

# Assessment of sexual dysfunction among COVID-19 recovered patients in rural population of Marathwada region of Maharashtra

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## Abstract

**Introduction:** COVID-19 infection is expected to be associated with an increased likelihood of sexual dysfunction in males and females in both rural and urban population. Considering high transmission rate of COVID-19, sexual dysfunction can be a concern for the population.

**Objective:** To assess the sexual dysfunction in COVID-19 recovered patients.

**Methods:** This cross-sectional study was carried out among 120 patients to assess the sexual dysfunction in COVID-19 recovered patients in IIMSR Medical College and Noor Hospital, Badnapur Dist. Jalna, Maharashtra during the period of January to June 2021. Patients recovered from COVID-19 was contacted after 2 months of recovery. Participants were contacted on telephone for questioning and Sexual Dysfunction Questionnaire (SDQ) was filled as per information provided by the participants. The collected data was entered in Microsoft excel sheet and analyzed by using appropriate statistical tests whenever necessary.

**Results:** Out of 120 COVID-19 recovered patients who participated in the study, sexual dysfunction was seen in 54 (45%) participants. Total of 72 males participated in the study, of which 36 of them had score more than 45(50%), while from 48 female participants 18 had score more than 45(37.5%).

**Conclusion:** Exposure to the COVID-19 pandemic and its consequences was associated with increased sexual dysfunctions. Both male and female population with different age groups were affected but in variable degrees.

**Keywords:** COVID-19, sexual dysfunction, rural population

## Introduction

In December 2019, atypical cases of pneumonia were reported in Wuhan, China, which was later designated as Coronavirus disease 2019 (COVID-19) by the World Health Organization (WHO) on 11 Feb 2020<sup>[1,2]</sup>. Covid-19 pandemic has affected millions globally and in India. Fever, dry cough, muscle aches, fatigue, shortness of breath and loss of taste and smell have been observed in patients. In no time, it spread to all the cities of China and then worldwide<sup>[3]</sup>.

Social distancing strategies between the closure of educational institutions and workplaces, cancellation of mass meetings, the isolation of suspected or confirmed cases, quarantine of persons who had come in contact with confirmed cases, stay-at-home suggestions and in some cities have even a mandatory quarantine<sup>[4]</sup>. Classic public health measures, including isolation, quarantine, social distance, and community containment, were used to reduce the pandemic of COVID-19<sup>[5]</sup>. Preventive measures, such as social distance, are crucial, but it was found to have long-term consequences. Measures to protect the physical health and health systems can have negative effects on the welfare level of individuals<sup>[6]</sup>.

The social isolation measures adopted and proposed worldwide to control this pandemic are of unprecedented magnitude in modern history. As physical distancing and social isolation can directly affect both the physical and psychological health of individuals, many such measures are interpreted as having far-reaching consequences that are not yet known<sup>[7,8,9]</sup>. These results can be related to physical and sexual health as well as in almost any area. From 2002-2004 epidemics data of SARS. It is suggested that cardiovascular sequelae, such as microangiopathy, cardiomyopathy and impaired endothelial function, can be expected in this respiratory disease<sup>[10-11]</sup>. In COVID-19 patient's hyper inflammation and immunosuppression was prominently seen, causing a cytokine storm which lead to development of micro-thrombosis and disseminated intravascular coagulation (DIC)<sup>[11]</sup>. Based on these available information, there is quite enough evidence to hypothesize that consequences of COVID-19 can extend to sexual and reproductive health of both male and female<sup>[13,14]</sup>. Because sexual health is a fundamental determinant of people's well-being, it is thought that sexual contact will be negatively affected by this condition, although it does not end completely during the COVID-19 pandemic<sup>[15,16]</sup>. Therefore, social measures taken in response to COVID-19 will change the social interactions and sexual life behaviours of patients in both rural and urban population.

## Materials and Methods

This cross-sectional study was carried out among 120 patients to assess the sexual dysfunction in COVID-19 recovered patients in Indian Institute of Medical Science and Research (IIMSR) Medical College and Noor Hospital, Badnapur Dist. Jalna, Maharashtra, India during the period of January to June 2021. To assess the effect of COVID-19 on sexual behaviour of patients from age group 18-50 years who were admitted in Noor Hospital, which was a dedicated COVID Health Centre (DCHC) in Marathwada region of Maharashtra. Owing to transport restrictions, assessment of sexual behaviour was conducted on telephone using sexual dysfunction questionnaire. Patients with chronic illness and who have done vasectomy or tubectomy were excluded from the study. Out of 150 COVID-19 recovered patients contacted during study period, only 120 patients were enrolled for study who were willing to participate after taking consent. Hence total sample size was 120 patients. These selected patients were assessed after 2 months of recovery from COVID-19. The study protocol was approved by Institute Ethical Committee (IEC). A pre-tested, semi-structured sexual dysfunction questionnaire (SDQ) was used to collect the data. First part of questionnaire consists of socio-demographic information of the study participants and second part consists of questions regarding sexual behaviour.

**Data analysis:** Data entry was done in Microsoft Excel and analysis using Open Epi Info version 3.01. Data was summarized in percentages and proportions. Chi-square test was used for categorical variables to determine the associations with  $p < 0.05$  considered statistically significant.

## Results

**Table 1:** Socio-demographic profile of the study population

Socio-demographic profile	Frequency (n=120)	Percentage
<b>Age</b>		
18-25 yrs	13	10.8
26-35 yrs	30	25.0
>35 yrs	77	64.2
<b>Sex</b>		
Male	72	60.0
Female	48	40.0
<b>Residence</b>		
Rural area	75	62.5
Urban area	45	37.5
<b>Marital Status</b>		
Married	89	74.2
Single	19	15.8
Widow/ Divorced	12	10.0

The socio-demographic profile of the study population was depicted in Table 1. The participants were divided into 3 groups i.e. age group 18-25 years had 13 participants (10.8%), age group 26-35 years had 30 participants (25%) and age group 36 years and above had 77 participants (64%). The males included in the study were 72(60%) and the females were 48(40%). Males were dominant in the study. There were 75 participants from rural population (62.5%) while 45 participants were from urban population (37.5%). 89 participants (74.2%) were married, while 19 participants (15.8%) were single and their death of spouse was in 12 participants (10%).

**Table 2:** Sexual dysfunction questionnaire scoring among study population

Sexual dysfunction questionnaire (SDQ) Scoring	Frequency (n=120)	Percentage
Without Sexual dysfunction ( $\leq 44$ )	66	55.0
Sexual dysfunction ( $\geq 45$ )	54	45.0

As seen from Table 2 that the participants were asked questions from the sexual dysfunction questionnaire. Participants who had score more than or equal to 45 were considered to have sexual dysfunction. Out of 120 covid-19 recovered patients who participated in the study, sexual dysfunction was seen in 54(45%) participants.

**Table 3:** Association between socio-demographic profiles with sexual dysfunction

Socio-demographic profile	Without Sexual dysfunction (n=66)	Sexual dysfunction (n=54)	X <sup>2</sup> -value p-value
<b>Sex</b>			X <sup>2</sup> =1.818 p=0.178 Not Significant
Male (n=72)	36 (50.0)	36 (50.0)	
Female (n=48)	30 (62.5)	18 (37.5)	
<b>Age</b>			X <sup>2</sup> =2.356 p=0.308 Not Significant
18-25 yrs (n=13)	07 (53.3)	06 (46.2)	
26-35 yrs (n=30)	13 (43.3)	17 (56.7)	
>35 yrs (n=77)	46 (59.7)	31 (40.3)	
<b>Residence</b>			X <sup>2</sup> =0.224 p=0.636 Not Significant
Rural area (n=75)	40 (53.3)	35 (46.7)	
Urban area (n=45)	26 (57.8)	19 (42.2)	

Marital Status			X <sup>2</sup> =0.159 p=0.923 Not Significant
Married (n=89)	48 (53.9)	41 (46.1)	
Single(n=19)	11 (57.9)	08 (42.1)	
Widow/Divorced (n=12)	07 (58.3)	05 (41.7)	

As seen from Table 3 that the total of 72 males participated in the study, of which 36 of them had score more than 45(50%), while from 48 female participants 18 had score more than 45(37.5%). There were 13 participants in age group 18-25 years from which 6(46.2%) reported sexual dysfunction. Age group 26-35 had 30 participants from which 17(56.7%) had sexual dysfunction. From 77 participants in age group more than 35 years, sexual dysfunction was seen in 31(40%) of them. Out of 75 participants from rural population 35(46.7%) of them had sexual dysfunction while from 45 participants, 19 participants had sexual dysfunction. From 89 married participants who enrolled in study, sexual dysfunction was seen in 41 participants (46.1%), while 11 participants who were single, 8 participants (42.1%) showed sexual dysfunction. From total participants, 12 participants had widow/divorced, of which 5 participants (41.7%) had sexual dysfunction.

## Discussion

This present study investigated the effects of the COVID-19 pandemic on sexual activity and functioning in women and men. In our study, it was found that 37.5% of the females suffered from sexual dysfunction post-covid which was almost similar to a study conducted in China, examining the impact of the COVID-19 pandemic on sexual and reproductive health, 41% of participants reported a decrease in the frequency of sexual intercourse<sup>[17]</sup>.

Our study reported sexual dysfunction in 50% of males which was bit higher than study done in Egypt which reported erectile dysfunction in 35.6% males during covid<sup>[18]</sup>. Another study showed that during COVID-19 pandemic couples younger than the age of 35 years old had a decreased sexual desire leading to lower frequency of sexual intercourse<sup>[19]</sup>. A study by Brooks SK reported sexual dysfunction presentation in general and orgasmic disorders like, orgasm dysfunctions, premature ejaculation or anorgasmia<sup>[20]</sup>.

Preventive measures, such as social distance taken to prevent COVID-19 disease, anxiety and uncertainty about the future, have an impact on sexual function and quality of life in people and information about changes in sexual habits and the impact on the quality of life in the isolated population and people infected with COVID-19 is so far scarce<sup>[21]</sup>.

A study by Hall K found that the average frequency of sexual intercourse decreased from  $6.3 \pm 1.9$  per month to  $2.3 \pm 1.8$  with social distance measures taken during the COVID-19 pandemic<sup>[22]</sup>.

There are multiple factors which contribute in the sexual dysfunction in various studies. One of the factor explaining the impaired desire and the reduction in sexual activity is a change in the psychological status of individuals. These factors like stress, anxiety, and depression can be considered as possible causes of sexual dysfunction<sup>[23]</sup>.

The fear of contracting and/or transmitting COVID-19 had the greatest effect on the occurrence of sexual dysfunction. Contact with droplets in the mouth, nose and saliva of an infected person can contribute to the transmission of COVID-19. Many people may have the fear of transmission of the disease from their sexual partner can be one of the reason for their decreased sexual desire<sup>[24]</sup>.

During the COVID-19 pandemic, fear of unemployment, inability to pay for living expenses have resulted in higher stress, anxiety and depression levels in people. Men have been forced to spend more time at home due to social constraints and this, together with increased stress levels due to unemployment and sedentary lifestyle, can result in decreased sexual desire or violence against women<sup>[25]</sup>.

Fear and misinformation have led to the belief that alcohol consumption can kill the virus,

and some people have turned to alcohol. Alcohol uptake is one of the predisposing factors for developing sexual disorders, decreased libido and sexual dissatisfaction are commonly reported.

### Conclusion

Exposure to the COVID-19 pandemic and its consequences was associated with increased sexual dysfunctions. Both male and female population with different age groups were affected but in variable degrees. Sex is one of the dimensions of every person's life; therefore, researchers should identify the factors that lead to sexual dysfunction due to COVID-19 pandemic in their community. In this regard, sexologists as well as the physician should design and implement effective programs to reduce the heterogeneous causes affecting sexual functioning, given the psychological strain that the COVID-19 pandemic puts on individuals.

### Limitations

This is a study based on the subjective and retrospective report of the participants. This may derive possible biases of social desirability. It is possible that the negative or positive judgment about sexual life could have been influenced by the general situation of living and not only reflects the impact of the lockdown or the pandemic. It would have been interesting to include new variables on factors that could be influencing the sexual life of the participants, like confinement duration. Moreover, it would be interesting to study in further detail the different online sexual activities because some authors indicate that the consequences can change depending on the activity.

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