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Examination of the effect of COVID-19 on sexual dysfunction in women

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Abstract

Objective: To investigate the effect of COVID-19 on sexual dysfunction in women.

Material and Methods: The women diagnosed with COVID-19 and hospitalised at a tertiary hospital were included. They completed the Introductory Data Form, the Female Sexual Function Index-(FSFI) and the Short Form-36 Quality of Life Scale (SF-36).

Results: Fifteen women between the ages of 19-49 who completed the treatment protocol, discharged at least 14 days before and who had not been diagnosed as sexual dysfunction; sexually active earlier were included in the study. It was detected that weekly sexual intercourse before and after COVID-19 significantly differed ($P = .047$). The frequency of relationships decreased statistically after COVID-19. The mean value of the FSFI satisfaction score differs from COVID-19 before and after diagnosis ($P = .012$). The mean satisfaction score before COVID-19 was 3.47, and after COVID-19 was 2.93. The score of the subgroups of FSFI did not differ from COVID-19 before and after diagnosis ($P > .050$). The median value of SF-36 pain differs from COVID-19 before and after diagnosis ($P = .008$).

Conclusion: It was concluded that the frequency of sexual intercourse and sexual satisfaction in women decreased after COVID-19 disease, and the quality of life scores did not change in a statistically significant way.

1 | INTRODUCTION

An outbreak of SARS-CoV-2 infection by the World Health Organization (WHO) has been named Coronavirus disease 2019 (COVID-19) and caused as Severe Acute Respiratory Syndrome.[1-3] It was declared as a pandemic by the WHO on 11 March 2020, because of its rapid spread and deaths in many countries.[1] The highly contagious disease was first detected in December 2019 in Wuhan, China. Fever, dry cough, muscle aches, fatigue and shortness of breath have been observed in patients. In later times, it spread to all the cities of China, and then worldwide.

No definitive treatment for COVID-19 is currently available. Non-pharmacological practices, such as covering the mouth and nose during coughing/sneezing, frequent hand washing and maintaining the social distance between people, can only delay the

spread of the virus and ease the burden of the disease. 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 have come in contact with confirmed cases, stay-at-home suggestions and in some cities have even a mandatory quarantine.[4] Classic public health measures, including isolation, quarantine, social distance and community containment, are used to reduce the pandemic of this respiratory disease.[5] Preventive measures, such as social distance, are crucial, but they are thought to have long-term consequences. Measures to protect the physical health and health systems can have negative effects on the welfare level of individuals. The social isolation measures adopted and proposed worldwide to control this pandemic are of unprecedented magnitude in modern history. Since 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. These results can be related to sexual health as well as in almost any area.[6] Biological sex differences against COVID-19 are largely unknown, but in the 2014 Ebola pandemic, the fact that gender issues and women's sexual health were neglected is known.[7]

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.[8] Therefore, social measures taken in response to COVID-19 will change the social interactions and sexual life behaviours of patients.[9]

Sexual dysfunction in women is quite common and is a distressing condition that affects the lives of many women. This includes female sexual interest/arousal disorder, hypoactive sexual desire disorder, genito-pelvic pain/penetration disorder and female orgasm disorder.[10] While women experience sexual dysfunction so often, the question of whether contracting COVID-19 also negatively affects their sexual function is also raised. Therefore, sexual health and reproductive health throughout this pandemic should also be included in the content of COVID-19 treatment. Universal health coverage should include women.

This study aims to examine the effect of COVID-19 on sexual dysfunction in women.

2 | MATERIAL AND METHODS

This study is a descriptive type of research conducted in COVID-19 women between May and June 2020 in a tertiary hospital. Ethical and administrative permissions were obtained to conduct the research.

The universe of the study is the women who were diagnosed and hospitalised with COVID-19 in Eskişehir Osmangazi University Research Hospital. The exclusion criteria were not having sexual relationship regularly, below 18 years old or above 65 years old, being in menopause, having history of gynaecological surgery, having urological/neurological/ psychiatric/oncological/heart/kidney disease or a diagnose of sexual dysfunction. One hundred and eight women were hospitalised between the specialised time interval. After exclusion criteria, the remaining number of cases were 37 and only 15 women who completed the treatment protocol, discharged at least 14 days before and agreed to participate in the study were included in the study.

Ensuring women who participated in the study to read the voluntary consent form, and after they accepted that form which indicates that they have voluntarily participated, the Female Sexual Function Index (FSFI) and Short Form-36 Quality of Life Scale (SF-36) were filled two times using the telephone interview technique by the researcher including The Introductory Data Form and treatment protocol before and after the COVID-19 period.

FSFI is a Likert-type scale that assesses sexual dysfunction in women with six separate titles: cravings, arousal, lubrication,

What's known

- Sexual dysfunction in women is quite common and is a distressing condition that affects the lives of many women.
- While women experience sexual dysfunction so often, the question of whether contracting COVID-19 also negatively affects their sexual function is also raised.

What's new

- The 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.
- We showed that the effect of COVID-19 on sexual dysfunction and quality of life in women and concluded that the frequency of sexual intercourse, FSFI total score, and sexual satisfaction of women decreased after COVID-19 disease.

orgasm, sexual success and pain. A high score means better function. In a study conducted by Rosen et al, functional status: FSFI score >30 is classified as good, between 23 and 29 is medium and <23 is classified as worse.[11]

SF-36 is a multi-item Self-Assessment Scale that includes eight health concepts: with physical function (10 items), social function (2 items), the physical functions which are related to role limitations (4 items), emotional problems role limitations (3 items), mental health (5 items), energy/vitality (4 items), pain (2 items) and general health perception (5 items).[14] As scores increase, so does the quality of life.

2.1 | Statistical analysis

The data were analysed with IBM SPSS V23. Conformance to normal distribution was studied with Shapiro-Wilk. Dependent samples t-test was used to compare data with the normal distribution. The Wilcoxon test was used to compare data that did not show normal distribution. Data matching the normal distribution were presented as a mean $\pm$ standard deviation. Data that did not show the normal distribution were given in the form of a median (minimum-maximum). The significance level was taken as $P < .050$.

3 | RESULTS

The average age of the participating women was 33.3 (Table 1). 33.3% of the women graduated from associate degree, 46.7% of women were civil servants and 93.3% of women do not have a chronic disease. 33.3% of women complained of cough, 26.7% had diarrhoea, 13.3% had a fever, 13.3% had muscle pain, 13.3% had a

loss of smell, 13.3% had vomiting, 13.3% had a loss of taste, one person had a sore throat, one woman had a mild headache and one woman had fatigue/weakness.

The significant difference was detected between weekly sexual intercourse before and after COVID-19 ($P = .047$) (Table 2). The frequency of sexual intercourse before COVID-19, six cases that were small compared to after COVID-19, eight cases that did not change the frequency of intercourse and one case that was equal before and after COVID-19, was observed. Although the median values were equal to each other, the frequency of relationships decreased statistically after COVID-19.

TABLE 1 Distribution of women's demographic characteristics

	Frequency (n)	Percent (%)
Age (ortalama ± S.sapma)	33.3 ± 5.6	
Education		
Middle School	2	13.3
High School	3	20.0
Associate Degree	5	33.3
University	5	33.3
Profession		
Civil Servant	7	46.7
Worker	3	20.0
Housewife	4	26.7
Other	1	6.7
Chronic illness		
No	14	93.3
Other	1	6.7
Complaint[a]		
Cough	5	33.3
Diarrhoea	4	26.7
Fever	2	13.3
Muscle Pain	2	13.3
Loss of Smell	2	13.3
Vomiting	2	13.3
Loss of Taste	2	13.3
Throat	1	6.7
Mild headache	1	6.7
Contact	1	6.7
Fatigue/weakness	1	6.7

[a]Multi-answer question.

The average value of the satisfaction score differs according to COVID-19 before and after diagnosis ($P = .012$) (Table 3). The average satisfaction score before COVID-19 was 3.47, and after COVID-19 was 2.93. Cravings, arousal, lubrication, orgasm, pain and FSFI total score did not differ before and after COVID-19 diagnosis ($P > .050$).

The median pain value of COVID-19 varies between before and after diagnosis ($P = .008$) (Table 4). The median pain score before COVID-19 was 86.67, while after COVID-19, it was 76.83.

Physical function, role difficulties, general health, vitality, social function, emotional role difficulties and mental health scores did not differ according to before and after COVID-19 diagnosis ($P = .050$) (Table 4).

4 | DISCUSSION

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. 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. It is also important to note that in cases of outbreaks such as COVID-19, women are more affected, and gender norms pose a risk.

In people infected with the COVID-19 virus and quarantined, there has not been enough information about changes in sexual habits. In a study conducted in China, where the disease was first observed, 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.[12] Another study found that the average frequency of sexual intercourse decreased from 6.3 ± 1.9 per month to 2.3 ± 1.8 with social distance measures taken during the COVID-19 pandemic.[13] A study evaluating the effect of the COVID-19 pandemic on female sexual behaviour in women in Turkey found that the frequency of sexual intercourse during the pandemic increased significantly compared to 6-12 months ago.[14] In our study, it was determined that women's intercourse frequency decreased after COVID-19 disease.

In a study conducted in Italy, the total FSFI score before and after COVID-19 disease was found to be 29.2 ± 4.2 and 19.2 ± 3.3, respectively, and was statistically significant ($P < .0001$).[13] In our study, the FSFI total score before and after COVID-19 was found to be 24.75 ± 6.55 and 23.03 ± 7.87, respectively ($P = .363$). When we looked at the lower areas, the satisfaction score decreased, and there was no statistical difference in the other areas and the total

TABLE 2 Comparison of weekly sexual intercourse frequency before and after COVID-19

	Average ± standard deviation	Median (min-max)	Test Statistics	P
Before COVID-19	2.9 ± 1.9	2.1 ± 1.7	Z = 25.500	**.047**
After COVID-19	2 (1-7)	2 (1-7)		

Note: Bold indicates significant values.

Z, Wilcoxon test statistics.

TABLE 3 Comparison of the female sexual function scale (FSFI) before and after COVID-19 diagnosis

	Before		After			
	Average ± standard deviation	Median (min-max)	Average ± standard deviation	Median (min-max)	Test statistics	P
Cravings	3.8 ± 1.21	3.6 (2.4-6)	3.96 ± 1.06	3.6 (2.4-6)	$t = -0.695$	.499
Arousal	3.62 ± 1.33	3.9 (1.2-5.4)	3.72 ± 1.47	3.9 (1.2-5.7)	$t = -0.471$	.645
Lubrication	4.42 ± 1.48	4.8 (1.2-6.6)	3.94 ± 1.81	4.8 (1.2-6.3)	$Z = -0.831$	.406
Orgasm	4.16 ± 1.32	4.4 (1.2--5.6)	3.76 ± 1.63	4.4 (1.2-5.2)	$Z = -0.845$	.398
Satisfaction	3.47 ± 1.34	3.6 (1.2-5.6)	2.93 ± 1.32	3.2 (1.2-4.8)	$t = 2.870$	**.012**
Pain	5.28 ± 2.13	6 (1.2-7.2)	4.72 ± 2.47	5.2 (1.2-7.2)	$Z = -1.174$	.240
Total	24.75 ± 6.55	26.5 (8.4-32.9)	23.03 ± 7.82	26.3 (8.4-32.1)	$Z = -0.910$	.363

Note: Bold indicates significant values.

t, Dependent samples t test statistics; Z, Wilcoxon test statistics.

TABLE 4 Comparison of SF-36 scale scores before and after COVID-19 diagnosis

	Before		After			
	Average ± standard deviation	Median (min-max)	Average ± standard deviation	Median (min-max)	Test Statistics	P
Physical function	90.33 ± 14.82	100 (50-100)	90.67 ± 16.24	100 (50-100)	$Z = -0.272$	.785
Role difficulties	85 ± 35.1	100 (0-100)	85 ± 35.1	100 (0-100)	$Z = 0.000$	1.000
Pain	86.67 ± 19.15	100 (42.5-100)	76.83 ± 19.21	77.5 (32.5-100)	$Z = -2.651$	**.008**
General health	70 ± 17.22	70 (30-95)	69 ± 12.42	70 (50-90)	$t = 0.246$	.809
Vitality	54 ± 20.02	50 (30-85)	50.67 ± 13.87	50 (20-75)	$Z = -0.791$	.429
Social function	52.5 ± 23.24	50 (12.5-100)	62.5 ± 30.62	62.5 (12.5-100)	$t = -1.124$	.280
Emotional role difficulties	73.33 ± 42.16	100 (0-100)	77.78 ± 37.09	100 (0-100)	$Z = -1.134$	.257
Mental health	55.47 ± 21.69	56 (16-88)	52.8 ± 19.55	56 (20-80)	$t = 1.160$	.265

Note: Bold indicates significant values.

t, Dependent samples t test statistics; Z, Wilcoxon test statistics.

score. The statistical difference at the satisfaction might be caused by not being ready for a sexual intercourse or not being well yet.

A group of experts from the Spanish Association for Sexuality and Mental Health agreed on recommendations for maintaining lower-risk sexual activity, depending on the person's clinical and partner status, based on available information about SARS-CoV-2. The main advice is to return to safe sex after the quarantine is over and the symptoms disappear (depending on the SARS-CoV-2 carrying time, 28 days, or 33 days for 60-year-olds). In all other cases (those under quarantine, those with some clinical symptoms, health professionals in contact with COVID-19 patients and during pregnancy), it is recommended that sexuality should be avoided.[15]

A study examining the absolute difference in SF-36 scores between those with COVID-19 disease and the normal population in China found that sick people had higher pain and vitality scores, but lower physiological function, social function and role difficulty scores.[16] After the COVID-19, the patients might become more vulnerable because of myalgia. So, the median value of pain differs from

COVID-19 before and after diagnosis in our study ($P = .008$). The median pain score before COVID-19 was 86.67, while after COVID-19, it was 76.83. Physical function, role difficulties, general health, vitality, social function, emotional and mental health scores did not differ according to COVID-19 before and after diagnosis ($P > .050$).

The main limitation of this study was the limited number of participants. Replying the questions by phone interview retrospectively was the other limitation and might cause bias to the results. The last limitation was there were no information about the COVID-19 status of the sexual partner of the women.

In our study, we examined the effect of COVID-19 on sexual dysfunction and quality of life in women and concluded that the frequency of sexual intercourse, FSFI total score and sexual satisfaction of women decreased after COVID-19 disease, and the quality of life scores did not change in a statistically significant way. Studies that need to be done with the wider patient population are needed to better identify the issue. Given the limitation of literature information on the subject, we believe that our study will lead to further studies.

DISCLOSURE

Authors declared no conflict of interest.

AUTHOR CONTRIBUTIONS

DATA AVAILABILITY STATEMENT

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