



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

COVID-19

Impact of the COVID-19 Pandemic on the Psychosexual Functions of Healthcare Workers



Unsal Eroglu, MD, Melih Balci, MD, Seref Coser, MD, Serdar Basboga, MD, Ali Yasin Ozercan, MD, Yalcin Kizilkan, MD, Ozer Guzel, MD, Yilmaz Aslan, MD, and Altug Tuncel, MD

ABSTRACT

Background: A novel infection, COVID-19, emerged in China and soon became a global pandemic. Pandemic conditions have resulted in stress in the workplace and led to anxiety among healthcare workers (HCWs), having negative impacts on different aspects of their lives, including their sexual function.

Aim: To evaluate the changes in the anxiety status of HCWs during the COVID-19 pandemic and the impact of anxiety on their sexual functions.

Methods: This is a longitudinal study based on an online survey conducted from April 2020 to February 2021 in hospitals designated as pandemic healthcare centers. An online survey link was sent to HCWs that provided consent for participation in the study. The anxiety status of the participants was assessed using the State Anxiety Inventory, and sexual function was evaluated using the International Index of Erectile Function–15 for men and Female Sexual Function Index for women.

Outcomes: Scores obtained at the beginning of the pandemic were compared with those obtained at 6 months into the pandemic to determine the changes in the anxiety levels and sexual functions of the HCWs.

Results: A total of 399 HCWs participated in the survey, and the median age was 32 (20–60) years. Compared to the beginning of the pandemic, there was a significant increase in the State Anxiety Inventory score of the female and male HCWs at the sixth month of the pandemic. Among the women, the mean total Female Sexual Function Index score was 23.55 ± 8.69 at the beginning of the pandemic and 21.42 ± 8.91 at the sixth month, and there was a significant decrease in all parameters except pain. Among the men, the International Index of Erectile Function–15 total score was 62.75 ± 12.51 at the beginning of the pandemic and 55.1 ± 12.87 at the sixth month, indicating a significant decrease in all parameters.

Clinical implications: Considering that the pandemic will continue for a long time, more psychological support should be provided, and interventions should be made to protect the mental health of HCWs.

Strengths & Limitations: The strength of the study is that it had a fairly high number of participants across several institutions. However, being conducted in one country and the sample not being randomly selected and being based on voluntariness can be considered as limitations.

Conclusion: Our results show that the COVID-19 pandemic has led to an increase in the anxiety levels of both female and male HCWs, and this situation has negatively affected their sexual functions. **Eroglu U, Balci M, Coser S, et al, Impact of the COVID-19 Pandemic on the Psychosexual Functions of Healthcare Workers. J Sex Med 2022;19:182–187.**

Copyright © 2021, International Society of Sexual Medicine. Published by Elsevier Inc. All rights reserved.

Key Words: COVID-19; Healthcare Workers; Sexual Function; Anxiety

Received July 3, 2021. Accepted November 26, 2021.

Department of Urology, University of Health Sciences, School of Medicine, Ankara City Hospital, Ankara, Turkey

Copyright © 2021, International Society of Sexual Medicine. Published by Elsevier Inc. All rights reserved.

<https://doi.org/10.1016/j.jsxm.2021.11.013>

INTRODUCTION

A novel type of coronavirus (SARS-CoV-2) was identified as the cause of a cluster of pneumonia cases in the Wuhan city of Hubei province in China in December 2019, and the disease caused by the virus was named COVID-19. In a short time, thousands of people were infected with the virus, and the disease

rapidly spread across the globe. As a result of the increasing number of cases being reported all around the world, the World Health Organization declared the COVID-19 outbreak as a pandemic on March 11, 2020.¹

Since the beginning of the COVID-19 pandemic, healthcare workers (HCWs) and healthcare systems have faced various problems, which have placed them under increased physical and psychological pressure.^{2,3} During the pandemic, the role of HCWs has increased dramatically due to the need to meet the health requirements of a growing number of people, which has increased their workload and risk of infection. The death of colleagues, social isolation, economic uncertainties, and fear of spreading the infection to family members have increased the stress levels of HCWs and negatively affected their psychological well-being of individuals by triggering anxiety and depression.^{4–7}

Sexual function, easily affected by mood, is impaired in many different affective disorders, particularly anxiety disorders.⁸ Increased anxiety has been associated with sexual function disorders in both genders, particularly erectile dysfunction and premature ejaculation in men and reduced arousal and vaginal dryness in women.^{9,10} Working in a COVID-19 care setting is likely contribute to significant anxiety and may impact sexual function. There are a few studies in the literature suggesting that anxiety at the workplace (in a COVID-19 environment) can impact and deteriorate sexual function in both female and male HCWs.^{11–14}

In the current study, we aimed to evaluate the changes in the anxiety status of HCWs during the COVID-19 pandemic and the impact of anxiety on their sexual functions.

MATERIALS AND METHODS

This study was approved by the Institutional Ethics Committee (Approval number: E1-21-1452) and performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki. Informed consent was obtained from all participants. This longitudinal study was based on an online survey conducted from April 2020 to February 2021 in hospitals designated as pandemic healthcare centers by the Turkish Ministry of Health.

The inclusion criteria were being aged 20–60 years (categorized as 20–25, 26–35, 36–45 and 45–60 years), having regular sexual intercourse (minimum once a week), working in a pandemic hospital as an HCW and volunteering to participate in the study. Individuals who did not work in a pandemic hospital, those who had undergone radical pelvic surgery and/or received radiotherapy or any treatment due to sexual dysfunction, and those with psychological disorders were excluded from the study.

The HCWs that agreed to participate in the study were sent a link to the survey link online using WhatsApp, e-mail, or social media accounts. The participants were asked to respond to all items in the survey, and those with any missing data were not included in the evaluation.

Demographic data recorded included occupation [Medical doctor (MD), nurse, and auxiliary health personnel (AHP)] age, sex, marriage status, educational level, smoking habits, and alcohol usage. We also asked the participants whether they had contracted COVID-19. The anxiety status of the participants was assessed using the State Anxiety Inventory-I (STAI-I) consisting of 20 items with 4 options. The lowest and highest scores for the inventory are 19 and 80, respectively, and a high score is associated with a high anxiety level. A cut-off point of 39–40 has been suggested to detect clinically significant symptoms for the anxiety scale.¹⁵ Sexual function was assessed using the International Index of Erectile Function–15 (IIEF-15) for men and the Female Sexual Function Index (FSFI) for women. IIEF-15 consists of 15 items to determine erectile function ($n = 6$), orgasmic function ($n = 2$), sexual desire ($n = 2$), intercourse satisfaction ($n = 3$), and overall satisfaction ($n = 2$ items). Each item is scored from 0 to 5, and each domain is evaluated separately for treatment.¹⁶ FSFI is a 19-item self-report instrument assessing 6 domains of sexual function that measure sexual desire (score range: 2–10), arousal (0–20), lubrication (0–20), orgasm (0–15), satisfaction (2–15), and pain (0–15). An overall FSFI score of 26 or less indicates female sexual dysfunction.¹⁷

The participants' IIEF-15, FSFI and STAI-I scores at the onset of the pandemic were compared with their scores obtained at the sixth month of the pandemic to evaluate the changes in their anxiety levels and sexual functions.

Statistical Analysis

Statistical analysis was performed using the Statistical Package for the Social Sciences (SPSS, Chicago, IL) version 13.0 for Windows. Descriptive statistical data for continuous variables were expressed as mean, standard deviation, percentage, minimum and maximum values. The chi-square test, t -test, Wilcoxon signed-ranks test, and correlation analysis were used for statistical analyses. A P value of less than .05 was considered significant.

RESULTS

The survey link was distributed among 802 HCWs, of whom 399 (49.7%) completed the survey (202 MDs, 106 nurses, and 81 AHP). Of the HCWs, 124 stated that they had previously contracted COVID-19 and recovered from the disease. The median age was 32 (18–60) years, and there were 216 males and 183 females. [Table 1](#) shows the sociodemographic characteristics of the whole cohort of responders.

Compared to the beginning of the pandemic, the anxiety levels of the female HCWs increased at the sixth month (peak time) of the pandemic, with the mean STAI-I score being measured as 45.6 and 50.3, respectively ($P < .001$). There was also a significant increase in the STAI scores of the male HCWs between the 2 measurements (41.7 vs 45.7, $P < .001$) ([Table 2](#)).

Table 1. Demographic data of the participants

	n	%
Age (years)		
20 – 30	186	46.6
30 – 40	99	24.8
40 – 50	88	22.1
50 – 60	26	6.5
Marital status		
Single	280	70.2
Married	119	29.8
Smoking status		
Yes	136	34.1
No	263	65.9
Alcohol consumption		
Yes	134	33.6
No	265	66.4
Educational status		
High school	29	7.3
University	185	46.4
Post-graduate degree	185	46.4
Chronic disease		
None	334	83.7
Hypertension	14	3.5
Diabetes mellitus	5	1.3
Chronic pulmonary disease	11	2.8
Cardiovascular disease	5	1.3
Others	30	7.5
Contracted COVID-19		
Hospitalized due to COVID-19	9	2.2
Medical doctor	78	62.9
Nurse	24	19.4
Auxiliary health personnel	22	17.7
Body mass index (kg/m ²)	25.18 ± 3.65	

In the evaluation of female sexual function, the mean FSFI score, was 23.55 ± 8.69 (range: 1.2–33.2) at the beginning of the pandemic and 21.42 ± 8.91 (range: 1.2–33.2) at the sixth month ($P < .001$). When evaluated separately, all the FSFI sub-scores statistically significant decreased in all parameters except pain. For the male HCWs, the mean total IIEF-15 score was 62.75 ± 12.51 (range: 8–75) at the beginning of the pandemic and 55.1 ± 12.87 (range: 8–75) at the sixth month, indicating a statistically significant decrease in all parameters (erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction) ($P < .001$) (Table 3).

Table 2. Participants' STAI-I scores at the beginning and peak time of the COVID-19 pandemic

Parameters	Beginning of pandemic		6 mo into pandemic		P
	Mean ± SD	Min-Max	Mean ± SD	Min-Max	
Female STAI-I	45.62 ± 11.71	23 – 73	50.35 ± 13.1	20 – 77	<.001
Male STAI-I	41.74 ± 11.81	20 – 74	45.23 ± 13.1	20 – 79	<.001

SD = standard deviation; STAI-I = State Anxiety Inventory-I.

While the STAI score increased in 60.4% of the female HCWs, the FSFI score decreased in 55.5% ($P = .018$). Concerning the changes over time, the mean STAI score increased by 4.76 points and the FSFI score decreased by 2.28 points. There was a statistically significant negative correlation between the two items ($r = -0.192$, $P = .009$). For the male HCWs, the STAI score increased in 67.3% of the participants and the IIEF-15 score decreased in 95.1% ($P = .037$). When the changes over time were examined, the mean STAI score increased by 3.49 points and the IIEF-15 score decreased by 8.2 points among the males. There was a negative correlation between the 2 items but this was not statistically significant ($r = -0.117$, $P = .091$).

There was no difference between the HCWs that contracted COVID-19 and those did not have a history of COVID-19 in terms of the changes in anxiety and sexual functions ($P > .05$).

DISCUSSION

Working in a hospital during the ongoing pandemic is extremely stressful for HCWs. In particular, working on the frontline to treat patients with COVID-19 expose HCWs to the highest risk of infection, which brings about uncertainties and fear of being infected with the virus when providing care for patients and results in emotional distress due to the possibility of infecting family members. Workplace anxiety is an important factor to be taken into account in the healthcare industry and raises concerns about people's mental health. The impact of work anxiety on physical and mental disorders is significant.¹⁸ Work or work-related stressors are undoubtedly among the leading causes of mental health problems on a global scale.¹⁹ High levels of anxiety due to work-related stressors threaten employees' performance and negatively affect their attitudes and behavior.¹⁹ In New York City (USA), among the HCWs screened, acute stress was present in more than half, depression in almost half, and anxiety in one-third. Nearly 75% of the participants reported at least moderate insomnia symptoms during the COVID-19 pandemic.²⁰ In Wuhan city, HCWs reported great vulnerability to stress, anxiety, and depression during the COVID-19 pandemic, suggesting that frontline healthcare workers should be closely monitored as a high-risk group for maladjustment.²¹ Hacımusalar et al evaluated the anxiety and hopelessness levels of HCWs and compared them to those of non-healthcare professionals using STAI-I and II during the COVID-19 pandemic. The authors found that the STAI-I and hopelessness scores of the HCWs were higher than those of the

Table 3. Participants' sexual function scores at the beginning and peak time of the COVID-19 pandemic

Parameters	Beginning of pandemic		6 mo into pandemic		P <.001
	Mean ± SD	Min-Max	Mean ± SD	Min-Max	
FSFI-desire	6.01 ± 1.88	2 – 10	5.28 ± 2.05	2 – 10	<.001
FSFI-arousal	13.01 ± 5.71	0 – 20	11.46 ± 5.97	0 – 20	<.001
FSFI-lubrication	13.12 ± 5.39	0 – 20	12.08 ± 5.57	0 – 20	<.001
FSFI-orgasm	10.59 ± 4.46	0 – 15	9.55 ± 4.67	0 – 15	<.001
FSFI-satisfaction	10.85 ± 4.82	0 – 15	9.78 ± 5.00	0 – 15	<.001
FSFI-pain	8.82 ± 3.65	0 – 13	8.61 ± 3.86	0 – 12	.157
IIEF-erectile function	26.22 ± 5.65	4 – 30	21.29 ± 4.98	4 – 30	<.001
IIEF-orgasmic function	8.85 ± 2.57	0 – 10	8.21 ± 3.03	0 – 10	<.001
IIEF-sexual desire	7.99 ± 1.42	2 – 10	7.25 ± 1.75	2 – 10	<.001
IIEF-intercourse satisfaction	10.92 ± 3.92	0 – 15	9.96 ± 4.32	0 – 15	<.001
IIEF-overall satisfaction	8.55 ± 1.75	2 – 10	8.10 ± 2.0	2 – 10	<.001

FSFI = Female Sexual Function Index; IIEF = International Index of Erectile Function; SD = standard deviation.

general population (56.07 vs 49.67), and anxiety was an important predictor of hopelessness.²²

In our study, we evaluated the changes in the anxiety levels of HCWs using STAI-I. We found a significant increase in the anxiety levels of both the female and male HCWs compared to the beginning of the pandemic, which is consistent with the literature.^{20–22} Based on these results, it is clear that the COVID-19 pandemic has placed HCWs at higher risk of developing mental health disorders due to the extreme working conditions and a high rate of anxiety.

Anxiety affects sexual function because anxious people often find it difficult to perform sexual intercourse.²³ Based on this close relationship, increased anxiety can increase the levels of vigilance regarding the environment, which will further reduce the quality of sexual function. Sexual dysfunction has been reported to occur as a result of increased anxiety associated with the COVID-19 pandemic. Omar et al investigated the possible effects of the COVID-19 pandemic on the sexual satisfaction of females compared to males and evaluated possible risk factors. The authors used FSFI, the 5-item version of IIEF (IIEF-5), and the Index of Sexual Satisfaction, and found that COVID-19 pandemic was associated with lower sexual satisfaction in both genders. The females, however, were reported to suffer from more anxiety and depression, and thus had a greater risk of sexual function difficulties and dissatisfaction.²⁴ In the this study, the majority of males (91.2%) but only three-fourths of females (73.5%) reported to be sexually satisfied before the COVID-19 lockdown measures. Therefore, sexual dysfunction was already more common among the female participants at the beginning of the pandemic, which could explain the further decline in their sexual function at the peak of the pandemic. Culha et al reported reduced sexual desire and decreased frequency of engaging in foreplay and sexual intercourse among 185 HCWs and noted that the sexual intercourse positions of both the female and male HCWs changed during the COVID-19 pandemic. The participants were determined to prefer foreplay, oral sex and anal sex less and non-face to face sexual intercourse positions during

COVID-19.¹¹ In addition, the authors reported that male participants, alcohol users, and participants with higher anxiety scores had more sexual dysfunction. Similarly, De Rose et al evaluated 264 HCWs using IIEF-15 and FSFI and found low levels of sexual desire in more than 40% of the females and more than 80% of the males.¹² Bulut et al distributed the IIEF-5 questionnaire to a total of 252 male HCWs and observed symptoms of erectile dysfunction in 131 (82.4%).¹³ Pennanen-Iire et al examined the sexual health implications of the COVID-19 pandemic and identified various implications of the pandemic on sexual and relational health. They suggested that containment measures of quarantine, social distancing, and home confinement had the potential to complicate existing problems related to sexual functioning and introduce new sexual challenges to both individuals and couples.¹⁴

In our study, similar to the literature, we found a significant decrease in sexual desire, arousal, lubrication, orgasm and satisfaction in the female HCWs. For the male HCWs, there was a significant deterioration in erectile function, orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction. Our results support the findings in the literature on the relationship between the COVID-19 pandemic and anxiety and sexual dysfunction. As the level of anxiety increased, the decrease in sexual functions became more pronounced. The high anxiety score, which was one of the factors affecting sexual dysfunction in our study, also supports the literature. On the other hand, the mean sexual function scores of the female HCWs before the pandemic were generally around average. This is in line with previously reported sexual satisfaction data for women in Turkey.²⁵

To our knowledge, our study had the highest number of participants among the few studies that used validated questionnaires to assess the changes in the sexual well-being and anxiety of female and male HCWs during the COVID-19 pandemic. From the perspective of clinical implications, we aimed to detect anxiety and sexual dysfunction among HCWs in order to offer stepped care support to prevent the development of severe mental health disorders and maintain an optimal level of patient care

during the pandemic. Regardless of pandemic conditions, reducing the stress levels of HCWs can minimize burnout and lead to better performance at work. As health systems are globally overwhelmed by COVID-19, HCWs must be protected as the most valuable resource of every country. Measures to support the enormous mental burden faced by frontline HCWs worldwide are urgently needed. In their study, Pennanen-Iire et al¹⁴ concluded that increased awareness on the sexual health implications of the pandemic was needed because sexual activity had a positive impact on immune response, psychological health, and cognitive function and could mitigate psychosocial stressors. Mollaioli et al conducted a web-based survey among both males and females engaging or not engaging in sexual activity during the lockdown and found significantly lower anxiety and depression scores in sexually active subjects. The authors concluded that the COVID-19 lockdown measures dramatically affected the psychological, relational, and sexual health of the population. In this situation, sexual activity played a protective role in the development of anxiety and mood disorders in both genders.²⁶ Based on our results, we concur with that conclusion.

The potential impact of contracting a COVID-19 infection on sexual functions is still under investigation. Sansone et al stated that impaired pulmonary hemodynamics, endothelial dysfunction, and testicular damage caused by the virus could cause erectile dysfunction. They concluded that there was sufficient reason to suspect that male sexual and reproductive health could be affected by the sequelae of COVID-19 among the survivors.²⁷ In our study, we did not find any difference between the HCWs who contracted COVID-19 and those without a history of the disease in terms of the changes in their erectile functions; however, this may be due to the small size of the former subgroup.

This study has several limitations. First concerns the absence of a partner evaluation. Another limitation is that the study was conducted in Turkey, and therefore the generalizability of our findings may be limited. Third, the participants were not randomly selected. Further research is warranted to investigate the long term implications of the COVID-19 pandemic on the mental health of HCWs.

CONCLUSIONS

The findings of our study show that the COVID-19 pandemic resulted in increased anxiety in HCWs, which negatively affected their sexual lives and decreased the sexual function of both genders. Our findings are consistent with the literature. Social restrictions may also be contributing to this situation. Considering that the pandemic may continue for a long time, it is important to implement strategies to decrease stress and increase psychological support for HCWs. It may also be helpful to raise the awareness of HCWs concerning the impact of the pandemic on anxiety and sexual function. Lastly, interventions should be undertaken to protect the mental health of HCWs, and measures should be taken to reduce related sexual disorders.

Corresponding Author: Melih Balci, MD, Associate Professor, Department of Urology, University of Health Sciences, School of Medicine, Ankara City Hospital, Universiteler Mah. 1604. Cad. No: 9 Bilkent/Cankaya, Ankara, Turkey. Tel: (90) 03125526000.; E-mail: drmelb@hotmail.com

Conflict of Interest: The authors report no conflict of interest.

Funding: None.

STATEMENT OF AUTHORSHIP Unsal Eroglu and Melih Balci: Conception and Design; Seref Coser, Serdar Basboga, Ali Yasin Ozercan and Yalcin Kizilkan: Acquisition of Data; Ozer Guzel and Yilmaz Aslan: Analysis and Interpretation of Data; Unsal Eroglu: Drafting the Article; Melih Balci and Altug Tuncel: Revising the Article for Intellectual Content; Unsal Eroglu, Melih Balci, Seref Coser, Serdar Basboga, Ali Yasin Ozercan, Yalcin Kizilkan, Ozer Guzel, Yilmaz Aslan and Altug Tuncel: Final Approval of the Completed Article.

REFERENCES

1. Zhu H, Wei L, Niu P. The novel coronavirus outbreak in Wuhan, China. *Glob Health Res Policy* 2020;5:6. 2.
2. Hall H. The effect of the COVID-19 pandemic on healthcare workers' mental health. *JAAPA* 2020;33:45–48.
3. Walton M, Murray E, Christian MD. Mental health care for medical staff and affiliated healthcare workers during the COVID-19 pandemic. *Eur Heart J Acute Cardiovasc Care* 2020;9:241–247.
4. Stuijzand S, Deforges C, Sandoz V, et al. Psychological impact of an epidemic/pandemic on the mental health of healthcare professionals: a rapid review. *BMC Public Health* 2020;20:1230.
5. Zhang WR, Wang K, Yin L, et al. Mental health and psychosocial problems of medical health workers during the COVID-19 epidemic in China. *Psychother Psychosom* 2020;89:242–250.
6. Philip J, Cherian V. Factors affecting the psychological well-being of health care workers during an epidemic: a thematic review. *Indian J Psychol Med* 2020;42:323–333.
7. Cocci A, Presicce F, Russo GI, et al. How sexual medicine is facing the outbreak of COVID-19: experience of Italian urological community and future perspectives. *Int J Impot Res* 2020;32:480–482.
8. Barata BC. Affective disorders and sexual function: from neuroscience to clinic. *Curr Opin Psychiatry* 2017;30:396–401.
9. Dunn KM, Croft PR, Hackett GI. Association of sexual problems with social, psychological, and physical problems in men and women: a cross sectional population survey. *J Epidemiol Community Health* 1999;53:144–148.
10. Laurent SM, Simons AD. Sexual dysfunction in depression and anxiety: conceptualizing sexual dysfunction as part of an internalizing dimension. *Clin Psychol Rev* 2009;29:573–585.
11. Culha MG, Demir O, Sahin O, et al. Sexual attitudes of health-care professionals during the COVID-19 outbreak. *Int J Impot Res* 2021;33:102–109.

12. De Rose AF, Chierigo F, Ambrosini F, et al. Sexuality during COVID lockdown: a cross-sectional Italian study among hospital workers and their relatives. *Int J Impot Res* 2021;33:131–136.
13. Bulut EC, Ertaş K, Bulut D, et al. The effect of COVID-19 epidemic on the sexual function of healthcare professionals. *Andrologia* 2021;53:e13971.
14. Pennanen-lire C, Prereira-Lourenço M, Padoa A, et al. Sexual health implications of COVID-19 pandemic. *Sex Med Rev* 2021;9:3–14.
15. Marteau TM, Bekker H. The development of a six-item short form of the state scale of the Spielberg State-Trait Anxiety Inventory (STAI). *Br J Clin Psychol* 1992;31:301–336.
16. Rosen RC, Riley A, Wagner G, et al. The international index of erectile function (IIEF): a multidimensional scale for assessment of erectile dysfunction. *Urology* 1997;49:822–830.
17. Isidori AM, Pozza C, Esposito K, et al. Development and validation of a 6-item version of the female sexual function index (FSFI) as a diagnostic tool for female sexual dysfunction. *J Sex Med* 2010;7:1139–1146.
18. Chou LP, Li CY, Hu SC. Job stress and burnout in hospital employees: comparisons of different medical professions in a regional hospital in Taiwan. *BMJ Open* 2014;4:e004185.
19. Gilboa S, Shirom A, Fried Y, et al. A meta-analysis of work demand stressors and job performance: examining main and moderating effects. *Pers Psychol* 2008;61:227–271.
20. Shechter A, Diaz F, Moise N, et al. Psychological distress, coping behaviors, and preferences for support among New York healthcare workers during the COVID-19 pandemic. *Gen Hosp Psychiatry* 2020;66:1–8.
21. Du J, Dong L, Wang T, et al. Psychological symptoms among frontline healthcare workers during COVID-19 outbreak in Wuhan. *Gen Hosp Psychiatry* 2020;67:144–145.
22. Hacimusalar Y, Kahve AC, Yasar AB, et al. Anxiety and hopelessness levels in COVID-19 pandemic: a comparative study of healthcare professionals and other community sample in Turkey. *J Psychiatr Res* 2020;129:181–188.
23. Brotto L, Atallah S, Johnson-Agbakwu C, et al. Psychological and interpersonal dimensions of sexual function and dysfunction. *J Sex Med* 2016;13:538–571.
24. Omar SS, Dawood W, Eid N, et al. Psychological and sexual health during the COVID-19 pandemic in Egypt: Are women suffering more? *Sex Med* 2021;9:100295.
25. Yağmur Y, Orhan İ. Examining sexual functions of women before and after menopause in Turkey. *Afr Health Sci* 2019;19:1881–1887.
26. Mollaioli D, Sansone A, Ciocca G, et al. Benefits of sexual activity on psychological, relational, and sexual health during the COVID-19 breakout. *J Sex Med* 2021;18:35–49.
27. Sansone A, Mollaioli D, Ciocca G, et al. Addressing male sexual and reproductive health in the wake of COVID-19 outbreak. *J Endocrinol Invest* 2021;44:223–231.