

ORIGINAL ARTICLE

Sexual disorders among elderly: An epidemiological study in south Indian rural population

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ABSTRACT

Background: Realizing a dearth of data on this topic, especially in the Indian context, an epidemiological study was conducted in a south Indian rural population to identify the sexual activity patterns and sexual problems among the population above 60 years of age.

Objectives: (1) Assessment of sexual activity patterns among individuals above 60 years. (2) Assessment of the prevalence of sexual disorders among individuals above 60 years.

Materials and Methods: The study sample consisted of 259 participants, which included both males and females above 60 years of age. Subjects who were sexually active and fulfilled the study criteria were administered Arizona Sexual Experience Scale as a screening tool, for the presence of sexual problems. Those who were found to have sexual problems were interviewed further using appropriate questionnaires.

Results: Only 27.4% of the individuals above 60 years were sexually active, and it progressively dropped as age advanced and none were sexually active after 75 years of age. Among the sexually active males, erectile dysfunction (ED) was prevalent in 43.5%, premature ejaculation in 10.9%, hypoactive sexual desire disorder (HSSD) in 0.77% and anorgasmia in 0.38% of the subjects. Among females, arousal disorder was prevalent in 28%, HSSD in 16%, anorgasmia in 20% and dyspareunia in 8% of the subjects.

Conclusion: The study gives us an insight into the sexual problems of the elderly and brings home the point that sexual problems are very much common among both men and women in the older population. Among elderly males, ED is the most common sexual disorder whereas in elderly females, arousal disorder is the most prevalent female sexual dysfunction, implicating biology plays an important role in men, whereas psychology plays an important role in women sexual functioning.

Key words: Epidemiological study, sexual disorders, geriatric sexuality, prevalence study, elderly sexuality, prevalence of sexual disorders in India, chronic medical disorders and sexual function

INTRODUCTION

Elderly sexuality and issues related to it have long been neglected not only from the treatment aspect but also from research point of view. The common misconception

is that the elderly are asexual individuals and sexual activity is meant only for the young. Sexuality in older individuals cannot be seen through the lenses of the youth, primarily focusing on performance and erectile capacity, while overlooking psychological and interpersonal dimensions.^[1-3]

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With the advancement in the medical field, the life expectancy has increased; hence it becomes all the more important to address sexuality related issues in the elderly population.^[4-7] Coming to terms with the fact that a large lacunae is there in this area of research, the current study was undertaken to access the sexual activity pattern and prevalence of sexual disorders among elderly above 60 years of age.

MATERIALS AND METHODS

An Exploratory study, was conducted using purposive sampling (sample size: n=259; 8.5 % of the selected rural population was above 60 years). Individuals above 60 years of age, who gave informed consent were included; however those with psychotic symptoms, dementia or mental retardation were excluded. Using descriptive and inferential statistics, contingency coefficient tests were applied to study the association using SPSS for Windows, Version 16.0. Chicago, SPSS Inc.

A door to door survey of the entire population residing at Suttur village (25 km from Mysore city; Population~4100; predominant Hindu population, with around 1000 families) was conducted. Of 311 subjects fulfilling the inclusion criteria, 259 subjects gave informed consent to participate in the study.

Sociodemographic data were collected as per the prepared standard questionnaire. In our study, we defined sexually active subjects as those who have at least one intercourse in the previous year. Those who were identified to be sexually active were administered Arizona sexual experience scale for screening the presence of sexual problems. Those who were found to be having sexual problems-based on Arizona sexual experience scale were further interviewed in detail to identify the type of sexual disorders. Male sexual disorders were assessed using International Index of Erectile Function (IIEF), premature ejaculation diagnostic tool (PEDT), a structured questionnaire prepared for the purpose of the study to assess male hypoactive sexual desire disorder (HSDD), postcoital dysphoria, anorgasmia, dyspareunia, paraphilias, sexual aversion disorder and gender identity disorders based on International Classification of Diseases 10 (ICD-10) and Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Text Revision (DSM-IV TR) diagnostic criteria. Female sexual disorders were assessed using female sexual functioning questionnaire and a structured questionnaire prepared for the purpose of the study to assess female postcoital dysphoria, anorgasmia, dyspareunia, paraphilias, sexual aversion disorder and gender identity disorders based on ICD-10 and DSM-IV diagnostic criteria.

Sociodemographic data and sexual activity proforma were used. Sociodemographic status assessment was based on modified Prasad's classification^[8] Sexual functioning

was assessed using Arizona sexual experience scale^[9], IIEF for males^[10], PEDT for males^[11], Female sexual function questionnaire^[12] and Structured interview schedule for diagnosing other sexual disorders based on DSM IV and ICD-10 criteria.^[13,14]

RESULTS

In our study sample of 259, majority of the subjects were between 66 and 75 years of age [Table 1]. Gender distribution was found almost to be equal with 55.2% being males and 44.8% being females. Most of the subjects (87.3%) were married and 12.7% of the subjects were single, either unmarried, divorced or their spouse had passed away. 98.5% of the subjects were illiterates. Most females continued to function as homemakers which constituted 31.7% of the study sample. 29% were unemployed, 21.2% were agriculturists and 17.8% worked as daily wage laborers. 46.3% of the subjects were residing in nuclear families, while 49% were residing in joint families and 4.6% were living alone. Majority of the study subjects belonged to either lower middle class (43.6%) or upper lower class (40.9%) according to modified Prasad classification for socioeconomic status. Diabetes mellitus (10.4%) and hypertension (7.3%) were found to be the most prevalent chronic medical conditions. 2.30% of the study population consumed alcohol and 6.2% used tobacco. Except for the distribution of the study population by gender, *P* value was significant for the distribution of study population by age, marital status, education, occupation, residing family structure, socioeconomic status, chronic medical condition, alcohol consumption and nicotine consumption.

In our study, we defined sexually active subjects as those who had at least one intercourse in the previous year. Those who were sexually active were further interviewed to identify the presence of sexual disorders. Only 27.4% of the subjects were sexually active in our study sample [Table 2]. On analyzing the sociodemographic variables of subjects who were sexually active and sexually inactive, we found that there is a rapid decline in the sexual activity as the subjects grow older. Number of sexually active individuals dropped significantly from 47.6%, in 61-65 years age group to 0% in those above 75 years of age. Females were less sexually active when compared to males. Those subjects who were married and had a living spouse were more sexually active compared to those without a spouse. Subjects who were employed were more sexually active compared to those who were unemployed. Subjects

Table 1: Age distribution of the study sample

	Frequency	Percentage
61-65 years	103	39.8
66-75 years	107	41.3
>75 years	49	18.9
Total	259	100

living in a joint family had slightly lesser active sexual life compared to those living in a nuclear family. Subjects with diabetes mellitus were less sexually active compared to those without any chronic medical condition. However, other chronic medical conditions had no adverse influence on a subject's sexual activity. Subjects from the upper class were found to be less sexually active compared to those from lower socioeconomic classes [Table 3]. No significant difference was found among those who consumed alcohol and tobacco compared to those subjects who did not.

Although we did not evaluate the various reasons for not being sexually active methodologically, during our study we learned that myths and misconceptions that sex is only for procreation, a perception that performing sexual activity after middle age is shameful or morally and spiritually incorrect for one or both the partners, self-declaration from one or both the partners to stop sexual intimacy once their kids grow above puberty, lack of privacy, lack of cooperation from one of the spouse, fear that if caught in a sexual act or any such suspicion among their children that their parents are having sexual activity is shameful were some of the reasons for not having sexual intercourse that are noted during our study.

Among those who were sexually active, 49.3% of them were found to have one or more sexual disorder on using Arizona sexual experience screening questionnaire [Table 4]. These subjects were interviewed in detail to identify the various sexual disorders they were suffering from. On analyzing the sociodemographic variables of subjects who were sexually active and found to be having sexual problems we found the following results. Sexual problems increased with increasing age, 40.8% of those between 61-65 years had sexual problems compared with 68.2% among those between 66 and 75 years. We found none above 75 years to be sexually active; perhaps if we had sexually active individuals above 75 years in our sample it would have helped us in having more definite information about the impact of growing age on sexual activity. Females had slightly higher prevalence of sexual problems compared to males. Sexual problems were highly prevalent among the married and those who were unemployed. 100% of the subjects who were sexually active and were hypertensive had sexual problems, while 75% of those with diabetes mellitus had sexual problems. Those who consumed alcohol and tobacco had a higher prevalence of sexual problems compared to those who did not [Table 5].

Among 259 subjects above 60 years, 71 were sexually active and were interviewed for identifying the prevalence of sexual disorders. 43.5% of the male subjects were diagnosed to have erectile dysfunction (ED), 10.9% premature ejaculation, 0.77% male HSSD and 0.38% of males had anorgasmia [Table 6]. Distribution of ED based on the severity of ED

Table 2: Distribution of sexually active and sexually not active subjects

	Frequency	Percentage
Sexually active	188	72.58
Sexually not active	71	27.41
Total	259	100

Table 3: Distribution of sexually active and sexually not active subjects versus sociodemographic variables

	Sexually not active %	Sexually active %
Age distribution (years)		
61-65	52.40	47.60
66-75	79.40	20.60
>75	100.00	0.00
Gender		
Males	67.80	32.20
Females	78.40	21.60
Marital status		
Married	70.40	29.60
Unmarried	87.90	12.10
Education		
Illiterate	72.90	27.10
Primary education	50.00	50.00
High school	50.00	50.00
Occupation		
Daily wage laborer	58.70	41.30
Home maker	75.60	24.40
Agriculture	58.20	41.80
Salaried/business	0.00	100.00
Unemployed	89.30	10.70
Family structure		
Nuclear family	69.20	30.80
Joint family	75.60	24.40
Living alone	75.00	25.00
Chronic medical illness		
Diabetes mellitus	55.60	44.40
Hypertension	84.20	15.80
COPD	100.00	0.00
Cataract	78.60	21.40
Asthma	100.00	0.00
Heart diseases	50.00	50.00
Alcohol consumption		
Alcohol consumption absent	72.70	27.30
Alcohol consumption present	66.70	33.30
Tobacco consumption		
Tobacco consumption absent	73.30	26.70
Tobacco consumption present	62.50	37.50
Socioeconomic status		
Upper class	88.90	11.10
Upper middle class	83.30	16.70
Lower middle class	77.90	22.10
Upper lower class	64.20	35.80
Lower class	69.20	30.80

COPD - Chronic obstructive pulmonary disease

Table 4: Distribution of sexual problems based on Arizona sexual experience screening questionnaire

	Percentage
Sexual problem absent	50.7
Sexual problem present	49.29
Total	100

is given in Table 7. No cases of male postcoital dysphoria, gender identity disorder or paraphilias were found. Presence of male sexual disorders and chronic medical illness such as diabetes mellitus, hypertension and others was found to have a significant association. Age distribution above 60 years, occupation, education, sociodemographic status, domicile, family structure, alcohol and smoking were not found to have a significant association in causing sexual disorders among the elderly.

Prevalence of female arousal dysfunction was found to be 28%, female HSSD 16%, female anorgasmia 20% and dyspareunia in 8% of the female subjects [Table 8]. No cases of female postcoital dysphoria, female identity disorder or paraphilias were found. Differing from males, among females only socioeconomic status was found to have a significant association with the prevalence of sexual disorders. Age distribution above 60 years, occupation, education, chronic medical illness, domicile, family structure, alcohol and smoking were not found to have a significant association in causing sexual disorders among the elderly.

DISCUSSION

The study found that only 27.4% of the subjects above 60 years were sexually active and there is a rapid decline in sexual activity with age. Studies have observed that decline in sexual activity with ageing is influenced more by culture and attitudes rather than by nature and physiology among the elderly.^[15-17] The two most important influences on older age sexual interaction are the strength of the relationship and the physical condition of each partner. Individuals who had relationship issues with their partners earlier in life tend to report more sexual problems like lack of desire, dyspareunia and anorgasmia and eventually stop sexual activity. Many elderly lead a single life due to death of spouse, which itself curtails their sexual activity. Both the partners being healthy is another important aspect as they may not be able to enjoy an active sexual life if either is physically ailing which is common at older age.^[16] Due to various physical ailments, either of the partners may be on medications which too may interfere with sexual activity. Supporting the notion that physical health plays an important role, our study found that subjects with chronic medical illness were less sexually active than those without medical illness.

We also noted that females were less sexually active compared to males. In the PRESIDE study, the prevalence of female HSSD above 65 years was 74.8%. The prevalence of sexual problems in women increased dramatically with age.^[18,19] Long standing undiagnosed and untreated HSDD might be one of the reasons for females to stop sexual activity, in turn affecting the sexual activity of their male spouse. This stresses the need of early identification and treatment of sexual disorders among elderly.

Table 5: Distribution of sexual problems versus sociodemographic variables

	Sexual problem absent %	Sexual problem present %
Age distribution (years)		
61-65	59.20	40.80
66-75	31.80	68.20
Gender		
Males	52.20	47.80
Females	48.00	52.00
Marital status		
Married	49.30	50.70
Unmarried	75.00	25.00
Education		
Illiterate	50.70	49.30
Primary education	0.00	100.00
High school	100.00	0.00
Occupation		
Daily wage laborer	57.90	42.10
Home maker	55.00	45.00
Agriculture	47.80	52.20
Salaried/business	100.00	0.00
Unemployed	25.00	75.00
Family structure		
Nuclear family	48.60	51.40
Joint family	54.80	45.20
Living alone	33.30	66.70
Chronic medical illness		
Diabetes mellitus	25.00	75.00
Hypertension	0.00	100.00
Cataract	66.70	33.30
Heart diseases	100.00	0.00
Alcohol consumption		
Alcohol consumption absent	52.20	47.80
Alcohol consumption present	0.00	100.00
Tobacco consumption		
Tobacco consumption absent	52.30	47.70
Tobacco consumption present	33.30	66.70
Socioeconomic status		
Upper class	100.00	0.00
Upper middle class	33.30	66.70
Lower middle class	28.00	72.00
Upper lower class	63.20	36.80
Lower class	75.00	25.00

Table 6: Prevalence of male sexual disorders among individuals above 60 years

	Percentage
ED	43.47
Premature ejaculation	10.87
Male anorgasmia	0.38
Male hypoactive sexual desire disorder	0.77
ED - Erectile dysfunction	

Table 7: Distribution of ED by severity among individuals above 60 years

	Percentage
Severe ED	21
Moderate ED	36.8
Mild-moderate ED	31.57
Mild ED	10.52
ED - Erectile dysfunction	

Table 8: Prevalence of female sexual disorders among individuals above 60 years

	Percentage
Female arousal dysfunction	28
Female hypoactive sexual desire disorder	16
Female anorgasmia	20
Dyspareunia	8

There is paucity of research in the area of sexual disorders among the elderly; however studies in this area have reported a higher prevalence of sexual disorders among individuals above 60 years of age.^[20-22] Data from the Massachusetts Male Aging Study showed that 34.8% of men aged 40-70 years had moderate to complete ED, which was strongly related to age, health status, and emotional function.^[23] The current study found ED in 43.5% individuals above 60 years of age. Kinsey *et al.* found that ED occurs in <1% of the male population before age 19, increasing to 25% by age 75 suggesting that as age increases sexual disorders too increase.^[24] Study by Laumann *et al.* observed the older cohort of men (ages 50-59 years) is more than 3 times as likely to experience erection problems and to report low sexual desire in comparison to men aged 18-29 years.^[22] Community studies show an estimate of the 1 year prevalence of premature ejaculation range to be 4-5%.^[25-28] Two other studies reported significantly higher rates of premature ejaculation estimating prevalence to be of 14% and 29%.^[22,29] Panser *et al.* reported a significant positive correlation between age and HSSD (age 70 and over prevalence was 26%).^[30] The current study found prevalence of premature ejaculation to be 10.9% and male HSSD to be 0.77% in individuals above 60 years. The reason for these discrepant estimates may be due to differing methodology adopted. The prevailing cultural beliefs in our country might discourage and inhibit the older individuals to consult a doctor and discuss about their sexual life leading to increased prevalence of sexual disorder among elder age groups. Also the age related physiological changes like andropause may explain higher prevalence rates of sexual problems.

In our study, male sexual disorders were more among subjects with chronic medical illness compared to those without chronic medical illness. Studies have shown that prevalence of sexual disorder increases with age, history of heart disease, diabetes, hypertension, untreated ulcer, arthritis, allergy, and smoking.^[22,28,30,31] Some of these findings overlap with results in the current study. Study by Thomas *et al.* suggests that, although sexual dysfunction is more common in the aged, it is often related more to comorbid illness than aging alone.^[32]

In our study prevalence of female arousal dysfunction was found to be 28%, female HSSD in 16%, female anorgasmia in 20% and dyspareunia in 8% of the female subjects. Discussions regarding female sexual functioning especially

in the older population, have not been a routine part of our health care, hence the magnitude of female sexual disorders in geriatric age group is poorly understood. A meta-analysis of prevalence of female sexual disorders suggested that sexual dysfunctions are highly prevalent across cultures with prevalence increasing with age.^[19,33] Women's International Study of Health and Sexuality, showed that overall female sexual problems increased with age and reported that the prevalence of sexual problems were 74.8% (desire), 65.3% (arousal) and 54.6% (orgasm).^[34] The prevalence of dyspareunia is known to increase among postmenopausal women; estimates of rates vary widely between 12% and 45%.^[18] Lack of vascularity, both lubrication and swelling response are affected due to decreased estrogen after menopause.^[19,35]

No cases of postcoital dysphoria or paraphilias were found in our study. Other Indian studies by Bagadia *et al.* and Avasthi *et al.* also did not report any cases with these problems. This probably reflects the extremely rare prevalence of these disorders in the general population.^[36,37]

CONCLUSION

Geriatric sexuality is one of the most neglected areas in research. As stated earlier, studies have shown that sexual dysfunctions increase with age and the prevalence increases further with the presence of co-morbidities like chronic medical illnesses. Our study shows that sexual problems are very much common among both men and women in the older population. However, more detailed evaluation of sexual dysfunction among the elderly is needed. Sex education among the elderly to correct the myths and misconceptions regarding sexuality, in general and elderly sexuality, in particular is much needed. Further research in elderly sexuality needs to be undertaken in an elaborate manner to improve their quality of life and benefit them in the long run.

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