

## PREFERRED PHARMACEUTICAL FORMULATIONS BY PATIENTS SUFFERING FROM SEXUAL DYSFUNCTION VISITING PSYCHIATRY OUT PATIENT DEPARTMENT IN AN TERTIARY CARE CENTER

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Received: 09 November 2022, Revised and Accepted: 20 December 2022

### ABSTRACT

**Objective:** Sexual dysfunctions are increasing day by day. Various formulations are available for the treatment of same. There has been psychological mind-set among Indian patients to have powdered medicines for the sexual dysfunction management. The aim of this study was to analyze the preferred formulation by the patients for the treatment sexual dysfunction.

**Methods:** A cross-sectional and observational study was undertaken from January 2018–January 2019 in psychiatry OPD of a tertiary care teaching institute after approval from the Institutional Ethics Committee. A semi-structured questionnaire was made collecting information on demographic details and preferred pharmaceutical formulations for the treatment of sexual dysfunctions.

**Results:** Out of 164 participants who were analyzed, the most common age group having sexual dysfunctions was found to be 21–30 years (44%). Patients preferred Ayurvedic form of treatment (38.41%) over Allopathic (23.17%). Patients were in favor of SOS medications (51.83%) than day or night doses. Majority of the patients wanted drugs in tablet form (67.07%), in monthly doses (43.9%), of white color (39.02%), along with water (54.88%) and at <Rs.100 per strip (67.07%).

**Conclusions:** Majority of the patients prefer Ayurvedic form of treatment and SOS, on monthly basis, white colored tablets, taken with water at affordable prices. These factors need to be kept in mind while formulating new drugs and guidelines to ensure better compliance.

**Keywords:** Sexual dysfunction, Pharmaceutical formulation, Ayurvedic, Allopathy.

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### INTRODUCTION

The incidence of sexual dysfunction increases drastically from about 6% in the age group 20–29 years, to 50–70% in the age group 40–79 years [1]. Its incidence has been projected to increase significantly to over 320 million by the year 2025 [2]. Among women presenting to sex therapy clinics for treatment, the rate of inorgasmia ranges from 24% to 37% [3]. Approximately 12–17% of women who present for treatment have a complaint of vaginismus [3]. Erectile dysfunction (ED) affects one-third of men throughout their lives, and the incidence increases with age. Stable community estimates with regard to the current prevalence of female sexual arousal disorder, vaginismus and dyspareunia are not available. Many men associate advancing age with declining sexual function and an overall decreased quality of life. Understanding patient preference of the therapy is important to ensure that full benefit is derived from the treatment. Factors such as spontaneity, naturalness, and onset and duration of action of the drugs may influence the treatment preference [4].

Providing patients with full information on the benefits and side effects of the various treatment options can help them choose the therapy that fits their choice. This, in the long term, can reduce the discontinuation rates, which is a major barrier in the treatment for sexual dysfunctions. Hence, in this study, we aim to study the preferences of treatment formulations in the patients of various sexual dysfunctions.

### METHODS

The study of various drugs in patients with sexual disorders in a tertiary care hospital was a cross-sectional and observational study undertaken from January 2018–January 2019 in Psychiatry OPD of a tertiary care teaching institute in western India.

The study protocol was approved by the Institutional Ethics Committee before the commencement of the study.

Assuming that there were 200 patients of sexual dysfunction attending OPD per year, the sample size was calculated 165 considering a confidence level of 95% and confidence level of 5%. However, the prescription analyzed was 164 since one patient refused to fill the questionnaire so excluded from the analysis. Survey system software was used for the calculation of sample size [5].

Patients above the 18 years of age of either sex, willing to participate in the study, and currently diagnosed with a sexual disorder were included in the study. Those who refused to give informed consent and with any major medical co-morbid diseases, cancer, and gender dysphoria were excluded from the study.

The patients satisfying the inclusion criteria were enrolled in this study after taking informed consent. Semi-structured pro forma was used to collect demographic data, diagnosis, and drugs prescribed. After this, they were given a questionnaire which was validated by two pharmacologists and two psychiatrists. Questionnaire included questions to know the preference to the treatment, formulations preferred, time, frequency, color of formulation, medium to consume formulation, and cost that they were willing to spend on the treatment.

### RESULTS

Total 164 participants were analyzed in this cross-sectional observational study. Out of 164 patients, 162 were male and two were female with a mean age of 37 years (range: 18–60 years). The most common age group was observed between 21 and 30 years (44%),

less number between 18 and 20 years (7%). Table 1 shows preferred pharmaceutical formulations by the sample population.

## DISCUSSION

Sexual disorders are among the most prevalent psychological disorders in the general population both worldwide and in India. Providing the right medicine to the right patient with the right dose through the right route and at the right time is a priority of the health-care system. In this study total, 164 prescriptions of patients who visited psychiatry OPD and diagnosed with sexual dysfunctions were analyzed. Our study showed 162 male and two female patients presenting with sexual complaints, whereas a study by Verma *et al.* included no female patients [6]. This may be due to various reasons such as lack of knowledge regarding sexual disorders in this subgroup of the population, females seeking help from gynecologists only, and embarrassment to come forth with sexual complaints in a male-dominated society.

In the present study, demographic data showed that the maximum number of patients belonged to the age group of 20–30 years which is in accordance with other similar studies that showed patients between the age group of 16–45 years [6,7]. It is probably because younger patients opt for treatment more often due to the distress caused by ED. On the contrary, an older patient with ED might be considered as a physiological accompaniment, and hence, they might not visit a doctor [8].

To increase the compliance, adherence, and affordability of the treatment for sexual disorders, we had given a questionnaire to the patient. We observed that most of the patients preferred ayurvedic treatment (38.41%) followed by allopathic (23.17%). Few people wanted a combination of herbal drugs along with allopathy and ayurvedic. This may be due to the claimed benefits of ayurveda in terms of having natural ingredients, and hence, less side-effects with sustained benefits over long time and giving a natural experience during intercourse. However, this is limited by lack of scientific evidence and

research [9]. A study done by Ashish Baldi comparing garlic to Sildenafil for ED found garlic to have the similar therapeutic effect and mechanism of action with lesser side effects and no abuse potential [10]. About 67.07% of patient had preferred tablets over other formulation which was similar to the other prescriptions given in the hospital as it is non-invasive and more acceptable. About 39.02% of patients wanted drugs in white color and 18.29% wanted colorless medication, probably because majority of the drugs available in the market are white in color. About 51.83% of patient had preferred to use drugs whenever required. This maybe to avoid the side-effects of drugs after long-term use and also due to taboo related to sexual diseases and their treatment. Most of them (43.90%) patients had preferred drugs which will act for a month, as it was observed in the questionnaire that these patients chose a drug to be taken in monthly frequency. This showed that daily consumption of drugs could be the reason for reduced compliance of treatment. Majority of the patient (82%) preferred drugs to consume at the night as these drugs are mostly taken before the sexual activity which happens for most of the people maximum number of times at night. About 82.32% preferred milk as a medium for the consumption of drugs rather than water. This could be due to a myth in India that milk increases sexual desire and cure the sexual problem. There are no clinical studies that show that these drugs taken with milk cause any side effects or interactions. However, there is a lesser known fact that high fat meals, including milk can slow down the absorption of drugs like PDE-5 inhibitors [11]. About 67% of the patient could spend Rs. 100 in a month on the treatment as most of the patients were from very low-income groups.

## CONCLUSIONS

The most essential concept underlying management of sexual problems is adoption of client-centered framework for treatment. To ensure successful outcomes and patient and partner satisfaction, the factors that need that influence patient's needs and expectations regarding treatment of sexual dysfunctions must be considered along with their personal experiences and preferences. In our study, we found out that majority of patients prefer ayurvedic form of treatment over allopathy. As far as drugs are concerned, patients prefer a monthly or as and when required white colored tablets at night along with milk at the lowest prices. Hence, all these factors need to be kept in mind when drugs are being designed for sexual dysfunction.

## ACKNOWLEDGMENTS

Nil.

## AUTHORS' CONTRIBUTIONS

Neha Shende and Sharmada Nerlekar: Data Collection and writing, Sharmada Nerlekar and Abhilasha Rashmi: Concept and designing, Sagar Karia: Analysis and interpretation, Sudhir Pawar: Review and final editing.

## AUTHORS FUNDING

Nil.

## CONFLICTS OF INTEREST

None.

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**Table 1: Preferred pharmaceutical formulations by patients suffering from sexual dysfunction**

S. No.	Question (n=164)	Number (%)	
1.	Type of medicine	Allopathy	38 (23.17)
		Ayurvedic	63 (38.41)
		Herbal	22 (13.41)
		Homeopathy	19 (11.59)
		Herbal+Allopathy	12 (7.32)
		Ayurvedic+Herbal	10 (6.10)
2.	Type of formulation	Tablets	110 (67.07)
		Injection	20 (12.20)
		Powder	7 (4.27)
		Capsule	5 (3.05)
		Film	13 (7.93)
		Syrup	9 (5.49)
		3.	Color of medicine
Red	32 (19.51)		
Pink	20 (10.20)		
Colorless	30 (18.29)		
Other	18 (10.98)		
4.	Time preferred for taking medicines	Night	50 (30.49)
		Day	29 (17.68)
		Whenever required	85 (51.83)
5.	Frequency of taking medicines	Daily basis	15 (9.15)
		Weekly basis	29 (17.68)
		Monthly basis	72 (43.9)
		Whenever needed	48 (29.27)
6.	Medium of consumption	Water	90 (54.88)
		Milk	74 (45.12)
7.	Money willing to spend per week	<100	10 (6.10)
		100	110 (67.07)
		100–1000	25 (15.24)
		1000–2000	19 (11.59)

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