the most important type of relationship during the evolution of the human species (1). Marriage and subsequent marital relationship is a relationship that is formed between a man and a woman in order to establish a common life and to form a family (2). The quality of marital relationships affects all aspects of family functioning, including stability, continuity, child support, parent-child interaction and couples' happiness, so it is important (2). One of the common concepts in order to show happiness and stability in marriage is the concept of marital satisfaction (3). Marital satisfaction has been described as the most important aspect of the marital relationship, because it is the basis for establishing a favorable family relationship and nurturing the next generation (3). More broadly, a satisfying sexual relationship is a key factor in the quality of human life (4). From a social point of view, the ability to have sexual activity, proper sexual function, sexual attractiveness and sexual responses are considered as important indices in women (5). Marital dissatisfaction along with other demographic factors such as poverty can lead to frustration, mental health problems and eventually family breakdown (1, 6). According to statistics, many couples in Iran complain of dissatisfaction with marital relationships or sexual dysfunction (7). Marital dissatisfaction explains 50-60% of divorce cases and 40% of betrays and hidden relationships (6). Therefore, the study and recognition of human sexual desires and behaviors is one of the most important issues of public health, especially mental health (8). Any sexual dysfunction can

have adverse consequences on women's quality of life (9). Sexual dysfunction is a common complaint, especially among middle-aged married women (10). About a quarter of middle-aged women in the world have experienced low libido for a period of their lives that is associated with significant distress (10).

Sexual interest/ arousal disorder is the most common sexual disorder in women (11). Sexual interest/ arousal disorder is a clinical diagnosis for female sexual dysfunction that is characterized by decreased libido and sexual arousal accompanied by anxiety and is not detected by other medical or psychiatric conditions (10).

Research background shows that sexual behaviors do not only refer to erotic behaviors but also include gender roles and related beliefs (12). Etiological models emphasize on the role of interpersonal factors in the emergence and maintenance of women's reluctance and couple therapy is often the first baseline of treatment in promoting couple intimacy.

Sexual intimacy is defined in terms of sexual arousal, sharing, and expressing sexual thoughts, feelings, and fantasies that stimulate and subsequently create sexual satisfaction (13). Sex is a powerful tool for experiencing intimacy, and sexual dissatisfaction has an adverse effect on intimacy and creates deep sexual problems. Sexual intimacy can also increase the frequency of sexual intercourse and promote sexual well-being (13). Although there is a relationship between intimacy and sexual desire with sexual behavior, the role of sexual culture and teachings and cognitive components should not be ignored. Findings of the native study of Karimian et al. (12) showed that high sexual capacity and

motivation are not necessarily predictors of desirable sexual function and cultural, personal and cognitive factors are of clinical interest.

One of the most important prediction and guides factors of sexual performance and behavior is sexual self-concept (7). Sexual self-concept is a cognitive index that includes a person's perception from his or her sexual nature and includes feelings and thoughts about sexual issues. Sexual self-concept plays a role as a modulator in sexual behavior and performance (7). Sexual self-concept significantly affects a person's attitudes, feelings, and beliefs about the sexual organs, which can affect sexual relationships. In addition to the individual, the mental interpretation of others (friends and parents) and society are effective in the development of sexual self-concept.

On the other hand, research background shows that psychological education can be effective in improving the sense of intimacy, closeness and creating peace in couples and, of course, reduces sexual tension and increases marital satisfaction (14). Findings of the study by Zippan et al. (11) showed that short-term psychological education interventions can have a significant effect on sexual interest, arousal and satisfaction.

Acceptance and commitment therapy (ACT) is a relatively new therapeutic approach whose main goal is to increase psychological flexibility and subsequently improve mental health (15). This treatment was originally developed to treat disorders such as depression and anxiety (16). But its basic principles are designed to be used in the promotion and enrichment of any kind of communication. The main emphasis of this treatment is on the

development of mindfulness, the ability of full consciousness along with deep curiosity and the use of values to guide behavior (17). Mindfulness is one of the most important factors in the treatment of psychiatric disorders. Due to the fact that the disorder of sexual arousal in women has a relatively high prevalence in society and causes a lot of confusion in women and has destructive physical, psychological and social consequences and disrupts marital relationships and no therapeutic package based on the principles of acceptance and commitment has been specifically designed to treat women's sexual arousal disorder to date, therefore the present study was conducted aimed to develop and evaluate the effectiveness of ACT on arousal, intimacy and sexual self-concept of women with sexual arousal disorder referred to counseling centers in Isfahan.

### ***Methods***

The present study was a randomized clinical trial using a therapeutic package developed for sexual arousal disorder. The data of this study were collected during June 2019 to February 2020. In this regard, in the step of developing a treatment package, a structured interview was conducted with 7 women with sexual arousal disorder with the aim of sexual education needs assessment. Then, using the collected materials from scientific sources and according to the needs of women, appropriate content and techniques were identified and extracted. In addition, the opinions of five psychologists were taken into account. Also, the formal-validity and content validity were evaluated and approved by experts, and finally, a package of ACT for

sexual arousal disorders in women was developed (Table 1). A randomized clinical trial was used to pilot the package. In this regard, 30 women with a diagnosis of sexual interest/ arousal disorder were selected from among the patients referred to Isfahan medical centers using purposive sampling method based on screening and based on obtaining a given cut-off points from the Sexual Function Questionnaire (score 45).

Inclusion criteria to the study were: age range 18-45 years, diagnosis of sexual interest / arousal disorder based on structured clinical interview based on DSM-5, obtaining the necessary criteria based on the cut-off points in the sexual function questionnaire, having a minimum literacy to read and write, not taking any medication and obtaining written informed

consent to participate in the research. Exclusion criteria were: any diagnosis of physical illness or acute psychiatric disorder, receiving any psychological or medical treatment at the same time, and more than two absences from treatment sessions.

Participants were assigned into two treatment and wait-list groups using block randomization (18). The designed treatment package based on acceptance and commitment was presented to the experimental group for eight weekly sessions. The three indices of arousal, intimacy and sexual self-concept were evaluated in three time stages and the data were analyzed by repeated measures analysis of variance.

Table 1: Summary of the contents of the treatment sessions for acceptance and commitment, special to sexual arousal disorder in women

Sessions	Contents
1	Familiarity with the concepts of acceptance and commitment therapy, description of sexual arousal disorder and presenting homework
2	Description of cognitive and coping strategies, use of metaphor, explanation of short-term and long-term profits and presenting homework
3	Conceptualization of sexual arousal disorder, familiarity with the anatomy of the reproductive system and the stages of sexual cycle response and presenting homework
4	Familiarity with emotion regulation strategies in marital relationships, expressing the concept of problem control instead of solutions in intervening situations and presenting homework
5	Interventions in cognitive integration, introducing types of self and adherence to them, explaining the concepts of elimination, tolerance and acceptance and presenting homework
6	Performing mind-conscious relaxation with the aim of paying attention to sexual organs and emotions, practicing Kegel, conceptualizing self as a context using metaphor and presenting homework
7	Identify important areas of life with emphasis on sexual intimacy, specify values using the metaphor of celebrating the tenth anniversary of marriage and presenting homework
8	Examining the barriers to the realization of values, commitment and action in achieving goals in sexual life

## **Research tools**

**1- Demographic checklist:** This checklist was designed and used by the researcher to collect demographic information of the subjects.

**2- Structured Clinical Interview for DSM-4 (SCID-4):** It is a clinical interview used to diagnose Axis I disorders based on the DSM-IV. The reliability coefficient between evaluators for SCID is reported to be 0.60 (19). Diagnostic agreement of this tool in Persian language has been desirable for most specific and general diagnoses with reliability higher than 0.60, kappa coefficient for all current diagnoses and lifetime diagnoses has been obtained as 0.52 and 0.55, respectively (20).

**3- Female Sexual Function Index:** This tool was developed by Rosen et al. (21) this scale has 19 items that are scored in a six-point Likert scale. It has six subscales of libido, arousal, wetting, orgasm, satisfaction and pain. A higher score indicates better sexual function. The cut-off point on this scale is 45, and a score below 45 indicates a sexual dysfunction. Rosen et al. (21) reported the reliability and validity of the questionnaire to be 0.63 and 0.84, respectively, and the reliability of sexual interest as 0.88, arousal 0.82, wetting 0.85, orgasm 0.89, satisfaction 0.84 and pain 0.82. In Iran and in the study of Mota et al. (22) and Pirnia et al. (23) the reliability and validity of this tool have been reported to be desirable. In the present study, the reliability coefficient calculated through Cronbach's alpha was estimated to be 0.88.

**4- Sexual Intimacy Questionnaire:** This questionnaire has 30 items and is scored in a 4-point Likert scale. The maximum score

in this tool is 120 and the minimum score is 30. A higher score indicates more sexual intimacy of the couple. Experts confirmed the content validity of this questionnaire, and its reliability was estimated to be 0.85 through Cronbach's alpha. In the present study, the reliability coefficient calculated through Cronbach's alpha was estimated to be 0.89.

**5- Short-form of Multidimensional Sexual Self-Concept Questionnaire:** This questionnaire was developed by Snell and is one of the most practical tools in the field of psychology to assess a person's perception of sex. The short form has 16 items and is scored in the form of a 5-point Likert scale. The short-form questionnaire has two subscales of self-esteem and sexual relaxation. A higher score indicates a more desirable sexual self-concept. Snell (24) reported the validity and reliability of the questionnaire as 0.72 and 0.85, respectively, and the reliability of sexual self-esteem and sexual relaxation as 0.82 and 0.87, respectively. In the present study, the reliability coefficient calculated through Cronbach's alpha was estimated to be 0.86.

## **Results**

Repeated measures analysis of variance (rANOVA) was used to analyze the data. Before using the parametric test of analysis of variance, its hypotheses were tested. The hypothesis of normality of distribution was checked and confirmed by Shapiro–Wilk test ( $p > 0.05$ ). The results of Levene's test showed the equality of variances ( $p > 0.05$ ). Also, the results of Mauchly's sphericity test confirmed the sphericity default ( $p > 0.05$ ). Also, the results of the Box's M test showed that the assumption of equality of the variance-

covariance matrix is established ( $p>0.05$ ). Demographic findings showed that in terms of age distribution, the highest number of participants is in the age range of 25-31 and the lowest number of participants is in the age range of 39-45

years. Also, 53.3% of the participants were women with university education and 46.7% were women with diploma education. The results of the analysis of variance test are presented in Table 2.

Table 2: Results of analysis of variance with repeated measures in evaluating the effectiveness of ACT on the variables of arousal, intimacy and sexual self-concept of women

Variable	Source of changes	Sum of squares	Degree of freedom	Mean of squares	F	Significance level	Effect size	Statistical power
Group	Sexual interest / arousal disorder	231.82	2	115.91	8.48	0.001	0.22	0.95
	Sexual intimacy	267.53	2	133.81	3.44	0.03	0.11	0.49
	Sexual self-concept	133.63	2	66.81	3.57	0.02	0.15	0.66

As the findings in Table 2 show, there is a significant difference between the scores of participants in the two groups in the indices of arousal, intimacy and sexual self-concept of women (*all p's*  $<0.05$ ).

Post-Hoc LSD was used for more accurate evaluation, the results of which are presented in Table 3.

Table 3: Results of Post-Hoc LSD test in evaluating the effectiveness of ACT on the variables of arousal, intimacy and sexual self-concept in women

Variable	Groups	Mean difference	Significance level
Sexual interest / arousal disorder	Post-test-pre-test	2.93	0.006
	Follow-up-pre-test	3.73	0.005
Sexual intimacy	Post-test-pre-test	3.30	0.05
	Follow-up-pre-test	3.93	0.03
Sexual self-concept	Post-test-pre-test	2.53	0.03
	Follow-up-pre-test	2.63	0.03

As the findings in Table 3 show, therapeutic intervention has had a significant effect on all three indices of female arousal, intimacy and sexual self-concept (*all p's*  $<0.05$ ).

Data analysis also showed that the treatment had a significant effect on sexual self-concept components including self-esteem and sexual relaxation as well as sexual arousal sub-components including sexual desire, arousal, orgasm, and sexual

satisfaction (*all p's*  $<0.05$ ), while the effectiveness of treatment on the two subscales of wetting and pain was not significant (*all p's*  $>0.05$ ).

### Discussion

This study was conducted aimed to develop and evaluate the effectiveness of ACT on arousal, intimacy and sexual self-concept of women with sexual arousal disorder referred to counseling centers in

Isfahan. Preliminary results showed that ACT had a significant effect on the three indices of arousal, intimacy and sexual self-concept. Data analysis also showed that treatment had a significant effect on the components of sexual self-concept including self-esteem and sexual relaxation as well as the components of sexual arousal including sexual desire, arousal, orgasm, and sexual satisfaction, while the effectiveness of the treatment on the two subscales of wetting and pain was not significant. Secondary results showed that the effectiveness of the treatment remained stable until the 3-month follow-up stage.

As mentioned, the present study was the first clinical trial in Iranian society. However, in line with the findings of the present study, the results of the study by Tahan et al. (14) showed that psychological education can be effective in improving the sense of intimacy, closeness and relaxation in couples and thus reduce stress and lead to increased marital satisfaction. Also, in line with the findings of our study, the results of the study by Zippan et al. (11) showed that short-term psychological education interventions can have a significant effect on sexual desire, arousal and satisfaction. Findings of Lantheaume (25) study showed that ACT is effective in treating sexual addiction. Also, the findings of the study by Amani et al. (26) showed that ACT has a significant effect on reducing marital conflict.

The goal of ACT is to increase resilience and psychological resiliency. Psychological resilience is the ability to attend, accept, and take appropriate action, and increasing in psychological resilience would lead to easier deal with stressful emotions and disturbing thought streams

(27). Limiting thoughts, focusing, and mastering on what a person does alters ineffective self-harming behaviors and enables better relationships. In fact, the key to success in sexual relationships is to control and restrain attention and concentration. Awareness of physical and internal sensations in women is one of the ways that has beneficial effects on sexual desire and arousal. In addition, being at present and looking at the body without judgment offers women a new way to be and live in the world, which includes improving the quality of relationships and marital satisfaction, and ultimately improving sexual function. In the present study, the technique of faulting in the treatment process taught to women to take a step back and watch their thoughts in order to solve the problem, and to consider disturbing thoughts in sexual matters as just a simple thought, not being absolute the verbal meanings helped to reduce patients' sexual emotional reactions. Also, during the treatment process, women found that mere avoidance endangered mental health. By doing mindfulness exercises repeatedly and identifying avoidances and focusing on bodily senses, they found that challenging situations and conditions cause unpleasant feelings such as anxiety, anger, and failure, and by now, in order to avoid these situations and not to experience unpleasant feelings, they had habitually learned to avoid challenging issues and continue their avoidant behaviors, which this incomplete cycle was broken during the treatment process and had favorable therapeutic effects. Finally, teaching women sexual awareness, doing frequently designed tasks, actively and effectively confronting sexual thoughts and feelings, identifying

and avoiding sex-related avoidance behaviors, changing attitudes toward oneself and one's spouse, and not feeling guilty in sex, rethinking the values and goals of life can change dysfunctional sexual schemas, create positive sexual self-concept, increase effective communication, and establish sexual intimacy with the spouse, and can lead to increased arousal, intimacy, and ultimately improved marital satisfaction.

This study had some limitations in the implementation process. Due to the limited sample in the female group, it is not possible to generalize the results to men. It is suggested that in future studies, along with paper and pen tools, biological assessment such as saliva and plasma cortisol (28) be used to evaluate the effectiveness of treatment. Also, conducting a clinical trial in men with a similar disorder could be a good route for future studies.

### Conclusion

In total, results showed that ACT had a significant effect on the three indices of arousal, intimacy and sexual self-concept. Also results showed that the effectiveness of treatment remained stable until the 3-month follow-up stage. These findings may be associated with clinical applications in the design of therapeutic interventions in this area.

### Conflict of interest

The authors did not declare any conflict of interest.

### Acknowledgements

The authors are grateful from all those who participated in this study and helped to facilitate the research process. In

addition, this article was taken from a doctoral dissertation.

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