

ORIGINAL ARTICLE

Sexual functioning during the lockdown period in India: An online survey

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ABSTRACT

Aim: This study aimed to evaluate the impact of lockdown on sexual functioning in India. In addition, impact of lockdown on relationship with the partner and mental health was evaluated.

Materials and Methods: An online survey was conducted using changes in sexual functioning questionnaire, Patient Health Questionnaire-4, and a self-designed questionnaire.

Results: The mean age of the participants was 41.5 (standard deviation: 11.2; range: 22–77; median: 39.5) years, with the majority being males 385 (85.6%). The participants reported that lockdown led to reduction in the frequency of sexual intercourse and also touching the partner (fondling, caressing, touching, or kissing) when not indulging in sexual intercourse. Majority of the participants reported improvement in the overall relationship, communication with the partner, and interpersonal conflicts. About two-fifths of the participants reported engaging in sexual intercourse more than twice a week or more. About one-fifth screened positive for psychiatric morbidity, with 14.2% screened positive for anxiety, 14.8% screened positive for depression and 8.7% screened positive for both. In both genders, presence of depression and anxiety were associated with lower sexual functioning in all the domains.

Conclusion: Lockdown led to a reduction in the frequency of sexual intercourse, and reduction in the frequency of intimacy in the form of fondling, caressing, touching, or kissing partner when not doing sexual intercourse. However, lockdown led to the improvement in overall relationship and communication with the partners and a reduction in interpersonal conflicts.

Key words: COVID-19, lockdown, sexual dysfunction

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INTRODUCTION

Novel coronavirus 2019 (nCoV/SARS-CoV-2/COVID-19) outbreak has posed extreme challenges for survival to humanity. To deal with the COVID-19 infection, most of the countries went through a phase of “lockdown” and are now

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gradually unlocking. During the initial phase, “lockdown” led to no entry/exit movements, and the persons were required to stay wherever they were. Lockdown was considered as both preventive strategies and an emergency strategy to save the lives of the vulnerable or at-risk persons. Government of India implemented “lockdown” with effect from March 25, 2020, across the country to control the spread of COVID-19.^[1] Lockdown had a significant negative impact on the mental health and overall functioning of the person.^[2] Additional strategy which was recommended to tackle the spread of COVID-19 infection included social distancing, which possibly impacted the interaction with others.

Lockdown for a man meant staying at home for a longer duration of period and availability of longer time to interact with the spouse.^[3] Lockdown for women meant an increase in the workload for women, because of everyone being at home throughout the day, higher work pressure, more chances of domestic violence, and interpersonal relationship issues.^[3] Considering the impact of lockdown on domestic violence, the World Health Organization issued an advisory against domestic violence.^[3] However, despite increase in the workload, the “lockdown” gave women more opportunity to spend time with their spouses.^[4]

Lockdown possibly provided more opportunity for sexual intimacy for the couples.^[4] Few studies from different parts of the world have evaluated the impact of social distancing, quarantine, and lockdown on sexual activity.^[5-7] An online survey from the United Kingdom, which involved 864 participants showed that, during the period of self-isolation/social distancing, about two-fifth (39.9%) of the participants engaged in sexual activity at least once per week. The presence of sexual activity was associated with being a male, of younger age, taking alcohol, being in a marital relationship or a domestic partnership, and longer duration of self-isolation/social distancing.^[8]

Another study from Turkey, which evaluated the sexual functioning of 58 females, showed that, compared to 6–12-month period of prepandemic time, the frequency of sexual intercourse during the pandemic increased significantly, and there was a significant improvement in the female sexual functioning index score, compared to that during the time before the pandemic. However, when compared before a pandemic, there was a significant reduction in the use of contraception and desire to become pregnant during the pandemic. In addition, this study showed that there was an increase in menstrual disorders during the pandemic.^[7] A study from Italy evaluated the sexual satisfaction of 1515 respondents who were quarantined. This study showed a reduction in the frequency of sexual intercourse during the period of quarantine, compared to the earlier. However, the majority of the participants reported sexual desire to be similar (39.2%) or

more than (40.66%) to the previous times. A majority of the participants (78.88%) reported indulging in autoerotism, and this was similar (29.44%) to or more than 39.74% than earlier. There was an increase in the consumption of pornography and marked reduction in sexual satisfaction during the period of being quarantined. It was also seen that sexual dissatisfaction in men was associated with age, whereas in females, it was associated with age, a higher level of depression, and knowing people positive for COVID-19.^[5]

Little is known about the impact of the COVID-19 pandemic on sexual functioning in people from India. Over the period, many myths have also emerged related to sexual intercourse (such as sexual intimacy with partner can lead to spread of COVID infection) and pregnancy (transmission of COVID infection from mother to the newborn during the process of birth) during the COVID times.^[9] These can influence the sexual intimacy. Accordingly, there was a need to evaluate the impact of lockdown on sexual functioning. This online survey evaluated the impact of lockdown on sexual functioning, which had not been determined yet in the Indian context. In addition, impact of lockdown on relationship with the partner and mental health was evaluated.

MATERIALS AND METHODS

This was an online survey conducted using Survey Monkey[®] platform through a link which was sent to people using either Whatsapp[®] or E-mail, using the nonprobability snowball sampling. Initially, the links were circulated by the researchers to their contact and the people receiving the survey link were requested to forward the link further. People receiving the survey link were at freedom to participate or not to participate in the survey. Similarly, there was no compulsion to forward the survey link to others on those receiving the survey link. These were ensured by the nonprobability snowball sampling in that after the initial circulation of the survey link, the direct involvement of the researcher was absent.

The survey invitation mentioned that the participants would have the right not to participate in the survey, and participation in the survey would imply providing informed consent. The participants were also informed that the responses will be anonymized, and there was no chance of them getting identified. The survey link was circulated during the period of May 14 to June 6, 2020. To be included, the participants were required to be aged more than 18 years. The survey was carried out using bilingual (English and Hindi) questions.

Clicking on the invitation link implied providing consent for participation in the study.

The Ethics Committee of the Indian Psychiatric Society approved the study, and the survey was conducted under

the aegis of Research, Education, and Training Foundation of the Indian Psychiatric Society.

Instruments used

Changes in Sexual Functioning Questionnaire (CSFQ):^[10] The CSFQ is a reliable and valid measure of sexual functioning, which is useful in both clinical and research settings. This is a structured questionnaire designed to measure illness- and medication-related changes in sexual functioning. The scale has separate male and female versions, both of which have 14 items, with each item rated on a 5-point Likert scale. English and Hindi version of the scale, which were available, were used. Permission was sought from the original author of the scale, for use.

A self-designed questionnaire was used to evaluate the effect of lockdown on the relationship with the partner and frequency of sexual intimacy in the past and during the lockdown.

Patient Health Questionnaire-4 (PHQ-4):^[11] The PHQ-4 is a self-administered questionnaire, which has the depression and the anxiety modules, to screen for depression and anxiety, respectively. This questionnaire has excellent reliability and validity, sensitivity and specificity of 88% for major depression.

Data were analyzed using SPSS 20.0 (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp., 2011), and the descriptive analysis in the form of frequency, percentages, the mean and standard deviation (SD) was calculated. Comparisons were made by using *t*-test and Chi-square test.

RESULTS

During this survey period of May 14 to June 6, 2020, 514 responses were received. All the responses which were received from outside the country, verified using the IP addresses were excluded. Similarly, responses received from people below 18 years were also excluded. Responses which were incomplete were not considered for the final analysis. The entries were also checked for duplicacy, and in case of doubt, such responses were excluded. Out of the response received, 26 responses were incomplete, 1 was from a participant <18 years, 6 were from outside India, and 31 were from those who did not have a partner. All these responses were deleted. Finally, 450 responses were found to be complete in all aspects and were analyzed. Majority of the participants were male, married, and postgraduates. The mean age of the participants was 41.5 (SD: 11.2) years. Small proportions of the participants were suffering from chronic physical illness and were on any regular medications. Majority of the participants were spending more than 1 h/day on the screen media [Table 1].

To understand the impact of lockdown on sexual functioning, the participants were asked to keep the month of December

2019 in mind (to give the responses for the time before lockdown), while responding the questions enquiring about prior sexual functioning. Lockdown led to reduction in the frequency of fondling, caressing, touching, or kissing partner when not indulging in sexual intercourse and reduction in the frequency of sexual intercourse [Table 2].

When enquired about the impact of lockdown on the overall relationship with their partner, the majority of the participants reported improvement in the overall relationship, communication with the partner, and interpersonal conflicts [Table 3].

Majority of the participants reported lack of privacy issues (54.1%) during the lockdown period. However, one-third of the participants reported some privacy issue (32.8%) and a small proportion of them reported significant privacy issues (13%). In terms of availability of contraception, a majority (76.7%) reported no worries related to the availability of contraception; a small proportion reported worries related to contraception “somewhat (17%)” and “very much (6.3%).”

As per the assessment of PHQ-4, 14.2% screened positive for anxiety, and 14.8% screened positive for depression. A small proportion (8.7%) screened positive for both, and overall prevalence of psychiatric morbidity (depression, anxiety, or both) was 20.4%.

As is evident from Table 4, less than half of the participants of either gender reported, “much” or “great” enjoyment or pleasure in their sexual activity at the time of assessment. Only about two-fifths of the participants reported engaging in sexual intercourse more than twice a week or more. Other details are shown in Table 4. Similarly, only a small proportion of the females reported indulging in various sexual activities. The mean CSFQ score for males was 44.9 (SD: 9.5), and that for females was 40.2 (SD: 11.8). Overall, female had significantly lower scores on all the domains except for the pleasure domain [Table 4].

In both the genders, presence of depression and anxiety were associated with lower sexual functioning in all the domains [Table 5].

DISCUSSION

This online survey evaluated the sexual functioning of the people during the lockdown period using a self-designed questionnaire and CSFQ. Findings of the present study suggest that lockdown due to COVID-19 pandemic has led to a reduction in the frequency of sexual intercourse, and reduction in the frequency of intimacy in the form of fondling, caressing, touching, or kissing partner when not indulging in sexual intercourse. Further, the present study suggests that lockdown led to an improvement in overall

Table 1: Sociodemographic profile of the participants

Variables	Frequency, <i>n</i> (%) / mean (SD)
Age (years) and range (median)	41.5 (11.2), 22-77 (39.5)
Number of participants aged >65 years	20 (4.4)
Sex	
Male	385 (85.6)
Female	65 (14.4)
Marital status	
Married and living with spouse	389 (86.4)
Married and living away from spouse	35 (7.8)
Unmarried but in a live-in relationship	4 (0.9)
Divorced	4 (0.9)
Single	17 (3.8)
Others (did not specify)	4 (0.9)
Education level	
Up to matric	2 (0.4)
Intermediate	4 (0.9)
Graduate	143 (31.8)
Postgraduate	301 (66.9)
Occupation	
Student	2 (0.4)
Business	27 (6.0)
Housewife	12 (2.7)
Professional	260 (57.8)
Self-employee	155 (34.4)
Retired	13 (2.9)
Type of family set-up	
Husband and wife only	76 (16.9)
Husband, wife, and children	172 (38.2)
Husband, wife, children, and parents	158 (35.1)
Joint/extended family	40 (8.9)
Did not response	4 (0.9)
Do you have a personal bedroom	
Yes	410 (91.1)
No	40 (8.9)
Are you suffering from any chronic physical illness	
Yes (for example-hypertension, diabetes mellitus, chronic obstructive pulmonary disease, asthma, and rheumatoid arthritis) [#]	68 (14.8)
Are you receiving any regular medication for any illness	
Yes	33 (7.2)
Time spent watching television, using social media, laptop, facebook, whatsapp, twitter, etc.	
Up to 1 h/week	53 (11.8)
1-3 h/day	165 (36.7)
3-6 h/day	150 (33.3)
6-9 h/day	55 (12.2)
9-12 h/day	15 (3.3)
>12 h/day	12 (2.7)

[#]Hypertension (*n*=11), diabetes mellitus (*n*=6), diabetes mellitus and hypertension (*n*=3), hypothyroidism (*n*=2), chronic pain (*n*=16), PCOS (*n*=1), coronary artery disease (*n*=1), chronic kidney disease with asthma (*n*=1), depression (*n*=1). SD=Standard deviation, PCOS=Polycystic ovary syndrome

relationship with the partners, communication with the partner, and reduction in the interpersonal conflicts. In terms of psychiatric morbidity, the present study suggests that the prevalence of psychiatric morbidity is about 20.4%, with 8.7%, fulfilling the diagnosis of both depression and anxiety. On CSFQ, less than half of the participants reported enjoyment or pleasure in their sexual activity. About two-fifths of the participants reported engaging in sexual intercourse more than twice a week or more. When the findings of the present study are compared with an online survey from the United Kingdom, which reported the frequency of sexual activity of once per week in 39.9% of participants during the period of self-isolation/social distancing, it can be said that the frequency of sexual

intercourse in participants from India was higher than that reported from United Kingdom,^[8] despite participants in the present survey reporting reduction in frequency of sexual intercourse. These differences could be attributed to various psychosocial factors, demographic factors, personal/individual differences, timing of the survey with respect to the pandemic, availability of the partner, and possibly giving socially desirable answers. Our findings are also supported by the survey conducted in Italy, which also reported a reduction in the frequency of sexual intercourse during the period of quarantine, compared to the earlier.^[2] This study also showed that majority of the participants indulged in autoerotism, similar to or more than the earlier; increase in consumption of pornography

Table 2: Comparison of sexual activities before and during the lockdown period

	Prior to lockdown (n=450), n (%)	During the lockdown (n=450), n (%)	Chi-square test (P)
Time spent in watching porn/reading erotic material per week			
Nil	181 (40.2)	178 (39.6)	12.263 (0.092)
<15 min/week	101 (22.4)	82 (18.2)	
15-30 min/week	76 (16.9)	64 (14.2)	
30-60 min/week	39 (8.7)	47 (10.4)	
1-2 h/week	31 (6.9)	38 (8.4)	
2-3 h/week	6 (1.3)	19 (4.2)	
3-6 h/week	8 (1.8)	10 (2.2)	
>6 h/week	8 (1.8)	12 (2.7)	
Frequency of masturbation and sexual self-pleasuring acts			
More than once per day	11 (2.4)	15 (3.3)	4.578 (0.333)
Once per day	27 (6.0)	33 (7.3)	
Few times in a week	113 (25.1)	109 (24.2)	
Few times in a month	169 (37.6)	144 (32.0)	
Never	130 (28.9)	149 (33.1)	
Frequency of fondling, caressing, touching or kissing partner when not doing sexual intercourse			
More than once per day	118 (26.2)	124 (27.6)	9.883 (0.042*)
Once per day	66 (14.7)	54 (12.0)	
Few times in a week	142 (31.6)	115 (25.6)	
Few times in a month	84 (18.7)	94 (20.9)	
Never	40 (8.9)	63 (14.0)	
Frequency of sexual intercourse			
More than once per day	14 (3.3)	21 (4.7)	2.163 (<0.001***)
Once per day	42 (9.6)	46 (10.2)	
Few times in a week	175 (39.1)	168 (37.3)	
Few times in a month	188 (41.5)	143 (31.8)	
Never	31 (6.5)	72 (16.0)	

*P<0.05; ***P<0.001

Table 3: Impact of lockdown on the relationship with the partner

Variables	Very much improved, n (%)	Somewhat improved, n (%)	Not changed, n (%)	Somewhat worsened, n (%)	Very much worsened, n (%)
Overall relationship with my partner during lockdown period	129 (28.7)	124 (27.6)	156 (34.7)	33 (7.3)	8 (1.8)
Level of communication between you and your partner during the lockdown period	155 (34.4)	119 (26.4)	146 (32.4)	24 (5.3)	6 (1.3)
The interpersonal conflicts between you and your partner during lock-down period	98 (21.8)	119 (26.4)	187 (41.6)	40 (8.9)	6 (1.3)

and marked reduction in sexual satisfaction during the period of being quarantined.^[2] However, in our study, there was no significant change in the frequency of masturbation and sexual self-pleasuring acts or time spent in watching pornography or reading erotic material per week. Our findings also do not support the findings from Turkey, which evaluated females and reported an increase in the frequency of sexual intercourse during the pandemic.^[7] In fact, we found that higher level of dysfunction in females. These similarities and differences in sexual behavior during the period of lockdown/self-isolation and quarantine in different countries can be attributed to a difference in cultural factors, which possibly influence sexual behavior. Besides these other factors, such as individual/personality factors, timing of the survey, sampling technique, and socially desirable responses could have influenced the frequency of sexual intercourse. In addition, the prevailing myths and incorrect beliefs in the society, with respect to

the sexual intercourse and spread of COVID-19 infection.^[12] The reduction in the frequency of sexual intercourse or avoidance of sexual intercourse may also be attributed to the fear of spreading the infection or contracting infection to or from the asymptomatic partner. The present study also suggests that a lower score on various domains of CSFQ was associated with higher severity of depression and anxiety scores. However, this should not be interpreted as a cause and effect relationship, as psychiatric morbidity may be a cause or effect of reduced sexual functioning. Previous studies have also reported a negative impact of psychiatric morbidity on the sexual functioning.^[13]

The present study suggests that lockdown led to an improvement in the relationship with their partner. This improvement can be attributed to a possible reduction of the stress and availability of time. A previous survey from India, which evaluated the psychological impact of lockdown, also

Table 4: Sexual functioning as assessed by change in sexual functioning questionnaire

Variables	Male frequency, <i>n</i> (%)/ mean (SD) (<i>n</i> =385)	Female frequency, <i>n</i> (%)/ mean (SD) (<i>n</i> =65)	Chi-square test/ <i>t</i> -test (<i>P</i>)
Compared with the most enjoyable it has ever been, how enjoyable or pleasurable is your sex life right now?			
No enjoyment or pleasure	46 (11.9)	10 (15.4)	1.234 (0.873)
Little enjoyment or pleasure	56 (14.5)	11 (16.9)	
Some enjoyment or pleasure	109 (28.3)	18 (27.7)	
Much enjoyment or pleasure	101 (26.2)	14 (21.5)	
Great enjoyment or pleasure	73 (18.9)	12 (18.5)	
How frequently do you engage in sexual activity (sexual intercourse, masturbation, etc.) now?			
Never	40 (10.4)	11 (16.9)	13.541 (0.009**)
Rarely	51 (13.2)	12 (18.5)	
Sometimes (more than once a month, up to twice a week)	110 (28.6)	25 (38.5)	
Often (more than twice a week)	140 (36.4)	9 (13.8)	
Everyday	44 (11.3)	8 (12.3)	
How often do you desire to engage in sexual activity?			
Never	25 (6.5)	6 (9.2)	3.888 (0.421)
Rarely	42 (10.9)	11 (16.9)	
Sometimes (more than once a month, up to twice a week)	103 (26.9)	19 (29.2)	
Often (more than twice a week)	132 (34.3)	19 (29.2)	
Everyday	83 (21.6)	10 (15.4)	
How much now frequently do you engage in sexual thoughts (thinking about sex, sexual fantasies)?			
Never	11 (2.9)	7 (10.8)	29.973 (<0.001***)
Rarely	51 (13.2)	16 (24.6)	
Sometimes (more than once a month, up to twice a week)	91 (23.6)	26 (40.0)	
Often (more than twice a week)	127 (32.9)	9 (13.8)	
Everyday	105 (27.35)	8 (12.3)	
Do you enjoy books, movies, music or artwork with sexual content?			
Never	53 (13.8)	8 (12.3)	11.136 (0.025**)
Rarely	88 (22.9)	23 (35.4)	
Sometimes (more than once a month, up to twice a week)	110 (28.6)	23 (35.4)	
Often (more than twice a week)	81 (20.9)	9 (13.8)	
Everyday	53 (13.8)	2 (3.1)	
How much pleasure or enjoyment do you get from thinking about and fantasising about sex?			
No enjoyment or pleasure	28 (7.3)	7 (10.8)	6.459 (0.167)
Little enjoyment or pleasure	63 (16.4)	17 (26.2)	
Some enjoyment or pleasure	108 (28.1)	18 (27.7)	
Much enjoyment or pleasure	122 (31.7)	13 (13.8)	
Great enjoyment or pleasure	64 (16.6)	10 (15.4)	
How often do you have erection related or unrelated to sexual activity (male)/how often do you become sexually aroused? (female)			
Never	62 (16.1)	5 (7.7)	11.092 (0.026*)
Rarely	60 (15.6)	19 (29.2)	
Sometimes (more than once a month, up to twice a week)	90 (23.3)	19 (29.2)	
Often (more than twice a week)	88 (22.9)	10 (15.4)	
Everyday	85 (22.1)	12 (18.5)	
Do you get an erection easily? (male)/are you easily aroused? (female)			
Never	18 (4.7)	7 (10.8)	37.558 (<0.001***)
Rarely	29 (7.5)	18 (27.7)	
Sometimes (more than once a month, up to twice a week)	71 (18.4)	17 (26.2)	
Often (more than twice a week)	96 (24.9)	11 (16.9)	
Everyday	170 (44.2)	12 (18.5)	
Are you able to maintain an erection (male)/do you have adequate vaginal lubrication during sexual activity (female)?			
Never	17 (4.4)	7 (10.8)	21.537 (<0.001***)
Rarely	37 (9.6)	10 (15.4)	
Sometimes (more than once a month, up to twice a week)	61 (15.8)	19 (29.2)	
Often (more than twice a week)	111 (28.8)	19 (29.2)	
Everyday	159 (41.3)	10 (15.4)	
How often do you experience painful, prolonged erection? (male)/how often do you become aroused and then lose interest? (female)			

Contd...

Table 4: Contd...

Variables	Male frequency, <i>n</i> (%)/ mean (SD) (<i>n</i> =385)	Female frequency, <i>n</i> (%)/ mean (SD) (<i>n</i> =65)	Chi-square test/ <i>t</i> -test (<i>P</i>)
Never	256 (66.5)	31 (47.7)	10.822 (0.029*)
Rarely	78 (20.3)	20 (30.8)	
Sometimes (more than once a month, up to twice a week)	23 (5.9)	9 (13.8)	
Often (more than twice a week)	21 (5.4)	4 (6.2)	
Everyday	7 (1.85)	1 (1.5)	
How often do you have an ejaculation? (male)/how often do you experience an orgasm? (female)			
Never	45 (11.7)	3 (4.65)	23.879 (<0.001***)
Rarely	46 (11.9)	21 (32.3)	
Sometimes (more than once a month, up to twice a week)	85 (22.1)	19 (29.2)	
Often (more than twice a week)	137 (35.6)	13 (20.0)	
Everyday	70 (18.2)	9 (13.8)	
Are you able to ejaculate when you want to? (male)/are you able to have orgasm when you want to?			
Never	27 (7.0)	17 (26.2)	57.228 (<0.001***)
Rarely	42 (10.9)	22 (33.8)	
Sometimes (more than once a month, up to twice a week)	81 (21.1)	12 (18.5)	
Often (more than twice a week)	139 (36.1)	7 (10.8)	
Everyday	95 (24.7)	7 (10.8)	
How much pleasure or enjoyment do you get from your orgasms?			
No enjoyment or pleasure	21 (5.5)	5 (7.7)	22.899 (<0.001***)
Little enjoyment or pleasure	36 (9.4)	18 (27.7)	
Some enjoyment or pleasure	86 (22.4)	16 (24.6)	
Much enjoyment or pleasure	142 (36.9)	11 (16.9)	
Great enjoyment or pleasure	100 (25.9)	15 (23.1)	
How often do you have painful orgasm?			
Never	281 (72.9)	9 (13.8)	87.946 (<0.001***)
Rarely	57 (14.8)	28 (43.1)	
Sometimes (more than once a month, up to twice a week)	27 (7.1)	17 (26.2)	
Often (more than twice a week)	11 (2.9)	8 (12.3)	
Everyday	7 (1.8)	3 (4.6)	
Mean score for the pleasure domain	3.2 (1.3)	3.3 (1.2)	0.788 (0.431)
Mean score for the desire (frequency) domain	6.1 (2.2)	6.8 (2.1)	2.423 (0.016*)
Mean score for the desire (interest) domain	10.0 (2.7)	8.6 (2.9)	3.970 (<0.001***)
Mean score for the arousal (excitement) domain	11.1 (3.1)	9.4 (3.2)	4.203 (<0.001***)
Mean score for the orgasm (completion) domain	10.7 (2.9)	8.7 (3.2)	5.010 (<0.001***)
Mean total CSFQ score	44.9 (9.5)	40.2 (11.8)	3.557 (<0.001***)

P*<0.05; *P*<0.01; ****P*<0.001. SD=Standard deviation, CSFQ=Changes in Sexual Functioning Questionnaire

Table 5: Correlation of sexual functioning with psychological morbidity

Variables	Anxiety	Depression
Females		
Pleasure	-0.307 (<0.001***)	-0.341 (<0.001***)
Desire (frequency)	-0.130 (0.006**)	-0.114 (0.017*)
Desire (interest)	-0.147 (0.002**)	-0.149 (0.002**)
Arousal (excitement)	-0.174 (<0.001***)	-0.141 (0.004**)
Orgasm (completion)	-0.209 (<0.001***)	-0.166 (0.001**)
Total CSFQ score	-0.196 (<0.001***)	-0.167 (0.001**)
Males		
Pleasure	0.315 (<0.001***)	-0.345 (<0.001***)
Desire (frequency)	-0.215 (<0.001***)	-0.177 (<0.001***)
Desire (interest)	-0.109 (0.022*)	-0.077 (0.103)
Arousal (erection)	-0.155 (0.002**)	-0.133 (0.009**)
Orgasm (ejaculation)	-0.237 (<0.001***)	-0.214 (<0.001***)
Total CSFQ score	-0.230 (<0.001***)	-0.211 (<0.001***)

CSFQ=Changes in Sexual Functioning Questionnaire. **P*<0.05; ***P*<0.01; ****P*<0.001

reported a positive impact on the relationships.^[2] There are also reports of increase in domestic violence and worsening

of relationship between couple during the lockdown period.^[14,15] Hence, considering this negative impact of lockdown, it can also be said that the improvement in relationship, as noted in the present study could have been influenced by sampling bias and those with actually relationship issues, possibly not participating in the survey.

However, the prevalence of depression and anxiety in the present study was lower than that reported in the previous survey from India, which was conducted about a month before the current survey.^[2] This difference could be due to the use of a brief version of PHQ in the present study, which could have led to lower prevalence of psychiatric morbidity. Other possible reason could be the fact that, at the beginning of the pandemic, there was a significantly higher level of stress, which possibly reduced with passing time and hence led to a reduction in the prevalence of psychiatric morbidity. Accordingly, it can be said that lockdown has not led to only negative consequences for the general population but has also led to some of the positive consequences in

terms of improvement in the communication between the couple. Accordingly, while evaluating patients presenting with various psychological issues, it is important to enquire about both and negative aspects of lockdown, and making the patients aware about the positive aspects may help in dealing with patients who only talk about the negative consequences and the associated distress.

Findings of this survey must be interpreted in light of its limitations. The response rate was limited, and the survey was conducted by using the snowballing sampling technique. In view of this, the findings cannot be generalized to the entire country. The demographic profile of the study sample is not representative of the demographic profile of the nation; hence, the findings can not be generalized to the country. Further, the psychiatric morbidity ascertained in this survey was assessed by PHQ-4, and the same was not confirmed using any diagnostic interview by a psychiatrist. The Hindi version of the CSFQ has not yet been validated. It is possible that some of the participants would have given socially desirable answers. The survey was limited to those able to read either English and/or Hindi. The survey was also limited to those with a smart phone with internet connection or those with a valid e-mail address. In future, attempts must be made to overcome these limitations.

CONCLUSION

To conclude, this survey shows that lockdown led to a reduction in the frequency of sexual intercourse and reduction in the frequency of intimacy in the form of fondling, caressing, touching, or kissing partner when not doing sexual intercourse. However, lockdown led to an improvement in overall relationship with the partners, communication with the partner, and reduction in the interpersonal conflicts. These findings overall imply that lockdown led to improvement in the communication between the couple but led to reduction in sexual intimacy. This suggests that possibly lockdown led to improvement in relationship. Accordingly, in future, there is a need to evaluate the role of stress in day-to-day life on the relationship between couple. Further, there is a need to evaluate the role of stress management techniques in couples facing relationship issues.

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Conflicts of interest

There are no conflicts of interest.

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