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Effect of Sexual Counseling on Stress, Anxiety, and Depression in Women during Postpartum Period

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Abstract

Background: Sexual dysfunction can lead to anxiety and depression. Failure to have sexual counseling during postpartum period is one of the issues that could affect sexual dysfunction within this period.

Aim: This study aimed to investigate the effect of sexual counseling on stress, anxiety, and depression in women during postpartum period.

Method: This single-blind randomized clinical trial was conducted on 75 postpartum women within the age range of 18-35 years, referring to four health centers of Mashhad, Iran, in 2016. The data were collected using the Depression Anxiety Stress Scales-21. The intervention included four 60 to 90-minute sessions of sexual counseling, performed within eight weeks. The control group received the routine care. The questionnaires were completed eight weeks after the end of the intervention. The data were analyzed by SPSS version 16 using the independent t-test and Mann-Whitney U test.

Results: The mean ages of the participants were 29.5 ± 4.3 and 29.4 ± 4.2 years in the intervention and control groups, respectively. The results of the Independent t-test, showed the mean stress score was significantly lower in intervention group ($P = 0.04$) and Mann-Whitney test, showed a significant decrease in the mean anxiety ($P=0.01$) and depression ($P=0.003$) scores, in intervention group compared to the control group 8 weeks after the intervention.

Implications for Practice: Sexual counseling can be helpful to decrease stress, anxiety, and depression in the women suffering from sexual problems during postpartum period.

Keywords: Anxiety, Depression, Postpartum, Sexual counseling, Stress

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Introduction

Motherhood is generally a pleasant and meaningful life experience. This transitional period involves many sudden changes that are recognized as stressful events in life (1). During this period, the females experience many alterations in their mental and sexual health (2, 3). A large number of psychiatric symptoms during the postpartum period are associated with reduced sexual desire and satisfaction as well as limited or delayed onset of sexual intercourse (4).

Previous studies have shown a clear relationship between sexual function, depression, and anxiety so that the change in sexual desire is a sign of depression in all age groups of females. Additionally, the history of major depression has been reported to be twice more in people with reduced sexual desire than that in others (5). Even short-term sexual issues may cause frustration, stress, and chronic problems, leading to anxiety, depression, damage to interpersonal relationships in couples, and functional problems in other areas (6).

Postpartum stress is a distinct negative emotional condition associated with chronic strain and arousal as well as some degree of functional failure. However, there are limited numbers of studies investigating this issue. Many women experience postpartum anxiety that is a separate clinical problem, which is associated with high prevalence of depression (7-9).

The prevalence rate of postpartum anxiety has been reported to be 25%-45%. This disorder is much more common than the postpartum depression (10-12). Several studies have investigated the importance of the difference between postpartum depression and postpartum anxiety. Nevertheless, in general, anxiety accompanies depression and is effective in the clinical diagnosis of depression (13, 14). The prevalence rate of postpartum depression has been reported to be over 25% in the first 12 months of postpartum period (14-16).

In a descriptive and cross-sectional study, Morof et al. (2003) assessed the sexual health experience in 796 women during the postpartum period with and without depression. They demonstrated that depression was a common sexual issue in both groups (17). Furthermore, in Iran, Azizi et al. (2010) examined the effect of counseling intervention on postpartum anxiety in primiparous women. They reported a significant reduction in stress, anxiety, and depression levels in the intervention group three months post-delivery (31).

Sexual dysfunction is more prevalent in the first year after childbirth (18). Khajehei et al. (2015) found that two thirds of the women (63.3%) had the sexual dysfunction one year post-delivery (19). On the other hand, failure to have sexual health counseling during the postpartum period is one of the important factors associated with sexual dysfunction during the postpartum period (20). Anxiety, depression, and sexual dysfunction make a continuous cycle, in which sexual dysfunction can lead to anxiety, and ultimately depression and vice versa (5). This suggests the need to provide educational and counseling services for this group of women.

Although the postpartum sexual education is important for women's sexual health, the content of this training is currently limited to the time of the first sexual intercourse and the use of contraceptive methods that do not meet the needs of the postpartum women (21). In addition, there are a few inadequately developed solutions addressing these issues; nonetheless, they are generally limited to biological or physical areas and not especially designed for the women during the postpartum period. Therefore, it is essential to apply the therapeutic methods that directly target the sexual and psychological aspects of women's sexual behavior during this period (22-25).

The Women's Postpartum Sexual Health Program (WPSHP) is a four-session, group- and couple-based program designed by an interdisciplinary care team, specifically to address common sexual concerns and psychosocial training. Moreover, this program is aimed to introduce skills and interventions that can enhance the sexual and relational satisfactions among the postpartum women and their partners (4). This program has been developed specifically for the postpartum women and focused on biopsychosocial and interpersonal relationships. With this background in mind, the present study aimed to determine the impact of sexual counseling on depression, anxiety, and stress in women during the postpartum period.

Methods

This single blind randomized clinical trial was conducted on 80 women, referring to the health centers of Mashhad, Iran, in 2016. Sampling was carried out through the multi-stage sampling technique during June 2016 to the end of July 2016. To this end, out of the five health centers of Mashhad, the

health centers of districts 2 and 3 were randomly selected as a cluster. After providing the list of the centers affiliated to the health centers No. 2 and 3, two centers covered by each of these two centers were selected randomly.

In this regard, the centers of Imam Hasan and 14 Masoom were selected from the center No. 2, and the Ghand Abkooch and Imam Reza centers were chosen from the center No. 3. Subsequently, one control group and one intervention group were randomly considered in both centers. To this aim, the names of the health centers were written in small sheets that were folded and placed into a container. Then the researcher randomly took out a sheet each time, the first sheet was allocated to the control group and the second one was assigned into the intervention group.

Finally, the subjects referring to the centers of Imam Hassan and Ghand Abkooch were regarded as the intervention group, and those referring to 14 Masoom and Imam Reza centers were considered as the control group. Subsequently, 40 individuals were randomly assigned into each of the intervention and control groups. The sampling was performed by convenience method among the postpartum women (within three months to one year post- childbirth) who referred to the health centers for receiving newborn vaccinations and other services.

The sample size was determined using the formula for comparing two independent means and a study by Azizi et al. (2010), who reported the postpartum anxiety scores of 4.9 ± 2.71 and 7.03 ± 3.37 in the intervention and control groups, respectively (26). Therefore, the minimum sample size was estimated as 32 cases with 95% confidence interval and 80% test power. However, the sample size was considered to be 40 cases in each group considering the subject attrition.

Eventually, the intervention group had five cases of attrition (i.e., four subjects attended in less than three sessions due to relocation [one case], exposure to a stressful event during the study [one case], travel [two cases], and bigamist husband [one case]). However, there was no attrition in the control group; consequently, the study was performed on 75 subjects.

The inclusion criteria were: 1) Iranian citizenship, 2) residence in Mashhad, 3) age of 18-35 years (which was chosen because of the decrease in sexual function with aging and greater number of deliveries in this range), 4) high school diploma or higher degree, 5) monogamy and living together, 6) an interval of three months to one year after delivery, 7) having a healthy singleton baby, 8) term delivery, 9) resumption of sexual intercourse, 10) history of sexual dysfunction in the last two months (i.e., score of < 28 in the Female Sexual Function Index [FSFI]), 11) no history of drug addiction or alcohol consumption, 12) no history of taking medications affecting sexual function (e.g., thiazide diuretics, antihypertensive, anti-depressant lithium, antipsychotics, antihistamines, barbiturates, benzodiazepines, hallucinations, amphetamines, cocaine, anticonvulsants, cimetidine, danazol, digoxin, and levodopa), 13) failure to deal with a stressful event during the past six months (e.g., parent's death, child's death, expulsion from school or work, bankruptcy, and breakup of a marriage), 14) lack of certain medical history (i.e., diabetes mellitus, cardiovascular diseases, asthma and chronic respiratory disease, severe anemia, chronic kidney failure, and cancer), 15) no history of specific mental and psychological problems (e.g., severe depression, delirium, severe anxiety, and obsessive-compulsive disorder), 16) lack of postpartum complications in the recent delivery (e.g., late postpartum hemorrhage, postpartum infection, thromboembolic disorder, pelvic detachment, and mastitis), and 17) no history of pelvic surgery (e.g., colporrhaphy and reconstructive) or radiation on reproductive system.

On the other hand, the exclusion criteria included: 1) unwillingness to continue collaborating with researchers, 2) pregnancy, 3) disruption of sexual intercourse, 4) subject to comprehensive sex education, and 5) exposure to a stressful event during the study. The research instruments used in the current study included demographic characteristics form, Depression Anxiety Stress Scales-21 (DASS-21), and FSFI. The demographic characteristics form with 5 sections and 26 questions contained information regarding personal profile (n=8), marital life (n=3), pregnancy and delivery (n=7), postpartum (n=4), and sexual intercourse (n=4).

The content validity of this tool was determined by the supervisors and advisors. Then, it was submitted to seven faculty members of Mashhad University of Medical Sciences, Mashhad, Iran, to evaluate its validity. The final tool was recruited after taking into consideration the suggestions and necessary amendments. The reliability of this tool was also determined in this study, rendering Cronbach's alpha coefficient of 0.82.

The present study applied a short form of DASS, called DASS-21, which is a self-report four-point Likert scale (0=never, 1=sometimes, 2=often, 3=always) and composed of 21 items. The maximum

score in each of the subscales is 21. In this instrument, the score ranges of 0-14, 15-18, and 19-21 indicate normal, mild, and moderate to severe stress, respectively.

Additionally, the score ranges of 0-7, 8-9, and 10-21 signify normal, mild, and severe anxiety, respectively. Moreover, the scores of 0-9, 10-13, and 14-21 represents normal, mild, and moderate to severe depression, respectively. Asghari et al. confirmed the validity and reliability of DASS-21 in Iran in 2008 (2, 27). The reliability of this tool was also determined in the present study, showing a Cronbach's alpha coefficient of 0.91.

The FSFI scale contains 19 items with five-point Likert scale (5=almost always or always, 4=most of the times, 3=sometimes, 2=a few times, and 1=almost never or never, 0=no sexual activity). This instrument consists of six subscales, including sexual desire (items 1 and 2), sexual arousal (items 3, 4, 5, and 6), vaginal dryness (items 7, 8, 9, and 10), orgasms (items 11, 12, and 13), pain (items 14, 15, and 16), and sexual satisfaction (items 17, 18 and 19).

In this tool, the score zero indicates that the person had no sexual activity over the past four weeks. The maximum scores for each subscale and the total scale are 6 and 36, respectively.

The minimum scores of this scale are 1.2, 0.8, and 2 for the sexual desire, sexual satisfaction, and total score, respectively. Additionally, the minimum score for sexual arousal, vaginal dryness, orgasm, and pain is zero.

In this instrument, a higher score means higher sexual function, whereas a score of less than 28 represents sexual dysfunction. According to the results obtained by Mohammadi et al. (2008), there was a significant difference between the total scores of scale and each of its subscale in both groups with and without sexual dysfunction disturbance, indicating the discriminant validity of this tool (28).

In the mentioned study, the reliability of the scale was calculated using the internal consistency coefficient (28). In this study, the reliability of the FSFI was determined using Cronbach's alpha, and the weighted mean of the questionnaire was 0.83. To collect the data, the checklist for selecting the research unit was completed by the implementation of interview, and the subjects filled out the FSFI questionnaire. Subsequently, the cases who met the inclusion criteria were selected as the research samples.

After providing the subjects with some explanations about the research objectives and methodology, they were entered into the study in case they were willing to participate in the research. Subsequently, the participants were individually transferred to a quiet room at the health center with privacy and filled out the DASS-21 and demographic form after receiving the supposed care from the health center and information on how to respond to each instrument. In the intervention group, sexual counseling was performed based on the WPSHP in four sessions. A psychologist approved the researcher's eligibility for intervention.

The first to third sessions of the counseling was held in the psychology ward of the Imam Hassan and Ghand Abkooch centers. The first to third sessions were conducted by the researcher in six groups of 6-8 women, each of which lasted 90 min. In each center, three groups received intervention. Every counseling intervention was carried out at each center over a period of three days (i.e., one group a day).

The intervention was managed within eight weeks with one to three-week intervals. The fourth session was conducted for each participant individually with the participation of the subject, her partner, psychologist, sex therapist, and researcher for 60-90 min. This session was held at Rahyab Psychological Clinic, Mashhad, Iran.

The first session focused on the women's sexual response during the postpartum period with a one-week interval. The second session with a two-week interval was focused on the biopsychosocial factors affecting sexual issues during the postpartum period. The third session was held with a two-week interval concerning intimacy and effective communication. Eventually, the fourth session with two to three-week interval was guided with the aim of personal support and answering the questions of each subject and her partner. Counseling sessions' details are presented in table 1.

In this study, the intervention was performed following a study conducted by McBride et al. in terms of the number, content, and exact timing of each session as well as the organization of the WPSHP meetings (4). On the other hand, the control group received the routine care of the health centers. After the end of the eighth week of intervention, the DASS-21 questionnaire was completed and compared by a researcher, who was blind to the way of allocating the units to the groups.

In order to collect data, the researcher initiated the sampling by presenting a letter of introduction obtained from the Faculty of Nursing and Midwifery of Mashhad University of Medical Sciences. Moreover, we coordinated with the authorities of the selected health centers and achieved the

approval of the Ethics Committee of Mashhad University of Medical Sciences. Written consent was obtained from the participants, who were assured about the confidentiality of their information.

People with severe and moderate depression were referred for receiving the essential treatments. The counseling was also conducted for the control group if desired after the completion of the research. In the present study, the data were analyzed by SPSS version 16 using the independent and paired t-test, as well as the Kolmogorov-Smirnov, Mann-Whitney U, Chi-square, and Fisher's exact tests. P-value less than 0.05 was considered statistically significant.

Results

The demographic characteristics of the participants are presented in Table ۲. Regarding the

Table 1. Characteristics of counseling intervention based on women's postpartum sexual health program

Sessions	Objective of session	Counselor	Counseling method	Session theme	Tasks	Duration (min)
First	-Introducing women to the group -Normalizing postpartum experiences -Understanding women's sexual response cycle	Trained researcher	Lecture, questions and answers, and power point	Female sexual response cycle and postpartum period	Introducing the female sexual response model to the partner and discussing the suitability of this model with their relationship	90
Second	-Providing detailed information and strategies to address some of the most common biopsychosocial problems in sexual intercourse	Trained researcher	Lecture, questions and answers, and power point	Biopsychosocial factors affecting sexuality	-Completing the personal snowball analysis of the main ideas, emotional outcomes, and behaviors associated with current sexual intercourse, -Identifying and replacing problematic thoughts/cognitive deviations through the worksheet -Discussing and practicing the first phase of sensory concentration with the spouse	90
Third	-Establishing emotional communication, and intimacy -Reinforcing previous contents	Trained researcher	Lecture, questions and answers, and power point	Intimacy and effective communication	Discussing and practicing the second stage of sensory concentration with spouse	90
Fourth	-Responding to questions of the spouses, or the questions about which the women were uncomfortable with asking at group meetings	Trained researcher + Ph.D. in clinical psychology	Lecture, questions and answers	Helping couples to better understand the impact of relational factors on sexual issues and providing recommendations and strategies for improving each partner's sexual intercourse		60-90

Table 2. Comparison of demographic characteristics between the intervention and control groups

Variables	Sexual counseling Mean±SD	Control Mean±SD	Test results
Women's age	29.5±4.3	29.4±4.2	*P=0.90
Spouse's age	34.2±6.8	34.2±6.8	*P=0.85
Frequency of delivery	1.4±0.5	1.5±0.5	**P=0.98
Duration of marriage	7.9±4.3	9.1±4.5	*P=0.24
	Frequency (%)	Frequency (%)	
Spouse's support			*P=0.05
Poor	3 (8.6)	1 (2.5)	
Low	5 (14.3)	2 (5.0)	
Moderate	19 (54.3)	20 (50.0)	
Satisfactory	8 (22.9)	17 (42.5)	
Intended pregnancy (mother's decision)			***P=0.16
Yes	30 (58.7)	39 (97.5)	
No	4 (11.4)	1 (11.4)	
Does not matter	1 (2.9)	0 (0)	
Intended pregnancy (father's decision)			***P=0.94
Yes	29 (82.9)	39 (97.5)	
No	5 (14.3)	1 (2.5)	
Does not matter	1 (2.9)	0 (0)	
Income			***P=0.94
I do not know	2 (5.7)	3 (7.5)	
Far enough	8 (22.9)	7 (17.5)	
Less than enough	25 (71.4)	30 (75.0)	

* Independent t-test, **Mann-Whitney test, ***Exact x2

educational level, 20 (47.5%) and 21 (60.0%) participants in the intervention and control groups had high school diploma, respectively. Furthermore, 25 (71.4%) and 30 (75.0%) subjects in the intervention and control groups had low income level, respectively. The mean durations of marriage were 7.94 ± 4.38 and 9.17 ± 4.52 years in the intervention and control group, respectively.

The frequency percentages of the postpartum menstruation resumption were 65.7% (n=23) and 52.5% (n=21) in the intervention and control groups, respectively. The results of the analysis showed that both intervention and control groups were homogeneous in terms of demographic variables. Concerning the stress, the results of the independent t-test indicated that there was no significant difference in the stress scores between the intervention and control groups at the pre-intervention stage (P=0.31).

After eight weeks of intervention, the stress score in the intervention group was significantly lower than that in the control group (P=0.04). The results of the paired t-test showed a significant difference in the stress score of the intervention group eight weeks after the intervention (P=0.02); however, the control group showed no significant difference in this regard (P=0.42).

Furthermore, the results of the Mann-Whitney U test revealed no significant difference between the intervention and control groups in terms of the anxiety score before the intervention (P=0.62). However, eight weeks after the intervention, the anxiety score in the intervention group was significantly lower than that in the control group (P=0.01). The results of the Wilcoxon test demonstrated that there was no significant difference in the anxiety score of the control group eight weeks after the intervention, compared to the pre-intervention stage (P=0.78).

Nevertheless, this variable was significantly different in the intervention group eight weeks post-intervention as compared to before the intervention (P≤0.001). Additionally, the results of the Mann-Whitney U test demonstrated no significant difference in the scores of depression between the intervention and control groups prior to the intervention (P=0.08).

However, eight weeks after intervention, the depression score in the intervention group was significantly lower than that in the control group (P=0.008).

Furthermore, the results of the Wilcoxon test indicated no significant difference in the depression score in the control group eight weeks post-intervention (P=0.58). However, in the intervention group, the depression scores were significantly different eight weeks after the intervention, compared to the

Table 3. Comparison of stress, anxiety, and depression scores in the intervention and control groups before and after sexual counseling

		Groups		
		Intervention	Control	Intergroup comparison
Stress	Before intervention	14.1±4.0	15.0±3.4	***P=0.31
	After intervention	13.3±3.4	14.9±3.4	***P=0.04
	Intragroup comparison	****P=0.02	****P=0.42	
Anxiety	Before intervention	10.8±2.2	11.1±2.3	*P=0.62
	After intervention	10.3±1.8	11.1±2.3	*P=0.01
	Intragroup comparison	**P=0.001	**P=0.78	
Depression	Before intervention	10.5±3.4	11.6±3.1	*P=0.08
	After intervention	9.8±3.0	11.6±2.9	*P=0.008
	Intragroup comparison	**P=0.003	**P=0.58	

*Mann-Whitney test, ** Wilcoxon test, *** Independent t-test, **** Paired t-test

pre-intervention stage ($P=0.003$). The results of the study on the intervening variables indicated that the spouse's support was significantly associated with anxiety ($P=0.001$) and stress ($P=0.04$). In this regard, the women's stress and anxiety decreased along with the enhancement of the spouse's support. Results of inter and intra-group comparisons are presented in table 3.

Discussion

As the findings of this study indicated, sexual counseling based on the WPSHP significantly attenuated the anxiety, stress, and depression of the women during the postpartum period. The findings of a study conducted by Taghizadeh et al. (2008) revealed a statistically significant difference in the incidence of post-traumatic stress disorder between the intervention and control groups three months post-childbirth (29). Consistent with the current study, Azizi et al. (2010) reported a statistically significant difference in the reduction of stress, anxiety, and depression three months post-delivery (26).

Taghizadeh and Azizi revealed that the provision of counseling by the midwives also reduced stress and depression using a research intervention similar to that of Gamble et al. (2005). Furthermore, the consultation by the midwives was demonstrated to increase maternal self-confidence for future births (30). It seems that the support and emotional relationship of the mothers increase their self-esteem and empowerment, which in turn results in the reduction of stress and depression. The WPSHP includes homework assignments and effective communication with mothers for the development of their sexual and psychological skills; accordingly, these measures seem to be effective in the self-confidence and ability of this population.

In a review study carried out by Dennis et al. (2004) with the aim of examining the preventive interventions for depression during postpartum period, it was concluded that there is no clear and strong approach for clinical application.

Moreover, it is very important to consider the ethnic, economic, and social conditions of the individuals to prevent from the incidence of postpartum depression as a general health problem (31). Huang et al. (2006) reported that variability of the relationship between sexual function and postpartum depression is a culture-dependent issue, which may vary from country to country. There is a very strong association between the poor interpersonal relationship with the spouse and post-delivery depression (32).

It seems that the focus of the sexual health program on the improvement of interpersonal relationships was one of the important causes of the effectiveness of this program in reducing anxiety, stress, and depression. Furthermore, in this study, anxiety and stress had a significant relationship with spouse's support, which was indicative of the reduction of maternal stress and anxiety by the promotion of spouse's support.

Milgrom et al. (2011) implemented an antenatal intervention to decrease depression and parenting difficulties. The mentioned intervention was carried out on 143 pregnant women and included a nine-unit self-guided workbook with weekly telephone support. The mentioned study showed that the given intervention was effective, and the symptoms of depression and anxiety decreased in these individuals (33).

The sexual health program also uses psychological and sexual assignments, which should be performed at home together with a partner. The act of involving people with assignments seems to improve the individuals' skills in the respective field. Moreover, this practice establishes a condition for performing the joint task along with the spouse, which in turn increases the couples' interaction. Regarding the fact that sexual dysfunction had a reciprocal relationship with anxiety and depression, it seems that the implementation of sexual health counseling program diminished the stress, anxiety, and depression caused by sexual dysfunction in the intervention group.

The positive results obtained in this study could be due to several reasons. The first reason was that this program has been specifically designed for the postpartum women since these females experience unique challenges that are specific to this period and completely affect their sex life. Another benefit of this program is its teamwork, which helps the participants normalize their sexual concerns during this period. In this regard, the mothers find that they are not the only ones who suffer from these problems. On the other hand, sex is a mutual relationship, in which the role of any gender cannot be ignored.

In this regard, another advantage of this program is the implementation of counseling session with the presence of the couples during which the sexual concerns of these women's husbands will also be addressed. Furthermore, the couples are assisted to better conceptualize the impact of relational factors on sexual issues. Additionally, in this program, the couples are provided with recommendations and strategies targeting toward the improvement of their interpersonal and sexual relations.

The limitations of this study included the impact of individual differences on the effectiveness of the speeches presented in the counseling sessions. Furthermore, the individual motivations of the research units might have affected their responses to questionnaire due to the self-reporting nature of the research tool. Another limitation of the study was the lack of precise control over the study population in terms of being influenced by other sources, media, neighbors, relatives, friends, or the comments presented in the counseling sessions.

Implications for Practice

As the findings of the present study indicated, sexual counseling was effective in the improvement of depression, anxiety, and stress among the postpartum women. Consequently, a WPSHP-based sexual counseling can be proposed to reduce depression, anxiety, and stress in the postpartum women suffering from sexual dysfunction. The results of this study could be applied in training the midwifery and medical students and the midwives working in health centers to supply them with the necessary skills for counseling the postpartum women about their sexual issues during this period. In addition, the health care providers can use this consultation in the health clinics. It is recommended to investigate the effect of this program on sexual distress and dysfunction as well.

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Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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