

**FEMALE SEXUAL DYSFUNCTION IN A THIRD LEVEL HEALTH FACILITY,
SOUTHERN NIGERIA**

ABSTRACT

Background: Observation during our gynaecology consultations does not tend to agree with reviews in literature suggesting high prevalence of sexual dysfunction. With this background, we decided to subject this general observation to scientific scrutiny to determine the proportion of our patients that actually have sexual dysfunction; and the predisposing risk factors.

Objective: To determine the prevalence and risk factors associated with sexual dysfunction in females attending the gynaecology clinic of the University of Port Harcourt Teaching Hospital (UPTH), Port Harcourt.

Methods: This was a prospective cross-sectional questionnaire based study of 72 females of reproductive age group attending the outpatient gynaecological unit of UPTH. They were interviewed using the Female Sexual Dysfunction Index (FSFI). A total FSFI score of less than 26.5 was indicative of sexual dysfunction. The data were collated and entered into SPSS version 23 statistical software which was also used for analysis. A p-value of < 0.05 was considered significant.

Result: The prevalence of sexual dysfunction in females was 61.1% using the FSFI of less than 26.50. The most common type of sexual dysfunction among the respondents was desire disorders (66.7%) followed by disorders of orgasm (62.5%), lubrication (56.9%), arousal

24 (43.1%) and pain (40.3%). Advanced age, higher education, parity and female genital cutting
25 were found to be associated with sexual dysfunction.

26 **Conclusion:** The findings in this study showed that a significant number of women in our
27 centre are affected with sexual dysfunction.

28 **Key words:** Sexual dysfunction, Prevalence, Risk factors, Port Harcourt

29

30 INTRODUCTION

31 Sexuality is a complex interaction of physical, interpersonal and psycho-social factors. It is
32 an essential feature of being human, and is experienced and expressed in thoughts, roles,
33 desires, values, fantasies and relationships.¹In many African countries, discussions about
34 female sexuality are considered to be prohibited; hence, these problems are often not
35 volunteered/reported.²⁻⁴ If female sexuality is disturbed, it might lead to
36 psychopathological disturbances, family disharmony and divorce.⁵

37 Female sexual dysfunction is defined as the inability to fully enjoy sexual intercourse.⁶ It
38 refers to a difficulty occurring in any phase of the sexual cycle that prevents the woman from
39 experiencing satisfaction from sexual activity.⁷ An old model of the human sexual cycle from
40 Masters and Johnson in the 1960s incorporates the stepwise linear progression from sexual
41 excitement leading to a plateau then orgasm and a period of resolution.⁸ This was
42 subsequently revised by Kaplan, the cycle involves four phases namely; desire, arousal,
43 orgasm and resolution.⁹ The American Psychiatric Association Diagnostic and Statistical
44 Manual of Mental Disorders (APADSMMD) classified female sexual dysfunction into sexual
45 desire disorder, sexual arousal disorder, orgasmic disorder, and pain related disorders like
46 vaginismus or dyspareunia.³

47 The prevalence of female sexual dysfunction may vary among countries due to racial,
48 cultural, health or social variables. It is reported to be present in about 43-87% of women.¹⁰⁻
49 ¹³Its incidence in two Nigerian studies were 63% and 71% among women attending the
50 outpatient clinic of Obafemi Awolowo teaching hospital, Ile-Ife, south west Nigeria.^{14,15} The
51 incidence is difficult to ascertain precisely because studies used different definitions of
52 normal and abnormal sexual function and used diverse population.¹⁶

53 The female sexual function is a process that involves an inter-play between physical, psycho-
54 social, environmental, cultural, hormonal and biological factors. Its dysfunction can be
55 caused by any of these factors or their combination.¹⁷ The physical factors include illnesses
56 (such as mental disorders, heart disease and diabetes mellitus with neuropathy or
57 vasculopathy), advanced age, or drugs (such as alcohol and some antidepressants or
58 antihypertensive). Psychological causes include sexual ignorance (such as lack of foreplay),
59 unrealistic expectations, sexual anxiety, poor marital communication and personality
60 difficulties like negative sexual experience (for instance sexual abuse or rape in the
61 past).^{3,14,15}

62 The disorder of sexual desire can be hypoactive, sexual aversion or excessive sexual desires;
63 and is the commonest sexual disorder in females.¹⁷ Arousal disorders can be the inability to
64 achieve physiological or subjective arousal. Mental disengagement and lack of awareness of
65 the sensation can contribute to this.⁸ The most commonly used scale for assessing sexual
66 dysfunction in females is the Female Sexual Function Index (FSFI) form which is a 19 item
67 questionnaire related to six sexual desires - arousal, lubrication, orgasm, pain and
68 satisfaction.³ Other instruments used to assess female sexual function include Golombok Rust
69 Inventory of Sexual Satisfaction (GRISS) and Brief Index for Sexual Functioning for Women
70 (BISF-W).¹⁶

71 The management of these females involves a careful medical history to find organic factors
72 known to affect sexual response, as well as therefore mentioned psychological causes.
73 Laboratory investigation is often not helpful but focused evaluation is useful particularly if
74 the history suggests an organic cause. The general principle of treatment includes, treating the
75 couple irrespective of which partner presents, defining the problem and what the couple will
76 want to change, aiming to reduce sexual anxiety and ensuring communication between the
77 partners. The specific problem may need a specific treatment program.¹⁸

78

79 **MATERIALS AND METHODS**

80 This was a cross-sectional study of female patients of reproductive age attending the
81 gynaecological outpatient clinic of the University of Port Harcourt teaching hospital. The
82 study population comprised women aged 15-45 presenting for routine follow up or
83 gynaecological evaluation. Women excluded from the study were those who did not have
84 sexual intercourse in the last 4 weeks, were pregnant or whose husband had sexual
85 dysfunction. The gynaecology clinic holds daily on Monday through Fridays. The women
86 were educated on the nature of the study. The minimum sample size was determined using
87 the formula $\text{sample size} = Z^2 PQ/d^2$ (Z = the normal standard deviation usually set at 1.96,
88 which corresponds to 95% confidence level, p = prevalence, $q = 1-p$, d = sampling error of
89 5%). Using prevalence of female sexual dysfunction of 95% in a similar study in women
90 attending outpatient clinics by Shittu et al,² a minimum sample size of 72 was obtained.

91 The women were interviewed by trained 500 level medical students using a pretext structured
92 questionnaire consisting of 2 parts. The first part contained information on demographic data,
93 contraceptive use, , smoking chronic illnesses and history of sexual abuse, marital
94 disharmony and ignorance. The second part was the aforementioned female sexual function

95 index (FSFI) form, described by Rosen et al for assessing the main forms of sexual function
 96 in the previous 4 weeks.¹⁹ It provides scores on six domains of sexual function; desire,
 97 arousal, lubrication, orgasm, satisfaction and pain. The score ranges for items 3–14 and 17–
 98 19 are 0–5, and for items 1, 2, 15 and 16, 1–5 as described in the table below. The domain
 99 scores are gotten by adding the scores of the individual questions that form the domain and
 100 multiplying the sum by the domain factor provided in the FSFI for each domain.

101 Table 1 : Domain Factor

Domain	Questions	Score Range	Factor	Minimum Score	Maximum Score
Desire	1, 2	1 – 5	0.6	1.20	6.00
Arousal	3, 4, 5, 6	0 – 5	0.3	0	6.00
Lubrication	7, 8, 9, 10	0 – 5	0.3	0	6.00
Orgasm	11, 12, 13	0 – 5	0.4	0	6.00
Satisfaction	14, 15, 16	0 (or 1) – 5	0.4	0.80	6.00
Pain	17, 18, 19	0 – 5	0.4	0	6.00
Full Scale			Score Range	2.00	36.00

102
 103 Participants were considered to have difficulties in a particular domain if they have score less
 104 than 4.28 on desire, less than 5.08 on arousal, less than 5.45 on lubrication, less than 5.05 on
 105 orgasm and less than 5.51 on the pain domain. A total FSFI score of less than 26.5 is
 106 indicative of sexual dysfunction as proposed by Wiegel et al.²⁰

107 The data were statistically evaluated using the SPSS 23 package program. The results are
 108 presented in tables of frequency. Statistical analysis of data was done by Chi-square test and a
 109 p-value of < 0.05 was considered statistically significant.

110

111

112 **RESULTS**

113 Data were obtained from a total of 72 respondents and 61.1% of them had sexual dysfunction
114 when 26.55 was used as the cut off value for sexual dysfunction in the FSFI scale. However,
115 the mean score of the respondents was 27 ± 2.8 . The age range of respondents was 18-50
116 years with a mean age of 33 ± 6 years. The highest frequency (48.6%) was in the age range
117 31- 40 year group, while the least was in the 41-50 year group (15.3%). (Table 2)

118 Table 2 also shows that 83.3% of them were married, 15.3% were single and 1.4% were
119 either separated or divorced. The majority (79.2%) of the participant were parous women.
120 Most of the respondents (59.7%) have tertiary education level and 61.15% of all the
121 respondents were employed. The use of hormonal therapy was present among 18.1 % of the
122 participants. Nineteen percent (19.4%) of them were circumcised and 8.3% of the participants
123 had marital disharmony. The history of sexual abuse, chronic medical condition and
124 medications were seen in 12.5%, 5.6% and 4.2%, respectively. The most common type of
125 sexual dysfunction among the respondents was desire disorders (66.7%) followed by
126 disorders of orgasm (62.5%), lubrication (56.9%), arousal (43.1%) and pain (40.3%). (Table
127 3)

128 Table 4 shows the relationship between sexual dysfunction, desire disorder, arousal disorders
129 and some selected variables. Tertiary education ($p=0.04$) and painful intercourse ($p=0.009$)
130 were significantly associated with sexual dysfunction. Desire disorder was equally noted to
131 be significantly associated with advanced age ($p=0.04$), parous women ($p=0.002$) and painful
132 sexual intercourse ($p=0.03$). Circumcised women were highly associated with arousal
133 disorder.

134

135

136 **Table 2: Sociodemographic characteristics**

<i>Variables</i>	<i>Frequency (n)</i>	<i>Percentage</i>
<i>Age</i>		
< 20	2	2.8
21-30	24	33.3
31-40	35	48.6
41-50	11	15.3
<i>Parity</i>		
Nulliparous	15	20.8
Parous	57	79.2
<i>Level of education</i>		
No formal	0	0
Primary	1	1.4
Secondary	28	38.9
Tertiary	43	59.7
<i>Marital status</i>		
Single	11	15.3
Married	60	83.3
Separated/Divorced	1	1.4
<i>Occupation</i>		
Employed	44	61.1
Unemployed	28	38.9

137 **Table 3: Types of sexual dysfunction**

	<i>Frequency (n)</i>	<i>Percentage</i>
--	----------------------	-------------------

Disorder of desire	48	66.7
Disorder of orgasm	45	62.5
Disorder of lubrication	41	56.9
Disorder of arousal	31	43.1
Pain disorder	29	40.3
Unsatisfied (with sexual function)	24	33.3

138 **Table 4: Relationship between Sexual dysfunction and some selected variables.**

Variables	Desire disorder			Arousal disorders			Sexual dysfunction		
	Yes	No	P value	Yes	No	P value	Yes	No	P value
Age <40 years	37	23		26	34		35	25	
Age ≥ 40 years	11	1	0.04	5	7	0.92	9	3	0.29
Nulliparous	5	10		7	8		7	8	
Parous	43	14	0.002	24	33	0.75	37	20	0.20
Non-Tertiary education	18	14		12	20		15	17	
Tertiary education	30	10	0.09	19	21	0.40	28	12	0.04
Circumcised women	11	3	0.29	11	3	0.001	9	5	0.79
Sexual abuse history	8	1	0.13	5	4	0.42	5	4	0.72
Painful intercourse	25	4	0.03	13	16	0.80	23	6	0.009
Marital disharmony	5	1	0.37	2	4	0.62	5	1	0.25

139

140

141 **DISCUSSION**

142 The prevalence of female sexual dysfunction varies as different authors used different
143 definitions of abnormal and normal depending on the scoring index and the studied
144 population. The prevalence of 61.1% gotten in this study using the female sexual function
145 index (FSFI) implies that a significant number of women are equally affected in this
146 environment. This prevalence is far lower than the 95% gotten from a similar study
147 conducted in Kwara state, north central Nigeria.²Nwagha et al reported their prevalence as
148 53.5% in Enugu.¹⁰ In contrast to our study population, Nwagha et al used a university
149 community. It is surprising that the prevalence of this disorder can be this high in our
150 environment. This brings to the fore the fact the situation has been underestimated because
151 the affected females do not present this as a complaint to the physician. This might be related
152 to the societal obstacles women face when they express sexual displeasure. Thus they rather
153 suffer in silence.

154 The relationship between age and sexual dysfunction has been a subject of diverse opinion.
155 Kinsey et al proposed a theory in 1953 that the female sexual function shows a declining
156 trend with age,²¹ and this was in keeping with this study that showed a relatively reduced
157 sexual function in participants above 40 years. Some authors have attributed it to a reduction
158 in the circulating estrogen,³ while others feel it might be due to couple's loss of interest for
159 each other as they aged.¹⁴

160 Aside from our study, others have also reported a higher level of sexual dysfunction in
161 women with university education and higher compared with those with non-tertiary
162 education.¹⁶ However, some studies found out that the sexual dysfunction was more prevalent
163 in women with low educational level,^{12,22} This is explained by the fact that the better-
164 educated women are, the bolder bolder they are to express their sexual dissatisfaction, present
165 to experts for care and more importantly understand and respond appropriately to the sex
166 dysfunction scoring index¹³.

167 It was seen that women who were nulliparous had lower scores in all the subgroups of the
168 FSFI with desire score being statistically significant. Circumstances around deliveries like
169 surgery, trauma, and mental illness might be the reason why parous women have higher
170 scores.

171 The most common of sexual dysfunction in this study was desire disorder followed by the
172 disorder of orgasm and it was in keeping with the findings of Laumann et al in the United
173 States of America.¹¹ This study had tried to assess the effect of marital status, marital
174 disharmony and sexual anxiety on sexual function but found no significant association.
175 Female genital cutting was present in 19.4% of the participants despite the series of
176 advocacies in this environment since the last decade, and this had a very significant untoward
177 effect on female arousal as noticed in them. However, the overall sexual function was not
178 overly affected. These findings further buttress the need for policy makers, program planners
179 and health care providers not to relent their efforts on tackling the act of female circumcision.

180 Though pain disorder seems to be relatively lower than the other types of sexual dysfunction,
181 its presence is directly proportional to them. Furthermore, the study showed that pain disorder
182 is significantly related to sexual desire as well as the overall sexual function in females. The
183 specific form of pain disorder was not highlighted in the FSFI. Dyspareunia refers to painful
184 sexual intercourse and it might be superficial or deep and its usually organic while
185 vaginismus is an involuntary spasm of the vaginal entrance making intercourse impossible or
186 painful. Vaginismus appears to be a learned response triggered by fear of penetration and
187 may be due to previous experiences like sexual abuse. However, a significant relationship
188 was not noted between participants with pain disorders and history of sexual abuse.

189 It is worthy of note that despite the aforementioned high prevalence of sexual disorder in this
190 study, only 33.3% of the participants were not satisfied with their sexual function. This is

191 very low compared to the reported 86% by Shittu et al in Kwara State Nigeria.²Therefore
192 treatment is better restricted to individuals who are dissatisfied.

193 **Conclusion and recommendations:** Female sexual dysfunction is very common in our
194 environment and can be affected by socio-cultural, psychological and physiological factors.
195 Every woman presenting to the gynaecologist should have sexual history taken and receive
196 care where necessary.

197 **Ethical Approval:**

198 The ethical clearance for the study was obtained from the University of Port Harcourt
199 Ethics Committee.

200 **Consent:**

201 All the participants were provided written informed consent to indicate their agreement.

202 **Limitation:** The major problem with using the FSFI is the refrain of participants to express
203 their problems as complaints. The interviewers often encounter major challenge when
204 explaining the questions to the participants with low educational status.

205

206 **REFERENCES**

- 207 1. RaoTS, Nagaraj AK. Female sexuality. *Indian J Psychiatry*. 2015; 57:296–302.
- 208 2. Shittu RO, Alabi KM, Odeigah LO, Sule AG, Ampitan A, Odeigah CC. Female
209 sexual dysfunction in women of reproductive age group in Nigeria, West Africa.
210 *Niger J FamPract* 2017; 81:17–28.
- 211 3. Ekele BA, Adamu AN. Sexual dysfunction. In: Kwawukume E, Ekele B, Dansol K,
212 Emuveyan E (eds). *Comprehensive Gynaecology in the tropics*. 2nd ed. Accra: G-Pak
213 limited, 2017; 243–251.

- 214 4. Gunkel H. *The Cultural Politics of Female Sexuality in South Africa*. Routledge;
215 2010. 194
- 216 5. Kingsberg SA, Althof SE. Satisfying sexual events as outcome measures in clinical
217 trial of female sexual dysfunction. *J Sex Med* 2011; 8:3262–3270.
- 218 6. Hatzimouratidis K, Hatzichristou D. *Sexual Dysfunctions: Classifications and*
219 *Definitions*. *J Sex Med* 2007; 4:241–250.
- 220 7. Basson R, Berman J, Burnett A, Derogatis L, Ferguson D, Fourcroy J, et al. Report of
221 the International Consensus Development Conference on Female Sexual Dysfunction:
222 Definitions and Classifications. *J Sex Marital Ther* 2001; 27:83–94.
- 223 8. Masters W, Johnson V. *Human sexual response*. Boston: Little Brown; 1966.
- 224 9. Kaplan H. *The Sexual Desire Disorder*. New York: Brunner-Routledge; 1995.
- 225 10. Nwagha UI, OguanuoTC, Ekwuazi K, Olubobokun TO, NwaghaTU, Onyebuchi AK.
226 Prevalence of sexual dysfunction among females in a university community in Enugu,
227 Nigeria. *Niger J ClinPract* 2014;17:791-794.
- 228 11. LaumannEO, Paik A, Rosen RC. *Sexual Dysfunction in the United States: Prevalence*
229 *and Predictors*. *JAMA* 1999; 281:537–544.
- 230 12. Küçükdurmaz F, Efe E, Malkoç Ö, Kolus E, Amasyalı AS, Resim S. Prevalence and
231 correlates of female sexual dysfunction among Turkish pregnant women. *Turk J Urol*
232 2016; 42:178–183.
- 233 13. Lou W-J, Chen B, Zhu L, Han S-M, Xu T, Lang J-H, et al. Prevalence and Factors
234 Associated with Female Sexual Dysfunction in Beijing, China. *Chin Med J (Engl)*.
235 2017; 130:1389–1394.
- 236 14. Fajewonyomi BA, Orji EO, Adeyemo AO. *Sexual Dysfunction among Female*
237 *Patients of Reproductive Age in a Hospital Setting in Nigeria*. *J Health PopulNutr*
238 2007; 25:101-103.
- 239 15. Ojomu F, Thacher T, Obadofin M. *Sexual problems among married Nigerian women*.
240 *Int J Impot Res* 2007; 19:310–316.

- 241 16. Oniz A, Keskinoglu P, Bezircioglu I. The Prevalence and Causes of Sexual Problems
242 among Premenopausal Turkish Women. *J Sex Med* 2007; 4:1575–1581.
- 243 17. Holloway V, Wylie K. Sex drive and sexual desire. *Curr Opin Psychiatry* 2015;
244 28:424–429.
- 245 18. Nappi RE, Cucinella L. Advances in pharmacotherapy for treating female sexual
246 dysfunction. *Expert Opin Pharmacother* 2015; 16:875–887.
- 247 19. Rosen R, Brown C, Heiman J, Leiblum S, Meston C, Shabsigh R, et al. The Female
248 Sexual Function Index (FSFI): a multidimensional self-report instrument for the
249 assessment of female sexual function. *J Sex Marital Ther* 2000; 26:191–208.
- 250 20. Wiegel M, Meston C, Rosen R. The female sexual function index (FSFI): cross-
251 validation and development of clinical cutoff scores. *J Sex Marital Ther* 2005; 31:1–
252 20.
- 253 21. Kinsey AC, Pomeroy WB, Martin CE, Gebhard PH. *Sexual Behavior in the Human*
254 *Female*. Indiana University Press; 1998.
- 255 22. Aslan E, BejiNK, Gungor I, Kadioglu A, Dikencik BK. Prevalence and risk factors
256 for low sexual function in women: a study of 1,009 women in an outpatient clinic of a
257 university hospital in Istanbul. *J Sex Med* 2008; 5:2044–2052.

258