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## PREVALENCE OF SEXUAL DYSFUNCTION AMONG POSTPARTUM WOMEN IN ABAKALIKI: A PROSPECTIVE COHORT STUDY

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### Abstract

**BACKGROUND:** Postpartum period is a significant period in a woman's life when there is hormonal and bodily alterations which could have major effects on sexual function and quality of life. The prevalence of sexual dysfunction in studies reviewed is quite high with prevalence of about 65% in Nigeria. Sexual function is a sensitive topic rarely discussed in our setting. There is no conclusive literature on the effect of mode of delivery on sexual function in the postpartum period. Despite its high prevalence, little attention is given to this subject in our clinics thus necessitating the need for this study.

**AIM:** To compare the difference in sexual function following vaginal delivery and caesarean section among postpartum women.

**METHODOLOGY:** This study was a prospective cohort study involving women who presented for antenatal care at AE-FUTHA and Mile 4 Hospitals. The women who met the inclusion criteria were recruited at term in 2 groups, those for planned vaginal delivery were on one arm and the second arm consisted of women who booked for elective caesarean section. Their sociodemographic characteristics, obstetric and sexual history were assessed using an interviewer structured questionnaire and sexual function was evaluated using the female sexual function index questionnaire (FSFI). Their sexual function before pregnancy was assessed on recruitment and at 6, 10 and 14 weeks postpartum.

**ANALYSIS:** Data was collated, tabulated and statistically analysed using SPSS version 20. Differences in continuous variables between the two groups were determined using the Students t test. Proportions were compared using Chi-square test. Analysis of variance was used to test for difference in means in more than two groups. P values of < 0.05 was considered statistically

**RESULTS:** *There were a total of 220 participants in the study with 110 participants in each arm. The mean age of the participants was 30.08±5.20 and 30.01±5.10 years in the vaginal delivery and caesarean section arm respectively. The mean times of resumption of sexual intercourse were 7.39±3.25 (VD) and 7.98 ±3.34 (CS) in weeks. The prevalence of sexual dysfunction was 55.5% pre-pregnancy and 89.1%, 75.5%, 63.6% at 6, 10 and 14 weeks postpartum respectively in the vaginal delivery group. In the caesarean section group, the prevalence of sexual dysfunction was 59.1% pre-pregnancy and 90.9%, 78.2% and 63.6% at 6, 10 and 14 weeks postpartum respectively. There was no significant statistical difference found in the overall sexual function score in the two groups.*

**CONCLUSION:** *There was no significant relationship between the mode of delivery and changes in sexual function. Sexual intercourse could be resumed early postpartum when lochia stops as long as the woman is physically and psychologically ready.*

**Keywords:** *Sexual dysfunction, postpartum, vaginal delivery, caesarean section.*

## INTRODUCTION

Human sexuality is a complex subject as it encompasses a broad range of issues, behavior and processes, including sexual identity and sexual behavior, physiological, psychological, social, cultural, political and spiritual aspects of sex<sup>1</sup>. According to the World Health Organization Sexual health is a state of physical, emotional, mental and social well-being related to sexuality; it is not merely the absence of disease, dysfunction or infirmity<sup>2,3</sup>.

Sexual dysfunction is a chain of 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 sexual intercourse<sup>4</sup>. Sexual dysfunction affects 40-45% of women and postpartum values range between 41-83%<sup>4,5</sup>. In Nigeria, a prevalence of up to 85.6% has been reported in non pregnant women and over 60% postpartum<sup>6,7,8</sup>. Lacks of libido, inability to reach orgasm, sexual pleasure and pain during sexual intercourse are the commonest disorders experienced by women<sup>9</sup>. Recent works have shown that sexual health problems are common in the postpartum period and despite this, it is a subject that lacks professional recognition<sup>1,3</sup>.

Several factors have been shown to affect female sexual function postpartum such as hormonal, physical and psychological changes during this period, parenting roles, infant care, sex of baby, breastfeeding, family planning, fatigue, insomnia, customs, beliefs, and traditions all influence female sexual function. It is also known that a woman's parity, education, her age, the number of her births that have been intervened upon (e.g. episiotomy, vacuum, forceps) can have a negative effect on sexual function after birth<sup>9,12</sup>. The first sexual intercourse after childbirth can be the important step for couples to reclaim their intimate relationship<sup>12</sup>. The ideal time for resumption of sexual intercourse is unknown, however many doctors recommend waiting four to six weeks before resuming sex, to allow the cervix to close, lochia to stop, and tears to heal. However, sexual activities like kissing, cuddling, oral sex and coitus inter-femoris were resumed sooner than vaginal sex<sup>12,13</sup>.

Sexual dysfunction can influence physical, social, and mental aspects of women's live; hence, nowadays more attention is given to the sexual health<sup>14</sup>. Sexual intercourse is not only influenced by the integrity of the genital tract but also by the limbic system and spinal arousal centres<sup>15</sup>. There are reports of positive association between dyspareunia and perineal trauma which could result from episiotomy and genital tract laceration<sup>9</sup>. The sexual problems are common over the first 3 months postpartum and typically, these problems sort out one year postpartum<sup>11,14</sup>. There are three mechanisms which may subscribe to sexual dysfunction after

delivery, dyspareunia, birth canal injury "pudendal neuropathy", and overall general health of the mother<sup>16,17,18</sup>. Perineal complications during childbirth can be avoided with Physiotherapy in the antenatal period<sup>19</sup>. Some women prefer caesarean section to vaginal delivery to avoid perineal trauma and thus sexual problems postpartum<sup>9</sup>. However, there is still doubt that mode of delivery affects sexual function postpartum<sup>14</sup>.

Following caesarean section the perineum is not affected, but all experienced changes during pregnancy can be added to other factors like discomfort on operation site, consequently influencing negatively sexual function<sup>19</sup>. Usually, Cesarean section (CS) is done for medical conditions threatening the life of mother or the baby or both. But nowadays, the tendency of women with no medical indications, to opt for CS is on the rise, which has made CS a popular mode of delivery around the globe. That CS should be performed under maternal request or the physicians' recommendation is still a controversial issue<sup>9</sup>. The World Health Organization (WHO) has reported that the rate of CS is 10% - 15% in the world<sup>9</sup>. But, there has been a long-standing controversy over what is the better mode of delivery (VD vs. CS) to diminish the risk of postnatal morbidity, which has not only affected the professionals' perspectives to the issue, but also changed the way women look at the childbirth experience<sup>9</sup>.

In the executive summary of the World Health Organization guide on postpartum care of the mother and newborn, information and counseling on 'sexual life' is identified as one of the 'needs of women', as this is an ideal opportunity to address existing problems related to sexual health and functioning<sup>1</sup>.

Despite all the controversies and the significance of the issue, there is little evidence of the effect of mode of delivery on sexual function. To this end, this study aims at comparing the postpartum sexual function following vaginal delivery and Caesarean Section to determine whether either of them is associated with postpartum sexual dysfunction.

## MATERIAL AND METHODS

### STUDY BACKGROUND

Ebonyi state is one of the states located in the South - Eastern part of Nigeria and was created on October 1, 1996. Abakaliki is the major urban settlement. Based on the 2016 national population census statistics, the state has a population of about 2.9 million people<sup>20</sup> and occupies a land mass of 5,932 kilometres square. It is bounded by Enugu, Benue, Cross River and Abia states. The vegetation is characteristic of a tropical rain forest with an average

annual rainfall of 1600mm and an average atmospheric temperature of 32<sup>0</sup>C. The predominant ethnic group is Igbo. Majority of the dwellers are subsistent farmers, artisans, business men and women of different categories and civil servants. They are predominantly Christians, Muslims, and traditional religion among others.

### STUDY AREA

The study was carried out in Alex-Ekwueme Federal University Teaching Hospital, Abakaliki (AEFUTHA). It receives referral from all parts of the state and neighbouring states of Abia, Benue, Cross River and Enugu. The department of Obstetrics and Gynaecology of Alex-Ekwueme Federal University Teaching Hospital, Abakaliki is one of the clinical departments in the hospital. The department has five teams which are subdivided into two units each. Each unit is manned by at least two consultants. The department runs antenatal clinics managed by the consultants and resident doctors. Antenatal clients are booked daily except Saturdays and Sundays and are assigned consultants according to the units/teams running antenatal clinic each day. The average antenatal booking is about 4,200 clients per annum, while the total antenatal clinic attendance averages 21,000 per annum, with an average annual delivery rate of 3,100.

St. Patrick's Mile 4 Hospital is one of the mission hospitals in the state. It is managed by Consultant Obstetricians, resident doctors who are routinely posted from AE-FUTHA, medical officers and nurses. The annual booking rate is about 4,500 and the delivery rate is about 4,200 which gave a monthly delivery rate of 350 births (unpublished data).

### STUDY DESIGN

This was a prospective cohort study that was conducted to determine sexual dysfunction in the postpartum period in women attending antenatal clinic in Alex-Ekwueme Federal University Teaching Hospital Abakaliki and Mile 4 Hospital Abakaliki.

### STUDY POPULATION

This study was carried out among consenting postpartum women who received antenatal care in the antenatal clinic of the department of obstetrics and gynaecology of AEFUTHA and Mile 4 Hospital Abakaliki in Ebonyi State within the period of the study. Participants were recruited at term from the antenatal clinic.

### SAMPLE SIZE CALCULATION

The minimum sample size was determined using the statistical formula for comparative study<sup>21</sup>.

$$N = \frac{[Z_{\alpha} \sqrt{1+1/m} P^x(1-P^x) + Z_{\beta} \sqrt{P_1 \times (1-P_1)/m + P_2(1-P_2)^2}]}{(P_1-P_2)^2}$$

N = Number of control subjects per experimental subjects

Z<sub>α</sub> = Standard normal variant for level of significance =1.96 (5% confidence level)

Z<sub>β</sub>=Standard normal variant for power or Type 2 error, power of the study 90% =1.28

P<sub>1</sub> = probability of events in control group

P<sub>2</sub> = probability of events in experimental group

P<sup>x</sup> = P<sub>2</sub>+mP<sub>1</sub>/m+1

m = 1

P<sub>1</sub> = 0.43 (According to Rosen et al)<sup>22</sup>

P<sub>2</sub> = 0.318( According to Amiri et al)<sup>9</sup>

P<sup>x</sup> =0.430+1(0.318) / 1+1

= 0.748/2

= 0.374

Then N =  $\frac{[1.96\sqrt{1+1/1} 0.374(1-0.374) + 1.28\sqrt{0.43(1-0.43/1) + 0.318(1-0.318)^2}]}{(0.43-0.318)^2}$

N = 106.18

With a 10% attrition rate sample size was 117 in each arm with a total of 234.

### SELECTION OF STUDY SUBJECTS

The subjects were selected using consecutive sampling of pregnant women who met the inclusion criteria.

#### Inclusion criteria

1. Women at term selected for either vaginal delivery or elective cesarean section without co-morbidities.
2. Women who plan to have their baby immunized in AEFUTHA or Mile 4 Hospital after delivery and were willing to be interviewed.

#### Exclusion criteria

1. Women with known sexual dysfunction
2. Having a child with anomalies
3. Women with previous pelvic surgery
4. Women on anti-hypertensive, anti-arrhythmia, anti-depressive drug and sedative therapy
5. Women with history of pelvic organ prolapse
6. Women with medical diseases like sickle cell anaemia, chronic liver disease and renal disease
7. Loss of family member in recent time
8. Divorcee

### STUDY INSTRUMENT

The data collection instruments included demographic and obstetric questionnaire and the Female Sexual Function Index (FSFI) questionnaire. The demographic and obstetric questionnaire include age, education, occupation, social class, family sleeping pattern, pregnancy and childbirth, number of children, type of delivery, episiotomy status, baby gender, contraceptive method, and satisfaction with marital life. FSFI is a 19-item questionnaire that measures female sexual function in 6 areas of sexual function: sexual desire (2 items), sexual arousal (4 items), vaginal lubrication (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 3 indicates a better sexual performance. A FSFI score of less than 26.5 indicates an undesirable sexual function.

### STUDY PROCEDURE

All eligible pregnant women at term, who met the inclusion criteria, are counseled on details of the study. Thereafter, a verbal as well as a written consent are obtained from the participant. The socio-demographic data, medical history and obstetric history were obtained at enrolment, and general physical and obstetric examination were done. All the participants irrespective of the group they belonged to received FSFI-6 item form to assess sexual function before pregnancy. The form was administered by the researcher or assistants in a room with optimal privacy and comfort for the patient due to the sensitive nature of the topic. It took 5-10



minutes to fill the FSFI questionnaire. The questionnaires were numbered serially as subjects were being recruited. The serial numbers were entered in a register against participants' names and telephone numbers for ease of follow up. This register was kept by the researcher and was destroyed immediately after the study. The subjects were followed up with phone calls to know when they delivered and also to remind and encourage them to keep to their scheduled immunization appointments. Prior to 6 weeks postpartum, they were reminded of their postnatal visit and immunization schedule for their child with a phone call, text and whatsapp messages. They were given the FSFI-6 item questionnaire to assess their sexual function at 6 weeks postpartum. The form was administered by any of the researchers or the assistant in a room with optimal privacy at the child welfare clinic of AE-FUTHA and Mile 4 hospital after immunization of the child. Other factors that were assessed at 6 weeks included, perineal injury at birth, resumption of menstruation, time of resumption of sexual intercourse and use of contraception. Same procedure was repeated at 10 weeks and 14 weeks postpartum visits to the child welfare clinic.

#### RESEARCH ASSISTANTS

The research assistants consisted of 10 house officers/registrars, spread amongst the 10 teams of the department and 2 medical officers at Mile 4 hospital whom were females considering the sensitive nature of the research. Training sessions where the research aim and objectives were explained in details were organised. They were also trained on filling of the proforma, obtaining of consent, method of questionnaire administration and follow up. Group meetings were held through the social media at intervals for the purpose of feedback and reappraisal.

#### STATISTICAL ANALYSIS

Data analysis was performed using SPSS version 20 and description was performed using appropriate charts and frequency tables. Difference in variables between the two groups was determined using the Students T test. Chi-square test was used to assess association between mode of delivery and sexual dysfunction. P values of < 0.05 were considered statistically significant.

#### ETHICAL CONSIDERATION

Ethical clearance was sought and obtained from the Health Research and Ethics committee of Alex Ekwueme Federal University Teaching Hospital, Abakaliki and Mile 4 Hospital, Abakaliki.

**Informed consent:** A signed- written consent was obtained from each subject, away from any threat or coercion before recruitment into the study. The study objectives, procedure and full implications of participation in the study were discussed with the participants before their consent was obtained. The participants were made to understand that declining participation will have no consequences in their obtaining adequate care.

#### CONFLICT OF INTEREST

There was no conflict of interest.

#### LIMITATIONS

Some of the participants were lost to follow up. There could be recall bias since the participants were made to recall what their pre pregnancy sexual function was.

### RESULTS

**Table 1: Socio-demographic variables**

Variables	VD (n=110) %	CS (n=110) %	$\chi^2$	p-value
<b>Age in years</b>				
<20	0	2(1.8)	1.930*	0.659
20-29	65(59.1)	61(55.5)		
30-39	43(39.1)	45(40.9)		
≥40	2(1.8)	2(1.8)		
Mean ± SD	30.08±5.2	30.01±5.1		
<b>Religion</b>				
Christianity	109(99.1)	110(100)	0.000*	1.000
Muslim	1(0.9)	0		
<b>Occupation</b>				
House wife	21(19.1)	28(25.5)	3.083	0.831
Civil servant	44(40)	35(31.8)		
Trader	33(30.0)	36(32.7)		
Artisan	2(1.8)	3(2.7)		
Student	4(3.6)	4(3.6)		
Teacher	4(3.6)	3(2.7)		
Others	2(1.8)	1(0.9)		
<b>Educational status</b>				

Primary	3(2.7)	4(3.6)	1.297*	0.523
Secondary	31(28.2)	38(34.5)		
Tertiary	76(69.1)	68(61.8)		
<b>Tribe</b>				
Igbo	107(97.3)	106(96.4)	0.540*	1.000
Yoruba	1(0.9)	2(1.8)		
others	2(1.8)	1(0.9)		
<b>Parity</b>				
1	36(32.7)	43(39.1)	1.093	0.579
2-4	63(57.3)	5(52.7)		
>4	11(10.0)	9(8.2)		
Median (Range)	2(1-7)	2(1-7)		
<b>Social class</b>				
1	64(58.2)	59(53.6)	0.785	0.853
2	19(17.3)	24(21.8)		
3	27(24.5)	27(24.5)		

Table 1 shows no difference in the socio-demographic features of the women involved in this study.

**Table 2: Obstetric and other variables affecting resumption of coitus**

variables	VD(n=110)	CS	$\chi^2$	P value
<b>first sex(weeks)</b>				
0-6	27(24.5)	17(15.5)	3.778	0.286
7-10	25(22.7)	22(20)		
11-14	12(10.9)	15(13.6)		
not yet	46(41.8)	56(50.9)		
<b>contraceptive usage</b>				
withdrawal	16(14.5)	14(12.7)	3.013	0.698
Natural	17(15.5)	15(13.6)		
implant	14(12.7)	8(7.3)		
condom	5(4.5)	8(7.3)		
others	4(3.6)	4(3.6)		
none	54(49.1)	61(55.5)		
<b>separate rooms</b>				
yes	75(68.2)	64(58.2)	2.364	0.124
no	35(31.8)	46(41.8)		
<b>Perineal injury</b>				
minor	3(2.7)	0	26.937	<0.001
major	36(32.7)	8(7.3)		
none	71(64.5)	102(92.7)		

Table 2 showed that perineal injury was an significant variable that influenced the time of resumption of sexual intercourse.

**Table 3: FSFI score pre-pregnancy and postpartum in women who delivered vaginally and had resumed sexual intercourse**

Domain	Prepregnancy (n=110)	Postpartum 6 weeks (n=27)	10weeks (n=52)	14weeks (n=64)	F-ratio	P-value
Desire	3.33±1.13	3.36±0.81	3.58±0.72	3.82±0.81	3.868	0.010
Arousal	3.64±1.21	3.96±0.99	4.16±1.14	4.13±0.96	3.957	0.009

Orgasm	4.16±1.45	4.46±1.34	4.58±0.95	4.73±0.92	3.358	0.019
Pain	4.18±1.57	4.57±1.19	4.58±1.22	4.75±1.24	2.641	0.050
Lubrication	4.24±1.34	4.47±0.96	4.63±0.92	4.67±0.97	2.522	0.058
Satisfaction	4.69±1.48	4.69±1.19	5.07±0.97	5.27±0.91	3.610	0.014
FSFI	24.22±6.87	25.51±4.62	26.56±4.02	27.36±4.46	4.864	0.003
<b>Domain</b>	<b>Prepregnancy (n=110)</b>	<b>Postpartum 6 weeks (n=27)</b>	<b>10weeks (n=52)</b>	<b>14weeks (n=64)</b>	<b>χ<sup>2</sup></b>	<b>P-value</b>
<b>Desire</b>						
Poor	28(25.5%)	6(22.2%)	7(13.5%)	6(9.4%)	8.159	0.043
Good	82(74.5)	21(77.8%)	45(86.5%)	58(90.6%)		
<b>Arousal</b>						
Poor	18(16.4%)	2(7.4%)	4(7.7%)	7(10.9%)	3.427	0.330
Good	92(83.6%)	25(92.6%)	48(92.3%)	57(89.1%)		
<b>Orgasm</b>						
Poor	18(16.4%)	1(3.7%)	1(1.9%)	1(1.6%)	15.279*	0.001
Good	92(83.6%)	26(96.3%)	51(98.1%)	63(98.4%)		
<b>Pain</b>					2.730	
Poor	23(20.9%)	3(11.1%)	7(13.5%)	9(14.1%)		0.435
Good	87(79.1%)	24(88.9%)	45(86.5%)	55(85.9%)		
<b>Lubrication</b>					8.832*	
Poor	11(10.0%)	1(3.7%)	0(0.0%)	1(1.6%)		0.018
Good	99(90.0%)	26(96.3%)	52(100%)	63(98.4%)		
<b>Satisfaction</b>					6.511*	
Poor	14(12.7%)	3(11.1%)	2(3.8%)	2(3.1%)		0.077
Good	96(87.3%)	24(88.9%)	50(96.2%)	62(96.9%)		
<b>FSFI</b>					5.658	
Poor	61(55.5%)	15(55.6%)	25(48.1%)	24(37.5%)		0.128
Good	49(44.5%)	12(44.4%)	27(51.9%)	40(62.5%)		

Table 3 showed that there is a significant difference between the prepregnancy and postpartum FSFI score in women that had vaginal delivery.

**Table 4: FSFI score pre-pregnancy and postpartum in caesarean section group that had resumed sexual activity**

<b>Domain</b>	<b>Prepregnancy (n=110)</b>	<b>Postpartum 6 weeks (n=17)</b>	<b>10weeks (n=39)</b>	<b>14weeks (n=54)</b>	<b>F-ratio</b>	<b>P-value</b>
Desire	3.43±0.95	3.46±0.89	3.56±0.83	3.93±0.61	4.254	0.006
Arousal	3.60±1.13	4.06±0.74	3.93±0.80	4.22±1.10	4.776	0.003
Orgasm	4.25±1.38	4.57±1.40	4.46±1.04	4.64±0.88	1.377	0.251
Pain	4.17±1.47	3.95±1.46	4.47±1.26	4.76±1.20	2.799	0.041
Lubrication	4.26±1.43	4.56±0.69	4.57±0.95	4.60±0.93	1.360	0.256
Satisfaction	4.76±1.25	5.05±0.80	5.19±0.80	5.50±0.93	5.931	0.001
FSFI	24.45±5.79	25.64±4.76	26.20±4.06	27.70±3.64	5.356	0.001
<b>Domain</b>	<b>Prepregnancy (n=110)</b>	<b>Postpartum 6 weeks (n=17)</b>	<b>10weeks (n=39)</b>	<b>14weeks (n=54)</b>	<b>χ<sup>2</sup></b>	<b>P-value</b>
<b>Desire</b>						
Poor	26(23.6%)	4(23.5%)	7(17.9%)	3(5.6%)	8.315	0.040
Good	84(76.4%)	13(76.5%)	32(82.1%)	51(94.4%)		
<b>Arousal</b>						
Poor	20(18.2%)	0(0.0%)	3(7.7%)	2(3.7%)	9.978*	0.014
Good	90(81.8%)	17(100%)	36(92.3%)	52(96.3%)		

<b>Orgasm</b>						
Poor	21(19.1%)	2(11.8%)	4(10.3%)	2(3.7%)	7.917	0.048
Good	89(80.9%)	15(88.2%)	35(89.7%)	52(96.3%)		
<b>Pain</b>						
Poor	19(17.3%)	4(23.5%)	6(15.4%)	6(11.1%)	1.828	0.609
Good	91(82.7%)	13(76.5%)	33(84.6%)	48(88.9%)		
<b>Lubrication</b>						
Poor	13(11.8%)	0(0.0%)	1(2.6%)	2(3.7%)	5.426*	0.125
Good	97(88.2%)	17(100%)	38(97.4%)	52(96.3%)		
<b>Satisfaction</b>						
Poor	12(10.9%)	0(0.0%)	0(0.0%)	0(0.0%)	10.857*	0.006
Good	98(89.1%)	17(100%)	39(100%)	54(100%)		
<b>FSFI</b>					17.218	
Poor	65(59.1%)	8(47.1%)	15(38.5%)	14(25.9%)		0.001
Good	45(40.9%)	9(52.9%)	24(61.5%)	40(74.1%)		

Table 4 showed that there is a significant difference between the prepregnancy and postpartum FSFI score in women that had caesarean delivery.

**Table 5: FSFI scores in vaginal delivery and caesarean section groups 6-14weeks postpartum in women who have resumed sexual intercourse**

Domain	Vaginal delivery	Caesarean section	t-test	P-value
<b>Prepregnancy</b>	<b>(n=110)</b>	<b>(n=110)</b> 3.43±0.95		
Desire	3.33±1.13	3.60±1.13	0.699	0.485
Arousal	3.64±1.21	4.25±1.38	0.259	0.796
Orgasm	4.16±1.45	4.17±1.47	0.472	0.637
Pain	4.18±1.57	4.26±1.43	0.031	0.975
Lubrication	4.24±1.34	4.76±1.25	0.112	0.911
Satisfaction	4.69±1.48	24.45±5.79	0.394	0.694
FSFI	24.22±6.87	<b>(n=17)</b>	0.264	0.792
<b>6 weeks</b>	<b>(n=27)</b>	3.46±0.89		
Desire	3.36±0.81	4.06±0.74	0.383	0.704
Arousal	3.96±0.99	4.57±1.40	0.356	0.723
Orgasm	4.46±1.34	3.95±1.46	0.259	0.797
Pain	4.57±1.19	4.56±0.69	1.533	0.133
Lubrication	4.47±0.96	5.05±0.80	0.343	0.733
Satisfaction	4.69±1.19	25.64±4.76	1.096	0.279
FSFI	25.51±4.62	<b>(n=39)</b>	0.090	0.929
<b>10 weeks</b>	<b>(n=52)</b>	3.56±0.83		
Desire	3.58±0.72	3.93±0.80	0.114	0.910
Arousal	4.16±1.14	4.46±1.04	1.075	0.285
Orgasm	4.58±0.95	4.47±1.26	0.568	0.571
Pain	4.58±1.22	4.57±0.95	0.416	0.678
Lubrication	4.63±0.92	5.19±0.80	0.257	0.797
Satisfaction	5.07±0.97	26.20±4.06	0.612	0.542
FSFI	26.56±4.02	<b>(n=54)</b>	0.421	0.675
<b>14 weeks</b>	<b>(n=64)</b>	3.93±0.61		
Desire	3.82±0.81	4.22±1.10	0.839	0.403
Arousal	4.13±0.96	4.64±0.88	0.483	0.630
Orgasm	4.73±0.92	4.76±1.20	0.575	0.567
Pain	4.75±1.24	4.60±0.93	0.038	0.969
Lubrication	4.67±0.97	5.50±0.93	0.420	0.676
Satisfaction	5.27±0.91	27.70±3.64	1.341	0.182

FSFI	27.36±4.46	0.445	0.657
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Table 5 showed no statistical difference between the groups.

## DISCUSSION

Sexual health after childbirth is a relatively new research interest. Pregnancy itself and the transition to parenthood, among other factors, greatly impact on postpartum sexuality. Recent works have shown that sexual health problems are common in the postpartum period and despite this, it is a subject that lacks professional recognition<sup>1</sup>. Sexual dysfunction is a chain of 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 sexual intercourse<sup>4</sup>. Sexual dysfunction can influence physical, social, and mental aspects of women's lives, yet an area with little studies in our environment.

The mean age of the participants in this study were 30.08±5.20 and 30.01±5.10 in the vaginal and caesarean delivery group respectively comparable to the study by Anzaku et al where the mean age was 29.5±4.7 and slightly higher (33.8±5.7) in the study by Ogunbode et al<sup>6</sup> in non pregnant women. It was slightly lower (27.0±5.4) in the study by Iliasu et al<sup>8</sup> in Kano. There was no statistical difference in age between the vaginal and caesarean section group. There was also no statistical difference in the level of education, tribe, religion, occupation, social class, parity, baby gender, contraceptive usage, time of resumption of menstruation amongst the participants in the two arms of the study. These findings were similar to that seen in the study by Amiri et al<sup>9</sup>. This was also comparable to the findings in the study by Al-Sherbini et al<sup>11</sup>. These studies involved only primiparas unlike this study where the parity ranged between 1-7.

The mean time of resumption of sexual intercourse in this study was 7.39 and 7.98 weeks in the vaginal and caesarean delivery groups respectively. This was comparable to the study in Jos by Anzaku et al<sup>7</sup> where the mean TORSI was 8±2 weeks and slightly lower than a study in Kano by Iliasu et al<sup>8</sup> which was 9.6± 2 weeks. In another study by Owonikoko et al<sup>13</sup> in Ogbomoso the mean TORSI was quite lower (3.2±1.8 weeks). When compared with other studies done outside Nigeria, it was comparable to the study in Uganda with a mean TORSI of 7.87±4.9 weeks<sup>14</sup>, in Ethiopia (6.4±2 weeks)<sup>23</sup>, Iran (8.95±1.3 weeks)<sup>9</sup>, and 7 weeks in Brasil by Pereira et al<sup>19</sup>. The ideal TORSI is unknown<sup>17</sup>, however it has been said to be between 5-8 weeks<sup>13</sup>. In this study at 0-6 weeks postpartum 24.5% and 15.5% of the women who had vaginal and caesarean delivery had resumed sexual activity. This was lower than that in the study by Owonikoko et al<sup>13</sup> where 35.5% of the subjects resumed in the puerperium and higher than the figure in Jos by Anzaku et al which was just 3%<sup>7</sup> and comparable to that in Kano (27.7%)<sup>8</sup>. In the study in Uganda 49.3%<sup>14</sup> of the subjects resumed intercourse within 6 weeks comparable to the study in Egypt<sup>24</sup> which was 41% which was also comparable to the study by McDonald<sup>25</sup> in Australia (41%). The value was quite higher in the study by Tesfay et al in Ethiopia where 73.4% of the subjects resumed intercourse in the puerperium<sup>23</sup>. At the end of the index study at 14 weeks 58.2% and 49.1% of the participants had resumed sexual intercourse after vaginal and caesarean delivery respectively, this was comparable to the study in Ibadan by Fagbamigbe et al<sup>26</sup> where 58% of the subjects had resumed sexual activity by the end of 3 months and higher in the study by McDonald et al (74%)<sup>25</sup> and Fodstat et al (75.2%)<sup>27</sup>. When comparing vaginal delivery and caesarean delivery in the index

study, there was no statistical difference in TORSI as seen in other studies<sup>3,9,13,27</sup>. However, in the study in Uganda by Odat et al<sup>24</sup>, women who delivered vaginally with or without perineal injury resumed earlier than their counterparts who delivered by caesarean section. In the literature review by Banaei et al<sup>12</sup> some studies showed no statistical difference in TORSI between the various modes of delivery while some other studies did. Some reasons given for resumption of intercourse include husbands demand, self wish, health workers advice and reasons for delay include fear of pregnancy, husband not available, age of the baby, resumption of menstruation, no desire. Similar findings were seen in studies reviewed<sup>7,8,24,25</sup>.

The prevalence of sexual dysfunction pre-pregnancy in this study was 55.5% and 59.1% in the vaginal delivery and caesarean delivery group respectively which is lower than that in the study by Ogunbode et al<sup>6</sup> (85.6%) in non pregnant women but comparable to that by Fajewonyonmi et al (63.6%) in non-pregnant women of reproductive age. Postpartum the FSFI score was 63.6% in both arms at 14 weeks which was comparable to that in the study Anzaku et al (62.6%)<sup>7</sup> and Iliyasu et al (64.2%) though a researcher structured questionnaire was used unlike in this study where the FSFI questionnaire which is a standardized questionnaire was used. In another study in Brazil where the FSFI questionnaire was used the prevalence of sexual dysfunction postpartum was slightly higher 78%<sup>19</sup>. The prevalence of FSD among women who had resumed sexual intercourse in this study at 14 weeks was 37.5% and 25.9% after vaginal delivery and caesarean section respectively. None of the literatures reviewed gave analysis on women who had completely resumed sexual activity which and thus a plus to the index study which did.

Few studies in the literature have compared pre-pregnancy and postpartum sexual function. Results in the index study showed a statistically significant difference in sexual function postpartum compared to pre-pregnancy values in all the domains after both vaginal delivery and caesarean section. There was reduction in sexual function. Findings were similar in women who had resumed sexual activity after caesarean delivery except the pain and lubrication domains which showed no difference. This was comparable to the findings in the systemic review by Banaei M et al which also showed reduction in sexual function. However, analysis in only women who had resumed sexual intercourse after vaginal delivery showed no significant difference. This was comparable to the study by Amiri et al<sup>9</sup> and Abd El-Satter et al<sup>14</sup>. Sexual function has been shown to be decreased in the first 3-6 months postpartum and increasing subsequently<sup>4,9,13</sup>.

## CONCLUSION

There was no significant relationship between the mode of delivery and changes in sexual function. Sexual intercourse could be resumed early in the postpartum period when lochia stops as long as the woman is physically and psychologically ready.

## STRENGTHS OF THE STUDY

The use of a validated questionnaire such as the FSFI questionnaire makes the findings from this study more objective and comparable to similar studies elsewhere unlike other studies in our environment where a researcher structured questionnaire was used. Most of the participants in this study had tertiary level of education



and thus a better understanding of the different domains of the FSFI questionnaire.

## RECOMMENDATIONS

Sexual dysfunction despite having a high prevalence pre-pregnancy and postpartum as seen in this study irrespective of the mode of delivery is given little attention in our clinics. Most women don't volunteer information about their sexual problem and considering the fact this could cause marital disharmony and other social vices, I would recommend that doctors should include this subject during consultations when these women present at the clinic. Women should also be made to understand that mode of delivery had no significant impact on sexual function, for those that would like to opt for either vaginal delivery or caesarean section to preserve sexual. Women could also be encouraged to resume sexual intercourse early after delivery as long as they are physically and psychologically sound.

## REFERENCES

1. Abdool Z, Thaker R, Sultan AH. Postpartum female Sexual Function: A Review. *Eur J Obstet Gynecol.* 2009;145(2):133-137
2. Omo-Aghoja L. Sexual and Reproductive Health Concepts and Current Status Among Nigerians. *Afr J Med Health Sci.* 2013;(12):103-113
3. Eda S, Ayten SE. A Study Examining Women's Function in Twelve Months Postpartum. *Medscience.* 2018(07):8953
4. Mojdeh B, Azan M, Sarah D. Sexual Dysfunction and its Associated Factors After Delivery: Longitudinal Study in Iranian Women. *Mater Sociomed.* 2018;30(3):198-203
5. Lagana A, Burgio M, Ciancimino L, Sicilia A, Pizzo A, Magno L. Evaluation of Recovery and Quality of Sexual Activity in Women During Postpartum in Relation to the Different Modes of Delivery: A Retrospective Analysis. *Mineva Gynecol.* 2015;67(4):315-320
6. Ogunbode OO, Aimakhu CO, Ogunbode AM, Adebusoye LA, Owonikoko KM. Sexual Dysfunction Among Women in a Nigerian Gynecological Out-patient Unit. *Trop J Obstet Gynecol.* 2019;36:61-66
7. Anzaku AS, Mikah S. Postpartum Resumption of Sexual Activity, Sexual Morbidity and Use of Modern Contraceptives Among Nigerian Women in Jos. *Ann Med Health Sci Res.* 2014;4:210-216
8. Iliyasu Z, Galadanei HS, Dalami KM, Salali HM, Aliyu MH. Correlates of Postpartum Sexual Activity and Contraceptive Use in Kano, Northern Nigeria. *Afr J Reprod Health.* 2018;22(1):103-112
9. Amiri FN, Omidvar S, Bakhtiari A, Yazdani S, Hajiahmadi M. Comparison of Sexual Function in Primiparous Women Pre-pregnancy and Postpartum: Difference of the Sexual Function after the Normal Vaginal Delivery and Caesarean Section. *Health.* 2015;(7):1379-1386
10. Anzaku SA, Ogbe EA, Ogbu GI, Eden BE, Ngwan SD. Evaluation of Changes in Sexual Response and Factors Influencing Sexuality During Pregnancy Among Nigerian Women in Jos Nigeria. *Int J Reprod Contracept Obstet Gynecol.* 2016;5(10):3576-3582
11. Al-Sherbiny MM, Abdelrahman RM, Riad AA. Primipara Mothers who Delivered Vaginally or by Caesarean Section, Is there an impact on the Sexual Function? *The EJHM.* 2018;73(2):5982-5991
12. Banaei M, Torkzahrani SH, Ozgoli G, Mohammadali E. Postpartum Sexual Function; Conflict in Marriage Stability. A Systematic Review. *Int J of Med Tox and Forensic Med.* 2016;6(2):88-98
13. Owonikoko KM, Adeoye AG, Tijani AM, Adeniyi AO. Determinants of Resumption of Vaginal Intercourse In Puerperium Period in Ogbomosho: Consideration for early use of Contraceptives. *Reprod Contracept Obstet Gynecol.* 2014;3(4):1061-1066
14. Abd El-Sattar SN, Abd El Hameed SN, Alfiky MR and Fawzy NR. 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.* 2018;5(4):1108
15. Fajewonyomi BA, Orji EO, and Adeyemo AO. Sexual Dysfunctions among Female Patients of Reproductive Age in a Hospital Setting in Nigeria. *J Health Popul Nutri.* 2007;25(1):101-106
16. Valadan M, Shari'at M, Rezaei Z, Haghollahi F. A Comparative Study on Quality of Life and Sexual Function after Vaginal Delivery and Caesarean Section. *Nurs Pract Today.* 2014;1(4):176-182
17. Rezaee R and Kingsberg S. How To Prepare Your Patient For The Many Nuances of Postpartum Sexuality. *Obgmanagement.com.* 2012;24(1):24-35.
18. Yee LM, Karmal AJ, Nakagawa S, Houston K, Kuppermann M. Predictors of Postpartum Sexual Activity and Function in a Diverse Population of Women. *J Midwifery Womens Health.* 2013;58(6):654-661
19. Pereira TRC, Dottori EH, Mendonca FMAH, Beleza ACS. Assessment of Female Sexual Function in Remote Postpartum Period: A Cross-sectional Study. *Rev Bras Saude Mater Infant.* 2018;18:2
20. Available from: <https://nigerianstat.gov.ng/download/474>. Accessed 8<sup>th</sup> of October, 2024.
21. Charan J and Biswas T. How to Calculate Sample Size for Different Study Designs in Medical Research? *Indian J Psychol Med.* 2013;35(2):121-126
22. Rosen RC. Prevalence and Risk factors of Sexual Dysfunction in Men and Women. *Curr Psychiatry Rep.* 2000;2(3):189-195
23. Sayasneh A and Pandeva I. Postpartum Sexual Dysfunction: A literature review of risk factors and role of mode of delivery. *British Journal of Medical Practitioners.* 2010;3(2):316
24. Odar E, Wandabwa J, Kiondo P. Sexual Practices of Women within Six Months of Childbirth in Mukago Hospital Uganda. *Afr Health Sci.* 2003;3(3):117-123
25. Fagbamigbe AF, Awoyelu IE, Akinwale OL, Akinwade TY, Emitilo BK, Bankole o. Factors Contributing to the Duration of Postpartum Abstinence Among Nigerian Women: Semi-parametric Survival Analysis. *Heliyan.* 2018;4:18
26. Tesfay F, Mesfin E, Gedefaw A. Resumption of Postpartum Sexual Intercourse and Use of Modern Contraceptive Among In Union Women In Addis-Ababa. *Eth. J of Reprod Health.* 2018;(10):22-33

27. American Academy of Paediatricians (AAP), American College of Obstetricians Gynaecologist (ACOG). Guidelines for perinatal care. 6<sup>th</sup> ed. Washington DS:AAP.ACOG;2008