

EVALUATION OF CONTRACEPTIVE METHOD USAGE CHANGES AND SATISFACTION OF WOMEN DURING THE COVID-19 PANDEMIC

Covid-19 Pandemisi Sırasında Kadınların Kontraseptif Yöntem Kullanım Değişimlerinin ve Memnuniyetlerinin Değerlendirilmesi

İlkin Seda CAN¹ 

¹Department of Obstetrics and Gynecology, Sivas Cumhuriyet University, Faculty of Medicine, SİVAS, TÜRKİYE

ABSTRACT

Objective: In addition to being a global epidemic, Coronavirus disease creates some disruptions in the health system, especially in family planning services. Our study aimed to assess the contraceptive method preferences of female patients who applied to our university hospital, their satisfaction levels, and whether their method usage had changed due to the pandemic.

Material and Methods: We included 286 female patients aged 18-49 who were admitted to our obstetrics and gynecology outpatient clinic between January 2021 and April 2021 in our study. We conducted a descriptive cross-sectional study to identify women's contraceptive method preferences, complaints about the method, and usage information before and during the pandemic.

Results: While 187 (65.4%) of 286 women participating in our study used modern and traditional family planning methods, 99 (34.6%) did not use any method. We found a statistically significant decrease in the use of oral contraceptives during the pandemic ($p=0.041$). While the number of women who did not use any method before the pandemic was 83 (29%), 99 (34.6%) women did not use any method during the pandemic.

Conclusion: Family planning service is one of the foremost sexual and reproductive health services. The factors such as social distance, isolation at home, and increased stress during the pandemic have increased the need for sexual and reproductive health services. Moreover, movement restrictions and clinical closures make sexual and reproductive health services, including birth control, less accessible. All of these conditions will raise the number of erroneous, unplanned, and undesired pregnancies. In our study, the most preferred method of contraception was found to be condoms (27.3%), while the least used method was injectable contraceptive (1.4%). Clinicians should counsel women on contraception options in the event that further social distancing measures are implemented.

Keywords: Contraception, choice of contraceptive methods, COVID-19, reproductive health

ÖZ

Amaç: Coronavirüs hastalığı, küresel bir salgın olmasının yanı sıra, özellikle aile planlaması hizmetlerinde ve sağlık sisteminde bazı aksaklıklar yaratmaktadır. Çalışmamız, üniversite hastanemize başvuran kadın hastaların kontraseptif yöntem tercihlerini, memnuniyet düzeylerini ve pandemi nedeniyle yöntem kullanımlarının değişip değişmediğini değerlendirmeyi amaçlamıştır.

Gereç ve Yöntemler: Çalışmamıza Ocak 2021-Nisan 2021 tarihleri arasında kadın hastalıkları ve doğum polikliniğimize başvuran 18-49 yaş arası 286 kadın hasta dahil edildi. Pandemi süreci ve öncesinde kadınların gebelik önleyici yöntem tercihlerini, yönteme ilişkin şikayetlerini ve kullanım bilgilerini belirlemek amacıyla tanımlayıcı kesitsel bir çalışma gerçekleştirdik.

Bulgular: Çalışmamıza katılan 286 kadının 187'si (%65.4) modern ve geleneksel aile planlaması yöntemlerini kullanırken, 99'u (%34.6) herhangi bir yöntem kullanmamaktaydı. Pandemi döneminde oral kontraseptif kullanımında istatistiksel olarak anlamlı bir düşüş bulduk ($p=0.041$). Pandemi öncesinde herhangi bir yöntem kullanmayanların sayısı 83 (%29) iken, pandemi sürecinde 99 (%34.6) kişi herhangi bir yöntem kullanmamaktaydı.

Sonuç: Aile planlaması hizmeti, cinsel sağlık ve üreme sağlığı hizmetlerinin başında gelmektedir. Pandemi sürecinde sosyal mesafe, evde izolasyon, artan stres gibi faktörler cinsel sağlık ve üreme sağlığı hizmetlerine olan ihtiyacı artırmıştır. Ayrıca, hareket kısıtlamaları ve klinik kapanışlar, doğum kontrolü de dahil olmak üzere cinsel sağlık ve üreme sağlığı hizmetlerini daha az erişilebilir kılmaktadır. Tüm bu durumlar hatalı, plansız ve istenmeyen gebeliklerin sayısını artıracaktır. Çalışmamızda en çok tercih edilen doğum kontrol yöntemi kondom (%27.3), en az kullanılan yöntem ise enjeksiyon (%1.4) olarak bulundu. Klinisyenler, daha fazla sosyal mesafe önlemlerinin uygulanması durumunda kadınlara doğum kontrolü seçenekleri konusunda danışmanlık yapmalıdır.

Anahtar Kelimeler: Kontrasepsiyon, kontraseptif yöntem seçimi, COVID-19, üreme sağlığı



Correspondence / Yazışma Adresi:

Department of Obstetrics and Gynecology, Sivas Cumhuriyet University, Faculty of Medicine, SİVAS, TÜRKİYE

Phone / Tel: +90 507 4631601

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Dr. İlkin Seda CAN

E-mail / E-posta: ilkinsedacan@hotmail.com

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INTRODUCTION

Coronavirus disease (COVID-19); is a serious infectious disease caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), declared as a pandemic on March 11, 2020, by the World Health Organization (WHO) (1) (2). By April 2021, the virus had infected around 146 million people globally, with nearly three million of them dying (3). While the COVID-19 outbreak has caused unprecedented situations in many ways, experience from previous humanitarian emergencies suggests that women and children may be disproportionately affected by the crisis, particularly when routine health services are disrupted (4).

Although a wide variety of contraceptive methods are used today, unwanted pregnancies can still occur due to lack of information and misuse. Family planning is the way individuals want to have a child when and how they want, and for this purpose, the prevention of pregnancy is called contraception. The methods we use to provide contraception are called contraceptive methods (5). Most people use contraception to keep the number of children and the completion of their families in the appropriate number. When taking contraception for medical reasons, it is also critical to select the most appropriate contraceptive with the least side effects (6). Contraception is a basic right that every woman of reproductive age has, to appropriately schedule reproduction and, in some cases, to alleviate menstrual symptoms. Due to the quarantine imposed by many governments, sexual activity or occasional sexual intercourse among non-cohabitants may be prevented, whereas sexual activity requiring contraception among cohabitants may increase (7). Cohabitation may have increased the frequency of sexual activity, unwanted pregnancies, and the risk of domestic violence (8). This is reinforced even more by the fact that some drugs used to treat COVID-19 infections and the disease itself may increase the rate of spontaneous abortion owing to side effects and may not be totally safe for the fetus. The main purpose of the family planning service is to control

the health of the mother and the children born. Frequent births, especially those with less than two years between them, put the mother's health in danger, and notably successive births without a gap may result in maternal mortality (9).

Contraceptive methods are divided into two groups as traditional and modern methods. Changes related to the menstrual cycle (cervical mucus method, basal body temperature method, calendar method), lactational amenorrhea, coitus interruptus, and vaginal douching are included in the traditional methods. On the other hand, the modern ones are barrier methods, intrauterine devices and combined oral contraceptives (COCs), injections, skin preparations and rings, progesterone-only methods. Irreversible methods (male and female sterilization) are also included in modern methods (10). Women can potentially benefit from increased knowledge and advice on contraception to ensure the method they choose best suits their individual needs. The main objective of our study is to investigate the characteristics of women using modern-traditional contraceptive methods by questioning the extent to which women's approaches to contraception have changed during the period when sexual and reproductive health (SRH) issues were neglected due to the pandemic.

MATERIALS AND METHODS

The study protocol was accepted by the local ethical committee (Cumhuriyet University Non-interventional Clinical Research Ethics Committee, date: 13.01.2021, issue number: 2021-01/16.). Our study was planned as a descriptive cross-sectional study to determine the contraceptive preferences, complaints, and usage information of women aged between 18-49. Patients who applied to Cumhuriyet University Faculty of Medicine, Obstetrics and Gynecology Polyclinic between January and April 2021, and who were informed about the study and agreed to participate, were included in the study. The data were collected by the researchers by interviewing the women individually and

face to face in a private room in the outpatient clinic setting. Women who were not married, did not have regular sexual intercourse, who were breastfeeding, were hysterectomized or oophorectomized, and were in menopause were excluded from the study. The women's sociodemographic factors, such as age, educational status, occupation, and place of residence, and the contraceptive methods they used before and during the pandemic, were all inquired in the questionnaire. Participants were also asked about their satisfaction with contraceptive methods as well as whether they received screenings such as mammography and pap smear.

According to the January 2021 data of the Turkish Statistical Institute (TSI), the female population aged 18-49 in our research region is 133.234. 90% of the population was considered sexually active. Based on this, the study's power was assessed to be 94.21 % at the 95 % confidence level when 286 women were included in the study.

Statistical Analysis

SPSS (Statistical Package for Social Sciences) for Windows 22.0 software (IBM SPSS, USA) was used for statistical analyses in the evaluation of data obtained in the study. The Kolmogorov-Smirnov Test was used for checking normal distribution. Data with a normal distribution were subjected to parametric tests, while data that did not conform to the normal distribution were subjected to nonparametric tests. As statistical methods, peer-to-peer t-test, analysis of variance in repeated measurements, significance test of the difference between two means was applied to the variables with normal distribution, while Wilcoxon test, Friedman test, Mann-Whitney U test, and chi-square test were applied to the variables that did not show normal distribution. Kappa test was performed to compare contraceptive use before and during the pandemic. The statistical significance level was accepted as $p < 0.05$. Frequencies, mean, standard deviation, median, minimum and maximum values were used, and the chi-square test was used to compare qualitative data.

RESULTS

While 187 (65.4%) of 286 women participating in our study use modern and traditional family planning methods, 99 (34.6%) do not use any method. The education level of the majority of the participants (42.3%) was primary school or below and 63.3% of those in our study were non-working women. The mean age of the participants was 35 (min=18, max=49). The income level of 66.8% of the participants was above the minimum wage (Table 1). The median number of children for women was found to be 2 (min=0, max=5). Of the individuals included in the study, 22 (7.7%) used tubal ligation, 78 (27.3%) condom, 37 (12.9%) intrauterine device (IUD), 7 (2.4%) OCs, 4 (1.4%) injection methods. It was observed that 39 (13.6%) of the women using traditional methods used the withdrawal method and this method was found to be the most frequently used method among the traditional methods (Table 2). While 7.7% (n=22) of women using modern methods used irreversible (tube ligation) method, 92.3% (n=126) of women used reversible methods (intrauterine device, OCs, condom, injection) (Table 2). When we questioned the satisfaction levels, according to the contraceptive method used, we did not find a statistically significant difference between the two methods ($p=0.235$). However, method dissatisfaction (8.1%) was numerically higher in IUD users.

We discovered a statistically significant decrease in the use of OCs during the pandemic ($p=0.041$) when we examined the changes in contraceptive method use before and during the pandemic. Although we observed an increase in the number of tubal ligations during the pandemic, this was not statistically significant ($p=0.128$). While the number of people who did not use any method before the pandemic was 83 (29%), 99 (34.6%) people did not use any method during the pandemic. When we questioned the child demand during the pandemic period, we observed that 58 (20.2%) of 286 patients had a child plan, and 4 of them were protected by the modern method and 3 with the

traditional method while 51 (17.8%) people who did not use any contraceptive method did not have a child demand as well. In terms of the pregnancy plan and education level, 106 (87.6%) of those with primary education or below and 77 (73.3%) of those with a university or higher education did not plan to have a child. We found a statistically significant difference between education level and child plan ($p=0.017$).

Table 1. Distribution of demographic and clinical characteristics of the study group.

Characteristics	n (%)
Age (y)	35 (18-49)
Age of spouse (y)	38 (22-61)
Educational status	
Primary school or lower	121 (42.3)
High school	60 (21)
University	105 (36.7)
Education Status of Spouse	
Primary school or lower	75 (26.2)
High school	103 (36)
University	108 (37.8)
Smoking status	
Smoking	76 (26.6)
Not smoking	210 (73.4)
Employment Status	
Unemployed	181 (63.3)
Employed	102 (35.7)
Retired	3 (1)
Employment Status of Spouse	
Unemployed	36 (12.6)
Employed	223 (78)
Retired	27 (9.4)
Income level	
Minimum wage and below	95 (33.2)
Above minimum wage	191 (66.8)
Length of Marriage	12 (1-35)
10 years and below	133 (46.5)
11-19 years	80 (28)
20 years and above	73 (25.5)
Number of Children	2 (0-5)

Presence of Chronic Diseases	
No	222 (77.6)
Medical illness	52 (18.2)
Psychiatric illness	8 (2.8)
Medical and Psychiatric illness	4 (1.4)
Frequency of sexual intercourse	
Less than once a month	47 (16.4)
1-2 times per month	71 (24.8)
1-2 times per week	129 (45.1)
3-4 times per week	32 (11.2)
4- 5 times per week	7 (2.4)
Source of information on the method on contraception	
Healthcare personnel	159 (55.6)
Relative/neighbor	14 (4.9)
Press/publication	12 (4.2)
I have not received information	101 (35.3)
Desire for pregnancy	
Yes	58 (20.3)
No	228 (79.7)
Use of the morning-after pill	
Yes	55 (19.2)
No	231 (80.8)
Complaint about the method	
Yes	8 (2.8)
No	179 (97.2)
When was the last time you had a mammogram? (>40 years old)	
Never	71 (65)
In the last two years	25 (23)
More than 2 years	13 (12)
When was the last time you had a pap smear?	
Never	139 (48.6)
In the last two years	96 (33.6)
More than 2 years	51 (17.8)

When we examine the factors affecting the choice of modern and traditional family planning methods, we found that this choice was not affected by factors such as age, spouse's age, spouse's education level, smoking, spouse's employment status, marriage year, the presence

of chronic disease ($p>0.05$). In our study, we found that there was a statistically significant increase in the use of modern contraceptive methods as the education level of women increased ($p=0.36$) (Table3). In the non-working women's group, the use of traditional methods was higher in families with an income below the minimum wage and with ≥ 2 children, with a statistically significant difference ($p=0.045$, $p=0.001$, $p=0.002$, respectively). We found a statistically significant increase in the use of traditional methods due to the decrease in the frequency of sexual intercourse ($p=0.001$).

Although there was no statistically significant difference between the methods of contraception information sources in the study groups using modern and traditional methods ($p=0.203$), 92 (62.2%) (numerically the majority) of the women using modern methods stated that they received information about the use of the method from health personnel. Remarkably, the rate of use of the morning-after pills (emergency contraception) was significantly higher in the group using modern methods ($p=0.001$). No statistical significance was found in terms of complaints from the method in both methods ($p=0.106$).

Table 2. The impact of the pandemic on the change in contraceptive method use

Contraceptive Method Use	Before Pandemic	During Pandemic	p
No Method	83 (29%)	99 (34.6%)	0.236
Oral contraceptives	17 (5.9%)	7 (2.4%)	0.041*
Coitus Interruptus (withdrawal)	38 (13.3%)	39 (13.6%)	0.909
Intrauterine Device	49 (17.1%)	37 (12.9%)	0.196
Male Condom	79 (27.6%)	78 (27.3%)	0.936
Tubal Ligation	13 (4.5%)	22 (7.7%)	0.128
Injectable Contraceptive	7 (2.4%)	4 (1.4%)	0.366

*Values with $p<0.05$ at 95% confidence interval were considered statistically significant

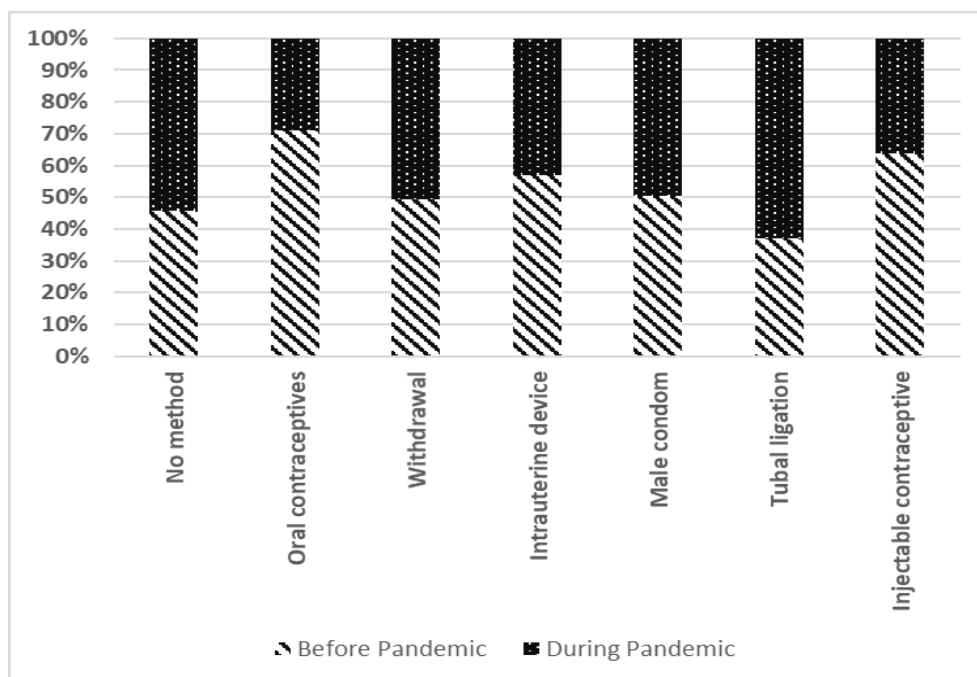


Figure 1: Changes in the use of contraceptive methods before and during the pandemic

Table 3: Factors affecting the use of modern and traditional contraceptive methods

	Modern Method (OCs, IUD, injectable contraceptive, male condom, tubal ligation)	Traditional Method (withdrawal, calendar method)	p
	n (%)	n (%)	
Age (y)	148 (79.2)	39 (20.8)	
Age of spouse (y)	35.2 (20-49)	34.6 (25-47)	0.633
Age of spouse (y)	38.6 (23-61)	38.5 (28-60)	0.915
Educational Status			
Primary school or lower	55 (37.2)	24 (61.5)	0.036*
High school	33 (22.3)	5 (12.8)	
University	60 (40.5)	10 (25.6)	
Education Status of Spouse			
Primary school or lower	36 (24.3)	9 (23.1)	0.977
High school	53 (35.8)	17 (43.6)	
University	59 (39.9)	13 (33.3)	
Smoking status			
Smoking	40 (27)	7 (17.9)	0.449
Not smoking	108 (73)	32 (82.1)	
Employment Status			
Unemployed	89 (60.1)	32 (82.1)	0,045*
Employed	57 (38.5)	7 (17.9)	
Retired	2 (1.4)	0	
Employment Status of Spouse			
Unemployed	16 (10.8)	5 (12.8)	0.627
Employed	122 (82.4)	31 (79.5)	
Retired	10 (6.8)	3 (7.7)	
Income level			
Minimum wage and below	32 (21.6)	19 (48.7)	0.001*
Above minimum wage	116 (78.4)	20 (51.3)	
Length of Marriage			
10 years and below	72 (48.6)	14 (35.9)	0.343
11-19 years	40 (27)	16 (41)	
20 years and above	36 (24.3)	9 (23.1)	
Number of Children			
0	12 (8.1)	5 (12.8)	0.002*
1	36 (24.3)	3 (7.7)	
2 and above	100 (67.6)	31 (79.5)	
Child Demand			
Yes	4 (2.8)	3 (10)	
No	144 (97.2)	36 (90)	
Presence of Chronic Diseases			
No	116 (78.4)	27 (69.3)	0.557
Medical illness	26 (17.6)	7 (17.9)	
Psychiatric illness	3 (2)	3 (7.6)	
Medical and Psychiatric illness	3 (2)	2	
Frequency of sexual intercourse			
Less than once a month	11 (7.4)	5 (12.8)	0.001*
1-2 times per month	43 (29.1)	13 (33.3)	
1-2 times per week	75 (50.7)	17 (43.6)	
3-4 times per week	16 (10.8)	3 (7.7)	
4- 5 times per week	3 (2)	1 (2.6)	
Source of information on the method of contraception			
Healthcare personnel	92 (62.2)	15 (38.5)	0.203
Relative-neighbor	5 (3.4)	3 (7.7)	
Press/publication	5 (3.4)	3 (7.7)	
I have not received information	46 (31.1)	18 (46.2)	
Use of the morning-after pill			
Yes	41 (27.7)	8 (20.5)	0.001*
No	107 (72.3)	31 (79.5)	
Complaint about the method			
Yes	6 (4.1)	2 (5.1)	0.106
No	142 (95.9)	37 (94.9)	

*Values with p<0.05 at 95% confidence interval were considered statistically significant

DISCUSSION

The usage of contraceptive methods by women of reproductive age (18-49) before and during the COVID-19 pandemic was compared in this study, and their satisfaction with the methods was questioned. In our study, while the rate of women using the family planning method was 71% before the pandemic, it was found to be 65.4% during the pandemic. According to the study by Sagsoz et al., the most commonly used contraceptive method was coitus interruptus (38.9%) in Kırıkkale province, the least-used method was tubal ligation (2.3%) (11). According to the 2018 data of the Turkish Population Health Surveys (TPHS), the use of contraceptive methods in our society was found to be 70%, while the use of modern methods was 49%, and the use of male condoms was 19% (12). This percentage is close to our study. We reasoned that the drop in the number of people using contraceptive methods could be attributed to the pandemic's impact on access to health facilities. According to TPHS 2018 data, when women's awareness of the method is examined, 97% of all women and 99% of currently married women declared that they are aware of any modern family planning method (12). When we asked the women in our survey where they acquired information regarding the approach they employed, we discovered that 55.6% got it from health personnel and 35.3% did not get any information about the contraceptive method.

We interpreted the significant decrease in the use of OCs in the pandemic period as the perception that COVID-19 causes thromboembolic events in the community. The rise in tubal ligations during the pandemic indicates that women prefer more permanent, safe, and non-hormonal contraception. Interestingly, we did not detect any change in the percentage of use in couples using the withdrawal method. This result showed us that long-term effective contraceptive methods for couples using traditional methods are not attractive for those who use traditional methods, even during the pandemic period. The lowest and highest retention rates were observed in

the OCs (2.4%) and condom (27.3%) groups, respectively. While the condom group in the OCs had the most transition, there was a change in the condom group, largely in the way of quitting the method.

When we examined the current contraception use, we found that the group with the highest use of the morning after pill was condom users (35.9%), while this rate remained at 6.1% in those who did not use the method. When we questioned the frequency of coitus during the pandemic period, we found that the frequency of sexual intercourse was higher in those who used modern methods. The fact that the pregnancy expectancy during the pandemic period of the group using modern contraceptive methods, which is one of the safer methods compared to traditional methods, was 2.8%, and the group using traditional methods was 10%, which can explain the difference between these two groups.

When we asked sexually active women about their pap-smear test status, we discovered that 48.6% of the women had never had one. We thought that this rate was a serious figure for our cervical cancer screening program. Similarly, when we questioned the mammography status of women over the age of 40, we thought that 65% had never had a mammogram and this rate was quite low for breast cancer screening. We concluded that women should be better informed about cancer screening tests.

Patients were prevented from filling out questionnaires erroneously and incompletely in the outpatient clinic by using face-to-face questionnaires. Since we were in the same space with the patients, we were able to address the participants' queries, and to ensure that the women who had difficulty reaching a specialist physician due to the epidemic were properly informed.

The main weakness of our study was that when the participants had difficulty in reaching the clinic, we were unable to catch the participants before they stopped taking OCs and unable to provide the necessary information. However, when we examine the increase in tubal ligation rate during the pandemic, we have

observed that people who want it benefit from health services in some way. The fact that those who use traditional methods exclusively utilize the withdrawal method among the patients included in the study, as well as the fact that we did not query the reasons for the shift in those who made a method change, are other weaknesses of our study.

In a study conducted in Konya in 2007, the frequency of women using the family planning method was found to be 61.4%. The frequency of using modern methods, on the other hand, was found to be 36.4%. In our study, the frequency of using modern methods was also found to be 79.2%. The level of development of the region and the education level of women may have an effect on the rate and preferences by using the family planning methods.

In a review that examined the possibility of using combined hormonal contraception during the COVID-19 pandemic, they found no evidence of an increased risk of possible venous thromboembolism (VTE) in OCs users suffering from COVID-19 (13). In this study, we found that the percentage of use of hormonal contraceptive methods (OCs, injection) declined from 8.3% to 3.8% following the pandemic. We attributed this decrease to the fact that it is not preferred in the general population due to the thought that COVID-19 increases the risk of thromboembolism. Appropriate assessment of VTE risk in OCs users is particularly important during the pandemic, as the SARS-CoV-2 infection is known to predispose to both arterial and venous (12,13). The mechanisms that cause coagulopathy in COVID-19 patients are not fully understood (15). In this study, the authors confirmed a low thrombotic event rate in COVID-19 patients after discharge from the hospital, even if anticoagulation was not performed (16). Ferreira-Filho et al. concluded in their review that adding anticoagulant therapy to women with COVID-19 who are on OCs is preferable to discontinuing OCs and switching to progestin-only or non-hormonal contraception (17).

Wood et al. stated that women's need for contraception increased, based on results from a population-based national or regional cohort surveys of women's need and usage of contraception before and during COVID-19 in four Sub-Saharan African geographies (18). In our study, while the rate of use of contraceptive methods was 71% before the pandemic, it decreased to 65.4% during the pandemic. Because of the shortage of transportation and access to facilities during the epidemic, FIGO's Committee on Birth Control and Family Planning is advocating for the increased use of long-acting, highly effective, reversible contraceptives (19). Of the women participating in the study, 42.3% were primary school graduates.

In developed countries, the use of oral contraceptives stands out. Oral contraceptives and condoms were found to be the most commonly used methods in all participating countries (England, Germany, Spain, Italy, and the United States) in a study conducted by Sarah Johnson et al. in 2010 with the participation of approximately 500 women from each of the five countries (10). On the other hand, the withdrawal method is the most often used traditional contraception method in our society, according to TPHS 2018 data, with a 20% utilization rate (12). In contrast to these findings, the condom was the most widely utilized (27.3%) contraceptive method in our study.

The contraceptive methods to be used, regardless of the education level of the users, should be explained in the most appropriate way and information should be given about the possible side effects. Unwanted pregnancies and their negative consequences can thus be averted by using an effective and appropriate method. While we cannot predict whether another pandemic will strike, we should strengthen our preparedness by adding additional knowledge and education to birth control counselling in the event of future social distancing requirements. Women may also decide to stop using hormonal contraception for reasons unrelated to the method they use (desire for children, lack of regular partners). As a

result, we should ask women to contact their clinicians before stopping a birth control method.

Due to COVID-19's unprecedented pressure on the healthcare system and prioritizing social distancing, many hospitals have postponed all "non-essential" healthcare visits, often including birth control. This practice may lead to undesirable results in terms of maternal and child health. Women should be counselled on what to do about contraception in cases of social distancing measures for different pandemics that may occur in the future. When regular health care is interrupted, access to long acting and emergency contraceptives becomes even more critical.

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Researchers' Contribution Rate Statement:

Concept/Design: İSC; Analysis/Interpretation: İSC; Data Collection: İSC; Writer: İSC; Critical Review: İSC; Supervision: İSC.

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