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Psychological and social effects of COVID-19 pandemic on obstetrics and gynecology employees

COVID-19 pandemisinin kadın hastalıkları ve doğum kliniğindeki sağlık çalışanları üzerindeki psikolojik ve sosyal etkileri

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Abstract

Aim: COVID-19 pandemic affected most health care professionals and to the best of our knowledge, there has not been any studies on the gynecology and obstetrics department workers in the literature. In our study, we aim to investigate the psychological and social effects of the COVID-19 epidemic on the healthcare workers serving in the gynecology and obstetrics department and to help healthcare professionals improve their physical and mental health.

Methods: This cross-sectional study was conducted among healthcare professionals working in obstetrics and gynecology clinics in Mardin province. It was carried out in Mardin State Hospital and Kızıltepe State Hospital, which are considered "Pandemic Hospitals". All participants received Sociodemographic Data Form, Psychological Symptom Screening Test (SCL-90-R), Beck Anxiety Inventory and Short Psychiatric Rating Scale. These evaluation scales were applied to 13 doctors, 52 midwives and 38 nurses working in Gynecology and Obstetrics Clinics in total. They were compared in terms of occupation, gender, and age, as those under or equal to 29 (≤29) years and over 29 years (>29) of age. Twenty-nine was picked because it was the mean age of the group.

Results: Although differences did not reach statistical significance, anxiety, hostility, and phobic anxiety were higher in participants over the age of 29 years (P=0.472, P=0.549, P=0.776, respectively). According to profession groups, only phobic anxiety scores were higher among doctors (P=0.373), and somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, paranoid ideation, psychoticism, eating and gastrointestinal symptoms (GIS) were higher in midwives (P=0.166, P=0.624, P=0.531, P=0.321, P=0.147, P=0.205, P=0.359, P=0.490, P=0.696, P=0.557, respectively).

Conclusion: COVID-19 will undoubtedly have psychological consequences which may be permanent in healthcare professionals. Frontline employees will be at risk, especially in departments with emergency services. Actions are needed to alleviate the effects of COVID-19 on mental health by protecting and promoting the psychological well-being of healthcare workers during and after the outbreak.

Keywords: COVID-19, Anxiety, Healthcare professionals, Corona virus pandemic

Öz

Amaç: Bu çalışmanın amacı, Korana virüs pandemisi sürecinde kadın hastalıkları ve doğum sevisinde çalışan doktor, ebe ve hemşirelerde psikolojik ve sosyal etkilerin araştırılması amaçlanmıştır.

Yöntem: Bu kesitsel çalışma Mardin ilinde kadın hastalıkları ve doğum kliniklerinde çalışan sağlık çalışanları arasında yapıldı. Çalışma Mardin ilinde "Pandemi Hastanesi" olarak kabul edilen Mardin Devlet Hastanesi ve Kızıltepe Devlet Hastanesi'nde gerçekleştirildi. Tüm katılımcılara Sosyodemografik Veri Formu, Psikolojik Belirti Tarama Testi (SCL-90-R), Beck Anksiyete Ölçeği ve Kısa Psikiyatrik Değerlendirme Ölçeği uygulandı. Toplamda Kadın Hastalıkları ve Doğum kliniklerinde çalışan 13 doktor, 52 ebe ve 38 hemşireye bu değerlendirme ölçekleri uygulandı. Meslek, cinsiyet, 29 yaş ve altı (≤29) ve 29 yaş üstü (>29) olarak değerler karşılaştırıldı. 29 yaş katılımcıların median yaşı olduğu için seçildi.

Bulgular: Analiz istatistiksel olarak anlamlı olmamasına rağmen; kaygı, öfke-düşmanlık ve fobik anksiyete 29 yaş üzerinde daha fazla olarak saptandı (sırasıyla P=0,472, P=0,549, P=0,776). Mesleklere göre karşılaştırıldığında ise fobik anksiyete doktor grubunda daha yüksek saptanırken (P=0.373); somatizasyon, obsesif kompulsiyon, kişilerarası duyarlılık, depresyon, kaygı, öfke-düşmanlık, paranoid düşünce, psikotizm, yeme içme ve gastrointestinal semptomlar (GIS) ebelerde daha fazla saptandı (sırasıyla P=0,166, P=0,624, P=0,531, P=0,321, P=0,147, P=0,205, P=0,359, P=0,490, P=0,696, P=0,557).

Sonuç: Pandemi ile birlikte hastanelerde çalışan sağlık çalışanlarına COVID-19 salgını sırasında ve sonrasında psikolojik sorunları ele alınmalı ve yardımcı olacak stratejiler geliştirilmesini öneriyoruz.

Anahtar kelimeler: COVID-19, Anksiyete, Sağlık çalışanları, Korona virüs pandemisi

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Introduction

A pandemic is an epidemic disease caused by a factor (bacteria, virus, parasite etc.) that can spread to a wide range of areas simultaneously in multiple countries or continents all over the world. The definition of a pandemic is determined by the "World Health Organization" (WHO). The fact that the newly emerging vector spreads from person to person easily, simply, and quickly is an important indicator. The pandemic affects all people, regardless of age and economic level. The mental health of healthcare workers, who undertake all risks voluntarily and make sacrifices, can be adversely affected in these special times [1].

The COVID-19 virus, which first appeared in Wuhan, China in December 2019, has affected all countries of the world over time. It was accepted as a pandemic by the World Health Organization (WHO) about a month after the first case occurred. The epidemic continues to spread by increasing its effect day by day and causes escalating casualties. Healthcare workers constitute an important part of the patients [2].

Although the outbreak affects the lives of all people, factors such as long working hours under strict security measurements, taking more professional responsibilities, constantly wearing protective equipment and clothes, and being alert to work without loss of attention and concentration can raise healthcare workers' psychological stress levels. On the other hand, since healthcare workers are in close contact with the virus, they are considered a risk factor by the society. In response to all this, social support to healthcare workers has decreased due to the risk of transmission to families and relatives. Social isolation, anxiety and decreased self-care can occur in this stressful working environment. The fear of getting sick and dying are important stress factors that healthcare professionals face in this process [3].

Outpatient care has been reduced for non-urgent health problems all over the world and non-urgent surgeries have been delayed. These measures are not possible for those who provide health services in the department of obstetrics and gynecology. Applications continue to a considerable extent due to the high anxiety experienced by pregnant women. The maternity service continues at the same level compared to the pre-crisis period and will increase in the summer [4].

The number of pregnant women infected with the virus is increasing day by day. Given this information, those who provide healthcare services in the gynecology and obstetrics department continue to work with increasing risk and manage the crisis in this process, which has many unknowns.

We think that such crises can provide an opportunity for the development of health policies. Therefore, obstetricians play an important role in addressing this crisis as part of the current COVID-19 outbreak, just like other healthcare professionals. In our study, we aim to investigate the psychological and social effects of the COVID-19 epidemic on the healthcare workers serving in the gynecology and obstetrics department and to help healthcare professionals improve their physical and mental health.

Materials and methods

This study was conducted among healthcare professionals working in the Obstetrics and Gynecology clinics in Mardin State Hospital and Kızıltepe State Hospital, which are the two most intense pandemic hospitals in Mardin province. Approval was obtained from Mardin Provincial Directorate of Health's Ethics Committee (Document no: 37201737-806.02.02, Date: 4/22/2020) and the research was carried out in accordance with the Helsinki Declaration, published by the World Medical Association. Doctors, nurses, and midwives who agreed to participate in the study were included. All participants received Sociodemographic Data Form, Psychological Symptom Screening Test (SCL-90-R), Beck Anxiety Inventory and Brief Psychiatric Rating Scale. In total, scales were applied to 13 doctors, 52 midwives and 38 nurses working in Obstetrics and Gynecology departments.

Data Collection Tools

Sociodemographic Data Form

It is a short form which questions age, gender, and task, developed by researchers for use in this study.

Beck Anxiety Inventory (BAI)

It is a 21-item Likert-type scale (sum of degrees) used to determine the frequency of anxiety symptoms experienced by the person. The person is asked to answer the questions on the scale over the symptoms he / she has experienced during the 'last week including today'. Each item scores between 0 and 3 as none, mild, moderate, and severe, respectively. There is a direct proportion between the height of the total score obtained from the scale and the anxiety severity experienced by the person. In our country, the validity and reliability of the Turkish version of the test has been performed in studies [5-6].

Psychological Symptom Screening Test (SCL-90-R)

This Liker-type scale consists of 90 items in total and 10 different subscales. The scores are as follows: None (0), Very Low (1), Moderate (2), Fairly High (3) and Advanced (4). The subscale scores of the scale are obtained by summing up the score values of the answers given to the relevant items and dividing them by the number of items that make up that subscale. There is a positive correlation between the high score of the individual and having more advanced psychological symptoms. The overall symptom level average is obtained by dividing all scores obtained for each item by 90. Values above 1 indicate a psychological problem, 0.5 to 1 indicate a medium level problem, and values less than 0.5 indicate no problem. The validity and reliability studies of the Turkish version of the test have been performed [7-8].

Brief Psychiatric Rating Scale (BPRS)

It is a scale consisting of 18 questions used to determine the severity of psychotic and some depressive symptoms and symptoms. Each question is scored as None (0), Very Mild (1), Mild (2), Moderate (3), Moderate-Severe (4), Severe (5), Extremely Severe (6). The validity and reliability studies of the Turkish version of the test have been performed [9].

Statistical analysis

Nominal and ordinal data were presented as frequency analysis and numerical data, as mean and standard deviation. Cronbach Alpha coefficients were used for the internal consistency coefficient of the scales. Confirmatory Factor

Analysis (CFA) was performed for the validity of the scale items, and all scale items resulted above the 0.4 factor load, which is considered acceptable in the literature (Kaiser Meier Olkin KMO: 0.563; $P<0.05$). Compliance of the data to normal distribution was analyzed with the Kolmogorov Smirnov Test, according to the results of which, Independent Sample T-test was used to evaluate the difference between the two groups, and the One Way ANOVA to assess the difference between more than two groups. The Mann Whitney U and Kruskal Wallis tests were utilized for comparing non-normally distributed two and more than two groups, respectively. All analyses were performed in SPSS 17.0 for Windows program with a 95% confidence interval and 0.05 significance level.

Results

The demographic characteristics of the healthcare professionals participating in the research are presented in Table 1. The mean age of the participants was 29.38 (5.56), ranging between 21-45 years. Based on the mean age, the participants were divided into two groups as less than or equal to 29 (≤29) and over 29 years (>29). For difference analysis, these two age categories were taken into consideration, according to which 56.3% of the participants were 29 years old or younger, and 43.7% were older than 29. Female and male participants constituted 88.3% and 11.7% of the study population, respectively. There were 13 doctors (12.6%), 52 midwives (50.5%) and 38 nurses (36.9%).

The mean and standard deviation values of the responses given by the participants to the scale dimensions are presented in Table 2. The highest scoring dimension on the SCL-90 scale was the Obsessive-Compulsive dimension, followed by depression, eating, and interpersonal sensitivity. Global Severity Index (GSI) mean was 1.10 (0.84), ranging from 0.03-3.52. The mean BAI and BPRS were 14.40 (13.33) and 21.08 (21.46), respectively.

Distribution of responses to psychological symptom dimensions and difference analysis results by age groups are presented in Table 3. Somatization, obsessive-compulsive disorder, interpersonal sensitivity, depression, paranoid ideation, psychoticism, eating and drinking disorder symptoms were higher in the participants aged 29 years or younger, along with Global Severity Index (GSI), Beck Anxiety level and BPRS means. Anxiety, hostility, and phobic anxiety were higher in participants over 29 years of age. These differences were not statistically significant.

Distribution of responses to psychological symptom dimensions and difference analysis results by gender groups are shown in Table 4. Somatization, interpersonal sensitivity, and hostility averages were insignificantly higher in females, while other averages were insignificantly higher in males.

Distribution of responses to psychological symptom dimensions and difference analysis results by profession groups are presented in Table 5. Only phobic anxiety score was higher among doctors, and all other scale scores were higher in midwives, the differences between which were all statistically insignificant.

Table 1: Distribution of the participants according to their demographic characteristics

Parameter	Value
Age, Mean (SD)	29.38 (5.56)
Age, n (%)	
≤29	58 (56.3)
> 29	45 (43.7)
Gender, n (%)	
Female	91 (88.3)
Male	12 (11.7)
Occupation, n (%)	
Doctor	13 (12.6)
Midwife	52 (50.5)
Nurse	38 (36.9)

SD: Standard Deviation

Table 2: Mean and standard deviation values of the responses given by the participants to scale dimensions

SCL-90	Cronbach Alpha	Lowest	Highest	Average	SD
Somatization	0.894	0.00	3.42	1.09	0.83
Obsessive-compulsive	0.905	0.00	3.30	1.40	0.96
Interpersonal sensitivity	0.886	0.00	3.89	1.13	0.90
Depression	0.931	0.00	3.69	1.27	0.99
Anxiety	0.910	0.00	3.90	1.03	0.94
Hostility	0.889	0.00	3.83	0.95	1.00
Phobic anxiety	0.871	0.00	3.71	0.93	0.96
Paranoid ideation	0.854	0.00	4.00	1.10	1.00
Psychoticism	0.914	0.00	3.90	0.75	0.87
Eating	0.818	0.00	3.71	1.25	0.96
GIS	0.986	0.03	3.52	1.10	0.84
BAI Total	0.955	0.00	57.00	14.40	13.33
BPRS Total	0.961	0.00	94.00	21.08	21.46

Table 3: Distribution of responses to psychological symptom dimensions and difference analysis by age groups

SCL-90	Age* ≤29 (n=58)	Age > 29 (n=45)	*P*-value
Somatization	1.14(0.75)	1.03(0.94)	0.175[a]
Obsessive-compulsive	1.49(0.88)	1.29(1.05)	0.289[b]
Interpersonal sensitivity	1.22(0.80)	1.01(1.02)	0.253[b]
Depression	1.34(0.91)	1.18(1.08)	0.432[b]
Anxiety	1.02(0.83)	1.03(1.08)	0.472[a]
Hostility	0.91(0.85)	1.00(1.18)	0.549[a]
Phobic anxiety	0.89(0.92)	0.97(1.02)	0.776[a]
Paranoid ideation	1.12(0.86)	1.07(1.18)	0.192[a]
Psychoticism	0.77(0.71)	0.72(1.04)	0.075[a]
Eating	1.29(0.89)	1.20(1.05)	0.648[b]
GIS	1.14(0.72)	1.05(0.99)	0.634[b]
BAI Total	15.21(12.27)	13.36(14.67)	0.139[a]
BPRS Total	21.57(18.17)	20.44(25.29)	0.121[a]

a: Mann Whitney U Test, b: Independent Samples T-test, *mean age was 29, and patients divided into two groups as under or equal median (≤29) and over 29 ages (>29)

Table 4: Distribution of responses to psychological symptom dimensions and difference analysis by gender

SCL-90	Female (n=91)	Male (n=12)	*P*-value
Somatization	1.10 (0.83)	1.08 (0.94)	0.833[a]
Obsessive-compulsive	1.39 (0.95)	1.50 (1.03)	0.710[b]
Interpersonal sensitivity	1.14 (0.90)	1.07 (1.01)	0.826[b]
Depression	1.26 (0.96)	1.37 (1.26)	0.725[b]
Anxiety	1.01 (0.93)	1.15 (1.03)	0.761[a]
Hostility	0.95 (1.01)	0.93 (0.97)	0.979[a]
Phobic anxiety	0.90 (0.97)	1.12 (0.92)	0.352[a]
Paranoid ideation	1.09 (0.97)	1.17 (1.28)	0.749[a]
Psychoticism	0.74 (0.87)	0.84 (0.87)	0.512[a]
Eating	1.24 (0.94)	1.37 (1.10)	0.656[b]
GIS	1.09 (0.83)	1.17 (0.95)	0.765[b]
BAI Total	14.29 (13.31)	15.25 (14.09)	0.865[a]
BPRS Total	20.79 (21.14)	23.25 (24.66)	0.930[a]

a: Mann Whitney U Test, b: Independent Samples T-test

Table 5: Distribution of responses to psychological symptom dimensions and difference analysis by profession groups

SCL-90	Doctor (n=13)	Midwife(n=52)	Nurse (n=38)	*P*-value
Somatization	0.92 (0.92)	1.18 (0.73)	1.04 (0.94)	0.166[a]
Obsessive-compulsive	1.30 (0.98)	1.49 (0.91)	1.31 (1.02)	0.624[b]
Interpersonal sensitivity	0.89 (0.96)	1.20 (0.83)	1.11 (0.99)	0.531[b]
Depression	1.16 (1.15)	1.42 (0.99)	1.11 (0.92)	0.321[b]
Anxiety	1.01 (1.02)	1.14 (0.88)	0.87 (1.00)	0.147[a]
Hostility	0.78 (0.96)	1.08 (1.02)	0.83 (1.00)	0.205[a]
Phobic anxiety	1.05 (0.91)	0.97 (0.92)	0.82 (1.05)	0.373[a]
Paranoid ideation	1.01 (1.24)	1.17 (0.93)	1.04 (1.03)	0.359[a]
Psychoticism	0.69 (0.85)	0.78 (0.80)	0.72 (0.97)	0.490[a]
Eating	1.19 (1.10)	1.33 (0.95)	1.17 (0.94)	0.696[b]
GIS	1.01 (0.92)	1.19 (0.79)	1.01 (0.90)	0.557[b]
BAI Total	11.77 (13.40)	15.96 (12.09)	13.16 (14.94)	0.123[a]
BPRS Total	17.23 (20.58)	21.65 (18.82)	21.61 (25.27)	0.510[a]

a: Kruskal Wallis Test, b: One Way ANOVA Test

Discussion

After the occurrence of cases of COVID-19 in Turkey, the Turkish Ministry of Health has taken the necessary measures and put them into practice. However, following a symptomatic patient who had positive screening test results in pandemic hospitals caused a commonly shared anxiety in healthcare professionals. As a result, they worked in different moods from their normal days, even if they did not want to. It is not surprising that the issue of psychological stress on medical staff is addressed in the current COVID-19 pandemic.

In this study, an evaluation was made using the questionnaire method to determine the change in mood, anxiety and extra behaviors of the healthcare professionals in the Obstetrics and Gynecology departments in Mardin. Most of the healthcare professionals who participated in this study were female individuals. Experience before smaller scale outbreaks and emerging literature around COVID-19 show that the amount of unique stress that healthcare professionals deal with is associated with increased psychological morbidity [10].

When all participants were evaluated in the form of psychological symptoms in all groups, "closeness to COVID-19 patients" was recorded as the most important complaint in the additional symptom query. In this pandemic, social restrictions, infection protection measures, anxiety and depression are associated with psychological stress [11]. Various comments also point to the burden of mental health in the population [12]. Health care workers in the UK were given a free "digital package" and asked to relax outside of working hours [13]. In our country, various telecommunication companies tried to support this issue by loading extra internet packages to the telephone lines of healthcare workers.

In the data obtained, the most encountered psychological disease in healthcare workers, the obsessive-compulsive disorder (OCD), is followed by depression, eating and interpersonal sensitivity. Especially in midwives, maternal fluids and amniotic fluid are avoided during delivery. Later, repetitive hand washing, and increased cleaning of the clothes are seen. The night shift system caused an excessive eating during the pandemic and distance had to be kept during interventions and giving information to patients and their relatives. Also, newborns had to be intervened, which led to increased psychiatric symptoms and OCD incidence in the delivery rooms [14]. Somatization, obsessive-compulsive, interpersonal sensitivity, depression, paranoid ideation, psychoticism, eating, and drinking were higher among young participants. Increased working time and increased experience may have led to decreased or masked symptoms expected with age. Defense mechanisms and methods are gained in infancy - childhood. It should also be borne in mind that individuals may be exhibiting self-gained behaviors before acting in accordance with the scheme to approach a patient with COVID-19, as recommended during the pandemic.

Somatization, interpersonal sensitivity, and hostility were more common in women. It is exceedingly difficult to find a generally accepted definition for somatization. It is defined as " physical symptoms complaints that are not secondary to a physical illness". The genetic structure that facilitates the emergence of somatic complaints, the psychological development during infancy and adolescence, the personality structure gained from family, learned answers, all sociocultural values can be considered. Somatization disorders constitute five percent of general outpatient applications. It is highly expected and natural for these common conditions to increase during the pandemic, when special precautions are taken. We determined that phobic anxiety had increased in the doctors. In numerous studies, anxiety was reportedly more common among young, female individuals with low education levels, without jobs, with low income and in those who do not live with a partner [15]. Individuals with phobic anxiety also have minor obsessions or insignificant fears. Generally, the anxiety of "getting infected with COVID-19" was high among doctors participating in the study.

Limitations

Our sample size is limited since only medical staff working in gynecology and obstetrics in pandemic hospitals in Mardin province were included. Also, we had to arrange the age groups according to our health professionals' mean age. Our sample size's mean age was 29 but it can differ in various hospitals.

Conclusion

COVID-19 will have possibly permanent psychological effects on healthcare professionals. Frontline employees will be at risk, especially in departments with emergency services. Actions are needed to alleviate the effects of COVID-19 on mental health by protecting and promoting the psychological well-being of healthcare workers during and after the outbreak.

We recommend that healthcare professionals develop broader strategies to support their psychological well-being during and after the COVID-19 outbreak.

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