

Examining Menstrual Irregularity and Marital Adjustment in Women with COVID-19 Disease

COVID-19 Hastalığını Geçiren Kadınların Adet Düzensizliği ve Evlilik Uyumu Yönünden İncelenmesi

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ABSTRACT

Introduction: This study aims to examine the effect of COVID-19 disease on menstrual irregularity and marital adjustment of women.

Material and Method: The study was conducted with quantitative method. In the study, 147 persons were reached. The Personal Data Form and the Revised Dyadic Adjustment Scale (RDAS) were used as data collection tools.

Results: The participants reported that they had situations which caused significant difference in post-COVID-19 menstrual characteristics ($p<0.05$). Only the score of the consensus factor of the participants from the RDAS differed in terms of pre- and post-COVID-19 periods. The mean score of consensus dropped after COVID-19 and this was significant ($p<0.05$).

Conclusion: It was observed that COVID-19 disrupted the menstrual cycle and marital adjustment of women who survived the disease.

Keywords: Covid-19, woman, menstrual health, marital adjustment

ÖZ

Giriş: Çalışmanın amacı: COVID-19 hastalığını geçiren kadınların adet düzensizliği ve evlilik uyumu yönünden etkisini incelemektir.

Materyal ve Metod: Araştırma nicel yöntemdedir. Araştırmada, 147 kişiye ulaşılmıştır. Veri toplama araçları olarak; Bireysel Bilgi Formu ve Yenilenmiş Çift Uyum Ölçeği (YÇUÖ) kullanılmıştır.

Bulgular: Katılımcılar korona öncesi ve korona sonrası menstrüasyon özellikleri açısından anlamlı farklılık oluşturan durumlar yaşadıklarını bildirmişlerdir ($p<0,05$). Katılımcıların YÇUÖ'den sadece uzlaşma faktör puanı korona öncesi ve sonrası süreç açısından fark göstermiştir. Korona sonrası uzlaşma puan ortalamaları düşmüş olup bu durum anlamlı çıkmıştır ($p<0,05$).

Sonuç: COVID-19 hastalığını atlatmış kadınların menstrual siklus ve evlilik uyumu üzerinde olumsuz etki yarattığı gözlenmiştir.

Anahtar Sözcükler: Covid-19, kadın, adet sağlığı, evlilik uyumu

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Introduction

Menstruation varies according to the person, organism, environment and climate. Stress and some exercises or changes in daily life may alter the menstrual cycle (1). Problems caused by physical, behavioural and emotional alterations associated with this process negatively affect women's lives (2-4). It is stated in the literature that menstrual irregularities are associated with age, age at menarche, body mass index (BMI), physical activity, smoking, caffeine and alcohol use, nutritional state,

traumatic and permanent stressful conditions and psychological factors (5).

The COVID-19 pandemic is a state of crisis that causes global public health concern due to its medical, psychological, and socioeconomic aspects. COVID-19 infection is a pandemic that spreads rapidly, has no treatment yet, and can be fatal. The disease can be symptomatic or asymptomatic in individuals. Therefore, the most effective method is emphasised to be

“protection from the disease” and accordingly, such measures are taken around the world. “Social isolation – quarantine”, a preventive measure, is implemented to minimise the risk of infection. Due to the “stay-at-home” policy, the quarantine conditions keep people away from their daily routine life, and lead a sedentary life, resulting in alterations in their emotional state. Also, as long as people constantly watched and listened to news about the COVID-19 pandemic and stayed at home for a prolonged time, the alterations in their emotional state increased (6). When examining the literature in general, previous studies have examined the effects of wars and some mass disasters such as earthquakes on the menstrual cycle (7).

On the other hand, this pandemic that broke out in 2019 and has spread throughout the world has led to many alterations and differences in people’s lives (8). Due to many risks of infection such as droplets and contact with contaminated surfaces, the virus has turned into a disease type that necessitates severe precautions to be taken. To minimise the risk of infection, it was necessary to keep social distance between people. Social distancing has also affected spousal relations and consequently sexual intercourse. A reduction in the frequency of sexual intercourse may be observed along with sexual reluctance due to possibility of infection as a result of close contacts such as the presence of the virus in one of the spouses, kissing and physical touch (9–11).

Marriage is of primary importance for satisfying couples’ biological, social and psychological needs. While social and psychological needs are taken into consideration, it contributes to the development of the sense of belonging by reinforcing the importance that spouses attach to the family institution with mutual love, respect, trust, and unity (12). The satisfaction of sexual desire constitutes a biological need and the studies have reported that sexual adjustment positively affects marital adjustment (13–15).

It can be asserted that the measures taken under quarantine during the COVID-19 pandemic negatively affect both the menstrual cycle order of women and spousal relations by causing significant psychological problems in people. A literature review revealed that menstrual cycle patterns of women and dyadic adjustment with their spouses were mostly studied during the pandemic but studies assessing menstrual cycle pattern and dyadic adjustment of women who were diagnosed with COVID-19 and suffered from this disease were not found in the literature. The contribution of the findings to the literature from this perspective is considered to be guiding in importance of evaluating the menstrual cycle pattern and dyadic adjustment in women who had this disease in negative circumstances such as the pandemic.

Objective

The aim of this study is to examine the effect of COVID-19 disease on menstrual irregularity and marital adjustment of women. This study sought answers to the following questions:

1. Does being diagnosed with COVID-19 disease affect negatively women’s menstrual irregularity?
2. Does being diagnosed with COVID-19 disease affect negatively women’s marital adjustment with their spouses?

Material and Method

Design of the Study

The study was conducted with quantitative method. The data were collected in an observational way, the retrospective recollection was preferred for the time relationship and it was intended to identify the society.

Population and Sample

In the study, 147 persons were reached. A post-hoc power analysis was done over the number of individuals reached. Following values were determined in the analysis; tail=one, effect size=0.2, α err prob=0.05, and the $1-\beta$ err prob=0.77. For data collection, the convenience sampling method was preferred. The data were collected by conducting face-to-face interviews with the participants between 15 November 2021 and 15 February 2022.

Ethical Considerations

The approval of the Bingol University Ethics Committee (decision no: 21/02, date: 19.08.2021) was obtained to conduct the study, followed by obtaining the permission of the institution where the study would be carried out. The women who agreed to participate in the study gave their written consent by signing an Informed Consent Form.

The participants were informed through the informative text at the top of the questionnaire in accordance with the Declaration of Helsinki, and the data were collected from voluntary female participants aged 18–49 years, who were diagnosed with COVID-19 disease and “reported no psychiatric disorder” diagnosed by a physician.

Data Collection Tools

A Personal Information Form (37 questions) and the Revised Dyadic Adjustment Scale (RDAS) were used as data collection tools.

Personal Information Form (including independent variables):

This form has 37 questions about some characteristics of the participants (age, gender, education level, profession, marital status, menstrual cycle pattern, etc.).

Revised Dyadic Adjustment Scale (RDAS) (includes dependent variables): The scale was developed by Spanier (1976) to assess the quality of relationships of married or cohabiting couples in marriage or similar dyadic relationships (16). Busby et al., (1995) revised the scale (17). Gündoğdu (2007) adapted it into

Turkish (18). It consists of 14 items. It is a five-point Likert-type scale (1=never to 5=always). Items 7, 8, 9, and 10 are reversely scored. Revised dyadic adjustment scale has three sub-factors. The first factor is *satisfaction* and includes items 7, 9, 11, 12, and 13. The second factor is *consensus* and includes items 1, 2, 3, 4, 5, and 6. The third factor is *cohesion* and includes items 8, 10, and 14. The highest score of the scale is 70 points, and a higher score signifies that couples have a higher quality of the relationship. The Cronbach's alpha internal consistency reliability is 0.90 for the original version of the scale. In this study, the Cronbach's alpha internal consistency was determined as 0.89.

Data Assessment

The IBM Statistical Package for the Social Sciences (SPSS) program version 22 was used to analyse the data and error controls and tables were made through the program. Numbers and percentages are all provided in statistical analyses. Histogram plots were drawn for the compliance to the normal distribution, skewness and kurtosis values were evaluated, and Kolmogorov-Smirnov analyses were done. Wilcoxon test was applied between some conditions and characteristics and the total and subscale scores of the RDAS, and the value of $p < 0.05$ was accepted as statistically significant.

Results

The mean age of the participants was 32.79 ± 6.71 years (Min: 20, Max: 47, Median: 31.00) and the mean age of their spouses was 36.09 ± 7.54 years (Min: 24, Max: 58, Median: 35.00). 21.8% of the participants reported that they smoked. The mean year of smoking was 12.18 ± 9.40 years (Min: 1, Max: 25, Median: 10.00). 28.6% of the participants reported that they had a chronic disease. Health problems of the participants were painful bladder syndrome (3 people), asthma (3 people), kidney disease (3 people), diabetes (3 people), FMS (3 people), Hashimoto's thyroiditis (9 people), hypertension (5 people), migraine (6 people), myasthenia gravis (3 people), and PCOS (2 people). Table 1 illustrates the socio-demographic characteristics of the participants.

The participants had a mean menarche age of 13.44 ± 1.41 years (Min: 11, Max: 18, Median: 13.00).

The mean age of the first pregnancy was 25.72 ± 3.81 years (Min: 18, Max: 34, Median: 26.00). The mean gravidity was 2.22 ± 2.44 (Min: 1, Max: 19, Median: 2.00). The mean number of living children was 1.68 ± 1.02 (Min: 0, Max: 5, Median: 1.00) Table 2 shows the reproductive characteristics.

As Table 3 shows, only the score of the consensus factor of the participants from the RDAS differed from the pre-and post-COVID-19 periods. The mean score of consensus dropped after COVID-19 and this was significant ($p < 0.05$).

Table 1. Some socio-demographic characteristics of the participants (N=147)

Characteristics		n	%
Age range	30 years and below	64	43.5
	31 years and above	83	56.5
Duration of education	8 years	3	2.0
	12 years	31	21.1
	13 years and more	113	76.9
Age range of the spouse	30 years and below	38	25.9
	31 years and above	109	74.1
Duration of the spouse	8 years	6	4.1
	12 years	23	15.6
	13 years and more	118	80.3
Family Type	Nuclear	132	89.8
	Extended	15	10.2
Place of Residence	Village	3	2.0
	District	15	10.2
	Province	129	87.8
Perception of Economic status	Low	3	2.0
	Moderate	130	88.4
	High	14	9.5
Presence of a chronic disease	No	105	71.4
	Yes	42	28.6
Smoking	No	115	78.2
	Yes	32	21.8

Table 2. Reproductive characteristics of the participants (n=147)

Characteristics		n	%
Mode of last delivery (n= 118)	Normal vaginal delivery	58	49.2
	Caesarean section	60	50.8
The duration between the last two pregnancies (n=76)	Less than 2 years	18	23.7
	2 years and more	58	76.3
Unintended pregnancy (n= 138)	None	110	79.7
	Available	28	20.3
Mode of termination of unintended pregnancy (n= 40)	Abortion	5	12.5
	Curettage	6	15.0
	Birth	26	65.0
	Other	3	7.5

As Table 4 shows, the participants reported that they experienced situations causing significant differences in menstrual characteristics at the pre- and post-COVID-19 periods ($p < 0.05$). The participants stated that the frequency of menstruation decreased, they complained of more pain, and their complaints such as discharge-itching-odour also increased in the post-COVID-19 period. Their requests to apply to a health institution declined based on their statements, which was significantly different ($p < 0.05$).

Discussion

COVID-19 is a highly contagious virus that has caused the greatest pandemic of the last century. Since the existence of mankind, pandemics that have resulted in massive deaths have significantly affected adversely health, economic, and social life. The novel coronavirus (SARS-CoV-2) was a causative agent of a series of atypical respiratory diseases in Wuhan, Hubei Province, China in December 2019 and the World Health

Table 3. Pre- and post-COVID-19 values of the revised dyadic adjustment scale

		Consensus	Satisfaction	Cohesion	Total
Pre- COVID-19 Period	Mean ± SD Median	24.31 ± 5.21	18.64 ± 3.57	10.09 ± 1.85	53.06 ± 9.38
	Min-Max	25.00	19.00	10.00	53.00
	95% CI	6-30	7-25	4-13	17-68
		23.47-25.16	18.06-19.22	9.79-10.39	51.53-54.59
Post- COVID-19 Period	Mean ± SD Median	23.72 ± 5.58	18.64 ± 3.64	10.28 ± 1.95	52.65 ± 10.04
	Min-Max	25.00	18.00	10.00	53.00
	95% CI	6-30	7-25	3-14	16-68
		22.81-24.63	18.05-19.24	9.96-10.60	51.02-54.29
Test Values		Z= -2.013 p = 0.044	Z= -0.277 p = 0.782	Z= -1.733 p = 0.083	Z = -0,316 p = 0.752

Table 4. Distribution of menstrual characteristics of the participants on RDAS based on pre- and post-COVID-19 period (N=147)

Characteristics	Pre-COVID-19 Period Mean ± SD	Post-COVID-19 Period Mean ± SD	Test value
Frequency of menstruation	1.99±0.42	1.87±0.33	Z = -3.00 p = 0.003
Pain complaint	0.71±0.45	0.80±0.40	Z = -2.44 p = 0.014
Complaints of discharge, itching, odour etc.	0.24±0.43	0.46±0.50	Z = -4.58 p = 0.001
Applying to a health institution for the complaints	0.58±0.49	0.25±0.43	Z = -6.55 p = 0.001

Organisation (WHO) announced it as a pandemic on 11 March 2020 (19). Women have been reported to have a lower risk of serious illness and death due to COVID-19 infection than men. Nevertheless, existing social inequalities may impose an unequal burden of the pandemic (20). In many societies, gender-based inequalities expose women to barriers to accessing health resources and services. Due to travel restrictions, limited supplies, inadequate infection control measures, and disruption of the routine functioning of health systems during the pandemic, women have had difficulty in accessing to the healthcare system and their health have been negatively affected (21). Therefore, this study aimed to determine how COVID-19 disease affected women's menstrual irregularity and marital adjustment.

Menstruation affects a large part of the total life expectancy of women under healthy conditions, and when the existing studies are reviewed, we observe that similar to the present study, there have been a very limited number of studies on women's health since the COVID-19 pandemic broke out. It would not be wrong to suggest that the present study sets an example for future studies in this context. The mean age of the participants was 32.79±6.71 years and their mean menarche age was 13.44±1.41 years (Min: 11, Max: 18, Median: 13.00). In their study, Topatan and Kahraman reported that women had a mean age of 20.4±1.2 years and a mean menarche age of 13.32±1.36 years (22). The mean age was higher in the present study and the menarche age reported by the researchers is compatible with the results of the present study.

It was found that 21.8% of the participants reported that they smoked. The mean year of smoking was 12.18±9.40 years (Min: 1, Max: 25, Median: 10.00). 28.6% of the participants stated that

they had a chronic disease. Health problems of the participants were painful bladder syndrome (3 people), asthma (3 people), kidney disease (3 people), diabetes (3 people), FMS (3 people), Hashimoto's thyroiditis (9 people), hypertension (5 people), migraine (6 people), myasthenia gravis (3 people), and PCOS (2 people). Although the cycle length varies among women and in different periods of reproductive age, it follows a regular course between the ages of 20–30. Many conditions such as smoking and chronic diseases may also affect the cycle duration, and led to changes (23). There are also studies which reported that pain, concentration, behavioural changes and negative affective problems in the premenstrual period were more common in smokers compared to non-smokers (24,25).

The participants reported that they had situations which caused significant difference in post-COVID-19 menstrual characteristics ($p < 0.05$). The participants reported that the frequency of menstruation decreased, they complained of more pain, and their complaints such as discharge-itching-odour also increased in the post-COVID-19 period. Their requests to apply to a health institution also declined based on their statements, which was significantly different ($p < 0.05$). When the studies on how natural disasters or other epidemics that have taken place in the world affected women's health are examined, it is observed that the number of such studies in the literature is very limited. When the literature has been examined, it has been found that stress and anxiety in women led to menstrual irregularities and problems. The results of the study by Hong-Li et al. on menstrual irregularity rates during the earthquake in Wenchuan reported that approximately 21% of the participants stated that their menstrual cycles became irregular after the Wenchuan

earthquake and that rate was significantly higher compared to the pre-earthquake period (6%, $p < 0.05$) (26). In another study examining the effect of a 16-day war on the menstrual cycle, menstrual data of women just before the war and 3 and 6 months after the war were gathered and analysed in comparison with women who were not exposed to war. Consequently, it was found that women who perceived war as an acute stressor and were more exposed to war suffered from menstrual irregularities (7). Apart from these, the effects of natural disasters have not been analysed in the literature in terms of women's health, and it appears that menstrual health or reproductive system health has not been examined in the studies where general effects have been analysed and all studies have mostly focused on conditions related to pregnancy (27–31). Unfortunately, it appears that the articles only addressed the effects of COVID-19 disease on women's health in terms of maternal or pregnant women's health, and no details about menstrual health are available in the articles. Especially women's menstrual cycle pattern and dyadic adjustment with their spouses during the pandemic have been analysed in the literature, but studies that evaluated the menstrual cycle patterns of women who were diagnosed with COVID-19 and suffered from this disease have not been found (32,33). Contribution of the findings to the literature from this perspective is considered to be guiding in importance of evaluating the menstrual cycle pattern in negative circumstances such as pandemic and in women who had this disease.

Despite recent studies suggesting that stress can propagate into relationships and is associated with lower-quality relationships, some couples are able to maintain the quality of their relationships under stressful experiences. For example, while unfavourable experiences such as cancer, the death of a child, and natural disasters disrupt the relationship and adjustment of some couples, they improve the relational attachment of some couples (34–36). It was determined in the present study that the dyadic adjustment of women in the stressful atmosphere brought about by the COVID-19 isolation process was negatively affected. It is reported that pandemic-related alterations disrupt the functioning of the whole family and the stress that disturbs one person may also have negative effects on the spouse (37).

Only the score of the consensus factor of the participants from the RDAS differed in terms of pre- and post-COVID-19 periods. The mean score of consensus dropped after COVID-19 and this was found to be significant ($p < 0.05$). Pietromonaco and Overall's model indicated that extrinsic stress may lead to maladaptive dyadic relationship processes such as negativity and hostility (38). The COVID-19 pandemic and lockdown compelled couples into social isolation and they had to come to grips with their daily lives (such as childcare). The propagation of stress can disrupt the dyadic adjustment of couples by making the time spent together shorter, weakening mutual feelings, diminishing communication, or increasing the appearance of certain disorders (anxiety, depression, rigidity) (39). Therefore,

we believe that an online relationship training programme may be beneficial to increase and support their satisfaction with their relationship and dyadic adjustment.

Conclusion

In conclusion, it was observed that COVID-19 disrupted the menstrual cycle and marital adjustment of women who survived the disease. During the pandemic, the participants reported a drop in the frequency of menstruation in the post-COVID-19 period, an uptick in pain complaints, and an increase in complaints such as discharge-itching-odour. With these multifaceted conclusions about menstrual health, the present study, which is believed to shed light on future studies, has been a study that is almost a review in assessing the effects of the pandemic period we are going through from the standpoint of women's health. Moreover, the findings of the study indicated that dyadic adjustment was negatively affected in women with COVID-19 and in the stressful atmosphere brought about by the COVID-19 isolation process. The process we are going through should prioritise introducing marriage counselling programmes for individuals who have marital conflicts, encouraging them to receive couple and family therapy, and improving marital adjustment. Given the effect of monthly earnings on stress, it is important for these intervention programmes to be free of charge or affordable. Accordingly, it would be beneficial for postgraduate students of clinical psychology to engage in group intervention either as part of their internship or their thesis programmes, both academically and in terms of public health.

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