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ORIGINAL ARTICLE

Female Sexual Dysfunction among Indian Infertile Females

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ABSTRACT

Introduction: Female sexual dysfunction (FSD) is very common among infertile patients. Whether FSD leads to infertility or infertility leads to FSD is still less understood.

Objectives: To study the prevalence of FSD and various factors that can lead to sexual dysfunction.

Materials and methods: This is a cross-sectional observational study conducted at a tertiary care center in Ahmedabad from June 2015 to March 2016. A total of 240 infertile patients in reproductive age group (20–47 years) were studied, for which informed consent was obtained. Female sexual dysfunction was assessed with a detailed 19-item female sexual function index questionnaire. All six domains of sexual dysfunction, i.e., desire, arousal, lubrication, orgasm, satisfaction, and pain, were studied. Various associated factors like gynecological and psychological disorders were also studied. Fertile patients were excluded.

Results: The prevalence of FSD among infertile patients was 48.75%. The most common sexual dysfunction was arousal (94.01%) followed by lubrication (89.74%) and orgasm dysfunction (85.47%). Psychological status of patients had significant impact on sexual life.

Conclusion: Sexuality is an important part of an individual's personality. With time, stress in life and sexual dysfunction are also increasing. Therefore, sexual function assessment should be included in the routine workup for infertility.

Keywords: Female sexual dysfunction, Female sexual function index, Infertility.

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INTRODUCTION

Sexual response cycle in women is complex, mediated by various psychological, environmental, and physiological factors that are often interlinked. The initial phase of the sexual response cycle is interest and desire, followed by arousal, plateau, orgasm, and resolution, which was originally described by Masters and Johnson.[1] Female sexual dysfunction (FSD) is overlooked by Indian females, as sexuality is still considered a social taboo. These patients end up being silent sufferers, resulting in depression and stress, ultimately hampering their quality of sexual life and fertility.

MATERIALS AND METHODS

This is a cross-sectional observational study conducted in the Department of Obstetrics and Gynecology at the Institute of Kidney Disease and Research Centre, Institute of Transplantation Sciences, Ahmedabad, India, from June 1, 2015, to March 31, 2016.

Inclusion Criteria

Infertile patients in reproductive age group (20–47 years) attending the obstetrics and gynecology outpatient department were included in this study.

Materials and methods

Female sexual dysfunction was assessed with a detailed 19-item female sexual function index questionnaire. Informed consent was obtained from all patients. Female sexual function index proforma was given to patients according to their preferred language (Hindi, English, and Gujarati). Proforma was pilot tested for cultural appropriateness and linguistic accuracy. Illiterate women were interviewed in person. All six domains of sexual dysfunction, i.e., desire, arousal, lubrication, orgasm, satisfaction, and pain, were studied. In addition to prevalence of FSD among these patients, various factors like duration of infertility, type of infertility, gynecological disorders, medical disorders, and psychological factors and their association with FSD were studied.

Exclusion Criteria

Fertile patients were excluded.

RESULTS

The mean age of patients was 30.82 ± 5.32 years and mean duration of infertility was 7.88 ± 4.60 years. Female sexual dysfunction in various age groups was studied (Table 1). The prevalence of FSD was 48.75%. It was more prevalent among patients in the 26 to 30 years age group.

Various demographic factors like patient's education, occupation, socioeconomic status, and duration of infertility were studied (Table 2). No statistical significance was found.

Table 1: Age-wise distribution of FSD

Age groups	*FSD present (n = 117)*	*FSD absent (123)*	*p-value*
≤25 years	19 (16.24%)	26 (21.14%)	0.33 (NS)
26–30 years	41 (35.04%)	48 (39.02%)	0.52 (NS)
31–35 years	32 (27.35%)	27 (21.95%)	0.33 (NS)
36–40 years	20 (17.09%)	18 (14.63%)	0.60 (NS)
≥41 years	5 (4.27%)	4 (3.25%)	0.74 (NS)

NS: Not significant

The mean FSD score and mean score of various domains of FSD in patients with FSD and patients without FSD were calculated (Table 3).

Female sexual dysfunction in accordance with type of infertility was studied. It was observed that among patients with FSD, 68.38% had primary infertility and 31.62% had secondary infertility (Table 4).

All six domains of FSD were compared in patients with primary and secondary infertility (Table 5). It was found that arousal and lubrication dysfunctions were common in primary infertile patients, whereas arousal and orgasm dysfunctions were common in secondary infertile patients.

Associations of various gynecological (Table 6) and medical disorders (Table 7) with FSD were studied.

Impact of various psychological factors like stress, anxiety, depression, and interpersonal conflicts was also studied (Table 8). Patients having stress and anxiety and those with interpersonal conflicts were significantly associated with FSD.

Table 2: Various demographic factors and FSD

Demographic factors		*FSD present (n = 117)*	*FSD absent (n = 123)*	*p-value*
Education status	Illiterate	10 (8.55%)	11 (8.94%)	0.92 (NS)
	Primary class	10 (8.55%)	6 (4.88%)	0.25 (NS)
	Middle class	52 (44.44%)	53 (43.09%)	0.84 (NS)
	Secondary education	14 (11.97%)	14 (11.38%)	0.89 (NS)
	Graduate and postgraduate	31 (26.50%)	39 (31.71%)	0.37 (NS)
Occupation	Housewife	98 (83.76%)	105 (85.37%)	0.73 (NS)
	Working	19 (16.24%)	18 (14.63%)	0.73 (NS)
Socioeconomic status	Upper	7 (5.98%)	7 (5.69%)	0.92 (NS)
	Upper middle	60 (51.28%)	68 (55.28%)	0.53 (NS)
	Lower middle	42 (35.90%)	40 (32.52%)	0.58 (NS)
	Lower	8 (6.84%)	8 (6.50%)	0.92 (NS)
Duration of infertility	≤5 years	41 (35.04%)	53 (43.09%)	0.20 (NS)
	6–10 years	45 (38.46%)	49 (39.84%)	0.82 (NS)
	11–15 years	21 (17.95%)	17 (13.82%)	0.38 (NS)
	≥16 years	10 (8.55%)	4 (3.25%)	0.08 (NS)

Table 3: Mean score of various domains of FSD

	Present (n = 117)	*Absent (n = 123)*	*p-value*
Mean FSD score	23.08 ± 3.81	30.71 ± 2.32	<0.01*
Mean desire score	3.28 ± 1.03	4.55 ± 0.77	<0.01*
Mean arousal score	3.60 ± 0.93	4.94 ± 0.67	<0.01*
Mean lubrication score	4.04 ± 1.02	5.30 ± 0.70	<0.01*
Mean orgasm score	3.89 ± 1.15	5.28 ± 0.60	<0.01*
Mean satisfaction score	4.39 ± 1.33	5.53 ± 0.74	<0.01*
Mean pain score	3.92 ± 1.47	5.11 ± 0.97	<0.01*

*Highly significant

Table 4: Female sexual dysfunction in accordance with type of infertility

Type of infertility	*FSD present (n = 117)*	*FSD absent (n = 123)*	*p-value*
Primary infertility	80 (68.38%)	103 (83.74%)	<0.01*
Secondary infertility	37 (31.62%)	20 (16.26%)	<0.01*

Table 5: Types of sexual dysfunction in both primary and secondary infertile patients

	Primary infertility		*Secondary infertility*		
Types of sexual dysfunction	*FSD present (n = 80)*	*FSD absent (n = 103)*	*FSD present (n = 37)*	*FSD absent (n = 20)*	*p-value*
Desire dysfunction	61 (76.25%)	23 (22.33%)	26 (70.27%)	6 (30%)	<0.01*
Arousal dysfunction	75 (93.75%)	43 (41.75%)	35 (94.59%)	14 (70%)	<0.01*
Lubrication dysfunction	72 (90%)	39 (37.86%)	32 (86.49%)	13 (65%)	<0.01*
Orgasm dysfunction	68 (85%)	27 (26.21%)	34 (91.89%)	4 (20%)	<0.01*
Satisfaction dysfunction	56 (70%)	26 (25.24%)	16 (43.24%)	3 (15%)	<0.01*
Pain dysfunction	64 (80%)	50 (48.54%)	27 (72.97%)	14 (70%)	<0.01*

*Highly significant

Table 6: Effect of gynecological disorders on female sexual function

Gynecological disorders	*FSD present (n = 117)*	*FSD absent (n = 123)*	*p-value*
Endometriosis	22 (18.80%)	25 (20.33%)	0.76 (NS)
Pelvic inflammatory disorder	8 (6.84%)	3 (2.44%)	0.10 (NS)
Mayer–Rokitansky–Küster–Hauser syndrome	2 (1.71%)	0 (0%)	0.24 (NS)
Pelvic TB	9 (7.69%)	4 (3.25%)	0.13 (NS)
Uterine fibroid	2 (1.71%)	2 (1.63%)	1.00 (NS)
Uterine septum	1 (0.85%)	6 (4.88%)	0.12 (NS)
Uterine prolapse	2 (1.71%)	0 (0%)	0.24 (NS)
Adenomyosis	3 (2.56%)	0 (0%)	0.11 (NS)
No disorder	68 (58.12%)	83 (67.48%)	0.13 (NS)

NS: Not significant

Table 7: Medical disorders and FSD

Medical disorders	*FSD present (n = 117)*	*FSD absent (n = 123)*	*p-value*
Hypothyroidism	11 (9.40%)	12 (9.76%)	0.92 (NS)
Pulmonary tuberculosis	5 (4.27%)	6 (4.88%)	0.82 (NS)
Pelvic tuberculosis	9 (7.69%)	4 (3.25%)	0.13 (NS)
Diabetes	1 (0.85%)	1 (0.81%)	1.00 (NS)
Hypertension	1 (0.85%)	3 (2.44%)	0.62 (NS)
No disorder	90 (76.92%)	97 (78.86%)	0.72 (NS)

NS: Not significant

Table 8: Psychological disorders and FSD

Psychological disorders	*FSD present (n = 117)*	*FSD absent (n = 123)*	*p-value*
Stress	31 (26.49%)	24 (19.51%)	0.20 (NS)
Stress + anxiety	15 (12.82%)	6 (4.88%)	0.03*
Anxiety	2 (1.71%)	7 (5.69%)	0.17 (NS)
Depression	6 (5.13%)	1 (0.81%)	0.06 (NS)
Depression + stress	3 (2.56%)	2 (1.63%)	0.68 (NS)
Interpersonal conflicts	16 (13.68%)	7 (5.69%)	0.04*
No disorder	44 (37.61%)	76 (61.79%)	<0.01*

NS: Not significant; *Highly significant

DATA ANALYSIS

All collected data were entered into the Statistical Package for the Social Sciences version 20 and analysis was conducted. Continuous data are expressed as mean ± standard deviation form, while noncontinuous data are countable and are expressed as percentages or numbers.

Continuous data follow both normal distribution and nonnormal distribution. Independent t test and Mann–Whitney U test have been used for carrying out the significant value.

For noncontinuous data, Chi-square and Fisher's exact test have been used for carrying out the significant value, and $p < 0.05$ shows statistically significant value.

DISCUSSION

Sexual dysfunction is a frequent problem in infertile couples.[2] Infertile females, especially in India, feel that the aim of intercourse is just to conceive. When they fail to do so, it results in constant anxiety, frustration, interpersonal conflicts, and reduced sexual desire.[3] With time, these patients may experience a loss of intimacy with their partner and may develop low self-confidence, leading to depression, anger, anxiety, or guilt. In addition, infertility workup and treatment can be frustrating for many couples. Several studies have demonstrated that anxiety has a negative impact on fertility.[4]

The studies by Tayebi and YassiniArdakani[5] and Jindal and Dhall[6] showed that the most common sexual problems in infertile females are an orgasmia and decreased libido. In our study too, arousal, lubrication, and orgasm dysfunction were the most common sexual disorders. Audu's[7] study exhibited that the prevalence of difficulty with sexual arousal and dyspareunia was 20.6 and 57.7% respectively, among infertile Nigerian women. Jain et al[8] have reported that dyspareunia, decreased libido, and orgasmic failure were the most common problems in their study.

Dyspareunia has multiple etiologies, including endometriosis, chronic pelvic inflammatory disorder, and

uterine fibroid, which can also be the cause for underlying infertility. Endometriosis is one of the most common causes of chronic pelvic pain and deep dyspareunia in women. Such pain can limit sexual activity and negatively affect partner relationships.[9] It is still unclear whether uterine fibroid can cause dyspareunia. However, a fundal fibroid can be the cause of discomfort during intercourse, whereas fibroids in other locations are less likely to cause pain.[10] In our study too, 93 (79.49%) patients had pain and sexual dysfunction.

Other gynecological conditions like polycystic ovarian syndrome and premature ovarian failure (POF) can cause sexual dysfunction. Polycystic ovarian syndrome patients are viable for developing depression and decrease in sexual satisfaction,[11] whereas POF patients experience decreased sexual arousal, vaginal lubrication, and dyspareunia.[12] Apart from the above-mentioned confounding factors, the drugs used for infertility treatment, like gonadotropin-releasing hormone agonist agents, clomiphene citrate, and oral contraceptive pills, result in decreased libido and dyspareunia secondary to vaginal dryness, leading to sexual dysfunction.[13]

Medical conditions like diabetes, thyroid disorders,[14] and hypertension[15] are also associated with FSD. Male partners of an infertile couple may develop sexual dysfunction following the diagnosis of FSD. Depression, erectile dysfunction, and relationship distress are common and can occur as a direct result of a female partner's sexual dysfunction.[16] Hence, while dealing with infertility, both partners should be evaluated for sexual dysfunction.

CONCLUSION

Infertility itself is a stressful condition which can affect patient's relationship with their partners. It can result in sexual dysfunction in both partners. It is an hour of need to encourage these patients to come out of this vicious cycle of infertility and sexual dysfunction. All infertile couples should be evaluated for sexual dysfunction and should be offered appropriate treatment.

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