

The Effect of Mode of Delivery on Postpartum Female Sexual Function in Suez Canal University Hospitals

Rashad M. Mostafa¹, Zakia M. Ibrahim², Hany M. Saad^{1*}, Safaa M. Mahmoud¹

¹Department of Dermatology and Venereology, Andrology Unit, ²Department of Obstetrics and Gynecology, Faculty of Medicine, Suez Canal University, Egypt

Abstract

Introduction: Female sexual dysfunction (FSD) is an underestimated common problem with serious effects on women's quality of life. Female sexual function changes considerably during pregnancy and the postpartum period. During this time, the perineum and pelvic floor muscles are damaged. Type of delivery and perineal trauma during childbirth is associated with sexual problems after childbirth. There is controversy over the effect of mode of delivery on female sexual function. **Aim:** The aim of this study was to assess the relationship between mode of delivery and postpartum female sexual function. **Materials and Methods:** This was a prospective, descriptive study. 42 women (age range from 18–35 years) were recruited in this cross-sectional study. Females were divided into two groups according to their mode of delivery, including: group A, normal labour (NL) (group NL, N = 21); group B, cesarean section (C/S) (group C/S, N = 21). Sexual function was assessed using Female Sexual Function Index (FSFI) and Depression, Anxiety, and stress scale (DASS-21). **Results:** There were statistically significant decrease of desire, arousal, orgasm and total score of FSFI and while there was significant increase in lubrication and satisfaction domains in NVD group when compared to CS group. The study showed that, there was significant decrease in depression, anxiety and stress in NVD group when compared to CS group according to DASS-21 score. **Conclusions:** Mode of delivery had actually affected female sexual function in postpartum period.

Key Words: Post-partum; Female Sexual Dysfunction; Mode of Delivery

Introduction

Female sexual dysfunction (FSD) is an underestimated and common problem with serious effects on women's quality of life. In spite of a high overall prevalence in the female population exceeding that of male sexual dysfunction till recently, little research has been focused on this area⁽¹⁾. FSD is extremely common, affecting 30–50% of women worldwide⁽²⁾. In Egypt, a

study conducted in Lower Egypt reported that the prevalence of FSD was 46%⁽³⁾. FSD is characterized by disturbances in sexual desire, psychological and physiological changes associated with the sexual response cycle⁽⁴⁾. It is divided into four categories of disorder, i.e. sexual desire, sexual arousal, orgasmic and sexual pain⁽⁵⁾. Female sexual function changes considerably during pregnancy and the postpartum period. During this time, the perine-

*Corresponding Author: h_saad20@hotmail.com

um and pelvic floor muscles are damaged. During breastfeeding, prolactin secretion, which suppresses libido and stimulates estrogen secretion⁽⁶⁾. Several studies demonstrated the association between sexual function and delivery mode, episiotomy and laceration⁽⁷⁾. Other studies revealed no association between mode of delivery and sexual function⁽⁸⁾. Yeniel & Petri reviewed the effect of pregnancy and mode of delivery on postpartum sexual function. There is no clear evidence of relationship between mode of delivery and changes in sexual function⁽⁹⁾. Baksu et al., have shown that the average score for sexual function after childbirth in women who have had a cesarean delivery is much better than women who have vaginal delivery with episiotomy⁽¹⁰⁾. Because there is controversy over the effect of mode of delivery on female sexual function, there is uprising need to carry out the present study on postpartum women to assess if there is any effect for mode of delivery on postpartum female sexual function. The aim of this work was to assess the relationship between mode of delivery and postpartum female sexual function.

Subjects and Methods

This was a cross sectional, descriptive study. 42 were recruited in this study. Females were divided into two groups according to their mode of delivery, including: group A, normal labour (NL) (group NL, N = 21); group B, cesarean section (C/S) (group C/S, N = 21). Sexual function was assessed using Female Sexual Function Index (FSFI) and Depression, Anxiety, and stress scale (DASS-21). The study was conducted in Andrology outpatient clinic and Obstetrics & Gynecology clinic, in Suez Canal University in Ismailia-Egypt during the period from January 2017 to August 2017. All the studied females were subjected to personal history, complaint,

general history, medical history, surgical history, sexual history, medication history, general examination and genital examination. *Inclusion Criteria:* Females aged 18-35 years old with stable marital relationship having frequent, regular intercourse and with single baby during postnatal period between 2 to 6 months after delivery. *Exclusion Criteria:* Females with a past history of any psychiatric illness, on antidepressant medications or cognitive impairment are excluded from the study. Females with marital conflicts. Presence of medical diseases or sexual problems of the partner such as erectile dysfunction and lack of desire. all females were asked to sign a consent and kindly to answer a validated questionnaire (Female Sexual Function Index (FSFI)); a multi-dimensional questionnaire measure, with sub-scales to assess the major components of sexual function in women, including sexual desire, arousal, orgasm, satisfaction, and pain⁽¹¹⁾.

Statistical analysis

Data collected throughout history, basic clinical examination, and Quantitative data was expressed as means \pm SD while qualitative data was expressed as numbers and percentages (%). A probability value (p-value) < 0.05 was considered statistically significant.

Results

This study is a cross-sectional descriptive study. It was conducted on 42 lactating women during postnatal period from January 2017 to August 2017, at Andrology outpatient clinic and Obstetrics & Gynecology clinic, Suez Canal University Hospitals in Ismailia governorate. The study protocol was approved by the local research ethics committee. The participant women gave informed consent before the

start of the study. In the present study. The mean age of females in NVD was 24.61 years while in CS group was 23.61 years. There was statistically significant decrease of desire in NVD group when compared to CS group (3.45 ± 0.26 vs 4.20 ± 0.00 respectively). In addition, arousal ranged from 3.30 to 4.20 in NVD group and ranged from 4.20 to 4.50 in CS group and there was significant decrease of arousal in NVD when compared to CS group (3.75 ± 0.32 vs 4.35 ± 0.15 respectively). Also, lubrication ranged from 3.90 to 4.20 in NVD group and ranged from 3.30 to 3.60 in CS group and there was significant increase of lubrication in NVD when compared to CS group (4.11 ± 0.13 vs 3.54 ± 0.12 respectively). In addition, orgasm ranged from 4 to 4.40 in NVD group and ranged from 4.40 to 4.80 in CS group and there was significant

decrease of orgasm in NVD when compared to CS group (4.36 ± 0.12 vs 4.68 ± 0.18 respectively). In addition, satisfaction ranged from 4.40 to 5.60 in NVD group and ranged from 4.40 to 5.20 in CS group and there was significant increase of satisfaction in NVD when compared to CS group (5.08 ± 0.33 vs 4.83 ± 0.30 respectively). On the other hand, pain ranged from 2.40 to 4.40 in NVD group and ranged from 3.20 to 3.60 in CS group and there was non-significant decrease of pain in NVD when compared to CS groups (3.02 ± 0.91 vs 3.39 ± 0.20 respectively). Finally, the total score ranged from 21.80 to 26.40 in NVD group and ranged from 24.10 to 25.90 in CS group and there was significant decrease of total score in NVD group when compared to CS group (23.80 ± 1.52 vs 25.01 ± 0.48 respectively).

Table 1: Female age and age difference in NVD and CS groups

		Minimum	Mean \pm SD	Maximum
Age	NVD	18.00	24.61 ± 3.99	32.00
	CS	19.00	23.61 ± 3.00	29.00
Age difference	NVD	1.00	4.38 ± 2.39	9.00
	CS	1.00	2.52 ± 2.83	10.00

Discussion

Although sensitive issues like postpartum sexual relations may actually be of central interest to women and their partner, there is profound silence that surrounds the critical postpartum period in women's lives. Usually women talk about their sexual problems less than men. Sexual problems change a woman's quality of life and can easily disrupt her normal life⁽¹²⁾. In the present study, there was significant decrease in desire, arousal, orgasm and total score of FSFI while there was significant increase in lubrication and satisfaction domains in NVD group when compared to CS group. The present results comes in agreement with Julia et al., who performed an observational cohort study on 1,094 participants

to examine postpartum sexual function by self-administered questionnaires, showed that women with a history of vaginal delivery reported lower interest in sex, which could be related to residual delivery-related pain or pelvic floor dysfunction (39% versus 57%)⁽¹³⁾. This also comes in agreement with Eid and his colleagues, who conducted a cohort study to evaluate the effects of delivery mode on sexual function after childbirth in 200 nulliparous women divided into two groups; women that delivered vaginally and women that had elective cesarean section (CS) and reported that arousal was significantly reduced in the vaginal delivery group (3.69 ± 0.68 vs 4.30 ± 0.90)⁽¹⁴⁾. A prospective study performed by Mousavi and his colleagues followed 356 women for six

months after delivery to evaluate the quality of life and found that women with vaginal delivery were more satisfied with their sexual lives and bodily appearance in the postpartum period (74.16 ± 14.29 vs $69.35 \pm$

14.61) which agrees with our results⁽¹⁵⁾. A cross sectional study design was used by Barbara and his colleagues agreed with our results the study included three hundred married females.

Table 2: Comparison between NVD and CS groups regarding to FSFI domains

		Minimum	Mean \pm SD	Maximum	P
Desire	NVD	3.00	3.45 ± 0.26	3.60	<0.001*
	CS	4.20	4.20 ± 0.00	4.20	
Arousal	NVD	3.30	3.75 ± 0.32	4.20	<0.001*
	CS	4.20	4.35 ± 0.15	4.50	
Lubrication	NVD	3.90	4.11 ± 0.13	4.20	<0.001*
	CS	3.30	3.54 ± 0.12	3.60	
Orgasm	NVD	4.00	4.36 ± 0.12	4.40	<0.001*
	CS	4.40	4.68 ± 0.18	4.80	
Satisfaction	NVD	4.40	5.08 ± 0.33	5.60	0.017*
	CS	4.40	4.83 ± 0.30	5.20	
Pain	NVD	2.40	3.02 ± 0.91	4.40	0.09
	CS	3.20	3.39 ± 0.20	3.60	
Total	NVD	21.80	23.80 ± 1.52	26.40	0.001*
	CS	24.10	25.01 ± 0.48	25.90	

*p value is considered significant ($p < 0.05$)

Each woman was asked to answer the female sexual function index (FSFI), reported that women who underwent vaginal delivery had poorer scores of orgasm compared with the cesarean section group (3.9 ± 0.6 vs 4.2 ± 0.3)⁽¹⁶⁾. In the present study, there was statistically significant negative, moderate correlation between age and each of arousal and satisfaction in CS group. The present result comes in agreement with Safarinejad who reported that, arousal and satisfaction problems are age-dependent disorders, possibly resulting from physiological changes associated with the aging process as women get older, the relative importance of sex may decrease⁽¹⁷⁾. Yee & Sundquist, reported that the most common sexual dysfunction related to age is lack of arousal due to decrease in hormones leading to vaginal dryness, dyspareunia and decreased ability to achieve orgasm⁽¹⁸⁾ which agrees with our results. In the present study, according to

DASS-21 score, there was significant decrease in depression, anxiety and stress in NVD group when compared to CS group. The present result comes in agreement with prospective population-based cohort study by Patel et al., using Edinburgh Postnatal Depression Scale (EPDS). A score of ≥ 13 is highly predictive of postnatal depression in a UK population. This study found some evidence of higher rates of raised depression scores ≥ 13 in women who had caesarean section compared with those who had a spontaneous vaginal delivery⁽¹⁹⁾. This can be attributed to the effect of CS on female the degree that, it could be a risk factor for postpartum depression (PPD) triggered by feelings of failure, lack of control, and reduced self-esteem, resulting in an increased risk for depression⁽²⁰⁾. An important limitation of this study is the small sample size that included only mothers with single baby assessment regardless their partner's satisfaction as-

sessments. In addition, socio-demographic variation might affect the self-assessment of sexual problems encountered.

Table 3: Correlation between FSFI score and demographic data in NVD and CS groups

			Desire	Arousal	Lubrication	Orgasm	satisfaction	Pain	Total
NVD	Age	r**	0.09	0.11	0.07	0.26	0.07	-0.36	-0.13
		p	.702	.645	.752	.256	.764	.112	.562
	Husband Age	r	0.05	-0.01	0.14	0.40	0.03	-0.37	-0.17
		p	.831	.966	.545	.076	.912	.096	.468
	Marriage duration	r	-0.08	0.18	0.14	0.07	0.18	-0.06	0.05
		p	.725	.438	.557	.764	.439	.813	.835
CS	Age	r	-	-0.45*	-0.39	0.10	-0.44*	0.29	-0.36
		p		0.041*	.078	.674	0.047*	.209	.113
	Husband Age	r	-	-0.41	-0.27	-0.01	-0.23	0.31	-0.21
		p		.062	.243	.989	.313	.167	.358
	Marriage duration	r	-	-0.43	-0.39	-0.03	-0.25	0.24	-0.30
		p		.053	.083	.897	.278	.302	.189

*p value is considered significant ($p < 0.05$)

Table 4: Comparison between NVD and CS groups regarding to DASS-21

		Minimum	Mean \pm SD	Maximum	P
Depression	NVD	4.00	8.14 \pm 2.59	12.00	<0.001*
	CS	13.00	15.66 \pm 1.23	18.00	
Anxiety	NVD	8.00	8.66 \pm 0.48	9.00	<0.001*
	CS	11.00	11.95 \pm 0.74	13.00	
Stress	NVD	8.00	9.85 \pm 1.87	15.00	<0.001*
	CS	15.00	17.28 \pm 0.84	18.00	

*p value is considered significant ($p < 0.05$)

Conclusion

There were significant decreases in desire, arousal, orgasm and total score of FSFI while there was a significant increase in lubrication and satisfaction in NVD group when compared to CS group. NVD was associated with higher rate of sexual dysfunction in postpartum period in comparison with C/S.

References

1. Andrea V, Burri M, Lynn M, and Tim D. and Spector, M. (2008): King's College London St. Thomas' Hospital, Twin Research and Genetic Epidemiology Department, London, UK DOI: 10.1111/j.1743-6109.2008.01144.xC.
2. Aungst M, Mamienski T, Albright T, Zahn C, Fischer J. (2009): Prophylactic Burch colposuspension at the time of abdominal sacrocolpopexy a survey of current practice patterns Int. Urogynecol. J. Pelvic Floor Dysfunct. 20, pp. 897–904
3. Elnashar A, El-Dien Ibrahim M, El-Desoky M, Ali O, and El-Sayd Mohamed Hassan M (2007): Female sexual dysfunction in Lower Egypt BJOG, 114, pp. 201–206
4. Mazouni, G, Karsenty G, Bretelle F, Bladou F, Gannerre M, Serment G. (2004): Urinary complications and sexual function after the tension-free vaginal tape procedure Acta Obstet. Gynecol. Scand. 83, pp. 955–961

5. Meschia M, Bertozzi R, Pifarotti P, et al. (2007): Peri-operative morbidity and early results of a randomized trial comparing TVT and TVT Int. Urogynecol. J. Pelvic Floor Dysfunc. 1, pp. 1257–1261
6. Johnson c. (2011): sexual health during pregnancy and the postpartum J sex Med: 8:1267-84.
7. Rathfisch G, Dikencik B, Kizilkaya N, Comert N, Tekirdag A, & Kadioglu A. (2010): Effects of perineal trauma on postpartum sexual function. Journal of Advanced Nursing 66 (12), 2640–2649.
8. Klien K, Worda C, Leipold H. & et al. (2009): Does the mode of delivery influence sexual function after child birth? J Womens Health; 18(8):1227-31.
9. Yeniel A. & Petri E. (2014): Pregnancy, childbirth, and sexual function: Perceptions and facts. Int Urogynecol J; 25:5–14.
10. Baksu B, Davas I, Agar E, Akyol A. & Varolan A. (2007): The effect of mode of delivery on postpartum sexual functioning in primiparus women: 18(4):401-406.
11. Rosen R, Brown C, Heiman J, 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.
12. Khajehei M, Ziyadlou S, Safari R, et al. (2009): Comparison of sexual outcomes in primiparous women experiencing vaginal and caesarean Births. Indian J Community Med; 34(2):126-30.
13. Julia E, Fehniger M, Jeanette S, et al. (2013): Childbirth and Female Sexual Function Later in Life; Obstet Gynecol; 122(5)
14. Eid M, Sayed A, Abdel-Rehim R. & Mostafa T. (2015): Impact of the mode of delivery on female sexual function after childbirth. International Journal of Impotence Research.; 27(3):118-120.
15. Mousavi A, Mortazavi F, Chaman R. & Khosravi A. (2013): Quality of life after cesarean and vaginal delivery. Oman Medical Journal, 28 (4). pp. 245-251
15. Barbara G, Pifarotti P, Facchin F, et al. (2016): Impact of Mode of Delivery on Female Postpartum Sexual Functioning: Spontaneous Vaginal Delivery and Operative Vaginal Delivery vs. Cesarean Section. J Sex Med. Mar; 13(3):393-401
16. Safarinejad M. (2006): Female sexual dysfunction in a population-based study in Iran: Prevalence and associated risk factors. Int J Impot Res; 18(4); 382-95.
17. Yee A. and Sundquist K. (2003): "Older women's sexuality," Medical Journal of Australia, vol. 178, pp. 640–642,
18. Patel RR, Murphy DJ, Peters TJ. (2005): Operative delivery and postnatal depression: a cohort study BMJ, 16; 330 (7496):879
19. Sword W, Kurtz Landy C, Thabane L, et al. (2011): Is mode of delivery associated with postpartum depression at 6 weeks: a prospective cohort study. BJOG; 118:966–977.