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Original Article

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Effect of Counseling on the Sexual Satisfaction level of Women with Sexual Dysfunction using PLISSIT Model Focused on Dysfunctional Sexual Beliefs

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Abstract

Background: Sexual satisfaction plays a vital role in the stability of a marriage. Dysfunctional sexual beliefs are often overlooked despite their recognition as factors negatively affecting sexual function and sexual satisfaction.

Aim: This study aimed to determine the effect of counseling based on the PLISSIT model focused on dysfunctional sexual beliefs on the sexual satisfaction level of women with sexual dysfunction.

Method: This randomized controlled clinical trial was carried out on 61 married females with sexual dysfunction during 2018-2019. The data were collected using Sexual Dysfunctional Beliefs Questionnaire and Hudson's Index of Sexual Satisfaction. The intervention group received sexual counseling, whereas the control group received routine care. The data were analyzed in SPSS software (version 24) using the , Wilcoxon test, independent t-test, and Mann-Whitney U test.

Results: The mean ages of the females in the intervention and control groups were 35.5±5.6 and 36.7±6.7 years, respectively. Mann-Whitney U test showed a significant increase in mean sexual satisfaction scores in the intervention group after the intervention, compared to scores before the intervention (2.8±7.7 vs. 0.3±2.3) (P=0.03). In addition, Mann-Whitney U revealed a significant decrease in the scores of sexual dysfunctional beliefs in the intervention group after the intervention, compared to the scores of the control group before the intervention (27.3±14.5 vs. 1.0±1.2) (P<0.001).

Implications for Practice: With regard to the positive effect of counseling on correcting sexual dysfunctional beliefs, it is recommended that counseling method be implemented to increase sexual satisfaction levels in women with sexual dysfunction.

Keywords: PLISSIT model, Sexual dysfunctional beliefs, Sexual dysfunction, Sexual function, Sex life quality

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Introduction

Sexual satisfaction is defined as having a pleasant sexual experience and a positive feeling after intercourse (1). However, sexual satisfaction is not just the physical pleasure of the relationship and involves all feelings a person experiences after the positive and negative aspects of a sexual relation (2). Sexual satisfaction plays an important role in the stability of marital life (3) which affects various aspects of the general health of an individual (4). In general, life quality is higher in subjects experiencing satisfactory sexual relations, compared to those who are not satisfied with their sexual relations (5).

According to studies, there is a positive and significant association between sexual satisfaction and mental health (6). In fact, sexual dissatisfaction is the main cause of many severe psychological disorders and the disintegration of the family (7, 8).

Review studies show that 15.2%-50.4% of women are not satisfied with their sexual activities, and sexual dissatisfaction accounts for 50% of the divorces (1). Sexual disorders that can be caused by either physical or psychological factors can affect sexual satisfaction. Even when there are physical factors for sexual problems, psychological factors can also play a secondary role in complicating the problem (9). Different factors affect sexual satisfaction, including demographic characteristics (i.e., age, the age difference between spouses, duration of the marriage, education, occupational status, and the number of children), as well as pathophysiological (i.e., chronic diseases and hormonal disorders), psychological, and cultural-social factors.

One of the most important causes of the decline in sexual satisfaction is the misconceptions and cultural taboos associated with sexual issues (1). Studies have indicated that sexual dysfunction correlated significantly with cognitive and emotional dimensions as well as feelings (10, 11). Dysfunctional sexual beliefs are wrong beliefs about sexual relations accepted as true beliefs without any evidence (12). According to a study conducted by Nobre (2006), dysfunctional sexual beliefs are classified into six categories, namely sexual conservatism, sexual desire and pleasure as a sin, age-related beliefs, beliefs related to body image, beliefs related to denying affection primacy, and belief in motherhood primacy (13).

In recent years, researchers have used different types of interventions to improve sexual satisfaction and performance among women. In this regard, some of the techniques are the behavioral-cognitive methods, PLISSIT model, mechanical and physical methods, Kegel exercise, as well as surgical treatments, and chemical and herbal drugs. Therefore, there is considerable variation in sexual treatment interventions, some of which have not been included in Iranian studies due to cultural and religious issues (7, 14, 15). Notably, less attention has been paid to the sexual beliefs of a person in the mentioned techniques.

One of the common methods is sex therapy using the PLISSIT model for women with sexual dysfunction (16). This model involves four stages as follows:

Stage one is Permission (P), meaning that the therapist allows clients to talk about their sexual function, beliefs, and concerns in a safe place. In the second stage and after recognizing the beliefs and attitudes of the clients, Limited Information (LI) is provided to discuss misinformation, myths, lack of knowledge, and inadequate sexual skills. The third stage involves Specific Suggestions (SS) that may include re-training patients on specific attitudes and practices and addressing mental health issues. The final stage includes referral for more Intensive Therapy (IT) (16-18). Farnam (2014) compared the PLISSIT and sexual health models concluding that the former had a higher impact on a decrease in sexual stress and problems (19).

Khakbazan (2015) also compared the PLISSIT model and the behavioral-cognitive approach in the improvement of sexual performance and reported equal effectiveness for both models. However, the PLISSIT model was recognized as a more implementable framework (20). The literature review revealed a lack of attention to the sexual beliefs of patients in methods applied to increase their sexual satisfaction. Regarding the prevalence of sexual dysfunction and this fact that dysfunctional sexual beliefs lead to sexual dysfunction, and given the considerable role of these beliefs in sexual satisfaction, the present clinical trial aimed to determine the effect of counseling on sexual satisfaction of women using the PLISSIT model focused on dysfunctional sexual beliefs.

Methods

This randomized controlled clinical trial with a pretest-posttest design was performed on married females aged 18-49 years referred to Fadaeian Eslam and Kargaran healthcare centers in a city , Iran during 2018-2019. The sample size was estimated at a minimum of 26 people in each group using a study by Rostamkhani (2011) (21) and means comparison formula based on standard deviation of sexual function score in intervention (4.2) and control (4.4) groups and mean sexual function score in intervention (29.4) and control (23.7) groups with a 99% confidence interval and 90% test power. Nevertheless, in order to increase accuracy, 33 subjects were assigned to each group considering sample attrition.

The inclusion criteria were: 1) Iranian nationality, 2) residency in Mashhad, 3) a minimum level of education (i.e., elementary school), 4) monogamous marriage, 5) residency with spouse, 6) having sexual intercourse in the past one month, 7) obtaining normal scores in areas of stress (0-14), anxiety (0-7), and depression (0-9) based on the Depression, Anxiety, and Stress Scale (22), and 8) confirmation of sexual dysfunction based on the cutoff point of 28 in female sexual function index (FSFI) and at least four sexual dysfunctional beliefs based on sexual dysfunctional beliefs questionnaire (SDBQ).

On the other hand, the participants who were drug addict or consumed alcohol in men or women or drugs affecting sexual function and those with a major health or mental disorders (i.e., diabetes, cardiovascular diseases, cancer, and delirium), severe stressful experience in the past six months, pregnancy, lactation, infertility, mental or physical disability, unwillingness to participate in the study, and lack of presence in one or more counseling sessions were excluded from the study.

The data were collected using demographic characteristics form, FSFI, SDBQ, and Hudson's Index of Sexual Satisfaction (ISS).

Female Sexual Function Index

The FSFI is a 19-item scale, the reliability and validity of which have been confirmed by a study by Mohammadi et al. (2008) (23). In the present study, the internal assessment method was used to determine the reliability of this tool. To this end, 10 eligible women completed the questionnaire, and a Cronbach's alpha of 0.83 was estimated in the end.

Index of Sexual Satisfaction

The ISS designed by Hudson and translated by Moshkbid et al. (2001) consists of 25 items that are scored based on a five-point Likert scale. The reliability and validity of the mentioned scale have been confirmed previously (24). In addition, its reliability was approved at the Cronbach's alpha of 0.85.

Sexual Dysfunctional Beliefs Questionnaire

The 40-item SDBQ was prepared by Nobre and Pinto-Gouveia in six areas of sexual conservatism, sexual desire and pleasure as a sin, age-related beliefs, beliefs related to body image, beliefs related to denying affection primacy, and belief in motherhood primacy. In the present study, one of the items was removed from the questionnaire due to cultural issues. However, all items are scored based on a five-point Likert scale, where higher scores are indicative of more sexual dysfunction beliefs. Moreover, the reliability and validity of the Persian version of the scale were estimated and confirmed by Abdolmanafi et al. (2015) (25). The reliability of the tool was confirmed at the Cronbach's alpha of 0.88.

The participants were selected out of five healthcare centers, namely Fadaeian Eslam, and Kargaran using simple sampling. These centers were selected due to the average socio-economic level of population covered, geographical and cultural similarity of the two centers, and more cooperation between their personnel and authorities. The eligible individuals were randomly allocated to the intervention and control groups.

After obtaining the approval from the Ethics Committee of Mashhad University of Medical Sciences, the researcher presented a written letter of introduction to the authorities of the selected healthcare centers. Afterward, the researcher met the women referring to the center and asked them about their sexual status. In case of sexual dissatisfaction in women, they were informed of the research objectives and methods. The participants willing to cooperate in the study completed the questionnaires in a calm and quiet room. Informed consent was obtained from the eligible women and their spouses, and sampling was carried out

during October-January 2018. The questionnaires were completed before the intervention and at the end of the counseling sessions. The intervention group was subjected to counseling sessions based on four stages of the PLISSIT model by the researcher as the educator.

The educator is a midwife with 15 years of work experience and a certificate of a 60-hour course of sex therapy and a 20-hour course on the treatment of sexual dysfunction. Furthermore, complementary training on practical presentation of counseling was provided by a consultant who was specialized in the field of reproductive and sexual health, and her qualification in sexual counseling was approved by the supervisor and advisor of the study.

It is notable that one group session and three individual sessions were held based on the PLISSIT model with an interval of one week (Table 1). However, the control group received routine care of the center, which included a general training and counseling regarding sexual health.

The present study was extracted from an MSc thesis approved by the Ethics Committee of Mashhad University of Medical Sciences, Mashhad, Iran, (IR.MUMS.NURSE.REC.1397.052). In addition, the research was registered on the Iranian Registry of Clinical Trials (IRCT: 2018071004047N1). Regarding the ethical considerations, informed consent was obtained from the subjects and their spouses.

Table 1. Summary and content of counseling sessions

Session	Time/Place of Sessions	Goal	Counseling Content
First session: Counseling focused on sexual dysfunctional beliefs based on the first level of the PLISSIT model	Holding 45-60-min individual sessions by the researcher	Allowing and accepting participants	The subjects were allowed to talk about their attitude, beliefs, and thoughts on the sexual relationship in a safe and private environment using counseling techniques, such as active listening and raising open questions
Second session: Counseling focused on sexual dysfunctional beliefs based on the second level of the PLISSIT model	Holding 90-min group sessions with 5-8 members by the researcher	Providing general information Giving a speech, Raising questions and answer using whiteboard, slideshows, and posters	Providing general information on: Anatomy and physiology of male and female sex organs, the importance of sex, sex cycle, normal and abnormal sexual behaviors, true and false beliefs about sex, reasonable and unreasonable expectations of men and women in sex, the role of age and body image in sex and common sex myths
Third session: Counseling focused on sexual dysfunctional beliefs based on the third level of the PLISSIT model	Holding 45-60-min individual sessions by the researcher	Offering specific suggestions	Counseling and providing information on sexual dysfunctional beliefs and proposing specific suggestions regarding the sexual dysfunctional beliefs
Fourth session: Counseling focused on sexual dysfunctional beliefs based on the third and fourth level of the PLISSIT model	Holding 45-60-min individual sessions by the researcher	Offering specific suggestions and referral, if necessary	Reexamination of sexual beliefs of subjects and counseling on unmodified sexual dysfunctional beliefs and experience of participants from the former session and at the end of the assessment session on sexual function and referral to more specialized levels if needed

Moreover, the participants were ensured of the confidentiality of their personal information and the voluntary nature of participation in the study. At the end of the study and after a posttest, the control group was given a pamphlet containing general information about sexual intercourse; moreover, they

were suggested to attend follow-ups for the treatment of the sexual dysfunction owing to obtaining a score below 28 in FSFI.

The data were analyzed in SPSS software (version 24) through Shapiro-Wilk test to evaluate data normality, independent t-test and Mann-Whitney U test to compare the groups in terms of quantitative variables, the Chi-square and Fisher's exact tests to assess nominal variables, and paired t-test as well as Wilcoxon test for intergroup examinations. A P-value less than 0.05 was considered statistically significant.

Results

In this study, three and two participants were excluded from the intervention and control groups due to being absent from counseling sessions and unwillingness to participate in the study, respectively. Ultimately, 61 individuals in the intervention (n=30) and control groups (n=31) were requested to complete the questionnaires. The mean ages of the married females in the intervention and control groups were 35.5±5.6 and 36.7±6.7 years, respectively, which shows the homogeneity of the groups in this regard (P=0.43). Moreover, the intervention and control groups were homogeneous in terms of other demographic characteristics (Table 2).

Before the intervention, the mean sexual satisfaction scores in the intervention and control groups were 93.2±9.6 and 90.8±12.0, respectively, showing no significant difference in this regard (P=0.43). On the other hand, after the intervention, these scores changed to 96.1±5.6 and 91.1±11.9 in the intervention and control groups, respectively, and the independent t-test demonstrated a significant difference between the groups in this respect (P=0.04). In addition, the independent t-test showed a significant increase between the groups in terms of mean sexual satisfaction scores after the intervention (2.8±7.7 vs. 0.3±2.3 in the intervention and control groups, respectively) (P=0.03) (Table 3).

Table 2. Demographic characteristics of the participants

	Intervention group (N=30)	Control group (N=31)	P-value, test
	Mean±standard deviation	Mean±standard deviation	
Body mass index (kg/m^2)	26.1±3.1	24.9±4.0	Mann-Whitney U P=0.06
Duration of marriage (year)	13.8±6.7	15.0±7.9	Independent t-test P=0.50
Age at marriage (year)	21.1±4.9	21.4±4.4	Independent t-test P=0.81
	N (%)	N (%)	
Elementary education	8 (26.7)	7 (22.6)	Mann-Whitney U P=0.44
High school diploma	11 (36.7)	17 (54.8)	
Associate degree and higher	11 (36.7)	7 (22.6)	
Housewife	22 (73.3)	25 (80.6)	P=0.49 Chi-square
Employed	8 (26.7)	6 (19.4)	
Below sufficient income level	9 (30.0)	7 (22.6)	Mann-Whitney U P=0.92
Sufficient income level	15 (50.0)	21 (67.7)	
More than sufficient income level	6 (20.0)	3 (9.7)	
Number of children			Mann-Whitney U P=0.73
Zero	0 (0.0)	3 (9.7)	
One	8 (26.7)	4 (12.9)	
Two	15 (50.0)	15 (48.4)	
Three	7 (23.3)	9 (29.0)	
Total	30 (100.0)	31 (100.0)	

Table 3. Mean scores of Hudson sexual satisfaction in the intervention and control groups before and after the intervention

Hudson sexual satisfaction	Group		Intergroup test result
	Intervention (N=30)	Control (N=31)	
	Mean±standard deviation	Mean±standard deviation	
Before intervention	93.2±9.6	90.8±12.0	Mann-Whitney U P=0.43
After intervention	96.1±5.6	91.1±11.9	Independent t-test P=0.04
Difference between before and after the intervention	2.8±7.7	0.3±2.3	Mann-Whitney U P=0.03
Intergroup test results before and after the intervention	Paired t-test P=0.05	Wilcoxon P=0.21	

Table 4. Comparison of the mean total score of sexual dysfunctional beliefs in the intervention and control groups before and after the intervention

Overall sexual dysfunctional beliefs	Group		Intergroup test result
	Intervention (N=30)	Control (N=31)	
	Mean±standard deviation	Mean±standard deviation	
Before intervention	74.5±10.5	78.0±14.4	Independent t-test P=0.28
After intervention	47.2±12.1	78.0±14.5	Independent t-test P<0.001
Difference between before and after the intervention	-27.3±14.5	-0.1±1.2	Mann-Whitney U P<0.001
Intergroup test results of before and after the intervention	Paired t-test P<0.001	Paired t-test P=0.76	

The mean scores of dysfunctional sexual beliefs before intervention were 74.5±10.5 and 78.0±14.4 in the intervention and control groups, respectively, which showed no significant difference (P=0.28). However, there was a difference between the intervention (47.2±12.1) and control (78.0±14.5) groups based on the results of the independent t-test (P<0.001). Moreover, Mann-Whitney U test demonstrated a difference between the intervention and control groups in terms of the overall scores of dysfunctional sexual beliefs before the intervention, compared to the scores after the intervention (27.3±14.5 decrease in the intervention group and 0.1±1.2 decrease in the control group) (P<0.001) (Table 4).

Similarly, evaluation of different areas of dysfunctional sexual beliefs showed a significantly lower level of sexual conservatism, sexual pleasure and desire as a sin, age-related beliefs, beliefs related to body image, beliefs related to denying affection primacy, and belief in motherhood primacy (P<0.001 in all cases).

Discussion

The present study aimed to evaluate the effect of counseling on the sexual satisfaction of married women with sexual dysfunction based on the PLISSIT model focused on sexual dysfunctional beliefs. According to the results, this type of counseling significantly decreased the level of sexual dysfunctional beliefs in women with sexual dysfunction, which was associated with a significant increase in the sexual satisfaction of women.

Balbasi (2015) (26) and Haghighi (2015) (27) evaluated the effect of the PLISSIT model and behavioral-cognitive counseling on women's sexual satisfaction. They reported a significant increase in the sexual

satisfaction of women after counseling, which is in line with our findings regarding the effectiveness of sexual counseling on the promotion of sexual satisfaction in women. The difference between the studies can be attributed to the use of the PLISSIT model focused on dysfunctional sexual beliefs in the present study. In addition, the participants in the target group were menopausal women, which was different from those in the current study.

According to a study performed by Shakarami (2014), sexual education created a new perspective on sexual relations in women and increased their sexual satisfaction and affection level (28), which is consistent with our results in this study. This consistency between the results might be due to the efforts made to correct the sexual beliefs of subjects in the present study. In a study conducted by Ziaei (2018), it was realized that counseling resulted in building a positive and significant relationship between self-care and sexual satisfaction, thereby showing a positive impact of counseling in this regard (29).

In the current study, the awareness of one's own dysfunctional sexual beliefs and an increase in information and knowledge about right and wrong beliefs during counseling led to the correction of dysfunctional sexual beliefs and subsequently increased sexual satisfaction. It is notable that little attention was paid to the sexual beliefs of individuals with sexual dysfunction in studies performed to improve sexual satisfaction.

The PLISSIT model focusing on dysfunctional sexual beliefs was utilized in this study, and the results indicated that the counseling method significantly decreased dysfunctional sexual beliefs and improved sexual satisfaction in women. In this respect, our findings are consistent with the results obtained by Abdolmanafi (2016), who reported that dysfunctional sexual beliefs disrupted sexual performance and decreased sexual satisfaction by creating subconscious thoughts and negative emotions (10).

Moreover, our findings are in accordance with the results of a study conducted by Rastgoo (2015). According to the results, the provision of the correct information on the sexual response cycle and the differences between males and females in expressing love improved sexual skills; moreover, they led to the correction of many wrong beliefs among the participants (30).

It was attempted in this study to correct the participants' dysfunctional sexual beliefs and increase their sexual satisfaction by providing accurate information and explaining right and wrong beliefs as well as unreasonable expectations regarding sex issues.

In the same line, Moalemi (2010) demonstrated that holding group educational classes and correcting sexual beliefs could increase sexual satisfaction in housewives, which is consistent with our findings. Meanwhile, a lower number of beliefs were evaluated and corrected in the aforementioned study, and group education was applied to correct beliefs (31).

Studies show that sexual cognitive reconstruction education decreases unrealistic marital relationships and increases pleasant social behaviors by changing irrational beliefs, which eventually increases sexual satisfaction. Couples' beliefs and thoughts define the type and strength of their reactions (32). In this study, the improvement of women's sexual beliefs is considered important because people have a set of imaginary beliefs and thoughts about their role and their spouses in marital life and sexual relations, and most of these sexual dysfunctional beliefs lead to unrealistic expectations. The sexual behavior of individuals is based on these beliefs that impact their marital and sexual relationships. For instance, a woman who believes that sexual drive and desire is a sin plays a passive and receptive role in sexual intercourse and inhibits her own sexual drive (33).

This study focused on sexual beliefs in order to help women correct their dysfunctional beliefs, and reach the final goal of increasing the overall satisfaction with the sexual relationships by creating sexual affection among couples. On the other hand, one of the major drawbacks of the study was the lack of following up on the long-term effect of the intervention and lack of implementation of the project for males and couples, which were caused by time constraints and facilities of the project as a master's thesis. Another limitation of the study was whether the responses were accurate or not, which was somehow ensured by explaining the research objectives to the participants.

Implications for Practice

In the present study, the PLISSIT model focusing on dysfunctional sexual beliefs was effective in increasing sexual satisfaction in women with sexual dysfunction. Therefore, this type of counseling can

be used in the healthcare system to improve sexual satisfaction in women and enhance their sexual health. It is recommended that more attention be paid to the effect of counseling on the sexual satisfaction of couples using the PLISSIT model with a focus on dysfunctional sexual beliefs. Moreover, the impact of counseling on sexual satisfaction should be investigated with a focus on dysfunctional sexual beliefs and long-term follow-ups.

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Conflicts of Interest
None declared.

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