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Evaluating the effects of the COVID-19 pandemic on the physical and mental well-being of obstetricians and gynecologists in Turkey

Pınar Yalçın Bahat ^{1,*} N	/lerve Aldıkaçtıoğlu Ta	almaç ¹ Ayşegül Bestel ¹	
Nura F. Topbas Selcuki ²	Ozan Karadeniz ¹	Ibrahim Polat ¹	

¹Department of Obstetrics and Gynecology, Istanbul Kanuni Sultan Suleyman Training and Research Hospital, Health Sciences University, Istanbul, Turkey

²Department of Obstetrics and Gynecology, Istanbul Sisli Hamidiye Etfal Training and Research Hospital, Health Sciences University, Istanbul, Turkey

*Correspondence

Pinar Yalçın Bahat, Department of Obstetrics and Gynecology, Health Science University, Istanbul Kanuni Sultan Suleyman Training and Research Hospital, 34000 Istanbul, Turkey.

Email: dr pinaryalcin@hotmail.com

Abstract

Objective: To apply online surveying to assess the general physical and mental wellbeing of obstetricians/gynecologists (OB/GYNs) working in COVID-19 designated hospitals in Turkey.

Methods: A prospective survey-based study using an online survey platform. Three hundred participants working at COVID-19 designated hospitals in Turkey identified from a hospital database were sent a link to the survey by email between April 29 and May 20, 2020.

Results: A total of 253 OB/GYNs (31 consultants and 222 residents) completed the survey, for a response rate of 84.3%. Of respondents, 191 (76.4%) were anxious about coming into contact with pregnant women infected with COVID-19. 74.4% stated that they were afraid of getting sick. 64.8% reported that they had fallen into despair at times because of the pandemic. 66.5% stated that their family lives were affected. 72.4% started living separately from their families because of the pandemic.

Conclusion: Despite the difficulties in patient care during the pandemic, OB/GYNs continued providing for their patients, which reflected positively on their perceptions of the profession. The importance of trust in the national healthcare system, presence of adequate PPE, finding a suitable coping mechanism, and family support were essential for Turkish OB/GYNs during the COVID-19 pandemic.

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Turkish obstetricians/gynecologists reported anxiety and stress caused by the current situation and future implications of the COVID-19 pandemic.

KEYWORDS

Anxiety; COVID-19; Obstetricians/gynecologists; Pandemic; Stress; Survey; Turkey

1 | INTRODUCTION

Global outbreaks of infectious diseases have acute and long-term effects on the mental health of healthcare workers.¹ Since the outbreak of novel coronavirus disease 2019 (COVID-19) was declared a pandemic by the World Health Organization (WHO) and the announcement of the first positive case in Turkey on March 11, 2020,

COVID-19 has become a source of significant stress and worry both nationally and globally.² The uncertainty about the virus' effects on individuals, lack of a cure and a vaccine, and an increase in the workload of healthcare workers are the main causes of stress.¹

Sleep disturbances, stress, anxiety, and fear of contagion were among the mental health problems observed among healthcare workers during COVID-19³ as well as during previous international GYNECOLOGY OBSTETRICS

outbreaks such as severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS). Lee et al.⁴ observed higher levels of depression, anxiety, and post-traumatic stress among health-care workers compared with non-healthcare workers 1 year after the outbreak of SARS. A study from China found that the majority of healthcare workers who treated COVID-19 patients suffered from depression, anxiety, insomnia, and stress.⁵

The SARS epidemic in 2003 caused a 10% fatality rate among healthcare workers.⁶ Furthermore, in 2014, the Ebola outbreak in West Africa caused the death of hundreds of healthcare workers.⁷ One of the first reports from Wuhan, China, including 138 patients hospitalized due to COVID-19, stated that close to 30% of these patients were healthcare workers, who presumably became infected in the hospitals.⁸

The COVID-19 pandemic has raised many questions and dilemmas surrounding the physical and mental health status of healthcare workers. The level of risk for healthcare workers treating COVID-19 patients is unclear, as well as the implications for them, their families, and their patients. The present study evaluated the opinions of obstetricians/gynecologists (OB/GYNs) working in COVID-19 designated hospitals in Turkey. The aim was to assess the general physical and mental well-being of OB/GYNs during the COVID-19 pandemic, to understand the effects of the challenges they faced at work and in their private lives, and to see whether the pandemic had affected their perception of the future.

2 | MATERIAL AND METHODS

This prospective survey-based study was conducted between April 29 and May 20, 2020, using the database of the Health Sciences University Istanbul Kanuni Sultan Suleyman Training and Research Hospital. A self-administered online survey consisting of 79 non-validated questions was developed using SurveyMonkey (SVMK Inc, San Mateo, CA, USA) by an expert group of two gynecologists and one perinatologist. The study protocol was approved by the institution's Ethics Committee, the National Research Committee, and was registered on ClinicalTrials.gov (NCT04327531). The principles of the Declaration of Helsinki were followed in carrying out this study. Before starting the survey, participants were informed that the survey was intended for research and that their participation would be anonymous. Those who agreed were directed to the survey by the program. A separate informed consent was not obtained.

A total of 300 OB/GYNs, who were or had been resident physicians or consultant physicians in the department of obstetrics and gynecology and whose contact information was in the database, received a link to the survey by email. The survey took 7–8 minutes to complete. Participants did not have to answer all the questions In order to complete the survey. Exclusion criteria were physicians who were retired or did not currently work in a designated COVID-19 hospital, physicians from other specialties, and physicians who were on leave during the pandemic for various reasons. Inclusion criteria were OB/GYNs active during the pandemic period at a designated COVID-19 hospital, regardless of gender, age, experience, and duration of employment.

The survey included questions about the respondents' demographic characteristics, changes in their OB/GYN practice during the pandemic period, and basic knowledge of COVID-19. Furthermore, questions evaluating fear and stress associated with the pandemic and those assessing physicians' attitudes toward COVID-19-related precautions were also included.

Data from the completed surveys were saved on the SurveyMonkey database and analyzed using Stata version 14 (StataCorp LLC, TX, USA). Continuous data were checked for normality of distribution using the Shapiro-Wilk test. Continuous data that did not fit a normal distribution were described using means with standard deviations (SD). Categorical data were described using frequencies (percentages). The Cronbach alpha coefficient of the questionnaire was 0.78 with an acceptable internal consistency.⁹

3 | RESULTS

A total of 253 OB/GYNs completed the survey, for a response rate of 84.3% (31 [12.5%] consultants and 217 [87.5%] residents). The demographic characteristics of the respondents are shown in Table 1. Mean age of respondents and mean length of employment were 45.07 \pm 11.66 and 14.82 \pm 11.21 years, respectively.

Data concerning the effects of the COVID-19 pandemic and respondents' health-related concerns are shown in Tables 2 and 3.

TABLE 1 Demographic characteristics of survey respondents.^{a,b}

Characteristics	
Age, y	45.07 ± 11.66
Length of employment, y	14.82 ± 11.21
Smoker (more than 1 cigarette a day)	
Yes	37 (14.8)
No	213 (85.2)
Gender	
Female	135 (54.4)
Male	113 (45.6)
Resident or consultant	
Resident	217 (87.5)
Consultant	31 (12.5)
History of chronic diseases	
Yes	47 (18.8)
No	203 (81.2)
Marital status	
Single	59 (23.8)
Married with children	169 (68.1)
Married without children	20 (8.1)

^aValues are given as mean ± SD or number (percentage).

^bParticipants were allowed to skip questions. Therefore, numbers do not always add up to 253 (total number of participants).

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TABLE 2 Responses to questions concerning the COVID-19 pandemic and its effects.^a

Question	No. (%)
Have you ever been in quarantine before?	
Yes	24 (9.6)
No	226 (90.4)
Do you think COVID-19 can permanently harm your he	alth?
Yes	169 (67.9)
No	80 (32.1)
Level of public awareness	
Low	127 (50.8)
Middle	114 (45.6)
High	9 (9.6)
Was the national health system's response sufficient?	
Yes	181 (72.7)
No	68 (27.3)
Were you infected with COVID-19?	
Yes	22 (8.8)
No	228 (91.2)
Have you been in contact with COVID-19 positive patie	ents?
Yes	120 (48.0)
No	130 (52.0)
Do you think you have enough knowledge on COVID-1	9?
Yes	187 (74.8)
No	63 (25.2)
Were you adequately informed by your hospital about 0	COVID-19?
Yes	127 (51.2)
No	121 (48.8)
Was the PPE supply in your hospital adequate?	
Yes	146 (59.8)
No	98 (40.2)
Do you wear a mask in your hospital?	
Yes	237 (96.3)
No	9 (3.7)
Do you wear masks outside the hospital?	
Yes	240 (96.0)
No	10 (4.0)
Do you think patients know how to use PPE?	
Yes	181 (72.4)
No	69 (27.6)
Do you feel anxious when you care for COVID-19 posit	ive patients?
Yes	194 (78.2)
No	54 (21.8)
Do the patients with fever make you anxious?	
Yes	195 (78.0)
No	55 (22.0)

(Continues)

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 TABLE 2
 (Continued)

Question	No. (%)
Are you expecting increased violence against healthcar the future?	re workers in
Yes	196 (78.1)
No	55 (21.9)
Should the number of security guards be increased at t	he hospitals?
Yes	213 (85.2)
No	37 (14.8)
Did the attitudes of patients' relatives toward healthca change?	re workers
Yes	81 (32.3)
No	170 (67.7)
Are you allergic to the materials of PPE?	
Yes	93 (37.1)
No	158 (62.9)

Abbreviation: PPE, personal protective equipment.

^aParticipants were allowed to skip questions. Therefore, numbers do not always add up to 253 (total number of participants).

48% came into contact with COVID-19 positive patients and 67.9% (n=169) believed that COVID-19 could permanently harm their health. A total of 78.2% (n=194) reported that they felt anxious while treating COVID-19 positive patients. The majority of the respondents (n=186, 74.4%) stated that they were afraid of getting sick during this period. In addition, 64.8% reported that they had fallen into despair at times because of the pandemic.

Many respondents (n=161, 66.5%) stated that their family lives were affected during this period (Table 3). 199 participants (79.3%) stated concerns about their families and the majority, 72.4%, started living separately from their families because of the pandemic. For 194 participants (77.6%) family has gained importance.

To cope with pandemic-related stress, respondents stated that they watched TV (66%), slept (17%), did yoga (3%), meditated (7%), and performed breathing exercises (8%) to relax (Table 3). An increase in supplement intake was observed (34.8% vs. 55.6%). Respondents began using herbal preparations and, to a lesser extent, complementary medicine supplements (Table 4).

Responses related to OB/GYN practice during this period are shown in Table 5. A total of 191 (76.7%) respondents reported that they were afraid of coming into contact with pregnant women with confirmed COVID-19 and 139 (56.1%) thought that vertical transmission from mother to newborn could be possible. It was observed that 204 (82.3%) respondents did not initiate labor earlier during this period; furthermore, 129 (51.8%) reported that they did not opt for more cesarean deliveries despite their fear of exposure. Although 174 (69.9%) respondents thought that an adequate maternal-fetal service was provided during the pandemic, 203 (81.5%) believed that their workload would increase significantly afterwards. In addition, 204 (82.6%) respondents stated concerns regarding pandemic-associated malpractice cases.

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TABLE 3	Responses to questions concerning the COVID-19
pandemic an	d family life.

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Question	No. (%)
Are you concerned about your family?	
Yes	199 (79.3)
No	52 (20.7)
Did you sleep well during the pandemic?	
Yes	120 (47.8)
No	131 (52.2)
Did you sleep well before?	
Yes	187 (74.5)
No	64 (25.5)
If you have children, do you live together or separated?	
Together	56 (27.6)
Separated (134 provided length of separation: mean, 24.33 ± 8.50 days)	147 (72.4)
How did staying away from your family affect you?	
Not affected	37 (21.5)
Less affected	34 (19.7)
Neutral	31 (18.0)
More affected	70 (40.7)
Has your family life been affected?	
Yes	161 (66.5)
No	81 (33.5)
Does the possibility of a 14-day isolation scare you?	
Yes	143 (57.4)
No	106 (42.6)
How has COVID-19 pandemic impacted your view of life	?
Positive	136 (55.1)
Negative	111 (44.9)
Which part of your life has gained importance because of pandemic?	the
Family	194 (77.6)
Business	3 (1.2)
Social Life	46 (18.4)
Money	7 (2.8)
How did the pandemic affect your sexual life?	
Positive	129 (55.6)
Negative	103 (44.4)
Are you calling your loved ones more often?	
Yes	200 (80.3)
No	49 (19.7)
Are there times you fall into despair?	
Yes	162 (64.8)
No	88 (35.2)
Are you afraid of getting sick?	
Yes	186 (74.4)
No	64 (25.6)
	(Continues)

TABLE 3 (Continued)

Question	No. (%)
What do you do to relax?	
Yoga	7 (2.9)
Breathing exercises	19 (7.9)
Meditation	60 (6.7)
Sleep	40 (16.7)
Watch TV	158 (65.8)

^aParticipants were allowed to skip questions. Therefore, numbers do not always add up to 253 (total number of participants).

While 167 (67.3%) respondents reported that they were worried about their future, this worry stemmed from economic concerns (n=170, 69.1%). The majority of respondents (n=239, 96.4%) expected a great economic crisis following the pandemic (Table 6).

4 | DISCUSSION

The survey results showed that OB/GYNs were concerned about their health and feared contracting COVID-19 while treating infected patients. This fear is not unfounded. According to recent studies,

TABLE 4	Responses to questions related to the COVID-19
pandemic an	d complementary medicine. ^a

Question	No. (%)
Do you use supplements?	
Yes	139 (55.6)
No	111 (44.4)
Have you ever used supplements before?	
Yes	87 (34.8)
No	163 (65.2)
Have you started eating healthier?	
Yes	224 (89.2)
No	27 (10.8)
Did you have a healthy diet before?	
Yes	191 (76.1)
No	60 (23.9)
Have you received any complementary medicine treatmethis period?	nents during
Yes	38 (15.1)
No	213 (84.9)
Have the complementary medicine methods been effect	ctive?
Yes	100 (40.5)
No	147 (59.5)
Do you use any herbal preparations?	
Yes	59 (23.8)
No	189 (76.2)

^aParticipants were allowed to skip questions. Therefore, numbers do not always add up to 253 (total number of participants).

TABLE 5 Responses to questions related to OB/GYN practice during the COVID-19 pandemic.^a

Question	No. (%)
Do COVID-19 positive pregnant women scare you?	
Yes	191 (76.7)
No	58 (23.3)
Is there vertical transmission?	
Yes	139 (56.1)
No	109 (43.9)
Should COVID-19 positive mothers breastfeed?	
Yes	188 (75.8)
No	60 (24.2)
Could you provide adequate maternal-fetal care during the pandemic?	ne
Yes	174 (69.9)
No	75 (30.1)
Will your workload increase after the pandemic?	
Yes	203 (81.5)
No	46 (18.5)
Could you monitor pregnancies adequately during the par	ndemic?
Yes	121 (48.6)
No	128 (51.4)
Did you initiate labor earlier because of the pandemic?	
Yes	44 (17.7)
No	204 (82.3)
Did you opt more for cesarean?	
Yes	120 (48.2)
No	129 (51.8)
Do the malpractice cases that may be related to the patie during this period disturb you?	nts you see
Yes	204 (82.6)
No	43 (17.4)

^aParticipants were allowed to skip questions. Therefore, numbers do not always add up to 253 (total number of participants).

healthcare workers are three times more likely than the general population to contract COVID-19 and be vectors of transmission.¹⁰ Similar results were also reported during the SARS epidemic.¹¹

However, having access to personal protective equipment (PPE; gloves, protective eyewear, jumpsuit, mask) eased this health-related fear. When work conditions at the designated pandemic hospitals were questioned, 60% of OB/GYNs reported that the supply of PPE was adequate. In the Lombardy province of Italy where the pandemic was severe, obstetricians stated that access to PPE was one of the most important aspects of dealing with health-related fear while treating their patients.¹² In the current survey, 51% of participants felt adequately informed by their hospitals about COVID-19 and 70% felt that they could provide adequate maternal-fetal care. Another recent study also showed that well-informed physicians with adequate access to PPE provided better care to their patients and scored better during psychological evaluation.¹³

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TABLE 6 Responses to questions related to the COVID-19pandemic and the future.^a

Question	No. (%)
Do you think that salary payments could not be made in	the future?
Yes	145 (58.0)
No	105 (42.0)
Are you afraid of the possible complications of COVID-1 currently unaware of?	9 that we are
Yes	201 (80.4)
No	49 (19.6)
How were the working conditions of your colleagues dur pandemic?	ing the
Good	61 (24.6)
Bad	187 (75.4)
Do you believe you can cure Covid-19 patients?	
Yes	214 (85.9)
No	35 (14.1)
Do you still love your job under these conditions?	
Yes	161 (64.7)
No	88 (35.3)
How did your perspective on your profession change?	
Positive	156 (63.2)
Negative	91 (36.8)
What do you want to change in your life after the pander	nic?
Family	74 (36.1)
Business	71 (34.6)
The place you live	72 (35.1)
Are you worried about your future?	
Yes	167 (67.3)
No	81 (32.7)
How do you see the situation in our country compared to countries?	oother
Good	141 (56.6)
Same	82 (32.9)
Bad	26 (10.4)
What worries you the most about the future?	
Family	76 (30.9)
Economy	170 (69.1)
Do you think there will be an economic crisis after the pa	ndemic?
Yes	239 (96.4)
No	9 (3.6)
Do you believe that the world will change after the pando	emic?
Yes	198 (79.2)
No	52 (20.8)

^aParticipants were allowed to skip questions. Therefore, numbers do not always add up to 253 (total number of participants).

This present survey was conducted at the time when the pandemic peaked in Turkey. However, the results regarding the conditions in the hospitals and physicians' opinions regarding their working situations 72

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were better than expected. Of the respondents, 63% stated that their perceptions of their profession had changed positively during this period. This view was also reflected in their perception of the Turkish health system. A high percentage (72.7%) stated that they found the Turkish national health system's response sufficient, which can be interpreted as their approval of the management of the pandemic in Turkey.

An important stress factor for respondents during the pandemic was their families and the possibility of infecting them. Therefore, 72% had started living separately during this period. Similarly, in a study conducted with family physicians, their main concern and cause of stress during the pandemic was their families.¹⁴ In the current study, 44% of respondents reported a negative effect of the pandemic on their sexual lives. Despite these negative impacts on family life, respondents expressed that social relationships within their families improved, with 78% reporting that family life had gained in importance. Studies conducted during previous international outbreaks/epidemics also showed that although the well-being of family members was a stress factor for healthcare workers, a strong family bond, especially for female healthcare workers, significantly reduced anxiety levels and depression in the long term.^{15,16}

When responding to questions on their OB/GYN practice, COVID-19-positive pregnant women posed the greatest fear. Although COVID-19 positivity in pregnant women is considered an indication for cesarean delivery in some guidelines,^{17,18} this did not change clinical practice in Turkey. Of those responding to the present survey, 52% did not opt for more cesarean delivery during the pandemic and 82% did not start labor earlier. In addition, the potential risk of vertical transmission has become a major concern for OB/GYNs worldwide, although there is still no supporting data.²⁰ According to the present survey, 56% of respondents thought that there might be vertical transmission, while a high percentage (76%) advocated breastfeeding. Separation is recommended in situations where the mother is in a severe or critical condition, and breastfeeding either directly or through pumping is recommended to maintain milk production.¹⁸

Despite the difficulties in patient care during the pandemic, survey respondents believed that they had been able to provide adequate maternal-fetal care. However, they were still worried about unforeseen complications, which could have medicolegal implications following the pandemic. According to studies conducted during previous coronavirus epidemics, a higher rate of maternal and fetal complications such as spontaneous miscarriage, preterm delivery, intrauterine growth restriction, admission to the intensive care unit, renal failure, and disseminated intravascular coagulopathy were observed.¹⁹⁻²¹ Thorough care and good communication with patients during this period are vital in avoiding such complications.²²

There are several limitations to this study. The number of participants was limited and they were mostly situated in hospitals in or around Istanbul. A more nationwide, uniform distribution with a larger cohort should be aimed for in future studies. In addition, there was not a balance between the number of residents and consultants, so the survey does not clearly reflect the differences which could arise according to the workload within the specialty. However, since the main focus was to evaluate OB/GYNs' perception of the pandemic, such an imbalance was of minimal concern for this study. One of the main strengths of this study was its timing, which was during the peak of the pandemic in Turkey. Therefore, the results directly reflected the effects of pandemic when the burden was at its highest.

As of June 24, 2020, 3 083 121 people had been tested for COVID-19 in Turkey and 191 657 (0.6%) were confirmed positive. Out of the confirmed cases, there have been 5025 fatalities (0.26%).²³ A total of 22 OB/GYNs who participated in the present survey tested positive for COVID-19. They had to be quarantined and all recovered fully. Nationwide data on the percentage of OB/GYNs who have tested positive for COVID-19 are not yet published. Similarly, worldwide information is also not available.

In conclusion, as is likely for all healthcare workers, the pandemic period has been a stressful and worrisome period for OB/GYNs surveyed in Turkey. Health and family-related concerns were the main stressors. Despite the difficulties in patient care during the pandemic, OB/GYNs continued to provide care, which reflected positively on their perceptions of the profession. The importance of trust in the national healthcare system, presence of adequate PPE, finding a suitable coping mechanism, and family support were essential for Turkish OB/GYNs during the COVID-19 pandemic.

AUTHOR CONTRIBUTIONS

PYB contributed to conception and design, manuscript drafting, and revision. MAT contributed to interpretation of data. AB contributed to manuscript drafting. NFTS critically revised the manuscript. OK contributed to acquisition of data. IP contributed to statistical analysis and supervision.

CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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