

FACTORS ASSOCIATED WITH SEXUAL DYSFUNCTION AMONG FEMALE PATIENTS IN A NIGERIAN AMBULATORY PRIMARY CARE SETTING

L.A. Adebusoye¹, O. Ogunbode², K.M. Owonokoko³, A.M. Ogunbode¹, and C. Aimakhu²

1. Department of Family Medicine, University College Hospital, Ibadan, Nigeria.
2. Department of Obstetrics and Gynaecology, College of Medicine, University of Ibadan, Nigeria.
3. Department of Obstetrics and Gynaecology, Ladoké Akintola University of Technology, Ogbomosho, Nigeria.

Correspondence:

Dr. O. Ogunbode

Department of Obs and Gynae,
College of Medicine,
University of Ibadan,
Nigeria
E-mail: jamchose@yahoo.co.uk

ABSTRACT

Background: Sexual dysfunction is a common but under-reported problem of public health importance among female adults in Nigeria. Empirical evidence on sexual dysfunction among female Nigerians is scarce.

Objectives: To determine the prevalence and risk factors associated with sexual dysfunction among female patients presenting at the General Outpatient Clinic (GOPC), University College Hospital (UCH), Ibadan, Nigeria.

Methods: This was a cross-sectional study of 480 married female patients who presented consecutively at the GOPC, UCH, Ibadan, Nigeria. The 28-item Sexual Function Questionnaire (SFQ-28) was used to determine sexual dysfunction. Information on their sociodemographic characteristics, obstetric and gynecological history were obtained. Bivariate and multivariate analyses were carried out and alpha was set at 0.05.

Results: Point prevalence of sexual dysfunction was 80.0%. The most common sexual dysfunction was problems with sexual desire (99.4%), while the least common was problems with arousal cognition (5.8%). There was a significant association between the prevalence of sexual dysfunction and age, years of relationship, number of children alive, parity, level of education, age at coitarche and family dysfunction. Age (OR=0.893; 95% CI=0.821–0.972, p=0.008), parity (OR=3.093; 95% CI=1.174–8.151, p=0.022), having family dysfunction (OR=2.096; 95% CI= 1.129–3.891, p=0.019) and having ≥ 10 years of formal education (OR=4.808; 95% CI= 2.604–8.928, p<0.0001) were found to be the predictors of sexual dysfunction.

Conclusion: Sexual dysfunction among female married adults in our setting was high. We propose that modifiable factors such as socio-demographic and gynaecological variables should be evaluated during the consultation of female patients at first contact

Keywords: Female, Sexual dysfunction, Primary care, Nigeria

INTRODUCTION

Sexual health is an important aspect of the overall health of women with Masters and Johnson describing the 4 phases of sexual experience and response in women as excitement, arousal with plateau, orgasm and satisfaction¹. Sexual dysfunction is a disruption in this sexual response cycle which does not allow achievement of the expected outcome². In females, sexual dysfunction is classified into five groups which comprise disorders of arousal, aversion, desire, orgasm, and pain^{3,4}. Krakowsky and Grober in 2018, however, divided Female Sexual Dysfunction (FSD) into four groups consisting of sexual pain, low desire, low arousal and orgasmic dysfunction⁴.

FSD could be caused by diabetes mellitus, hypertension, arthritis, dementia, dermatologic

conditions including vulvar eczema; gynaecological problems such as pelvic inflammatory disease; and spinal cord problems, pituitary tumours, and urinary incontinence⁵. Sexual abuse, life stressors, interpersonal and relationship disorders are also implicated in FSD^{6,7}. FSD could also be associated with antipsychotics⁸, antihistamines, metronidazole, antihypertensives, antiestrogens such as Tamoxifen, antiandrogens like cimetidine and spironolactone, antidepressants and alcohol⁶. Other drugs which lead to FSD include antilipids, narcotics, ketoconazole and hormonal contraceptives⁵.

FSD is a very important aspect of health (WHO 2016) as women constitute half of the global population and even though men are more than women in the

younger age group, from age 60 years and above, women are found to be a higher proportion (54%)⁹. There is a high prevalence of sexual dysfunction in both men and women⁶ with varying epidemiology. Globally, the prevalence of FSD falls between 35.4 – 62.1%^{10,11}. In Northern Nigeria, the highest proportion of respondents (35.7%) defined FSD as having no desire for sex¹², while authors based in South-western Nigeria in 2007, described the prevalence of FSD as 68.3%¹³.

FSD could be assessed by several tools including the Female Sexual Function Inventory (FSFI)¹⁴, the Sexual Dysfunction Questionnaire (SDQ)³ and the Sexual Function Questionnaire. The SFQ-34 was validated by Quirk and colleagues in 2002¹⁵. Since then, there have been several adaptations of the questionnaire such as the SFQ-28 and the SFQ-V2. There are also several versions of this questionnaire adapted to countries such as the Persian version¹⁶.

A woman's social, cultural, background, expectations, and relationships are also very important factors in sexual dysfunction¹. In various cultures, sexuality is something difficult to discuss and there is usually more emphasis on male sexual dysfunction otherwise known as Erectile Dysfunction than FSD. In fact, it is already well established that there is more sexual dysfunction in men than women and as men grow older, there is increased sexual dysfunction¹⁷. However, in women, it is difficult to measure arousal and orgasm with women not as forthcoming with reporting problems in these domains and this is compounded by confounders in women such as depression².

Therefore, the need arose for this study to define the magnitude of FSD presently in South-western Nigeria. The aim of this study was to determine the prevalence of FSD among adult married women presenting in GOP clinic, UCH, Ibadan, Oyo State, Nigeria as well as to identify the pattern of presentation of females with FSD.

MATERIALS AND METHODS

This cross-sectional study was carried out at the General Outpatient Clinic (GOPC) of the University College Hospital (UCH) Ibadan, South-western Nigeria. GOPC is the outpatient clinic of the Department of Family Medicine and it serves as the gateway for most of the patients presenting at the UCH.

Four hundred and eighty female respondents were selected consecutively during the study period of October 2012 to January 2013. The sample size was calculated using the Leslie and Kish formula for single

proportion and the prevalence of sexual dysfunction in Nigeria of 63%¹¹ after an attrition rate of 25% was added. The inclusion criteria were married females of reproductive (18 – 49 years) age while the exclusion criteria were non-consent and currently not living with the spouse.

Informed consent was obtained, and the respondents were interviewed using a semi-structured questionnaire which was pre-tested before use. The respondents' socio-demographic characteristics, lifestyle habits, obstetric and gynaecologic histories were obtained. The Sexual Function Questionnaire (SFQ-28) is a multi-dimensional and patient-centered tool and is used to check for all areas of the sexual response cycle¹⁶. The SFQ-28 was used to determine sexual dysfunction and is made up of 28 questions with 7 domains of dysfunction^{18,19}. FSD was described as a minimum of a score in one of the domains showing high probability on the SFQ-28. The questionnaire was administered both in English and Yoruba languages (after back-translation) by trained female research assistants and the interview took an average of 25 minutes each.

Data entering, cleaning and analysis were carried out using Statistical Package for Social Sciences (SPSS) version 20. Descriptive statistics were used to describe socio-demographic characteristics and appropriate charts were used to illustrate categorical variables. Student t-test and Chi-square test were used to test the association between continuous and categorical variables respectively. Logistic regression analysis was used to explore the relationship between significant variables at the bivariate level and sexual dysfunction. The level of significance (p-value) was set at 5%.

RESULTS

The mean age of the 480 respondents was 35.4 ± 7.2 (19.0 – 56.0) years. Their partners were significantly older, mean age of $[41.6 \pm 7.9(25.0 – 70.0)$ years] $t = 33.667$, $p < 0.0001$. The mean duration of relationship was 10.5 ± 7.4 (1.0 – 34.0) years. The modal age group was 31 – 40 years, 276 (57.5%) respondents had tertiary education and the highest proportion of respondents were traders 199 (41.5%). They earned a median monthly income of 20,000.00 (IQR 1,000.00 – 41,250.00) Naira with 214 (56.0%) respondents living above the Nigerian minimum wage. (Table 1).

The point prevalence of sexual dysfunction was 80%. The commonest type of sexual dysfunction was problems with sexual desire (99.4%), while the least was problems with arousal cognition (5.8%). This is shown in Figure 1. Table 2 describes the frequency of obstetric and gynaecological factors. The mean age at

Table 1: Socio-demographic characteristics

	N (%)
Age groups (years) (N = 480)	
<30	151 (31.5)
31 – 40	207 (43.1)
≥ 41	122 (25.4)
Years of relationship with partner(s) (N = 452)	
≤ 5	155 (34.3)
6 – 10	114 (25.2)
11 -15	64 (14.2)
16 – 20	86 (19.0)
> 21	33 (7.3)
Educational level (N = 480)	
None	11 (2.3)
Primary school	97 (20.2)
Junior secondary school	24 (5.0)
Senior secondary school	72 (15.0)
Tertiary school	276 (57.5)
Occupational status (N = 480)	
Traders	199 (41.5)
Teachers	69 (14.4)
Civil servants	60 (12.5)
Students	32 (6.7)
Housewives	31 (6.5)
Fashion designers	24 (5.0)
Hair dressers	12 (2.5)
Caterers	6 (1.3)
Computer operators	5 (1.0)
Nurses	3 (0.6)
Nannies	3 (0.6)
Farmers	3 (0.6)
Others	33 (6.8)
Number of children alive (N =384)	
0 – 2	165 (42.9)
3 – 4	178 (46.4)
≥ 5	41 (10.7)
Income per month (N = 382)	
Less than minimum wage	168 (44.0)
Greater than minimum wage	214 (56.0)

coitarche was 21.9 ± 3.7 (13.0 – 32.0) years and median parity was 3 (IQR 2 – 4). The mean duration since last confinement was 6.1 ± 4.6 years (range 1 – 24 years), while the mean duration on contraception was 3.8 ± 3.3 years (range 2 months – 12 years).

Table 3 shows the socio-demographic characteristics and the prevalence of sexual dysfunction. There was significant association between prevalence of sexual dysfunction and age ($p < 0.0001$), years of relationship ($p = 0.002$), number of children ($p < 0.0001$), having ≥ 10 years of education ($p < 0.0001$) and having family dysfunctionality ($p = 0.001$).

The obstetric and gynaecological factors and the prevalence of sexual dysfunction are shown in Table

4. There was a significant association between age at coitarche ($p < 0.0001$), parity ($p = 0.001$), duration since last confinement ($p = 0.001$) and sexual dysfunction.

Figure 2 depicts the prevalence of sexual dysfunction and gynaecological problems in the respondents. The highest prevalence of sexual dysfunction was observed among the respondents with gynaecological -related malignancies (100.0%), while the least was found in those with vaginal discharge (50.0%).

Logistic regression analysis carried out on variables which showed significant association with sexual dysfunction. The logistic model was statistically significant, $\chi^2 (8) = 66.726$, $p < 0.001$. The model

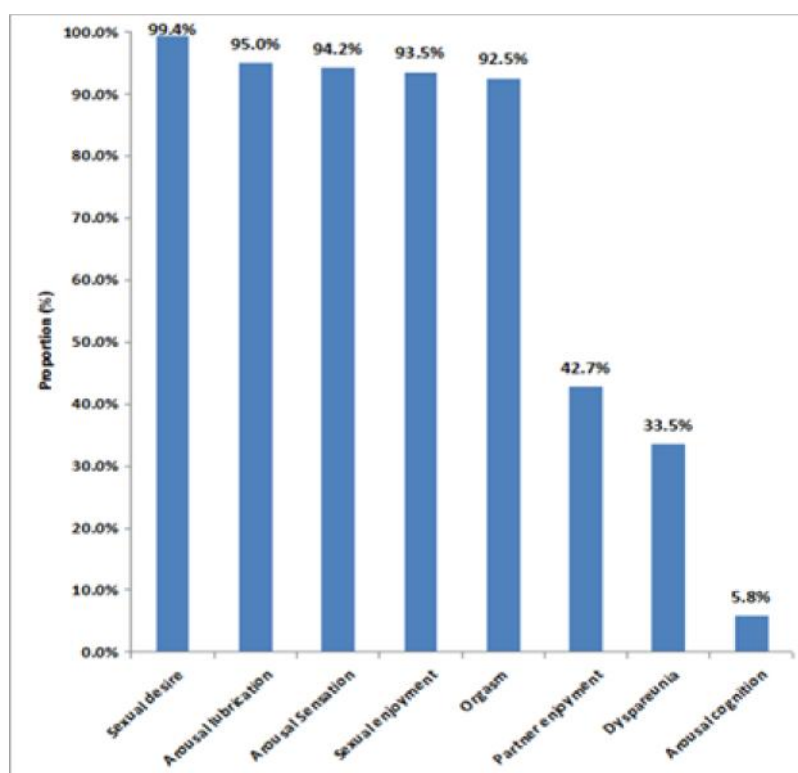


Figure 1: Frequency of sexual dysfunction domains

Table 2: Obstetric and gynaecological factors

Factors	N (%)
Age at coitache (N = 451)	
15 – 19 years	107 (23.7)
20 – 24 years	215 (47.7)
25 – 29 years	119 (26.4)
≥ 30 years	10 (2.2)
Parity(N = 390)	
0	3 (0.8)
1	67 (17.2)
2	96 (24.6)
3	111 (28.5)
4	70 (17.9)
5	32 (8.2)
6	5 (1.3)
7	6 (1.5)
Last confinement (N = 370)	
≤ 2 years	73 (19.7)
3 – 4 years	104 (28.1)
≥ 5 years	193 (52.2)
Episiotomy/ scar in previous pregnancy (N = 480)	
Yes	134 (27.9)
No	346 (72.1)
Currently on family planning method (N = 480)	
Yes	79 (16.5)
No	401 (83.5)
Types of family planning methods (N = 79)	
IUCD	38 (48.1)
Injections	23 (29.1)
Implant	10 (12.7)
Barriers (condoms)	6 (7.6)
Oral contraceptives	2 (2.5)
Duration on contraceptives (N = 79)	
≤ 1 year	28 (35.4)
2 – 4 years	29 (36.7)
≥ 5 years	22 (27.9)

Table 3: Socio-demographic characteristics by the frequency of sexual dysfunction

	Sexual dysfunction		N (%)
	Present n (%)	Absent n (%)	
Age group (Years) (N = 480)			
18– 30	130 (86.1)	21 (13.9)	151 (100.0)
31-40	174 (84.1)	33 (15.9)	207 (100.0)
≥ 41	80 (65.6)	42 (34.4)	122 (100.0)
$\chi^2 = 22.503$ df = 2; p < 0.0001*			
Years of relationship with partner(s) (N = 452)			
≤ 5	139 (89.7)	16 (10.3)	155 (100.0)
6 – 10	90 (78.9)	24 (21.1)	114 (100.0)
11 -15	48 (75.0)	16 (25.0)	64 (100.0)
16 – 20	60 (69.8)	26 (30.2)	86 (100.0)
> 21	24 (72.7)	9 (27.3)	33 (100.0)
$\chi^2 = 16.782$ df = 4; p = 0.002*			
Number of Children alive (N = 384)			
0 – 2	144 (87.3)	21 (12.7)	165 (100.0)
3 – 4	124 (69.7)	54 (30.3)	178 (100.0)
≥ 5	35 (85.4)	6 (14.6)	41 (100.0)
$\chi^2 = 17.104$ df = 2; p < 0.0001*			
Educational Level attained (N = 480)			
< 10 years of education	83 (62.9)	49 (37.1)	132 (100.0)
≥ 10 years of education	301 (86.5)	47 (13.5)	348 (100.0)
$\chi^2 = 33.357$ df = 1; p < 0.0001*			
Income per month (N = 382)			
Below minimum wage (\leq ₦18,000/ month)	137 (81.5)	31 (18.5)	168 (100.0)
Above minimum wage ($>$ ₦18,000/ month)	159 (74.3)	55 (25.7)	214 (100.0)
$\chi^2 = 2.835$ df = 1; p = 0.092			
Family Functionality (N = 480)			
Dysfunctional	198 (86.1)	32 (13.9)	230 (100.0)
Functional	186 (74.4)	64 (25.6)	250 (100.0)
$\chi^2 = 10.226$ df = 1; p = 0.001*			

* Significant at 5% level of significance

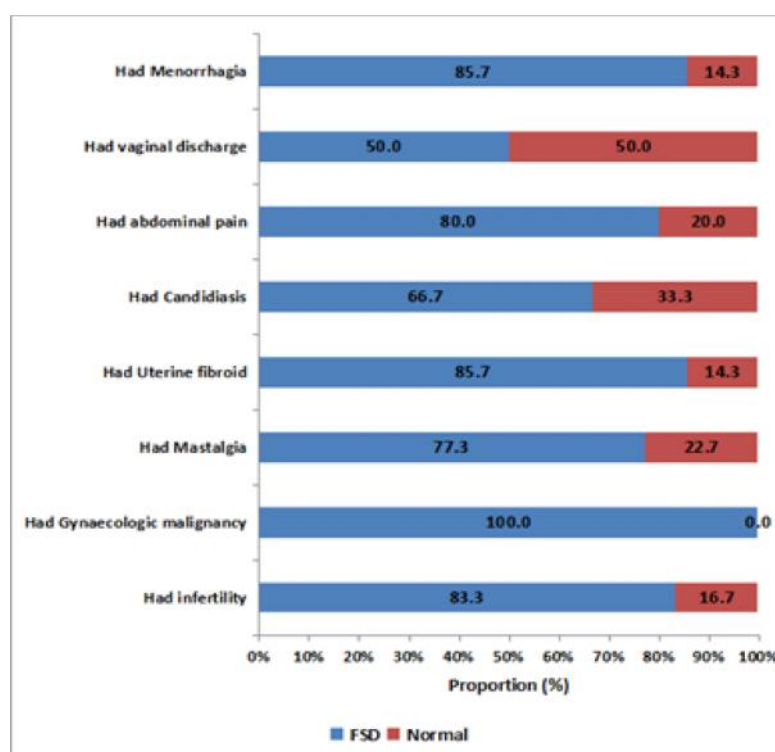


Figure 2: Proportion of sexual dysfunction in respondents with obstetrics and gynaecologic problems.

Table 4: Obstetrics and gynaecologic factors by the frequency of sexual dysfunction

Factors	Sexual dysfunction		N (%)
	Present n (%)	Absent n (%)	
Age at coitarche (N = 451)			
15 – 19 years	90 (84.1)	17 (15.9)	107 (100.0)
20 – 24 years	152 (70.7)	63 (29.3)	215 (100.0)
25 – 29 years	107 (89.9)	12 (10.1)	119 (100.0)
≥ 30 years	10 (100.0)	0 (0.0)	10 (100.0)
$\chi^2 = 22.197$ df = 3; p < 0.0001*			
Parity (N = 390)			
0	3 (100.0)	0 (0.0)	3 (100.0)
1	59 (88.1)	8 (11.9)	67 (100.0)
2	81 (84.4)	15 (15.6)	96 (100.0)
3	81 (73.0)	30 (27.0)	111 (100.0)
4	48 (68.6)	22 (31.4)	70 (100.0)
5	31 (96.9)	1 (3.1)	32 (100.0)
6	2 (40.0)	3 (60.0)	5 (100.0)
7	4 (66.7)	2 (33.3)	6 (100.0)
$\chi^2 = 24.285$ df = 7; p = 0.001*			
Last confinement (N = 370)			
≤ 2	68 (93.2)	5 (6.8)	73 (100.0)
3 – 4	84 (80.8)	20 (19.2)	104 (100.0)
≥ 5	138 (71.5)	55 (28.5)	193 (100.0)
$\chi^2 = 15.135$ df = 2; p = 0.001*			
Episiotomy/ scar in previous pregnancy (N = 480)			
Yes	104 (77.6)	30 (22.4)	134 (100.0)
No	280 (80.9)	66 (19.1)	346 (100.0)
$\chi^2 = 0.663$ df = 1; p = 0.416			
Currently on family planning method (N = 480)			
Yes	67 (84.8)	12 (15.2)	79 (100.0)
No	317 (79.1)	84 (20.9)	401 (100.0)
$\chi^2 = 1.367$ df = 1; p = 0.242			
Duration on contraceptives (N = 79)			
≤ 5 years	47 (82.5)	10 (17.5)	57 (100.0)
> 5 years	18 (81.8)	4 (18.2)	22 (100.0)
$\chi^2 = 0.004$ df = 1; p = 0.947			

* Significant at 5% level of significance

Table 5: Logistic regression analysis of the factors which were significant with sexual dysfunction at the bivariate level

	Coefficient		Odds Ratio	95% C.I. for OR	
	(β)	p		Lower	Upper
Age (years)	-0.113	0.008*	0.893	0.821	0.972
Years of relationship with partner(s)	-0.029	0.479	0.972	0.898	1.052
Number of children alive	-0.863	0.078	0.422	0.161	1.102
Age at coitarche (years)	0.071	0.155	1.073	0.974	1.183
Parity	1.129	0.022*	3.093	1.174	8.151
Last confinement (years)	0.053	0.194	1.054	0.974	1.141
Dysfunctional family	0.740	0.019*	2.096	1.129	3.891
≥ 10 years of education	1.571	0.000*	4.808	2.604	8.929
Constant	4.391	0.004	80.744		

* Significant at 5% level of significance

explained 28.2% (Nagelkerke R^2) of the variance in sexual dysfunction and correctly classified 85.5% of cases. Age (OR = 0.893; 95% CI = 0.821 – 0.972, p = 0.008), parity (OR = 3.093; 95% CI = 1.174 – 8.151, p = 0.022), having family dysfunction (OR = 2.096;

95% CI = 1.129 – 3.891, p = 0.019) and having e— 10 years of formal education (OR = 4.808; 95% CI = 2.604 – 8.929, p < 0.0001) were found to be the predictors of sexual dysfunction. (Table 5).

DISCUSSION

This study employed the cross-sectional design for the 480 female respondents presenting to a primary care clinic while employing the use of the SFQ-28 to assess the sexual dysfunction. The highest proportion of women in this study were in the age group of 31-40 years 207 (43.1%) which was higher than that of another cross-sectional study in Ile-Ife, South-western Nigeria, in 2007 among 384 female respondents in which the highest proportion of women was in the age group 26-30 years (32.1%)¹⁴. The mean age of the respondents was similar to those in the survey by Khademi *et al.* who carried out a cross-sectional study on 547 women using the Persian version of the SFQ¹⁴. Nwagha *et al.* used the Female Sexual Function Inventory [FSFI] and carried out their study among students and staff of a university in Nigeria in which the greatest proportion was women between 21-30 years¹³.

In our study, all the participants were married as compared to the study by Fajewonyomi *et al.* in which the majority were married (83.6%) and more of the participants (60.7%) were from monogamous family settings with the predominant tribe being the Yoruba tribe (84.9%)¹⁴. Aisuo Dionoe in 2012, conducted a study among 50 female health workers attending a seminar strictly for women at Abuja, Nigeria¹². The age range of the respondents was 27 to 49 years with the mean age being 38.8 ± 5.4 , with married women constituted the majority (84%)¹², which was comparable to our study in which the mean age of the women was 35.4 ± 7.2 (19.0 – 56.0) years.

Over half of the respondents, 276 (57.5%) had tertiary education in this study and this was in tandem with the study by Fajewonyomi *et al.*, in which half of the women had tertiary education (43.3%)¹⁴. This finding was similar to that of a study in Enugu, Nigeria in which the majority of the women had either post-secondary education or tertiary education¹³. Occupation is also linked to FSD and Partin in 2014 in a review of the literature was able to adduce that those whose occupations involved cycling could have cycling injuries as well as neurovascular damage to the genitals and this could lead to FSD²⁰. Cycling as an occupation is not common among Nigerian women and those who engage in it only do so for physical exercise or pleasure. The occupations of the respondents in this study were mostly traders, teachers, and civil servants.

There were several factors associated with FSD. Years of relationship was related to sexual dysfunction and was highest in respondents married for less than 5 years. This was comparable to the study done in South-

eastern Nigeria in 2014 in which the highest association was found among women who were married and co-habiting¹³. There was also less FSD noted in women with fewer than 2 children. This was supported by the report that those with FSD had a greater number of children²¹. Women with senior secondary school and tertiary education had a more significant association with sexual dysfunction. This was also similar to previously documented literature in which participants with post-secondary school education had the greatest association with sexual dysfunction¹³. People that are educated are more likely to be aware of the signs and symptoms of sexual dysfunction and more readily to admit to it when asked. It may also suggest that the uneducated or less educated women are more likely to be ignorant and does not see it as a problem.

The prevalence of sexual dysfunction was found to be 80%. In this study, there was a statistically significant association between prevalence of sexual dysfunction and age as it was highest in the lowest age group, 18-30 years, though only slightly more than the age group 31-40 years. This was not in keeping with a study which revealed the greatest prevalence among women in the age group 41-50 years¹³. It may be due to fact that in our societal setting, sexual activity is linked to procreation rather than the pleasure derived from sex, so women are more likely to engage in sex more in the reproductive age group. They may be able to recall more of the symptoms of sexual dysfunction than in women with infrequent sex. More so many women would have completed their families by age 40 years and more likely to engage in less sex.

The greatest type of sexual dysfunction was sexual desire (99.4%) while the least type was arousal cognition (5.8%). This differed from the findings in a Nigerian study in which the prevalence of FSD was 68.3% with the highest type of FSD being a disorder of orgasm (63.6%), followed by dyspareunia in 22.7%¹⁴. Reasons for sexual dysfunction included uncaring partner and inadequate foreplay¹⁴. In an additional Nigerian study, out of the 28 respondents who thought they knew what FSD was, the highest proportion (35.7%) defined FSD as a lack of or desire for sex, followed by inability to achieve orgasm in 17.9%¹². Another Nigerian study also reported a prevalence of 53.5% in their study among female students¹⁴. A cross-sectional study among women reported a prevalence of 62.1%¹¹ while a study among married students documented the prevalence of orgasmic problems as 63%²¹. Infrasca 2011, using the (Sexual dysfunction questionnaire) SDQ found a prevalence of 52.5%³. Legocki also did a study among women with vulvar pain and were able to document using the SFQ-34 that participants with vulvodinia

were more likely to have FSD than controls and this was shown in five out of seven domains (desire, arousal lubrication, pain, enjoyment, and partner domains, $p < 0.05$)²².

Coitarche was found to occur at a mean age of 21.9 ± 3.7 (13.0 – 32.0) years and those with sexual dysfunction had coitarche later than those without sexual dysfunction. In a study among married women between 15-49 years in an outpatient clinic, it was documented that Muslim women were younger (15.9 ± 2.6 years) than Christian women at coitarche (18.4 ± 3.3 years; $p < 0.001$)²³.

The family plays a pivotal role in any community²¹. In this study, half of the respondents had family dysfunction and those with family dysfunction had less FSD. It has also been documented that those with FSD had a longer duration of marriage¹¹.

There were many obstetric and gynaecological conditions noted among the participants. These included previous episiotomy/tear, use of contraceptive, infertility and fibroids. Others included previous forced sexual intercourse and domestic conflicts, abdominal pain, vaginal candidiasis and previous gynaecological surgeries such as hysterectomy. This was also proven by Song *et al.* in 2014, who did a study among women in the post-natal clinics about 6 weeks after delivery using the same tool we used, the SFQ 28 and found that within the domains there were significant differences between the women who had vaginal delivery and those who had operative delivery. This was particularly noted in the orgasm and pain domains¹⁸.

Our findings on gynaecological issues among respondents were also comparable to the study by Ojomu *et al.* in which abnormal vaginal discharge was the most common gynaecological issue with candidiasis as the greatest cause of vaginal discharge and this was closely followed by a history of pelvic surgery and lower abdominal pain²³. In this Nigerian study, some had fibroids, others had been circumcised in the past (38%) and a few had dyspareunia²³. A great proportion of the women had forced sexual intercourse either by their husband or significant other and marital conflicts was high on the list while some were on treatment for hypertension²³.

Respondents who were on contraceptives, had more sexual dysfunction in this study. This differed from a report in which those on contraceptives had lower risk of a sex pain problem (0.53; 0.29–0.95) as well as less orgasmic problems (0.63; 0.38–1.0)²³.

Faubion *et al.* in 2015 also documented the relationship between FSD and gynaecological conditions such as Sexually Transmitted Infections (STI), endometriosis, chronic pelvic pain and gynaecological malignancies. Beta-blockers and thiazide diuretics used to treat hypertension were risk factors for sexual dysfunction²⁴. In our study, using multivariate analysis, the woman's age ($p = 0.008$), parity ($p = 0.022$), family dysfunction ($p = 0.019$) and being literate with over 10 years of formal education ($p < 0.0001$) were the predictors of sexual dysfunction. On the other hand, the study by Song 2014, in which multiple regression analysis was done showed that the predictors of sexual health were also maternal age and cesarean section which were significant predictors of the domains of desire ($P = 0.005$ and $P = 0.015$, respectively), arousal (lubrication) ($P = 0.003$ and $P = 0.032$, respectively), and arousal (cognitive) ($P = 0.007$) and $P = 0.036$, respectively). Maternal age was a significant predictor of the enjoyment domain ($P = 0.001$)

Our study has shown a high prevalence of FSD and physicians should be aware of the treatment approach. The management of FSD is multi-specialty and may involve one or more of the following specialties, gynaecologist, family physician, psychiatrist, nurses, psychologist and sex therapist. The treatment must be comprehensive and focused on the sexual dysfunction diagnosis and any other underlying physical, psychological, and relationship factors. It is a team effort, aimed at providing education, counselling, reassurances enhancing stimulation, encouraging non-coital behaviours, minimizing pain through the changing sexual positions, and the use of non-oestrogen lubricants and medications^{23,24}. Surgical procedures may be indicated some types of sexual dysfunction. The treatment may also be modified according to the specific type of dysfunction experienced. Following treatment, arrangement should be provided for long-time follow up.

CONCLUSION

This study has shown that the prevalence of FSD among female married women is high. Several socio-demographic factors such as age, education, years of relationship and the number of children were found to be associated with sexual dysfunction among women. Gynaecological factors like vaginal discharge and contraceptive use were also found to be associated with FSD. So, the diagnosis of FSD must be considered by physicians when managing other medical conditions. There is need for history related to sexual disorders to be taken along with clerking of patients and if suggestive symptoms are found, may be further confirmed using a validated tool.

There is need prior to the commencement of sexual intercourse to put more effort into addressing the preventable causes of FSD. Sex education aimed at improving the knowledge of the sexual cycle, safer sex practices, relaxation techniques and elimination of female genital mutilation should be ensured.

Sponsorship and Conflict of Interest

We declare that this study was self-sponsored and that we did not receive any other sponsorship. There is also no conflict of interest.

REFERENCES

1. **Arcos B.** Female sexual function and response. *JAOA*. 2004; Supplement 1 104(1): S16-20. Access date: 01-04-19.
2. **Chen C,** Lin Y, Chiu L. *et al.* Female sexual dysfunction: Definition, classification, and debates. *Taiwanese Journal of Obstetrics and Gynaecology*. 2013; 52: 3-7.
3. **Infrasca R.** Sexual Dysfunction Questionnaire: scale development and psychometric Validation *Giorn Ital Psicopat* 2011;17:253-260.
4. **Krakowsky & Grober.** A practical guide to female sexual dysfunction: An evidence-based review for physicians in Canada. *Can Urol Assoc J*. 2018; 12 (6): 211-216.
5. **Faubion SS,** Rullo JE. Sexual dysfunction in women, a practical approach. *American Family Physician*. 2015. 92(4): 281-288.
6. **Lightner DJ.** Female Sexual Dysfunction. *Mayo Clin Proc*. 2002; 77: 698-702.
7. **Galanakis M,** Kallianta MD, Katsira C. *et al.* The Association between Stress and Sexual Dysfunctionality in Men and Women: A Systematic Review. *Psychology*, 2015, 6, 1888-1892.
8. **Oyekanmi AK,** Adelufosi AO, Abayomi O, Adebowale TO. Demographic and clinical correlates of sexual dysfunction among Nigerian male outpatients on conventional antipsychotic medications. *BMC Research notes*. 2012, 5: 267.
9. United Nations, 2015. *The World's Women 2015: Trends and Statistics*. New York: United Nations, Department of Economic and Social Affairs, Statistics Division. Sales No. E.15.XVII.8.
10. **Enzlin P,** Rosen R, Wiegel M, *et al.* Sexual Dysfunction in Women with Type1 Diabetes. Long-term findings from the DCCT/ EDIC study cohort. *Diabetes Care* 2009.32:780-785.
11. **Jafarzadeh ER,** Fazel N, Dashti S, *et al.* Female Sexual Dysfunction and its Associated Risk Factors: An Epidemiological Study in the North-East of Iran. *Journal of Midwifery and Reproductive Health*. 2016;4 (1): 498-505.
12. **Aisuodionoe AS.** Perceptions of female sexual health and sexual dysfunction in a cohort of urban professional women in Abuja, Nigeria. 2012. *NJCP* 15 (1):80-83.
13. **Nwagha UI,** Oguanuo TC, Ekwuazi K, *et al.* Prevalence of sexual dysfunction among females in a university community in Enugu, Nigeria. *Niger J Clin Pract* 2014; 17: 791-796.
14. **Fajewonyomi BA,** Orji EO, Adeyemo AO. Sexual dysfunction among female patients of reproductive age in a hospital setting in Nigeria. *J Health Popul Nutr* 2007 Mar; 25(1):101-106.
15. **Quirk FH,** Heiman JR, Rosen RC, *et al.* M. Development of a sexual function questionnaire for clinical trials of female sexual dysfunction. *Journal of Women's Health & Gender-based medicine*; 11 (3):277-289.
16. **Khademi A,** Alleyassin A, Agha-hosseini M, *et al.* Psychometric properties of sexual function questionnaire: evaluation of an Iranian sample. *Iranian Journal of Reproductive Medicine*. May 2006; 4 (1): 23-28.
17. **Yakubu MT,** Akanji MA, Oladiji AT. Male sexual dysfunction and methods used in assessing medicinal plants with aphrodisiac potentials. *Pharmacognosy Reviews*. May 2007; 1 (1): 49-56. Available online: <http://www.phcogrev.com>.
18. **Song M,** Ishii H, Toda M, *et al.* Association between sexual health and delivery mode. *Sex Med* 2014; 2:153-158.
19. **Ogunbode OO,** Aimakhu CO, Ogunbode AM, *et al.* Sexual dysfunction among women in a Nigerian gynecological outpatients unit. *Trop J Obstet Gynaecol* 2019; 36: 61-66.
20. **Partin SN,** Connell KA, Schrader SM, Guess MK. The race for information about cycling-related female sexual dysfunction. *J Sex Med* 2014; 11: 2039-2047.
21. **Khazaeia M,** Rostamib R, Zaryabic A. The Relationship between sexual dysfunctions and marital satisfaction in Iranian married students. *Procedia - Social and Behavioral Sciences*. 2011; 30: 783 - 785.
22. **Legocki LJ,** Aikens JE., Sen A, *et al.* Interpretation of the sexual functioning questionnaire in the presence of vulvar pain. *J. Low Genit Tract Dis*. 2013 July; 17(3): 273-279.
23. **Ojomu F,** Thatcher T, Obadofin M. Sexual problems among married Nigerian women. *International Journal of Impotence Research* 2007; 19:310-316.
24. **Unadike BC,** Eregie A, Ohwovoriole AE. Prevalence and types of sexual dysfunction among males with diabetes in Nigeria. *MERA Diabetes International*. 2008; 18-20.