

<http://www.pjbs.org>

PJBS

ISSN 1028-8880

**Pakistan
Journal of Biological Sciences**

ANSI*net*

Asian Network for Scientific Information
308 Lasani Town, Sargodha Road, Faisalabad - Pakistan

Maternal Sexuality after Child Birth among Iranian Women

¹M.A. Shirvani, ²M.B. Nesami and ³M. Bavand

¹Department of Midwifery,

²Department of Nursing Management,

³Department of Midwifery, Nasibeh Nursing and Midwifery School,
Mazandaran University of Medical Sciences, Sari, Iran

Abstract: The aim of this study was to investigate the sexual function of mothers at one year postpartum and associated factors. Four hundred and ninety Iranian women were recruited randomly at four time periods from child birth: first 3 months, 4 to 6, 7 to 9 and 10 to 12 months, from January to July 2008. All mothers were married, literate and agreed with participation. The exclusion criteria were, (a) loss of baby, (b) living far from their partner, (c) psychological problems and (d) serious medical diseases. Data on socio-demographic factors, obstetric, medical, last delivery and postpartum history was obtained. The sexual function was evaluated by the 19th item questionnaire of Female Sexual Function Index (FSFI). The mean resumption of intercourse was 57.17 ± 27.95 . Twenty-four had no sexuality. The most common reasons were fear of pain, no interest, worrying about another pregnancy, feeling tired and bleeding. All dimensions of women's sexual function were at the lowest level in early postpartum. Sexual activity had significance correlation with an older maternal age, a longer marriage duration and higher number of children. Mothers diseases, neonate problems and tuboligation were associated with lower scores of sexual function. There was no association with delivery type and perineal injuries. Sexual parameters decrease at the first 3 months of postpartum and recovery during the following months. More consultation and direction of postnatal sexuality recurrence is needed.

Key words: Sexuality, sexual function, postpartum, delivery

INTRODUCTION

Sexual functioning is recognized as a multidimensional phenomenon and is influenced by many bio-psychosocial factors. Child birth and postpartum periods have a substantial impact on the sexual behavior of mothers. In general, sexual functioning typically declines during pregnancy and remains low during the postpartum period for many women. According to review of literatures sexual activity tends to be reduced for several months as compared with the pre pregnancy level and sexual problems occur relatively often (Von Sydow, 1999). The literature estimates a range of short term postpartum sexual problems from 22 to 88% (Hicks *et al.*, 2004). It is reported that in the first three months after delivery a high percent of women experience sexual problems (Xu *et al.*, 2003; Barrett *et al.*, 2000). Of course, there is less agreement in the findings of research on the resumption of sexual activity and it's prevalence following child birth (Von Sydow, 1999). It may reflect differences in cultural, racial, socio-economic and health variables among countries.

Maternal sexuality during postpartum may be correlated with some factors such as maternal age (Van Brummen *et al.*, 2006; Al Bustan *et al.*, 1995), sexual intercourse during pregnancy (Van Brummen *et al.*, 2006), mode of delivery (Hicks *et al.*, 2004; Barrett *et al.*, 2000; Barrett *et al.*, 2005; Rowland *et al.*, 2005), breast feeding (Al Bustan *et al.*, 1995; Rowland *et al.*, 2005; Hyde *et al.*, 1996; Alder, 1989), parity (Al-Bustan *et al.*, 1995; Rowland *et al.*, 2005), level of education (Al-Bustan *et al.*, 1995), duration of marriage (Al-Bustan *et al.*, 1995), psychological variables (DeJadicibus and McCabe, 2002) and physical factors related to delivery (Lamarre *et al.*, 2003).

Moreover, sexual difficulties experienced by the new mother may cause much distress, familial discord and divorce, influence the quality of their life, their self esteem, physical and mental well being and interpersonal relationships. A greater understanding of problems in female sexuality after child birth is basic to plan an effective treatment and to develop prevention strategies. Sometimes postpartum sexual concerns lack professional recognition, with health care providers focusing

exclusively on the infant's adjustment. Also, many mothers do not ask consultants regarding their concerns. Therefore many of researchers emphasis health care workers need to be made aware of this silent problem and should counsel the women in their care (Abdool *et al.*, 2009; Glazener, 1997; Saurel-Gubizolles *et al.*, 2000).

On the other hand, most studies of sexuality after birth suffer from methodological problems, such as, non random convenience and small sample, not providing operational definitions of terms and do not use of standard scales. Furthermore, the results of some studies are in contrast with each other.

The purpose of this study is: (1) to provide descriptive data on the sexual function of mothers at four time periods from child birth through 12 months postpartum and (2), to evaluate which factors are associated with sexual activity during this time.

MATERIALS AND METHODS

A cross sectional study was conducted of women attending the mother and child health services during one year after delivery in the North of Iran from January to July 2008. Sample size was determined to be at 95% confidence interval and 49.6% prevalence of female sexual dysfunction in a pilot study. Using this assumption, a sample size of 480 was required. With a project subject drop out rate of 10%, the total number required was determined to be 528. The year after child birth was divided into four periods of time: first at 3, 4 to 6, 7 to 9 and 10 to 12 months. A systematic random sampling design was used.

Participants must meet a number of criteria to be included in the sample including, (1) attending from 6 weeks to one year post delivery, (2) being sufficiently literate to complete questionnaires, (3) agree to participate in the study and (4) to be married. The exclusion criteria were, (1) loss of baby, (2) living away from partner, (3) psychological problems and (4) serious medical diseases.

A questionnaire was completed for each woman by gathering information about them and pulling their medical reports, including socio- demographic factors, obstetric and medical history, last delivery and postpartum history, along with contraceptive practices after child birth. Then, a 19 item questionnaire of Female Sexual Function Index (FSFI) was completed by each woman. This clinical tool has the advantage of being standardized, easy to administer scores and provides normal values in general and pathological populations (Safarinejad, 2006; Rosen *et al.*, 2000). The FSFI evaluates six domains of female sexual functioning during the last four weeks which includes: desire, arousal, lubrication,

orgasm, satisfaction and pain during sexual intercourse (Safarinejad, 2006). The full scale over range is from 2 to 36, with higher scores associated with a lesser degree of sexual dysfunction. Analysis of data was made by the use of descriptive statistic, t-test, ANOVA and correlation.

RESULTS

Of the 528 women who were recruited, 38 (7.2%) were excluded from analysis because of incomplete responses (26), non-attendance of husband (4), hysterectomy (1) and serious medical and psychological problems after delivery (7). A total of 490 women were assessed and their characteristics are given in Table 1. The mean was 26.38±4.79 (15-39) years for maternal age; 20.56±3.74 (13-36) for marriage age; 5.87, SE: 0.18 (1-21) years for marriage duration and 26.54±4.68 (15.11-46.07) for Body Mass Index (BMI).

Table 1: Socio demographic characteristics of subjects

Characteristics	No.	Percentage
Age		
<20	51	10.4
20-30	340	69.4
>30	99	20.2
Education		
Primary	89	18.1
High school	253	51.6
Graduate	148	30.2
Occupation		
Housewife	439	89.6
Employment	51	10.4
BMI¹		
<20	32	6.3
20-25	213	43.3
26-30	136	27.6
>30	112	22.9
Para		
1	308	62.9
2-3	178	36.3
>4	4	0.8
Exercise		
Yes	113	23.1
No	377	76.9
Contraceptive		
Coitus interrupts	167	34.1
POPs ²	56	11.4
Candom	164	33.5
IUD ³	6	1.2
TL ⁴	26	5.3
Breastfeeding	11	2.2
OCPs ⁵	54	11.0
DMPA ⁶	6	1.2
Delivery mood		
Vaginal	171	34.9
Cesarean	319	65.1
Postpartum duration		
First 3 months	118	24.1
4-6th months	120	24.5
7-9th months	118	24.1
10-12th months	134	27.3

¹Body mass index, ²Progesterone only pills, ³Intra uterine device,

⁴Tuboligation, ⁵Oral contraceptive pills, ⁶Demedrogyprogesteron acetate

The range of resumption of intercourse was between 15 to 210 days after delivery, with mean of 57.17±27.95. Twenty-four (4.9%) had no sexuality, which the minimum time from delivery was 45 days and the maximum time was 12 months. Also, 259 women (52.9%) had delayed sexuality for more than 45 days of postpartum (in Iran, it is recommended delaying intercourse until 6 weeks post child birth). Mother's reasons for having no sexuality or delaying were fear of pain (8.6%), no interest (3.5%), worrying about another pregnancy (2.5%), being tired (2.2%) and bleeding (0.6%). Forty-three women (8.8%) reported problems in sexuality and 196 (40%) had felt a decreased desire in comparison with pre-pregnancy, however, only 12 (2.4%) of Mothers discussed their issues with a health care professional.

The sexual functioning items scores by 4 periods postpartum were significantly different by ANOVA (Table 2). Scheffe test indicated significant differences of desire, arousal, lubrication and total score between first, third and fourth 3 months; for orgasm, satisfaction and pain between first and third 3 month.

There was a significant correlation between sexual function and some socio-demographic variables (Fig. 1).

Table 2: Comparison of sexual functioning items by 4 points after postpartum

Sexual item	Months				p-value
	First 3	4-6th	7-9th	10-12th	
Desire	3.01±0.93	3.19±0.88	3.38±0.84	3.38±0.85	0.002
Arousal	3.18±1.41	3.59±1.12	3.85±1.07	3.68±1.09	0.0001
Lubrication	3.16±1.57	3.60±1.21	3.88±1.24	3.72±1.14	0.0001
Orgasm	3.64±1.64	3.88±1.21	4.15±1.20	4.07±1.14	0.01
Satisfaction	4.30±1.57	4.56±1.20	5.01±0.97	4.73±1.18	0.0001
Pain	3.54±1.80	4.00±1.39	4.23±1.16	3.97±1.39	0.003
Total score	20.86±7.94	22.84±5.46	24.51±4.90	23.58±4.89	0.0001

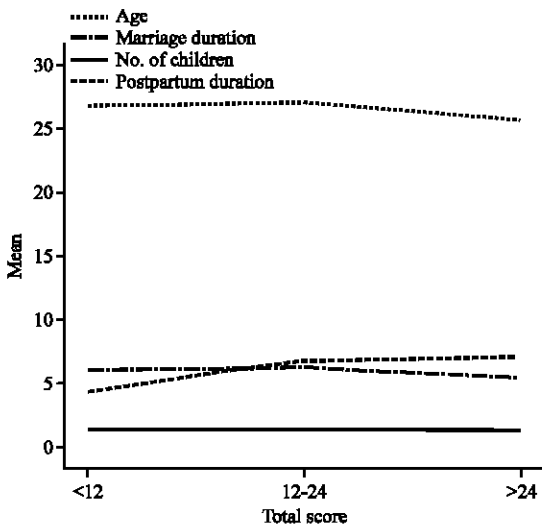


Fig. 1: Correlation between sexual function and maternal characteristics

A direct and strong correlation ($r = 0.17, p = 0.0001$) was seen with postpartum duration. Higher maternal age ($r = -0.12, p = 0.006$), marriage duration ($r = -0.08, p = 0.05$) and number of children ($r = -0.09, p = 0.02$) were correlated with a decrease of sexual function. Forty-eight (9.8%) of mothers had neonate with problems such as, low birth weight, anomaly and medical disorders. Total sexual functioning scores was significantly lower in them (19.79 ± 8.24 vs. $23.31 \pm 5.64, p = 0.006$). Also, 11.4% of mothers had a medical disease and their scores were lower than the healthy mothers (21.11 ± 6.68 vs. $23.20 \pm 5.91, p = 0.01$). The lower score was related to nervous and skeletal diseases. Also, sexual function was related to contraceptive methods ($p = 0.04$). The lowest score was related to tuboligation (20.34 ± 7.67) and the highest one (26.85 ± 7.45) was in Intra Uterine Device (IUD). The incidence of Episiotomy was 25.1%, tear of perineum 7.3%, unwanted pregnancy 13.3%, urinary incontinence 4.3% and unpleasant body image 64.5%; however, there was not a correlation between them and sexual function.

DISCUSSION

Child birth and the postpartum period represent a major life transition. It usually has a substantial impact on psychophysical status of the mother. Clinical experience suggests that sexual dysfunction is common in postpartum (Von Sydow, 1999). While some reviews (Von Sydow, 1999) have described normative sexual practices during postpartum, social varieties and local taboos surrounding the sexual functioning of mothers can be reasons for differences in results from various populations.

The results showed that all dimensions of women's sexual function were at the lowest level in early postpartum. These parameters were greater at 4 to 6 months and were best at 7 to 9 months after child birth. A slight decrease of sexual function score was seen at the end of one year. A possible explanation for the lower score of sexual activity in early postpartum is biological. Suppression of estrogen results in decreased vaginal lubrication, making intercourse uncomfortable in breastfeeding women (Lamarre *et al.*, 2003; Meston and Frohlich, 2000). Elevated prolactin levels are associated with a decreased sexual interest (Lamarre *et al.*, 2003; Meston and Frohlich, 2000). Also, prolactin with the decrease levels of testosterone is related to sexual desire in women (Lamarre *et al.*, 2003). In later months, when mothers begin supplement nutrition for their baby, the rate of breastfeeding will be decreased, thus, levels of hormones change and their effect on sexuality will be reduced. On the other hand, mother must not do all of the

feeding, especially at night, therefore, they are less fatigued. The second possible explanation is psychological factors. In early postpartum, mothers may be fearful of pain or infection or may have and think less regarding the effects of birth. Further, the slight decrease in the year after postpartum, may be due to psychological factors, such as worry about pregnancy, lack of contraceptive and effects of breastfeeding. A majority of women did not use any particular methods. Moreover, the quality of mothers role and fatigue impact measures of sexuality (DeJudicibus and McCabe, 2002), therefore, with growth of baby and especially starting to walk in one year after birth, the responsibility of mothers increase and makes her more tired. Several studies found similar results. Sexual problems were reported in 83% of women by Barrett *et al.* (2000) and 70.65 by Xu *et al.* (2003) in the first 3 months after delivery, then declining to 64 and 34.2%, respectively at 6 months. Also, in another report by Barrett, three months after delivery 58% of mothers experienced dyspareunia, 39% experienced vaginal dryness and 44% suffered from loss of sexual desire (Barrett *et al.*, 1999).

The most common reasons for delaying or not resuming intercourse reported: were fear of pain, no interest and worry about another pregnancy, feeling tired and bleeding. Another author reported similar reasons (Rowland *et al.*, 2005; Alder, 1989). However, most women do not share their concerns with their health care provider, regarding their sexual problems (Barrett *et al.*, 2000, 1999). In this study, with women who had postnatal sexual problems, only 2.4% reported discussing them with a health care staff. On the other hand, health care providers rarely discuss problems with intercourse in routine postnatal health services in Iran. Their focus is exclusively on infants. Moreover, postnatal care workers do not have enough knowledge base and clinical skills to relay important information regarding postpartum sexuality to their clients. Thus, it will be beneficial for couples to be informed about sexual changes after delivery and take appropriate consultation or management, such as the use of vaginal lubricants.

According to the results, sexual activity had a correlation with older maternal age, longer marriage duration and higher counts of number of children. This may be due to higher levels of energy and less fatigue in younger women with fewer children. Other studies have shown such correlation with age both in general population (Safarinejad, 2006) and women after delivery (Rowland *et al.*, 2005). Also, Al-Bustan *et al.* (1995) reported shorter duration of marriage, characterized the sexuality pattern positively.

Although, the relation between some socio-demographic factors such as level of education, occupation status (Safarinejad, 2006) and BMI

(Eposito *et al.*, 2007) has been reported in general population of women, we did not find such association in postpartum women. It may reflect differences in sexuality patterns prior and after delivery and delivery related factors on post partum sexuality.

We found an association between sexuality and contraceptives. The lowest score of sexuality in TL can reflect psychological effects of negative views pertaining to sterilization methods among the Iranian women. IUD is a device that has no hormonal effects, no interference with sexuality and does not need to be regularly used by mother, so she is not as worried about forgetting or its incorrect use. It appears these factors are the reasons for better sexuality with IUD.

The inability of mothers who had disease and also, psychological factors in mothers whom neonates had problems, are probable reasons for lower sexuality scores after delivery.

Some studies reported an association between mode of delivery (Hicks *et al.*, 2004; Hyde *et al.*, 1996; Klein *et al.*, 2005) and perineal injuries (Van Brummen *et al.*, 2006; Klein *et al.*, 2005) with sexual function. Often cesarean method has been assumed to protect sexual function after child birth, because it avoids perineal trauma. The study results showed women who underwent cesarean section did not experience greater sexual health in each of postpartum periods, than women with a vaginal birth. Barrett's study outcomes provided no basis for advocating cesarean section as a way to protect women's sexual function after birth (Barrete *et al.*, 2005). Klein *et al.* (2005) reported similar frequency of dyspareunia for each mode of delivery and greater dissatisfaction for vaginal birth in primiparous. Overall, women who had intact perineum had less dyspareunia than those undergoing cesarean section (Klein *et al.*, 2005). Others reported coitus was delayed in cases of vaginal laceration, with the significance related to the extent of laceration (Van Brummen *et al.*, 2006). Although we did not find this association, there was no case of high degree laceration of perineum in this study. Present results, however, are consistent with those that reported delivery mode and episiotomy were not associated with intercourse resumption (Xu *et al.*, 2003; Connolly *et al.*, 2005). A possible reason is that any tear or incisions of perineum and cesarean heal about 6 weeks, the time that women are allowed to resume intercourse, according to health protocols in Iran. In a systematic review of literature, Hicks *et al.* (2004) reported associations between cesarean delivery and sexual dysfunction were inconsistent. It may also reflect the differences of study designs such as the interval of assessment from delivery, different types of questionnaires or trials performed (self applicable questionnaire, mailed questionnaire, personal interview) or the effect of cultural and racial differences.

CONCLUSIONS

The major change in postnatal sexual function is reducing sexual parameters at the first 3 months. Many couples can expect a recovery in sexual function during the following months. Sexual difficulties experienced during postpartum can cause much distress, relationship problems and influence their quality of life and physical and mental well being. Thus, consultation for recognition and management of postnatal sexual problems needs to improve, as well as educational factors that might contribute to sexual activity change, in addressing the unmet needs of postpartum couples.

ACKNOWLEDGMENTS

This study was financially supported by a Research Grant No. 86-73 from the Mazandaran University of Medical Sciences, Sari, Iran. Also, we would like to thank the mothers that participated in this study.

REFERENCES

- Abdool, Z., R. Thakar and A.H. Sultan, 2009. Postpartum female sexual function. *Eur. J. Obstet. Gynecol. Reprod. Biol.*, 145: 133-137.
- Al-Bustan, M.A., N.F. El-Tomi, M.F. Faiwalla and V. Manava, 1995. Maternal sexuality during pregnancy and after child birth in muslim Kuwaiti women. *Arch. Sex. Behav.*, 24: 207-215.
- Alder, E.M., 1989. Sexual behavior in pregnancy, after childbirth and during breastfeeding. *Baillieres Clin. Obstet. Gynecol.*, 3: 805-821.
- Barrett, G., E. Pendry, J. Peacock, C. Victor, R. Thakar and I. Manyonda, 1999. Women's sexuality after child birth: A pilot study. *Arch. Sex. Behav.*, 28: 179-191.
- Barrett, G., E. Pendry, J. Peacock, C. Victor, R. Thakar and I. Manyonda, 2000. Women's sexual health after child birth. *BJOG.*, 107: 186-195.
- Barrett, G., E. Pendry, J. Peacock, C. Victor and I. Manyonda, 2005. Cesarean section and postnatal sexual health. *Birth*, 32: 306-311.
- Connolly, A., J. Throp and L. Pahl, 2005. Effects of pregnancy and childbirth on postpartum sexual function: A longitudinal prospective study. *Int. Urogynecol. J. Pelvic Floor Dysfunct.*, 16: 263-267.
- DeJadicibus, M.A. and M.P. McCabe, 2002. Psychological factors and the sexuality of pregnant and post partum women. *J. Sex Res.*, 39: 94-103.
- Eposito, K., M. Ciotola, F. Giugliano, C. Bisogni and B. Schisano, 2007. Association of body weight with sexual function in women. *Int. J. Impot. Res.*, 19: 353-357.
- Glazener, C.M., 1997. Sexual function after child birth: Women's experience, persistent morbidity and lack of professional recognition. *Br. J. Obstet. Gynecol.*, 104: 330-335.
- Hicks, T.L., S.F. Goodall, E.M. Quattrone and M.T. Lydon-Rochelle, 2004. Postpartum sexual functioning and method of delivery: Summary of the evidence. *J. Midwifery Women Health*, 49: 430-436.
- Hyde, J.S., J.D. de Lamater, E.A. Plant and J.M. Byrd, 1996. Sexuality during pregnancy and the year postpartum. *J. Sex Res.*, 33: 143-151.
- Klein, M.C., J. Kaczorowski, T. Firoz, M. Hubinette, S. Jorgensen and R. Gauthier, 2005. A comparison of urinary and sexual outcomes in women experiencing vaginal and cesarean birth. *J. Obstet. Gynecol. Can.*, 27: 332-339.
- Lamarre, A.K., L.Q. Paterson and B.B. Gorzalka, 2003. Breastfeeding and postpartum maternal sexual functioning: A review. *Can. J. Hum. Sex.*, 12: 151-168.
- Meston, C.M. and P.E. Froehlich, 2000. The neurobiology of sexual function. *Arch. Gen. Psychiat.*, 57: 1012-1030.
- Rosen, R., C. Brown, J. Heiman, S. Leiblum and C. Meston *et al.*, 2000. The female sexual function index (FSFI): A multidimensional self-report instrument for the assessment of female sexual function. *J. Sex Marital Ther.*, 26: 191-208.
- Rowland, M., L. Faxcroft, W.M. Hopman and R. Patel, 2005. Breastfeeding and sexuality immediately postpartum. *Can. Fam. Physician*, 51: 1366-1367.
- Safarinejad, M.R., 2006. Female sexual dysfunction in a population-based study in Iran: Prevalence and associated risk factors. *Int. J. Impot. Res.*, 18: 382-395.
- Saurel-Gubizolles, M.J., P. Romito, N. Lelong and P.Y. Ancel, 2000. Women's health after child birth: A longitudinal study in France and Italy. *BJOG.*, 107: 1202-1209.
- Van Brummen, H.J., H.W. Bruinse, G. van de Pol, A.P. Heintz and C.H. van der Vaart, 2006. Which factors determine the sexual function 1 year after child birth?. *BJOG: Int. J. Obstet. Gynaecol.*, 113: 914-918.
- Von Sydow, K., 1999. Sexuality during pregnancy and after childbirth: A metacontent analysis of 59 studies. *J. Psychosom. Res.*, 47: 27-49.
- Xu, X.Y., Z.W. Yao, H.Y. Wang, Q. Zhou and L.W. Zhang, 2003. Women's postpartum sexuality and delivery types. *Zhonghua Fu Chan Ke Za Zhi*. 38: 219-222.