

THE COMPARISON OF PRIMIPARA WOMEN'S SEXUAL FUNCTION IN 4 AND 8 WEEK POST VAGINAL DELIVERY AND CESAREAN SECTION IN H. ADAM MALIK HOSPITAL MEDAN AND USU HOSPITAL MEDAN

¹Frida Adhani E.S; ¹Hotma Partogi Pasaribu; ¹Indra G Munthe; ¹Sarma N Lumbanraja; ¹M Oky Prabudi; ¹M Rizki Yaznil.

¹Departement of Obstetric and Gynaecology, Medical Faculty Universitas Sumatera Utara, General Hospital Haji Adam Malik Medan

Abstract

This research supposed to find the differences in the sexual function of women after vaginal delivery compared to cesarean section in 4 weeks and 8 weeks postpartum. This study is a comparative analytic study with a prospective cohort design with 60 female subjects after vaginal delivery and cesarean section at the H. Adam Malik General Hospital Medan, and USU Hospital Medan in December 2019 to March 2020. Subjects were selected in consecutive sampling that had the inclusion and exclusion criteria, then an assessment of sexual function was performed with the FSFI questionnaire in 4 and 8 weeks postpartum. Data were analyzed using descriptive statistics, dependent/ independent T test, and ANOVA. p value less than 0.05 was applied to significantly by statistic test. Subjects were primiparous women, most of whom were in the age range of 25-30 years, with a senior high school education level that gave birth to a live baby with a newborn weight ranging from 3000-3500gr. The quality of female sexual function after vaginal delivery and cesarean section in 4 and 8 weeks (FSFI <26.55), sexual dysfunction still occurs. There were differences in the sexual function of women after vaginal delivery in 4 weeks and 8 weeks postpartum ($p < 0.05$), as well as in women after cesarean section. There were differences in the sexual function of women after vaginal delivery compared to cesarean section in 4 weeks postpartum ($p < 0.05$), but in 8 weeks postpartum no differences were found ($p > 0.05$). The type of delivery, both vaginal delivery and cesarean section did not affect the incidence of sexual dysfunction in postpartum women.

Keywords: Sexual Function, FSFI, Vaginal Delivery, Cesarean Section.

I. INTRODUCTION

Sexual health is one of the pillars of support in a person's "healthy" status. According to the World Health Organization (WHO), sexual health is defined as the integration of somatic, emotional, intellectual and social aspects in various ways that enrich and enhance the quality of personality, communication and love.¹ The postpartum period brings many changes in woman's life. Physical changes and responsibilities after birth of a baby often affect emotional conditions and ultimately affect daily life, including sexual problems.²

Perineal pain and dyspareunia are frequent postpartum problems and interfere normal sexual function, which usually results from perineal trauma, episiotomy, and labor instrumentation.³ Episiotomy can result in impaired pelvic floor function, lesions of the pudendal nerve, asymmetric suturing results, endometriosis, wounds that widen with bleeding, infection, and prolonged healing, all of which can lead to dyspareunia or other sexual dysfunction later in life.⁴ Most of the women who gave birth with an episiotomy and perineal sutures experienced trauma when they were about to have sexual intercourse again, while in fact 74% did still feel pain during sexual intercourse, even though the perineal suture was dry.⁵

Postpartum sexual activity is safe to reconnect after six weeks from the birth of baby.⁶ Women with normal delivery without perineal sutures, after completing the puerperium can return to enjoy sexual intercourse, but if there is a perineal suture wound, it will take even longer. Usually within 4 months the episiotomy wound is completely healed and sexual intercourse can be done again without pain.⁷

Measuring the quality of sexual behavior can be done with the Female Sexual Function Index (FSFI) which is designed for the assessment of clinical trials of female sexual function. FSFI has been validated based on the DSM IV (Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition). FSFI is the overall value or discriminant score of the items collected into the following 6 domains: (1) desire, (2)

arousal (stimulation), (3) lubrication, (4) orgasm (orgasm) , (5) satisfaction (satisfaction), (6) pain (pain). Each domain consists of several items that can be discriminated against according to the perception of woman concerned.¹

II. RESEARCH METHODOLOGY

This research is a prospective cohort study conducted at Department of Obstetrics and Gynecology, Medical Faculty Universitas Sumatera Utara, General Hospital Haji Adam Malik Medan and USU Hospital Medan from December 2019 - March 2020 on 60 pregnant women who gave birth at General Hospital Haji Adam Malik and USU Hospital Medan that met the inclusion criteria, namely post-first birth (primipara), history of vaginal delivery and cesarean section, live babies during research / interviews, living with husbands who are able to have sexual intercourse, willing to participate in this research by signing an informed consent; and exclusion criteria, namely being treated for medical diseases, history of labor with multiple pregnancies, history of abortion, being using hormonal contraception.

The study sample was taken by consecutive sampling from medical records that were recorded as having given birth within this 4 weeks, which met the inclusion and exclusion criteria. Then the sample was contacted by telephone, given an explanation of the purpose and benefits of this study, then for those who were willing to take part in this study, informed consent was given. Then the patient filled out a questionnaire for FSFI data of 4 weeks post partum. Then the patient was contacted again 4 weeks later for data of 8 weeks post partum. If the patient cannot be contacted, then he is put in a lost to follow-up subject. After all data collected, data analysis was carried out.

Descriptive statistical analysis of the sample demographic data. The scores were determined from the answers of each question from FSFI questionnaire that the subjects had filled in and determined the type and degree of dysfunction for each subject. Kolmogorov-Smirnov normality test to test the normality of the data. The relationship between the independent variable and the dependent variable (sexual function) was tested using spss analysis. Statistical analysis used a 95% confidence interval (CI). The relationship is said to be significant if the p value <0.05.

III. RESULTS AND DISCUSSIONS

Subject Characteristics

Table 1. Distribution of Research Subjects Based on Age, Education, Type of Delivery, Episiotomy, Device Assisted Labor, Perineal Rupture Rate, and Birth Weight

	Vaginal Birth (n=30)	C-Section (n=30)
Age (Mean ± SD)	27,36 ± 4,80	28,13 ± 4,14
Education (n, %)		
- Elementary School	2 (6,7)	2 (6,7)
- Junior High School	2 (6,7)	5 (16,7)
- Senior High School	16 (53,3)	14 (46,7)
- Diploma	3 (10)	0 (0)
- Bachelor	7 (23,3)	9 (30)
Episiotomy (n, %)		
- Yes	19 (63,3)	*
- No	11 (36,7)	
Device Assisted Birth (n, %)		
- Vacuum	5 (16,7)	*
- Forcep	0 (0)	
Perineal Rupture Rate (n, %)		
- None	2 (6,7)	
- Grade 1	9 (30)	*
- Grade 2	18 (60)	
- Grade 3	1 (3,3)	
- Grade 4	0 (0)	
Birth Weight (Mean ± SD)	3115 ± 429,92	3094,0 ± 621,15
Total	30	30

Table 2. Relationship Characteristics to Quality of Sexual Function in Postpartum Women at 4 and 8 weeks

	FSFI 4 weeks postpartum (Mean ± SD)	P-Value	FSFI 8 weeks postpartum (Mean ± SD)	P-Value
Episiotomy (n, %)				
- Yes (19, 63%)	21,65 ± 1,81	0,987 ^a	24,17 ± 1,74	0,599 ^a
- No (11, 37%)	21,64 ± 2,22		23,84 ± 1,54	
Device Assisted Birth (n, %)				
- Yes (5, 16%)	20,68 ± 2,10	0,224 ^a	23,92 ± 2,05	0,848 ^a
- No (25, 84%)	21,84 ± 1,88		24,08 ± 1,61	
Perineal Rupture Rate (n, %)				
- None (2, 6,7%)				
- Grade 1 (9, 30%)	21,65 ± 1,93	0,692 ^b	24,05 ± 1,65	0,104 ^b
- Grade 2 (18, 60%)				
- Grade 3 (1, 3,3%)				
- Grade 4 (0, 0%)				
Birth Weight (n,%)				
- < 2500 gr (7, 11%)	20,71 ± 1,71	0,831 ^a	22,92 ± 1,68	0,153 ^a
- ≥ 2500 gr (53, 89%)	20,86 ± 2,03		24,47 ± 2,73	

Saleh (2019) also compared the history of having an episiotomy to the quality of sexual function in the last 1 year, with p value > 0.05 stating that there was also no significant difference between having an episiotomy and no episiotomy, which is in line with this study.⁸

Table 3. Female Sexual Function Index in Post-Vaginal Delivery Group

	4 weeks Postpartum (n=30)	8 weeks Postpartum (n=30)	P-Value
Desire	3,52 ± 0,92	3,76 ± 0,72	0,250 ^a
Arousal	3,74 ± 0,80	4,35 ± 0,63	0,005 ^a
Lubrication	3,42 ± 0,44	3,89 ± 0,46	0,001 ^a
Orgasm	3,88 ± 0,47	4,17 ± 0,45	0,012 ^a
Satisfaction	3,88 ± 0,97	4,60 ± 0,72	0,004 ^a
Pain	3,21 ± 0,84	3,28 ± 0,60	0,721 ^a
Total Score	21,65 ± 1,93	24,05 ± 1,65	<0,001 ^a

^a Dependent T-Test

Fatemah Dabiri et al. (2014) also assessed the comparison of sexual function of postpartum women at vaginal delivery, which was carried out at 3 months and 6 months postpartum, with the results in the domains of desire, arousal, and pain found a significant difference in the quality of sexual function ($p < 0.05$). whereas in the domains of lubrication, orgasm, and satisfaction, there was no significant difference ($p > 0.05$).⁹

Table 4. Female Sexual Function Index in Post-Caesarean Section Group

	4 weeks Postpartum (n=30)	8 weeks Postpartum (n=30)	P-Value
Desire	2,42 ± 0,43	3,22 ± 1,00	0,001 ^a
Arousal	2,52 ± 0,32	3,38 ± 0,93	<0,001 ^a
Lubrication	3,63 ± 0,29	3,89 ± 0,38	0,005 ^a
Orgasm	3,18 ± 0,16	4,02 ± 1,02	<0,001 ^a
Satisfaction	3,44 ± 0,89	4,78 ± 0,89	<0,001 ^a
Pain	4,85 ± 0,92	5,22 ± 0,81	0,195 ^a
Total Score	20,05 ± 1,73	24,53 ± 3,41	<0,001 ^a

^a Dependent T-Test

In the research of Fatemah Dabiri et al. (2014) who assessed the comparison of sexual function of postpartum women in cesarean section, but carried out at 3 months and 6 months postpartum, the following

results were obtained: only in the domain of sexual satisfaction, there was no significant difference in the quality of sexual function ($p > 0,05$) while in the domains of desire, arousal, lubrication, orgasm, and pain there were significant differences ($p < 0.05$).⁹

Chang SR et al (2018) in a prospective cohort study in the last 2 years that assessed the prediction of sexual dysfunction in postpartum women both by vaginal delivery and cesarean section stated that in 4-6 weeks postpartum, 3 months, 6 months, 12 months, and 24 postpartum months, still shows the occurrence of sexual dysfunction with an FSFI value < 26.55 with a p value < 0.001 .¹⁰

Table 5. Female Sexual Function Index 4 weeks after delivery

	Vaginal Birth (n=30)	C-Section (n=30)	P-Value
Desire	3,52 ± 0,92	2,42 ± 0,43	<0,001 ^a
Arousal	3,74 ± 0,80	2,52 ± 0,32	<0,001 ^a
Lubrication	3,42 ± 0,44	3,63 ± 0,29	0,037 ^a
Orgasm	3,88 ± 0,47	3,18 ± 0,16	<0,001 ^a
Satisfaction	3,88 ± 0,97	3,44 ± 0,89	0,074 ^a
Pain	3,21 ± 0,84	4,85 ± 0,92	<0,001 ^a
Total Score	21,65 ± 1,93	20,05 ± 1,73	0,001 ^a

^a Independent T-Test

Table 6. Female Sexual Function Index 8 weeks after delivery

	Vaginal Birth (n=30)	C-Section (n=30)	P-Value
Desire	3,76 ± 0,72	3,22 ± 1,00	0,020 ^a
Arousal	4,35 ± 0,63	3,38 ± 0,93	<0,001 ^a
Lubrication	3,89 ± 0,46	3,89 ± 0,38	1,000 ^a
Orgasm	4,17 ± 0,45	4,02 ± 1,02	0,476 ^a
Satisfaction	4,60 ± 0,72	4,78 ± 0,89	0,378 ^a
Pain	3,28 ± 0,60	5,22 ± 0,81	<0,001 ^a
Total Score	24,05 ± 1,65	24,53 ± 3,41	0,494 ^a

^a Independent T-Test

In another study by Saotome TT, et al. (2018), conducted an assessment of the quality of sexual function with FSFI also in pregnant women in the 1st and 2nd trimesters and postpartum women at 1 month, 3 months, 6 months, and 12 months postpartum, with a mean total FSFI score at 1 month postpartum only $9,6 \pm 6.9$ which is considered very low compared to the results of this study.¹² Abd El-Sattar Sakna et al (2018) also conducted a similar study, but did not determine the exact time when the assessment of sexual function was carried out, only based on the first time having postpartum sexual intercourse with the mean FSFI score in vaginal delivery with episiotomy of 23.04 ± 4 ,¹¹ and cesarean section delivery was 23.01 ± 4.07 which was not significantly different, with a p value > 0.05 .¹³

Yaser F. Mohammed (2014) conducted a study comparing the sexual function of postpartum women based on their model of delivery, with anova test, vaginal delivery without episiotomy, vaginal delivery with episiotomy, instrument-assisted vaginal delivery, planned cesarean section and emergency cesarean section scores respectively. FSFI 23 ± 1.5 ; $23 \pm 4,1$; 22 ± 1 ; 23 ± 1 ; 23.6 ± 2 , with a p value 0.5 ($p > 0.05$) which means there is no significant difference based on the model of delivery.¹⁴ Fatemeh Nasiri Amiri et al (2017) in their study comparing the sexual outcome of primiparous women based on the type of vaginal delivery and cesarean section at 3-6 months postpartum, it was found that from the 6 FSFI domains, none of the domains showed a significant difference with p value > 0.05 .¹⁵ The above studies are in accordance with the results of this study at 8 weeks postpartum, but inconsistent at 4 weeks postpartum.

Irwanto et al. (2019) in their study did not determine when the FSFI assessment was carried out since the woman was postpartum, but researchers conducted an evaluation for the first time having sexual intercourse from postpartum to 4 months postpartum, the most was 3 months postpartum and then 2 months postpartum. Irwanto also compared based on vaginal delivery with mediolateral episiotomy and cesarean section, with a FSFI score of 30.34 ± 7.36 and 33.03 ± 4.10 , respectively, with p value 0.036 ($p < 0.05$), there was a significant difference in sexual function quality of the postpartum woman.¹⁶

According to Mostafa RM (2018), in his study which compared the sexual function of women at 2-6 months postpartum, based on the vaginal delivery method and cesarean section, it was found that almost all domains had significant differences between the two methods, except in the pain domain with a p value of 0.09. However, the total FSFI score itself showed a difference ($p < 0.05$).¹⁷ This is in line with the results of this study at 4 weeks postpartum, but not in line with the results of the study at 8 weeks postpartum.

In a cross-sectional study by Saleh DM (2019), regarding the effect of the model of childbirth on the sexual function of primiparous women, which was conducted at 1 year postpartum, based on the model of delivery, there was a significant difference between vaginal delivery and cesarean section with a mean FSFI score of 31, respectively 34 ± 3.82 and 30.23 ± 3.62 ($p < 0.05$), by obtaining 5 domains that were significantly different from the 6 domains, namely arousal, lubrication, orgasm, satisfaction, and pain.⁸ In contrast to this study and research by Farida Dwi Sahar (2019), which based on the results of the bivariable analysis showed no relationship between the type of delivery and postpartum sexual dysfunction with a p value of 0.683 ($p > 0.05$), and the multivariable analysis after controlling using external variables showed the same results as p value 0.291 ($p > 0.05$).¹⁸

Another recent study was also conducted by Cappell J et al (2019) on primiparous women 2 years after giving birth, with the results that none of the domains showed significant differences based on the type of delivery, either vaginal or cesarean section, with a mean FSFI score at 2 years postpartum $24, 30 \pm 5.92$ and 24.99 ± 6.34 (FSFI < 26.55) which indicated that sexual dysfunction still occurred with a p value > 0.05 .¹⁹

Postpartum women will experience changes related to the birth process that is experienced. The changes that occur are physical and psychological discomfort. These changes can affect the sexual needs of both women and partners. Physical discomforts include fatigue, lack of physical strength, discomfort due to breast engorgement, discharge of lochea and presence of perineal pain. Psychological discomfort includes feelings of fear of pain, feelings of excessive anxiety about the baby, feeling of unsatisfactory appearance, reduced privacy and time spent having sex. Physical and psychological discomfort can affect the harmonious relationship in a marriage. When compared with spontaneous vaginal delivery, it seems logical to assume that women who deliver by cesarean section are less likely to experience perineal pain, compared to deliveries with episiotomy or assisted devices.²⁰

IV. CONCLUSION

There were differences in the sexual function of women after vaginal delivery and post-cesarean section at 4 weeks and 8 weeks postpartum ($p < 0.05$). There were differences in sexual function of women after vaginal delivery compared to post-cesarean section at 4 weeks postpartum ($p < 0.05$). There were no differences in the sexual function of women after vaginal delivery compared to post-cesarean section at 8 weeks postpartum ($p < 0.05$).

V. ACKNOWLEDGEMENT

The authors thank the supervisors of the Department of Obstetrics and Gynecology for their guidance and assistance in conducting this research. In addition, the authors also thank all parties involved in this research. The author is aware of the shortcomings in this research and a better research design and analysis method is needed for further research.

VI. ETHICAL CLEARANCE

For research permission, research approval was obtained from the research subjects and the Ethics Committee of the Medical Faculty, Universitas Sumatera Utara who would conduct a feasibility study on the research proposal.

VII. REFERENCES

1. Kamerrer D, Rebecca G, MD Rogers. Female Sexual Function and Dysfunction, *Obstet Gynecol Clin N Am.* 2008. 35 ; p 169– 183
2. Cunningham FG, Leveno KJ, Bloom SL, Haut JC, Rouse DJ, Spong CY, editors. *Williams Obstetrics .23rd ed Chapter 30: The Puerperium.* New York: McGraw- Hill. 2010. 695-710.
3. *Journal of Sexual Medicine*, 2004. Vol. 1, No. 1: 40-8.
4. Abdool,Z, Thakar, R., Sultan, A.H. Postpartum Female Sexual Function: A Review. *European Journal of Obstetrics & Gynecology and Reproductive Biology*; 2009.04.014
5. Wulandari, Setyo Retno. *Asuhan Kebidanan Ibu Masa Nifas.* Yogyakarta : Gosyen Publising. 2011.
6. Thamrin, R. Hubungan Seks Pasca Melahirkan. 2010. Diambil 28 September, 2010, dari <http://konsultasikesehatan.epajak.org>

7. Sari, E. P. dan Rimandini, K. D. Asuhan Kebidanan Persalinan (Intranatal Care). Jakarta Timur: CV. Trans Info Media. 2014.
8. Saleh DM, et al. 2019. Effect of mode of delivery on female sexual function: A cross-sectional study. Japan Society of Obstetrics and Gynecology. doi:10.1111/jog.13962
9. Dabiri F, et al. 2014. The Effect of Mode of Delivery on Postpartum Sexual Functioning in Primiparous Women. Oman Medical Journal (2014) Vol. 29, No. 4:276-279. DOI 10.5001/omj.2014.72
10. Chang SR, et al. 2018. Sexual dysfunction predicts depressive symptoms during the first 2 years postpartum. Australian College of Midwives. Published by Elsevier Ltd. <https://doi.org/10.1016/j.wombi.2018.01.003> 1871-5192/
11. Abdool, Z., Thakar, R., Sultan, AH. *Postpartum female sexual function: A review*. Eur J Obstet Gynecol. 2009. doi:10.1016/j.ejogrb.2009.04.014
12. Saotome TT, et al. 2018. Sexual Dysfunction and Satisfaction in Japanese Couples During Pregnancy and Postpartum. The Journal of Sexual Medicine:1e8
13. Sakna AES, et al. 2018. A Comparative Study of Female Sexual Function before Pregnancy, First Sexual Activity Postpartum and One Year Postpartum with Respect to Mode of Delivery in Primiparae. Austin J Obstet Gynecol - Volume 5 Issue 4.
14. Mohammed YF, et al. 2014. Sexual Function after Childbirth according to the Mode of Delivery. Al-Azhar Assiut Medical Journal, vol (12), No.4.
15. Amiri FN, et al. 2017. Female sexual outcomes in primiparous women after vaginal delivery and cesarean section. African Health Sciences Vol 17 Issue 3. DOI: <https://dx.doi.org/10.4314/ahs.v17i3.4>
16. Irwanto, et al. 2019. Perbedaan Disfungsi Seksual Wanita yang Melahirkan secara Pervaginam dengan Episiotomi Mediolateral dan Seksio Sesarea. Journal of Issues in Midwifery: Open Access. Vol 2 No 3, 48-59.
17. Mostafa RM, et al. 2018. The Effect of Mode of Delivery on Postpartum Female Sexual Function in Suez Canal University Hospitals. *Suez Canal University Medical Journal* : Vol. 21 (2), 120-125
18. Sahar FD, et al. 2019. Hubungan Jenis Persalinan dengan Disfungsi Seksual Postpartum di Puskesmas Godean I Tahun 2019.
19. Cappell J, et al. 2019. Is Mode of Delivery Associated With Sexual Response? A Pilot Study of Genital and Subjective Sexual Arousal in Primiparous Women With Vaginal or Cesarean Section Births. The Journal of Sexual Medicine:1e16.
20. Subrata R, et al. 2019. Perbedaan Disfungsi Seksual pada Wanita Pasca Persalinan Pervaginam Episiotomi Mediolateral dan Seksio Sesarea. Jurnal Ilmiah Ilmu Kesehatan Vol .7, No.2, 2019, hal 54-60.