Investigation of The Relationship Between Premenstrual Syndrome Symptoms and COVID-19 Psychological Distress in Nursing Students

Özlem Doğan Yüksekol [1]* , **Zelal Kaya** [2] , **Feyza Nazik** [2]

[1]Department of Nursing, Faculty of Health Sciences, Fırat University, Elazığ, Turkey
[2]Department of Nursing, Faculty of Health Sciences, Bingöl University, Bingöl, Turkey

ABSTRACT:
Purpose: The aim of this study was examine the relationship between PMS symptoms. and COVID-19-related psychological distress of nursing students in the COVID-19 outbreak.
Material and Methods: The research is of cross-sectional type and was conducted on April 10-20, 2021. A total of 131 students were reached.
Results: 77.9% of the students had PMS symptoms. During the pandemic, 15.3% of students reported an increase in the duration of PMS complaints, and 22% reported an increase in the severity of PMS complaints. A significant difference was found between the COVID-19 psychological distress scale and the PMS scale total score, irritability, pain, appetite changes, sleep changes and bloating means.
Conclusion: It was found that students had negative changes in their menstrual characteristics and PMS complaints during the pandemic process. It may be recommended to identify and strengthen the measures that can be taken against the possible physical and psychological effects of the pandemic.
Keywords: Premenstrual syndrome, COVID-19, Nursing students

*Corresponding author: Özlem Doğan Yüksekol, email: ozlem193523@gmail.com

INTRODUCTION

Premenstruel Syndrome (PMS) is a major public health problem that causes loss of labor force in women, decreased productivity, stress, anger, and depression (Bülez and Yalvaç 2021). In the luteal phase of the ovarian cycle the PMS phase of a disorder that occurs about a week before menstrual bleeding, ending with the onset of menstrual bleeding; changes in emotions, behavior and physical symptoms are observed (Dickerson et al., 2003; Aydın Kartal and Kaykısız, 2020). Although PMS affects the entire age group during menstruation, it is more common, especially in the 30-40 age range (Doğan et al.,2012). PMS is a major problem in adolescence with the onset of menarche. Although it is known that there are more than one hundred and fifty symptoms of PMS, its symptoms vary from person to person (Adıgüzel et al.,2007). The most common symptoms include restlessness, inability to control anger, decreased concentration, fullness and tenderness in the breasts, muscle and joint pain, tension, weight gain, anxiety, and deterioration in social relationships (Ölçer et al., 2017). Addressing PMS from adolescence will reduce the psychological and economic losses that can be seen during the childbearing age (Taşçı, 2006).

The COVID-19 pandemic, which affected the entire world, has become a global public health problem from a medical, spiritual, social and economic point of view (Gorbelanya et al., 2020). Negative effects are observed as a result of concern due to the measures taken to protect against the fear and

disease caused by the pandemic (UNICEF, 2020). Uncertainty during this period, restriction of applications to hospitals, social isolation, quarantine application, economic difficulties, restriction of access to social support networks, abstinence from daily activities, it can cause physiological changes and mood changes (Aydın-Kartal and Kaykısız, 2020). There are no studies in the literature on the direct effect of COVID-19 on menstruation. But the pandemic caused by: stress, anxiety, changes in the educational system, economic and social deficiencies can lay the foundation for the formation of PMS symptoms (UNICEF, 2020). Nurses play a key role in reducing the symptoms of PMS, an important public health problem, in providing holistic care to women experiencing PMS (Selçuk et al., 2014). Detection of PMS symptoms in nursing students will guide initiatives. Appropriate interventions will be determined, especially by uncovering the effects of the COVİD-19 pandemic from PMS. A study examining the relationship between PMS and COVID-19 psychological distress is not found in the literature. Therefore, this study was planned to examine the relationship between PMS symptoms and COVID-19 psychological distress of nursing students in the COVID-19 epidemic. In the light of the data obtained from the study, COVID-19 will benefit students in terms of taking the necessary measures for the state of psychological distress, making regulations and raising awareness of individuals on this issue.

MATERIALS AND METHODS
Type of the Study
The research is of the cross-sectional descriptive type. The research was conducted on April 10-20.

Sampling and Participant
190 female students studying in the nursing department of the Faculty of Health Sciences in eastern Turkey formed the universe of the research. In the power analysis, the sample size was calculated as 127, and the research was completed with 131 students. 68% of the universe has been reached.

Data Collection Tools
The survey form was used to collect the data. The questionnaire consisted of 3 sections: The Personal Information form with 16 questions consisting of the socio-demographic and menstrual characteristics of the students and the effects of the pandemic process on menstruation, the PMS scale and and the COVID-19 psychological distress scale.

The Personal Information Form
Personal information form was prepared by the researchers in line with the literatüre (Aydın Kartal and Kaykısız, 2020; Adıgüzel et al., 2007). Age, class, menarche age, cycle duration, period duration, smoking status, PMS symptoms they experienced, methods they used to cope with PMS were questioned. In addition, changes in the duration and severity of PMS complaints during the pandemic process, as well as the duration of menstruation, difficulty finding sanitary pads, the status of getting extra sanitary pads, and the status of COVID-19 disease were asked.

Premenstruel Syndrome Scale
Premenstruel syndrome scale was developed by Gençdoğan to determine premenstrual symptoms and to assess the severity of the symptoms in 2006. Also Gençdoğan conducted the validity and reliability study of the scale. The scale is a five-point Likert-type and consisting of 44 items. The scale questions the PMS experienced in the last three months. The scale has nine subscales: Depressive mood, anxiety, fatigue, irritability, depressive thoughts, pain, change of appetite, changes in sleep patterns and bloating. The sum of the scores obtained from these nine subscales yields the overall PMS scale score. The lowest score possible to be obtained from the scale is 44, the highest score is 220. The higher score is the higher intensity of the PMS symptoms is. While the score exceeding 50% of the highest possible score means that the person has PMS. The Cronbach's Alpha was calculated as 0.75. In this study, Cronbach's alfa was found 0.93(Gençdoğan, 2006).

COVID-19 Related Psychological Distress Scale
COVID-19 related psychological distress scale was used in the research. Ay et al. (2021) made the validity reliability of the scale developed by Feng et al. (2020) to determine the psychological distress

associated with COVID-19 in Turkey. The scale has 12 items. Scale contains two dimensions: suscipion and anxiety-fear. Items in scale are five point likert type scale. They range from 1 (strongly disagree) to 5 (strongly agree). Higher scores reflect higher psychological distress. Cronbach's alfa was found 0.88. In this study, Cronbach's alfa was found 0.91.

Data Collection

The data of the research were collected online. Consent was obtained from the students before participating in the study. The data collection time took approximately 15-20 minutes for each student.

Statistical Analysis

Data analysis was performed using SPSS 21.0 (Statistical Package for the Social Sciences, Chicago, Illinois). The data was evaluated in the SPSS 16 statistical package program. The suitability of the data for normal distribution was evaluated. Since the data fit the normal distribution, t-test and one-way variance analysis were used in independent groups. p<0.05 was accepted for the significance level of statistical tests.

Ethical Considerations

Permission was obtained from the scientific research and Publications Ethics Board of Bingöl University to Conduct the Research (Decision no: 92342550/044/11706). Students were informed about the importance and purpose of the study and accepted consent was obtained.

RESULTS

The mean age of the students is 21.1±1.3 and the age of the first menarche is 13.0±2.0. 33.6% of the students were reading on second grade. The students smoking rate is %4.6. %74.8 of students have regular periods. The students reported abdominal pain at 78.6%, mood changes at 76.3%, and abdominal bloating-tension disorders at 68.7% as the highest PMS complaint. The proportion of students using any method to reduce PMS ailments was found to be 45%. Distribution of students according to sociodemographic and menstrual characteristics is given in Table 1.

Changes in menstrual characteristics during the pandemic process were given in Table 2. Accordingly, 15.3% of students had an increase in the duration of PMS complaints, and 22.0% had an increase in the severity of PMS symptoms complaints. 10.7% of the students had an increase in period duration and 12.2% had a decrease. During the pandemic, the rate of difficulty finding sanitary pads was found to be 14.5%. Scores count as PMS overall means of 136.0. According to the total score cut-off score, 77.9% of them are PMS. Belief in joy was 16.7±5, depressive thought was 20.8±6.2, 8.7±3.0, urban 9.0±3.1, sleep 8.9±3.1, bloating 8.9±3.0. The student's COVID-19 Psychological Distress Scale score was found to be 42.3±9.4. The mean score, minimum and maximum values obtained from liking sub-images of PMS and COVID-19 are given in Table 3.

Considering the mean score of PMS symptoms according to the grade level, it was found to be significant (p<0.05). The mean PMS score of the third-year education was higher than that of the second-year education. In addition, the mean PMS score was higher in smokers and menstruating patients. No significance was found between use of any form to exit PMS and the mean score of the head. The means of the PMS scores of the students in sociodemographic and menstrual appearance are given in Table 4.

The PMS scale mean score of the students who stated that there was an increase in the duration of PMS complaints during the pandemic process was significantly higher (p<0.05). It was found that the severity of PMS complaints and changes in the amount of menstruation during the pandemic process did not affect the mean score of the PMS scale. Likewise, there was no relationship between the problems of finding sanitary pads and buying too many pads during the pandemic period and the mean score of the PMS scale. The distribution of the effect of the pandemic on menstrual characteristics according to the total PMS scale scores is given in Table 5. Correlation analysis between COVID-19 psychological distress scale score and PMS scale total score and sub-dimensions in students was given in Table 6. Accordingly, a significant difference was found between the COVID-19 psychological distress scale and the PMS scale total score, irritability, pain, appetite changes, sleep changes and bloating means.

Table 1. Distribution of students according to sociodemographic and menstrual characteristics (N=131)

Variables	n	%
Class		
1	16	12.2
2	44	33.6
3	37	28.2
4	34	26.0
Smoking Status		
Yes	6	4.6
No	125	95.4
Menstrual Order		
Regular	98	74.8
Irregular	33	25.2
Premenstrual Disorders*		
Abdominal Pain	103	78.6
Changes in Mood	100	76.3
Abdominal Bloating-Tension	90	68.7
Breast Tenderness	80	61.1
Back Pain	68	51.9
Mild Depression	68	51.9
Changes in Appetite	54	41.2
Headache	29	22.1
Weight Gain	22	16.8
Constipation	14	10.7
Using Methods to Deal with PMS		
Yes	59	45.0
No	72	55.0
Techniques Used to Deal with Premenstrual Disorders*		
Massage	26	19.8
Consuming Caffeine	25	19.1
Bathing	24	18.3
Hobby Activities	18	13.7
Attentive Nutrition	16	12.2
Breathing Exercise	14	10.7
Age	21.1±1.3	
First Menarche Age	13.0±2.0	
Cycle Duration	29.7±14.1	
Duration of Menstruation	6.4±1.2	

  * Students responded more than once.

Table 2. Characteristics related to the effect of pandemic on menstruation process in students

Variables	n	%
PMS Complaint Period During Pandemic Process		
Increase	20	15.3
Decrease	3	2.3
Stabil	108	82.4
PMS Complaint Severity in Pandemic Process		
Increase	30	22.0
Decrease	3	2.3
Stabil	98	74.8
Duration of Menstruation in the Pandemic Process		
Increase	14	10.7
Decrease	16	12.2
Stabil	101	77.1
Having Trouble Finding Sanitary Pads During the Pandemic		
Yes	19	14.5
No	112	85.5
Purchasing Extra Sanitary Pads During the Pandemic		
Yes	71	54.2
No	60	45.8
Getting COVID-19		
Yes	33	25.2
No	98	74.8

Table 3. Distribution of premenstrual syndrome scale and COVID-19 psychological distress scale score means

PMS Sub-dimensions and Total Score	Mean±SS	Min-Max Values Received by Students	Min-Max values
Depressive Feelings	22.5±6.4	7-35	11-34
Anxiety	18.5±7.1	7-35	7-35
Fatigue	21.5±5.5	6-30	7-35
Irritability	16.7±5.3	5-25	5-25
Depressive Thoughts	20.8±6.2	7-35	7-34
Pain	8.7±3.0	3-15	3-15
Changes in Appetite	9.0±3.1	3-15	3-15
Changes in Sleep	8.9±3.1	3-15	3-15
Bloating	8.9±3.0	3-15	3-15
Total	136.0±32.3	44-220	61-210
COVID-19 Psychological Distress Scale	42.3±9.4	5-60	12-60

Table 4. Distribution of PMS scale total scores according to socio-demographic and menstrual characteristics of students

Variables	Mean±SS	Test /p
Class		
1	142.9±23.3	
2	127.7±34.7[1]	F=2.507/0.052
3	145.7±28.0[2]	1<2
4	133.0±34.7	
Smoking Status		
Yes	169.6±25.2	
No	134.4±31.8	t=2.667/0.009
Menstrual Order		
Regular	132.4±31.5	
Irregular	146.7±32.6	t=2.236/0.027
Using Methods to Deal With PMS		
Yes	137.0±30.8	
No	135.2±33.7	t=-0.308/0.758

Table 5. Distribution of the effect of pandemic on menstrual characteristics in students according to PMS symptoms scale total scores

Factors	Mean±SS	Test /p
PMS Complaint Period During Pandemic Process		
Increase	154.95±33.3[1]	F=4.015/0.020
Decrease	133.6±31.3	2<1
Stabil	132.7±31.2[2]	
PMS Complaint Severity in Pandemic Process		
Increase	146.5±29.9	
Decrease	133.6±31.3	F=2.073/0.130
Stabil	132.9±32.6	
Amount of Menstruation in the Pandemic Process		
Increase	150.3±36.7	
Decrease	140.2±35.8	t=-1.863/0.159
Stabil	133.4±30.8	
Having Trouble Finding Sanitary Pads During the Pandemic		
Yes	147.0±29.3	
No	134.2±32.5	t=1.735/0.095
Purchasing Extra Sanitary Pads During the Pandemic		
Yes	140.2±31.8	
No	131.1±32.4	t=1.616/0.109
Getting COVID-19		
Yes	129.6±30.7	
No	138.2±32.7	t=-1.319/0.190

Table 6. Relationship between COVID-19 psychological distress scale score and PMS scale total score and sub-dimensions

PMS Scale Total Score and Sub-Dimensions	COVID-19 Psychological Distress Scale	
	r	p
Depressive Feelings	0.078	0.379
Anxiety	0.132	0.132
Fatigue	0.167	0.056
Irritability	0.180	0.040*
Depressive Thoughts	0.150	0.060
Pain	0.191	0.029*
Changes in Appetite	0.288	0.001*
Changes in Sleep	0.228	0.009*
Bloating	0.166	0.040*
Total	0.186	0.017*

*p<0.05

DISCUSSION

In a study that examined the relationship between PMS and COVID-19 psychological distress in the pandemic period of nursing students, it was determined that the first menarche age of nursing students was 13.0±2.0, the period of menstruation was 3-7 days, and the cycle time was 29.7±14.1 days. In the study carried out by Topatan and Kahraman, the mean age of first menstruation was 13.32±1.36, the duration of menstruation was 5.74±1.54 days, and the mean menstrual cycle pattern was 28.16±2.50 days. Genç and Olmez found that 86.4% of the participants' first menstrual age range was 12-15, and 85.9% reported that the period duration was 3-7 days. Our study is in consistence with the other studies in the literature in terms of the age of the first menarche and the duration of menstruation.

The results of the present study revealed that 25.2% of the participants had menstrual irregularities. Similarly, Aydın Kartal and Kaykısız reported that 30.9% of the students had menstrual irregularities (Aydın Kartal and Kaykısız, 2020). During the first 2 years after menarche, menstrual irregularity is considered normal. At the end of three years, 60-80% of adults are expected to reach the menarche form. Early detection and treatment of the condition that causes menstrual disorder is important in terms of reproductive functions (Tekirdağ, 2010).

The present study showed that the participants experienced the highest PMS complaints as 78.6% abdominal pain, 76.3% mood changes, 68.7% abdominal bloating-tension, 80% breast tenderness, 68% back pain and depression. In the study of Aydın Kartal and Kaykısız, it was reported that students

mostly experience weakness, dysmenorrhea, low back pain and irritability sypmtoms (Aydın Kartal and Kaykısız, 2020). In a study conducted by Hafez et al., it was determined that nursing students experienced high levels of anxiety, irritability, increased appetite, headache, fatigue and depression. Similarly Pandian et al. found that the most common symptoms were headache and abdominal bloating (Pandian et al. 2016). These PMS symptoms can negatively affect students' social lives, family relationships, and academic success as well as reducing their life quality. Therefore, it is important to increase PMS awareness in adolescents. Students should be trained to deal with symptoms.

The rate of students using methods to reduce PMS disorders was found to be 45% in our study. Among the techniques used to cope with PMS, the highest rate was 19.8% massage, 19.1% caffeine consumption, and 18.3% bath. In a study conducted by Uzuner and Koçak (2019), it was found that the most preferred practices to cope with premenstrual complaints were to apply warm to the abdomen with 54.3% and to wear thick clothes with 51.6%. In the study of Aydın Kartal and Kaykısız, 24.5% of the participants stated that they received support from their family and friends, 19.6% paid attention to regular sleep, 15.2% did massage and 14.1% did relaxation exercises (Aydın Kartal and Kaykısız, 2020). Arslantaş et al. (2018) found that 36.7% of women preferred the use of analgesics as a coping method. According to a study conducted in Ethiopia, the rate of students using analgesics to cope with PMS was reported as 36.4% (Tolassa and Bekele, 2014). Despite the high PMS rate, none of the

participants requested medical treatment. Göker et al. (2015) found that the rate of receiving medical treatment for PMS complaints was 6.9%. As the women's health problems are considered taboo, consulting a doctor and seeking medical treatment may be delayed . For this reason, it is important to provide training and consultancy services in order to deal effectively with PMS complaints. The results of our study showed that practices for coping with PMS did not show parallelism compared to other studies. It is thought that this result is due to the change in needs during the pandemic.

In our study, 15.3% of students had an increase in the duration of PMS complaints during the pandemic process, and 22.0% had an increase in the severity of PMS complaints. 10.7% of the students had an increase in period duration and 12.2% had a decrease. In a study conducted by Aydın Kartal and Kaykısız (2020) during the pandemic period, 57.3% of students reported that their premenstrual symptoms had increased in the last three months, 13.2% reported that their symptoms had decreased and 29.5% reported no changes in symptoms. These findings show that during the pandemic period, students' removal from their social environment, difficulties caused by distance education, and the implementation of stay-at-home policy due to the pandemic negatively affected the PMS complaints and menstruation-related process.

In our study, the prevalence of PMS was 77.9%. In a study conducted by Ölçer et al. (2017), the prevalence of PMS was 55.8%, and in the study of Aba et al. (2018) 65.2%. In a study conducted with nursing students in Korea, the prevalence of PMS was 42.4%. A high prevalence of PMS in our study can be considered as a negative effect of the pandemic process. As a matter of fact, other studies were conducted before the pandemic and the prevalence of PMS was found to be lower. In addition, the fact that the participants had different socio-demographic characteristics and the difference in the measurement tools used may have affected the results. Despite this wide range, the common result stated in the literature is that the prevalence of PMS is high.

The participants in our study had a mean total score of 136.0±32.3 in the PMS score. In the study conducted by Genç and Ölmez (2021), the average PMS scale of women was 173.00±40.73. The average PMS scale score was 121.95±34.20 in Uzuner and Koçak's (2019) study, and 122.14±32.60 in Aba et al. (2018) study. Studies in the literature revealed that the mean of the PMS scale varied. It is believed that this change may be due to the fact that the participants had different socio-demographic characteristics, and that the effects of the pandemic process on PMS.

In our study, COVID-19 Psychological Distress Scale was found to be 42.3±9.4. It is noted that the psychosocial effects of pandemics on mental health are higher than predicted (Shigemura et al., 2020). It has been observed that changes in life style pave the way for the formation of negative emotions. For example, participants experienced serious anxiety due to uncertainty during the pandemic period, financial problems that may occur in the future, the possibility of contracting COVID-19 and losing loved ones (Hatun et al., 2020). COVID-19 leads to problems such as panic, anxiety, and depression in humans (Cao et al., 2020; Qiu et al., 2020). These problems were found to be more common in individuals quarantined as a result of transmission (Brooks et al., 2020). In our study, the rate of participants undergoing COVID-19 was 25.2%. Coronavirus is expressed to have serious negative socio-psychological effects even in healthy people (Tian et al., 2020). In our study, the average value of the COVID-19 Psychological Distress Scale was 42.3±9.4. The result we found showed that participants experienced psychological distress associated with COVID-19.

In our study, the rate of students smoking was 4.6%. In addition, the average PMS score was significantly higher in students who smoked. Pınar et al. reported that smoking increases the risk of PMS by 40 times (Pınar et al., 2011). Seedhom et al. noted that passive smoking is a factor associated with PMS (Seedhom et al., 2013). A study by Tschudin et al. showed that PMS was found 1.67 times more in women aged 15-54 years, in smokers compared to non-smokers (Tschudin et al., 2010). It is emphasized that smoking increases the signs of PMS, therefore it should be reduced or stopped (Johnson Berton et al., 2008). Smoking causes different health problems and thus

it is noted that it also plays a role in the development of PMS due to its negative effect on reproductive hormones (Kaya and Gölbaşı, 2016).

In our study, the proportion of students with menstrual disorders was found to be 25.2%, and the average PMS score of these students was significantly higher. Elkin (2015) found that those who did not have regular menstruation and those who suffered from menstrual pain have higher mean PMS scores. This finding is consistent with our study. Menstrual irregularity can lead to increased PMS complaints with hormonal effects. Treatment of the underlying cause of disorder is important for the continuation of PMS and reproductive functions.

In our study, 54.2% of participants said that they received extra hygenic pads during the pandemic, and 14.5% said that they had difficulty finding hygenic pads during the pandemic. No significant differences were found between excessive pad intake and difficulty in finding hygenic pads and the average PMS scale. Especially in underdeveloped countries such as African countries, the fact that it is not easy to reach the materials necessary for menstrual hygiene management may cause an increase in PMS complaints. Due to the constraint panic experienced by COVID-19 during the busy shopping period before the quarantine process, materials can be stocked by buying more than needed (Ajari, 2020). However, such an effect was not observed in our study.

According to the results of the correlation analysis between the COVID-19 psychological distress scale score and the PMS scale total score and sub-dimensions in our study, there was a significant difference between the COVID-19 psychological distress scale and the PMS scale total score, fatigue, irritability, pain, appetite changes, sleep changes and bloating mean scores. In PMS, psychological and social factors as well as physiological factors play a role in the development of genetic characteristics (Matsumoto et al., 2013; Eggert et al., 2016). A study conducted with female students in Japan also reported an association between increased stress levels and PMS (Yamamoto et al., 2009) A study conducted abroad found that the stress level of participants experiencing severe PMS was significantly higher compared to the stress levels of

participants experiencing mild and moderate PMS (Khodjaeva and Khaydarova, 2013). The most basic strategy to prevent the spread of the COVID-19 epidemic is to physically remove and isolate people from each other (Centers for Disease Control and Prevention, 2020). This measure, which is protective against the epidemic, on the other hand, can become a risk factor for mental health by reducing social relations. It is suggested that social relationships may be a biological need vital to psychological well-being. Therefore, the lack of social relationships throughout isolation negatively affects the state of psychological and emotional well-being (Holt Lunstad, 2017). In their study, Duan and Zhu (2020) found that the COVID-19 epidemic increased individuals stress and anxiety levels as well as leading to mental illnesses such as insomnia, anger, and women experienced more stress. A study conducted with university students in China during the COVID-19 pandemic found high levels of stress and anxiety (Cao et al.,2020). COVID-19 increased psychological distress while psycho-behavioral and social factors were also effective in PMS development. Therefore, this study is consistrent with the literature in terms of finding significant differences between COVID-19 psychological distress and PMS symptoms: irritability, pain, appetite changes, sleep changes, and bloating averages.

The present study was not without its limitations. First, a self-completion questionnaire was used. In additipn, only a selective group of unmarried nursing students participated in the study. Therefore, this study does not aim to generalise results to the population as a whole.

CONCLUSION

COVID-19 pandemic rapidly became a global crisis and caused an emergency. This contagious virus has not only raised concerns about general public health, but has also caused many changes in the lifestyle and habits of the individuals. At the same time, it has had both physiological and psychological effects on social and individual dimensions.

In this study, the relationship between premenstrual syndrome and COVID-19 psychological distress of nursing students during the pandemic process was examined. It was found that students had negative

changes in their menstrual characteristics and PMS complaints during the pandemic process. It was determined that the students did not receive professional help in dealing with PMS complaints. The prevalence of PMS was found to be high in students. The mean PMS scale was significantly higher in students who smoke and have menstrual disorders. A significant difference was found between the mean scores of the COVID-19 psychological distress scale and the PMS scale total score, irritability, pain, appetite changes, sleep changes, and bloating of the students. In order to reduce the incidence of PMS and the severity of symptoms, students should be educated about the harms of

smoking and its relationship with PMS complaints, and attempts should be made to quit smoking. Causes of menstrual disorder should be identified and treated. Appropriate coping strategies should be taught by training on PMS. Education and initiatives are needed to reduce the psychological distress of COVID-19 during the pandemic period. Considering the dynamics that COVID-19 has changed in daily life, students should be informed about the methods of coping with the psychological effects caused by this process. Another recommendation is to conduct comprehensive studies investigating the impact of the COVID-19 pandemic on PMS.

This study reveals the importance of identifying and strengthening measures that can be taken for the possible physical and psychological effects of the pandemic, as well as strategies aimed at minimizing the risk of secondary diseases.

Acknowledgments

Conflict of Interest

The authors declare that they have no conflict of interest

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