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ORIGINAL PAPER

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Sexual Dysfunction and its Associated Factors After Delivery: Longitudinal Study in Iranian Women

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ABSTRACT

Introduction: Considering physical and emotional changes affecting women's sexual function in postpartum period. **Aim:** This study was conducted to determine the sexual dysfunction and postpartum-related factors in Bandar Abbas women in 2016.

Material and Methods: This analytical cross-sectional study used systematic random sampling on 432 postpartum women referred to Bandar Abbas Healthcare Centers. Data were collected by Demographic and Obstetrics Questionnaire and Female Sexual Function Index (FSFI) Questionnaire through interview and were analyzed by using SPSS ver.22 method. **Results:** The overall rate of sexual dysfunction was reported 85.95%. The most common postpartum sexual dysfunction was pain sexual dysfunction during sexual intercourse. The mean score of all types of sexual dysfunction increased over time after delivery except sexual satisfaction so that the mean score of sexual satisfaction did not show significant differences over time. There was a significant relationship between sexual dysfunction with factors such as duration of marriage ($p < 0.001$), number of children ($p < 0.001$), familial relationship ($p = 0.028$), episiotomy status ($P = 0.002$) and contraceptive method ($p = 0.001$). **Conclusion:** Considering the high prevalence of sexual disorders in this study, healthcare systems need to pay more attention to this area. In order to promote the health status of the family and ultimate of the society, attention to sexual health as well as the early diagnosis and treatment of sexual dysfunction of couples are important, especially during pregnancy and after childbirth.

Keywords: childbirth, postpartum, sexual health, female sexual dysfunction.

1. INTRODUCTION

Sexual activity and satisfaction are recognized as one of the most important dimensions in human life (1). According to World Association for Sexual Health (WAS), sexual desires are integral parts of every person's personality (2). Sexual function includes desire, arousal or excitement, orgasm and resolution (3). Sexual dysfunction is a chain of the psychosexual disorders and hard experience of individuals and couples that are manifested in terms of dysfunction in sexual desire, sexual arousal, orgasm and pain during intercourse (4).

Female sexual dysfunction is one of the most common problems that affect approximately 40-45% of women (5). The results of the study in Iran showed that 31.31% of women suffered from sexual dysfunction in such a way 35%, 30%, 33.7%, 37%, 26.7% and 31.5% of them respectively complained from sexual dysfunction, sexual anxiety disorder, vaginal dryness, orgasm disorders, pain disorder, and sexual satisfaction disorder (6). Several periods of hormonal changes in the lives of women such as menstruation, pregnancy and childbirth, postpartum, menopause, and multiple pregnancy affect their sexual performance (5). Pregnancy and childbirth are definite periods of a woman's life that causes hormonal and physical changes in a person and have significant effects on mothers' health and their quality of life (7).

Postpartum period is known as a vulnerable and stressful period for women from different cultural backgrounds who accompanied by significant social and individual changes for the mothers who encounter many new concerns and problems during this period (8). Postpartum sexual function is an important issue for couples, since the first sexual intercourse is an

important step for couples to establish a sincere relationship (9). Childbirth leads to anatomical and functional changes in the pelvic floor muscle, as most postpartum women who complained from sexual problems during this period which these sexual problems resolves usually one year after childbirth (10). Several factors can have influence on sexual dysfunction in the childbirth period, such as parity, breast feeding, mode of delivery, episiotomy, stress, fatigue and physical and psychological problems such as postpartum depression (2).

Couples generally experience significant reductions in postpartum sexual activity due to hormonal changes and compliance with parental role (11). Many women begin their sexual activity within 3 months of delivery; however, 83% of them have sexual problems within 3 months of delivery and 18-30% of them experience sexual problems within 6 months of delivery, and 30% to 52.5 % of them complain from dyspareunia or pain during intercourse (12). Various studies showed that the prevalence of physical postpartum and sexual problems in Iran are very different ranging from 22-86% (13-16).

In a study, 15% of non-lactating mothers and 35% of lactating mothers complained from pain during intercourse; sexual activity began in 62% of women after 6-8 weeks after delivery, and 81% of women resumed their sexual activity up to 3 months after delivery. A total of 89% of them complained from extreme fatigue during the first six months after childbirth to the extent that this fatigue led to sleep deprivation and had an impact on their sexual life (17). Women's refusal to perform sexual activity in the afterbirth period until weaning the child is deeply affected by the culture of the various areas in the postpartum period (18).

Women often experience sexual problems with the onset of sexual intercourse, which is usually not reported by women; therefore, no medical intervention is provided for them, which is due to poor verbal communication between health care providers and the mother about sexual matters (5). In 2004, the World Health Organization recommended further researches on sexual health of reproductive health due to its importance independently, the underlying cause of many disorders and diseases as well as awareness lack of sexual health in worldwide (19). The World Health Organization (WHO) has always emphasized that postpartum maternal, neonatal care, the provision of information and sexual counseling to women according to their needs is an ideal opportunity to address problems related to a sexual health and sexual function (20).

Therefore, it is essential to recognize the various aspects of sexual problems in postpartum period has known as direct or indirect effects, these disorders on family relationships between couples and develop knowledge about sexual issues during postpartum period and highlights the importance of investigating and consulting women on their sexual issues in the postpartum period (21).

2. AIM

The study aimed to determine the sexual dysfunction and postpartum related factors in Bandar Abbas women in 2016.

3. MATERIAL AND METHODS

Study design

This is a cross-sectional analytical study that was conducted to determine the sexual dysfunction and its related factors in postpartum period in women who living in Bandar Abbas in 2016.

Study population

This study was one component of a longitudinal study of women's health after childbirth. Participants were recruited when they gave birth in the maternity unit of a healthcare centers in Bandar Abbas. Finally, Subjects were selected from five health centers that had the most clients and were selected using systematic random sampling. The sample size was calculated at the 5% level of significance and finally the sample size was 432, which was obtained by simple sampling using the following equation.

Selection of study subjects

The inclusion criteria included lactating women who were between 2 to 12 months postpartum and were willing to be interviewed and had no history of complications such as preterm labor, gestational hypertension, postpartum depression, etc during pregnancy, postpartum delivery, and those who were also referred to healthcare centers for receiving services were selected for this study. If the study samples had a history of untreated pre-pregnancy problem, they were excluded from the study. Then, the researcher went to the selected health centers and completed the questionnaires for those whom were eligible to participate in the study. Sampling was carried out from June to October 2016.

Study instrument

The data collection instruments included demographic and obstetric questionnaire and the Female Sexual Function Index (FSFI). The demographic and obstetric questionnaire consisted of 32 demographic and midwifery questions, including age, education, spouse's occupation, age difference with the spouse, ethnic difference with the spouse, housing situation and separate bedrooms, level of income, pregnancy and childbirth, number of children, type of delivery, birth weight, episiotomy status and rupture during delivery, gender of the baby, desire for the baby gender from the spouse's viewpoint, contraceptive method, lactation status, mean intercourse in the week before pregnancy and postpartum, time of intercourse to the week after childbirth, the way of marriage and satisfaction with marital life. Since the questions were adjusted according to the specific conditions and requirements of the target group in current study, therefore the validity and reliability of the questionnaire were tested. The qualitative content validity of the questionnaire was approved by a panel of experts in the field.

FSFI is a 19-item questionnaire that measures female sexual function in 6 areas of sexual function: sexual desire (2 items), sexual stimulation (4 items), vaginal moisture (4 items), orgasm (3 items), satisfaction (3 items), and sexual pain (3 items). These subcategories have a response spectrum of 1 to 5, and a score greater than 5 indicates a better sexual performance. A score of less than 28 indicates an undesirable sexual function. This instrument should be used for pre and post-intervention evaluation (22). In a study, Ahmad Shirvani and Bagherinsami (2011), deter-

Variables	Duration after childbirth					P-Value
	2 months post-partum	4 months post-partum	6 months post-partum	9 months post-partum	12 months postpartum	
	M ± SD	M ± SD	M ± SD	M ± SD	M ± SD	
Female Sexual Function Index	20.72±5.14	22.19±4.58	21.19±4.84	23.39±6.31	26.02±4.10	P=0.035
Sexual Desire	3.09±1.13	3.35±1.25	3.48±1.43	3.22±1.35	3.64±1.54	P=0.05
Sexual Arousal	3.40±1.06	3.67±1.06	4.15±1.30	3.71±1.19	3.83±1.26	P=0.001
Lubrication	3.70±1.34	3.98±1.37	4.43±1.06	3.93±1.02	4.02±1.37	P= 0.008
Orgasm	1.2±0.43	1.23±0.42	1.41±0.49	1.35±0.48	1.20±0.4	P=0.001
Sexual Satisfaction	4.37±1.00	4.61±0.97	4.58±1.15	4.52±0.98	4.28±1.19	P=0.409
Sexual Pain	3.57±1.74	3.84±1.52	3.82±1.65	3.15±1.45	2.89±1.55	P=0.020

Table 1. The mean and standard deviation of sexual function score and its domains in postpartum period in Bandar Abbas

Variables	Duration after childbirth				
	2 months post-partum	4 months post-partum	6 months post-partum	9 months post-partum	12 months postpartum
	N (%)*	N (%)	N (%)	N (%)	N (%)
Sexual desire disorder	80 (40.2)	49 (24.6)	45 (22.6)	11 (5.5)	14 (7)
Sexual arousal disorder	74 (40.4)	57 (31.1)	27 (14.8)	11 (6)	14 (7.7)
lack of vaginal lubrication	69 (39.2)	49 (27.8)	25 (14.2)	17 (9.7)	16 (9.1)
Orgasmic disorder	74 (40)	51 (27.5)	26 (14.1)	20 (10.8)	14 (7.5)
Sexual dissatisfaction	38 (36.9)	24 (23.3)	18 (17.5)	11 (10.7)	12 (11.7)
Pain during sexual intercourse	82 (33.7)	61 (25.1)	46 (18.9)	23 (9.5)	31 (12.8)
Total sexual dysfunction	131 (36.3)	95 (26.3)	68 (18.8)	31 (8.6)	36 (10)

Table 2. Trend of sexual dysfunction's frequency and its domains after delivery period in 420 lactating women in Bandar Abbas. * N (%) = Number (Percent)

mined its reliability using the SPILIT method and obtaining $\alpha = 0.84$ (16). In the present study, the internal consistency calculation method was used to calculate the reliability of the instrument.

Ethical issues and data collection

This research was carried out based on the approval of the Ethics Committee of Hormozgan University of Medical Sciences (HUMS.REC.1395.69) and after obtaining a permission and introduction letter from the university. The researcher then introduced himself to the research center by submitting a written introduction letter, and obtained written informed consent from the subjects, away from any coercion, threat, or seduction. The research subjects were given information about the method of implementation, purpose and the duration of the research. Their questions were answered, and then were included in the research.

Statistical analysis

Data description was performed using appropriate charts and frequency tables. Pearson correlation coefficient, regression and other suitable parametric and nonparametric tests are used to analyze the data. Finally, data analysis was performed in SPSS ver. 22 at significance level of $P < 0.05$.

4. RESULTS

All women were interviewed. The response rate was 97.22% (N=420). Table 1 shows the relationship between the types of sexual disorders and the duration of delivery. The mean score of all types of postpartum sexual disorders increases as time passes, and the level of these disorders is reduced, except for sexual satisfaction domain, the mean score did not show significant differences over time ($p = 0.409$).

Table 2 shows trend of sexual dysfunction's frequency and its domains in periods of 2, 4, 6, 9 and 12 months after delivery and the overall postpartum prevalence of sexual dysfunction was 85.95% in this city. The tables shows distribution of postpartum sexual disorders by months and all types of sexual dysfunction were more prevalent in 2 months after childbirth and this rate decreased with time after childbirth. The most common postpartum sexual disorder is pain during sexual intercourse and subsequent sexual desire disorder.

Table 3 shows the relationship between different types of demographic and obstetric variables with sexual dysfunction. There was significant correlation between sexual dysfunction and factors such as length of marriage ($p < 0.001$), number of children ($p < 0.001$), familial relation ($p = 0.028$), episiotomy ($P = 0.002$) and contraceptive method ($p = 0.001$).

5. DISCUSSION

Sexual dysfunction has an important impact on quality of life and interpersonal relationships between couples. Since physical, psychological and physiological changes in pregnancy and childbirth are effective on women's sexual function, the aim of this study was to determine the sexual dysfunction and its related factors during postpartum period among women in Bandar Abbas in 2016. In this study, 85.95% of women experienced some degree of sexual dysfunction, one year postpartum with the highest rate of sexual dysfunction occurring during the first 2 months postpartum (36.3%) and gradually decrease over time, with the lowest occurring in 12 months postpartum (10%). Therefore, the female sexual function score improved in the first 2 months postpartum (20.72) and reached to 26.02 in 12

Variables	Having sexual dysfunction		No sexual dysfunction		P-Value	
	M / N*	SD / %**	M / N	SD / %		
Age (years)	28.21	4.22	29.24	3.98	P=0.082	
Duration of marriage (years)	5.37	3.43	7.98	4.64	P<0.001	
Number of children	1	0.01	2.10	0.74	P<0.001	
Time to start sexual activity after delivery (week after childbirth)	6.87	2.23	7.25	2.13	P=0.213	
Familial relationship	Stranger	211	89	26	11	P=0.028
	Relative	150	82	33	18	
Level of Education	Elementary / guidance	37	86.5	7	13.5	P=0.633
	High school / Diploma	164	85	29	15	
Occupation	Academic degree	160	87.4	23	12.6	P=0.298
	Employed	63	88.7	8	11.3	
Having a separate bedroom	Housewife	298	85.4	51	14.6	P=0.067
	Yes	300	84.7	54	15.3	
Type of delivery	No	61	92.4	5	7.6	P=0.079
	Cesarean Section	181	83.4	36	16.6	
Episiotomy status	Vaginal Delivery	180	88.7	23	11.3	P=0.002
	Yes	139	92.7	11	7.3	
Baby Gender	No	22	82.2	48	17.8	P=0.159
	Boy	188	87.9	26	12.1	
Contraceptive	Girl	173	84	33	16	P=0.001
	Withdrawal	189	85.1	33	14.9	
	Condom	131	91	13	9%	
	OCP	6	100	0	0	
	TL	7	50	7	50	
	IUD	4	57.1	3	42.9	
	Injection AMP	4	100	0	0	
	Lactation pill	11	78.6	3	21.4	
No contraceptive	8	100	0	0		

Table 3. Comparison of demographic and obstetric characteristics among postpartum women with sexual dysfunction and lack of sexual dysfunction. *Mean/Number. **Standard Deviation/ Percent

months postpartum consistent with results of other studies. Gazner reported the highest and lowest prevalence rate of sexual problems during the first eight weeks postpartum (53%) and one year postpartum, (31.5), respectively (23). Also, the prevalence of sexual disorders in the first trimester after delivery in Zhou's and Bart's study was 70.6% and 83% respectively, which is reached 34.2% and 64% in the sixth month, respectively (12). Most of studies referred to the higher prevalence rate of sexual disorders in the first months of childbirth and its subsequent reduction. The different prevalence rates reported by various studies can be attributed to racial, cultural, social factors, etc., as well as the difference sexual problems are examined (6).

According to the results of the present study, sexual desire and sexual arousal disorder are the most frequent sexual disorder in 2, 4, 6 months postpartum (40%), which is reached to the lowest level of sexual disorder (7%) during the 12 months postpartum. Therefore, sexual desire and arousal score increased over time, resulting in a significant correlation between sexual desire score and length of interruption in the initiation of postpartum intercourse. These results were consistent with Shirvani et al. (2011) who reported the mothers initiated sexual intercourse one to three months postpartum (16). In various studies, fatigue due to maternal duties, stress and sleep disorder have been reported as the cause of decreased sexual desire in the first months of postpartum (24). Therefore, during this period, women need psychological counseling, which

emphasize the fact that this issue must be addressed by midwives and health care providers. The most frequent sexual disorders were 9 months postpartum included orgasm (10.8%) and sexual dissatisfaction (10.7%). Factors affecting female sexual satisfaction included relationship between the spouse such as intimacy, honesty, calm, respect, and positive emotions. In fact, the main factor in female sexual response is the enthusiasm and satisfaction of the sexual partner (25). Therefore, psychological and physical factors such as physical discomfort, body appearance discomfort, lower physical ability, increased fatigue, vaginal dryness, playing maternal new role, less resting, and type of contraception can be effective on female sexual satisfaction. These results emphasize on presence of spouses in sexual and psychological counseling, since along with women, men should be trained. Moridi et al. (2017) emphasized in their study to use the pair training program instead of individual women's counseling, and help to promote family health by participating women in prenatal care and their proper training and application (26).

Another result of the present study referred to the most frequent disorders in 12 months postpartum and the most common sexual dysfunction postpartum was pain during intercourse, which is consistent with the results of Holland's and Boroumand's study. Therefore, vaginal variation and dryness due to postpartum hormonal changes and women's common complaint of pain during intercourse that can affect sexual desire and arousal, show the importance of this

disorder (28).

Considering high prevalence of sexual disorders in this study, the lack of attention to couples' sexual disorders, which can lead to psychological problems and ultimately serious marital problems and family violence (Moridi et al., 2016), healthcare systems need to pay more attention to this issue. On the other hand, according to the research, most of women often refer to cultural issues, involvement with childcare affairs and life problems as reasons for not to take their sexual problems serious. Midwives and health care providers in the field of sexual issues should be sensitive to couples' sexual counseling by promoting their level of knowledge and obtain skills in postpartum visits (29). Other results of the present study included the effect of demographic factors on sexual disorders and researchers obtained different results on age effect on sexual performance. Boroumand et al, found in his study no correlation between sexual function status and age, which is consistent with the results of the present study. On the other hand, Rolando (2006) and Otro (2006) found in their study a significant relationship between age and sexual function, and sexual problems increase with age. The results of the studies showed that social and cultural factors can have different results on age effect on sexual function. In the present study, high educated people had more sexual dysfunction, suggesting that only knowing about successful sexual function could not be effective. These results are consistent with the study of Beits (2004) and Tronovsky (2006). In fact, the high level of education did not help them with good sexual function (30, 31). On the other hand, in his study, Shirvani et al. (2011) showed that sexual problems are lower in those with higher education (16). Heidari et al. (2007) showed that employed women had less sexual desire in their postpartum period than housewives, which is inconsistent with the results of this study, suggesting housewives did not have a higher degree of sexual dysfunction than employed women, because considering the high education level of women and the lack of proper employment can contribute to the development of mental disorder (32).

Most of the sexual disorders were observed in those whom had a shorter duration of marriage (5.37 years); on the other hand, there was a greater disorder in those whom did not have a familial relationship with their spouses. The results revealed the role of consolidation of the family foundation and deep emotional and familial relationship between couples, since family marriage and kinship relationship has been affected postpartum sexual dysfunction. Boroumand et al. emphasised the quality of couple's relationships and intimacy on sexual health, and preserving relationships is an effective way of preventing sexual disorder. Broumand et al. (2012) showed that having a common bed room with children led to a reduction in the sexual function postpartum (25), while in the present study, even having a separate bedroom, failed to improve postpartum sexual function, suggesting that more rooted causes and effective factors in couples' sexual health should be investigated. In fact, just having a good environment is not enough for having a good intercourse; thus referring to many effective factors, including having mental health. In the present study, as in most studies, there was no relation-

ship between sexual dysfunction and cesarean and vaginal delivery, while Moghimi et al.(2011) showed that sexual function was better in women with vaginal delivery (15). The results of the present study showed that episiotomy has no effect on sexual dysfunction since women who did not undergo episiotomy suffered from higher incidence rate of sexual dysfunction than women with episiotomy. It seems, if for any reason, an episiotomy is necessary, intercourse is possible after at least three weeks after delivery due to the improvement of the cutting site and sutures, as well as the repair of the placental adhesion site. This underscores the importance of observing a safe interval for the resumption of postpartum intercourse. According to the previous studies, some sexual problems after vaginal delivery are due to the early establishment of intercourse and incomplete repair of episiotomy site (12).

There was a significant relationship between the contraceptive method and the female sexual function score in postpartum period. The highest and lowest frequent sexual dysfunctions were observed in the withdrawal method and in women who used IUD and injectable contraceptives, respectively; therefore, methods with a failure rate and a lower probability of pregnancy were associated with less sexual dysfunction. Therefore, fear of pregnancy in couples can be considered as one of the related factor on the sexual health. On the other hand, some studies revealed that hormonal contraceptive methods increased the sexual function of women compared with barrier methods such as condom; however, other studies showed that hormonal methods have a negative effect on the sexual desire and reduced the female sexual function score (33-37). Considering different results, more studies are needed in this area.

6. CONCLUSION

In order to promote the family health status and ultimately, the public health, paying attention to sexual health as well as early diagnosis and treatment of sexual dysfunction of couples are important, especially during pregnancy and after childbirth.

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REFERENCES

1. Litzinger S, Gordon KC. Exploring Relationships Among Communication, Sexual Satisfaction, And Marital Satisfaction. *J Sex Marital Ther.* 2006; 31(5): 409-422. doi: 10.1080/00926230591006719.
2. Banaei M, Torkzahrani S, Ozgoli G, Azad M, Mahmoudikohani F, Pormehr-Yabandeh A. Addressing the Sexual Function of Women During First Six Month After Delivery: Aquasi-Experimental Study. *Mater Sociomed.* 2018 Jun; 30(2): 136-140. doi: 10.5455/msm.2018.30.136-140.
3. McBride HL, Kwee JL. Sex After Baby: Women's Sexual Function in

- the Postpartum Period. *Current Sexual Health Reports*. 2017; 9(3): 142-149. doi: 10.1007/s11930-017-0116-3.
4. Wright JJ, O'Connor KM. Female Sexual Dysfunction. *Medical Clinics Of North America*. 2015; 99(3): 607-628. doi: 10.1016/j.mcna.2015.01.011.
 5. Yeniel AO, Petri E. Pregnancy, Childbirth, and Sexual Function: Perceptions and Facts. *International Urogynecology Journal*, 2015; 25(1): 5-14. doi: 10.1007/s00192-013-2118-7.
 6. Safarinejad MR. Female Sexual Dysfunction In A Population-Based Study In Iran: Prevalence And Associated Risk Factors. *International Journal of Impotence Research*. 2006; 18(4): 382-395. doi:10.1038/sj.ijir.3901440.
 7. Chang SR, Chen KH, Lin HH, Chao YM, Lai YH. Comparison of The Effects Of Episiotomy And No Episiotomy On Pain, Urinary Incontinence, And Sexual Function 3 Months Postpartum: A Prospective Follow-Up Study. *International Journal of Nursing Studies*. 2011; 48(4): 409-418. doi.org/10.1016/j.ijnurstu.2010.07.017.
 8. Ducarme G, Hamel JF, Brun S, Madar H, Merlot B, Sentilhes L. Sexual function and postpartum depression 6 months after attempted operative vaginal delivery according to fetal head station: A prospective population-based cohort study. *PloS one*. 2017; 12(6): e0178915. doi.org/10.1371/journal.pone.0178915.
 9. Lee JT, Tsai JL. Transtheoretical Model-Based Postpartum Sexual Health Education Program Improves Women's Sexual Behaviors And Sexual Health. *The Journal of Sexual Medicine*. 2012; 9(4): 986-996. doi.org/10.1111/j.1743-6109.2011.02419.x.
 10. Chang SR, Chen KH, Ho HN, Lai YH, Lin MI, Lee CN, Lin WA. Depressive symptoms, pain, and sexual dysfunction over the first year following vaginal or cesarean delivery: a prospective longitudinal study. *International journal of nursing studies*. 2015; 52(9): 1433-1444. doi.org/10.1016/j.ijnurstu.2015.04.019.
 11. Avery MD, Duckett L, Frantzich CR. The Experience of Sexuality during Breastfeeding Among Primiparous Women. *Journal of Midwifery and Women's Health*. 2000; 45(3): 227-237. doi.org/10.1016/S1526-9523(00)00020-9.
 12. Barrett G, Pendry E, Peacock J, Victor C, Thakar R, Manyonda I. Women's Sexual Health After Childbirth. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2000; 107(2): 186-195. doi.org/10.1111/j.1471-0528.2000.tb11689.x.
 13. Dabiri F, Yabandeh AP, Shahi A, Kamjoo A, Teshnizi SH. The Effect of Mode Of Delivery On Postpartum Sexual Functioning In Primiparous Women. *Oman Medical Journal*. 2014; 29(4): 276. doi: 10.5001/omj.2014.72.
 14. Bakhteyar K, Lorzadeh N, Pournia Y, Birjandi M, Ebrahimzadeh F, Kamran A. Factors associated with preterm delivery in women admitted to hospitals in Khorramabad: A case control study. *International Journal of Health & Allied Sciences*. 2012; 1(3): 147. doi: 10.4103/2278-344X.105064.
 15. Moghimi Hanji S, Mahdizade Torzani Z. A Comparative Sexual Function after Childbirth In Nulliparous Women Who Delivered By Cesarean And Vaginal. *Q Horizon Med Sci*. 2011; 18: 225-231.
 16. Shirvani Ma, Nesami M, Bavand M. Maternal Sexuality After Child Birth Among Iranian Women. *Pakistan Journal Of Biological Science*. 2010; 13: 385-389.
 17. Nezhad MZ, Goodarzi AM. Sexuality, Intimacy, And Marital Satisfaction In Iranian First-Time Parents. *Journal Of Sex & Marital Therapy*. 2011; 37(2): 77-88. doi.org/10.1080/0092623X.2011.547336.
 18. Anzaku AS, Mikah S. Postpartum Resumption Of Sexual Activity, Sexual Morbidity And Use Of Modern Contraceptives Among Nigerian Women In Jos. *Annals Of Medical And Health Sciences Research*. 2015; 4(2): 210-216. doi.org/10.4103/2141-9248.129044.
 19. Kaviani M, Rahnavard T, Azima S, Emamghoreishi M, Asadi N, Sayadi M. The Effect Of Education On Sexual Health Of Women With Hypoactive Sexual Desire Disorder: A Randomized Controlled Trial. *International Journal Of Community Based Nursing And Midwifery*. 2014; 2(2): 94.
 20. Abdool Z, Thakar R, Sultan AH. Postpartum Female Sexual Function. *European Journal Of Obstetrics & Gynecology And Reproductive Biology*. 2009; 145(2): 133-137. doi.org/10.1016/j.ejogrb.2009.04.014.
 21. Refaie Shirpak KH, Chinichian M, Maticka-Tyndale E, Eftekhar Ardebili H, Pourreza A, Ramenzankhani A. A qualitative assessment of the sex education needs of married Iranian women. *Sex Cult*. 2008; 12: 133-150.
 22. Handa VL. Sexual Function And Childbirth. In *Seminars In Perinatology*. 2006; 30(5): 253-256. doi.org/10.1053/j.semperi.2006.07.004.
 23. Glazener C. Sexual Function After Childbirth: Women's Experiences, Persistent Morbidity And Lack Of Professional Recognition. *BJOG: An International Journal Of Obstetrics & Gynaecology*. 1997; 104(3): 330-335. doi.org/10.1111/j.1471-0528.1997.tb11463.x.
 24. Rowland M, Foxcroft L, Hopman WM, Patel R. Breastfeeding And Sexuality Immediately Post Partum. *Canadian Family Physician*. 2005; 51(10): 1366-1367.
 25. Boroumandfar K, Rahmati MG, Farajzadegan Z, Hosseini H. Reviewing sexual function after delivery and its association with some of the reproductive factors. *Iranian J Nurs Midwifery Res*. 2010; 15: 220.
 26. Moridi A, Modarres M, Moghadam ZB, Forooshani AR. The Effect of Education Program of the Couples Based on the BASNEF Model on Spousal Support and Mental Health of Pregnant Women. *Global Journal of Health Science*. 2016 Nov 10; 9(6): 88. doi.org/10.5539/gjhs.v9n6p88.
 27. Holanda JBDL, Abuchaim EDSV, Coca KP, Abrão ACFDV. Sexual Dysfunction And Associated Factors Reported In The Postpartum Period. *Acta Paulista De Enfermagem*. 2014; 27(6): 573-578. doi.org/10.1590/1982-0194201400093.
 28. Moridi A, Modarres M, Mogaddam ZB, Foroushani AR. Investigating the effect of anger management counseling and stress controlling on mental health of pregnant women. *International Journal of Pharmaceutical Research & Allied Sciences*. 2016 Jul 1; 5(3).
 29. Torkzahrani Sh, Banaei M, Ozgoli G, Azad M, Emamhadi MA. Postpartum Sexual Function; Conflict in Marriage Stability: A Systematic Review. *International Journal of Medical Toxicology and Forensic Medicine*. 2016; 6(2): 88-98. doi: eprints.hums.ac.ir/id/eprint/3313.
 30. Trutnovsky G. Et Al. Women's Perception Of Sexuality During Pregnancy And After Birth. *Australian And New Zealand Journal Of Obstetrics And Gynaecology*. 2006; 46: 282-287. doi.org/10.1111/j.1479-828X.2006.00592.x.
 31. Basson R, Leiblum S, Brotto L, Derogatis L, Fourcroy J, Fugl-Meyer K, Schultz WW. Revised Definitions Of Women's Sexual Dysfunction. *The Journal Of Sexual Medicine*. 2004; 1(1), 40-48. doi.org/10.1111/j.1743-6109.2004.10107.x.
 32. Heidari M, Marghati-Khoei E, Velaei N. Examine the Relationship between Mode of Delivery and Postpartum Sexual Function. *Pejouhande*. 2009; 20(68): 20-24.
 33. Guida M, Di Spiezio Sardo A, Bramante S, et al. Effects of two types of hormonal contraception- oral versus intravaginal - on the sexual life of women and their partners. *Hum Reprod*. 2005; 20(4): 1100-1106. doi.org/10.1093/humrep/deh686.
 34. Sanders SA, Graham CA, Bass JL, Bancroft J. A prospective study of the effect of oral contraceptives on sexuality and well being and their relationship to discontinuation. *Contraception*. 2001; 64: 51-58. doi.org/10.1016/S0010-7824(01)00218-9.
 35. Nasiri Amiri F, Haji Ahmadi M, Bakoei F. Assessment of sexual function during breastfeeding and its related factors in primiparous women referred to babol health centers (2005-2006). *J Babol Univ Med Sci*. 2007; 9(4): 52-58.
 36. Klein K, Worda C, Leipold H, Gruber C, Husslein P, Wenzl R. Does The Mode Of Delivery Influence Sexual Function After Childbirth?. *Journal Of Women's Health*. 2009; 18(8): 1227-1231. doi.org/10.1089/jwh.2008.1198.