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Investigation of the Correlation Between the Quality of Life and the Level of Coping with Premenstrual Symptoms among Female University Students

Üniversite Kız Öğrencilerinin Premenstrual Semptomlarla Başa Çıkma Düzeyleri ve Yaşam Kalitesi Arasındaki İlişkinin İncelemesi

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ABSTRACT

Aim: This descriptive study aimed to explore the relationship between coping with premenstrual symptoms (PMS) and quality of life among female university students. **Subjects and Methods:** The study group consists of 287 female students. The data of study was collected using the Inclusion Criteria Form, Personal Information Form, Premenstrual Coping Measure Scale (PMCM), and the SF-36 Quality of Life Scale (SF-36). **Results:** Among the 287 students, 87.2% experienced dysmenorrhea and had not received counseling for PMS management. In the study, it was found that the "Acceptance and Awareness of Premenstrual Changes" score decreased as age and grade increased ($p<.05$). Additionally, smokers had lower "Self-care" scores compared to non-smokers ($p<.05$). Students with a menarche age of 14 years or older and those with dysmenorrhea scored higher in the "Adjusting Energy" sub-dimension ($p<.05$). Our study results showed that as students' ability to cope with premenstrual symptoms improved their quality of life ($p<.05$). **Conclusion:** Based on these results, it's recommended to organize educational workshops, health seminars, and awareness campaigns, led by healthcare professionals, to improve PMS knowledge and management.

Keywords: Coping with premenstrual symptoms, quality of life, university students

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ÖZ

Amaç: Bu tanımlayıcı çalışmada, üniversite kız öğrencilerinde premenstrual semptomlarla (PMS) başa çıkma düzeyleri ve yaşam kalitesi arasındaki ilişkinin incelenmesi amaçlanmıştır. **Örneklem ve Yöntem:** Çalışmaya 287 kız öğrenci dahil edilmiştir. Çalışma verileri, Dahil Edilme Kriterleri Formu, Kişisel Bilgi Formu, Premenstruel Başa Çıkma Ölçeği (PMBÖ) ve SF-36 Yaşam Kalitesi Ölçeği (SF-36) kullanılarak toplanmıştır. **Bulgular:** Çalışmada 287 öğrencinin %87.2'sinin dismenore yaşadığı ve PMS ile başetmede bir danışmanlık almadıkları belirlenmiştir. Çalışmada yaş ve sınıf düzeyi yükseldikçe "Premenstruel Değişikliklerin Kabulü ve Farkındalığı" puanının düştüğü bulunmuştur ($p<.05$). Ayrıca, sigara alışkanlığı olan öğrencilerde "Öz Bakım" puanının alışkanlığı olmayanlara göre daha düşük olduğu belirlenmiştir ($p<.05$). Menarş yaşı 14 ve üzeri olan öğrencilerde "Enerjiyi Ayarlama" puanının daha yüksek olduğu bulunmuştur ($p<.05$). Çalışma sonuçlarımız öğrencilerin premenstrual semptomlarla başetme düzeyi arttıkça yaşam kalitelerinin yükseldiğini göstermiştir ($p<.05$). **Sonuç:** Bu sonuçlara dayanarak, PMS bilgi ve yönetiminin geliştirmek için sağlık profesyonellerinin liderliğinde eğitim çalıştayları, sağlık seminerleri ve farkındalık kampanyalarının düzenlenmesi önerilir.

Anahtar Kelimeler: Premenstruel semptomlarla başa çıkma, yaşam kalitesi, üniversite öğrencileri

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Introduction

Premenstrual syndrome (PMS) is a common cause of significant psychological and physical distress for women of reproductive age (Kwan & Onwude, 2015). According to "the American College of Obstetricians and Gynecologists, PMS is a clinical disorder with ongoing physical and mental symptoms without an organic disease". In the three prior cycles, these symptoms occurred five days before menstruation and disappeared four days later, returning to the next period (ACOG, 2023). During this period, women may experience physiological and psychosocial problems such as stomach pain, edema, headaches, anxiety, irritability, mood swings, social isolation, sleep issues, appetite changes, and weight gain (ACOG, 2023; Kwan & Onwude, 2015).

The prevalence of PMS varies significantly around the world. Various studies conducted around the world have reported that the frequency of PMS ranges between 16.4% and 99.5% (Ranjbaran et al., 2017; Arafa et al., 2018). Moreover, it is important to note that the prevalence of PMS in Iran is in the highest range (99.5%), despite France having the lowest incidence (12%) of the condition (Ranjbaran et al., 2017). Also, studies presented that PMS is fairly common in Türkiye, with 66–91.8% of women experiencing it at some point in their lives, particularly young women (Aşcı, et al., 2016; Bakir & Yangın, 2019).

There are a great number of studies that have been conducted across a wide variety of literature that provide evidence for the presence of a connection between PMS and low quality of life (Goker et al., 2015; Farrokh et al., 2015; Bakir & Yangın, 2019; Victor et al., 2019; Karpagavalli & Rani, 2020; Al-Shahrani et al., 2021). Additionally, numerous studies show that PMS may cause a decline in professional productivity, deterioration in the quality of life, a decrease in general health, an increase in dependency on specialist medical care, as well as interference with interpersonal relationships and activities of daily living. Furthermore, studies have linked PMS to alterations in cognitive and emotional processes (Dutta & Sharma, 2021). Each month, 3 to 5% of female students are unable to attend school or work due to severe PMS (Kucukkelepce et al., 2021). According to the findings of research conducted in Türkiye, there seems to be a negative correlation between PMS levels and their levels of work satisfaction, general health, and stress on the job (Sut & Mestogullari, 2016). As the number of women in business continues to rise, the economic impact is expected to grow even more in the future (Topatan & Kahraman, 2020).

PMS management consists of four stages. At the first stage, it is important to raise awareness about PMS coping methods and educate women on self-screening, behavioral adjustments, diet, and stress management. At the second stage, there is a non-pharmacological approach called complementary and alternative medicine (CAM). The third stage of PMS management includes medical treatment methods. Surgical interventions take place at the fourth and final stages. So, women can benefit from learning healthy habits related to PMS, its symptoms, and methods of dealing with it (Abay & Kaplan, 2019).

Nurses play an essential role in the management of first and second-stages. In the first stage of PMS management, nurses assist women by providing them with clear and accurate information about PMS, including the physical and emotional changes that may occur, its causes, and management strategies. In addition, it is important to provide counseling by nurses on maintaining healthy living habits during this period (Yazıcı, 2015). In the second stage, nurses can use non-pharmacological methods, CAM, to reduce the impact of PMS and enhance their quality of life (Kısa et al., 2012).

This study aims to investigate the relationship between the level of coping with premenstrual symptoms and the quality of life in university students. We expect the study's results to guide nurses in providing PMS counseling.

Subjects and Methods

Population and Sample

This descriptive study was conducted between December 2022 and March 2023 in Türkiye. The population included all female nursing students at a state university (N=551). Within the scope of the research, it was aimed to reach all female nursing students who constitute the population.

Criteria for Inclusion and Exclusion

In order to be included, women had to have marked at least one of the 14 items on the Premenstrual Symptoms Screening Tool (PSST) as mild, moderate, or severe, have regular periods every 24 to 35 days, not be pregnant or breastfeeding in the past year, and not use oral contraceptives. The exclusion criteria were failing to complete the data collection tools and withdrawing.

We reached 490 female nursing students in this context. Of these students, 52 did not volunteer to participate. Of the 438 students who volunteered to participate in the study, 131 did not meet the inclusion criteria (because 18 of the students had irregular menstrual periods and 113 did not experience PMS). In addition, because 20 students did not fill out the data collection tools completely, they were excluded. Finally, the research was completed with 287 female nursing students.

Data Collection

Data were collected through interviews using the Inclusion Criteria Form, the Descriptive Information Questionnaire (DIQ), the Premenstrual Coping Measure (PMCM), and the SF-36 Quality of Life Scale (SF-36).

The Inclusion Criteria Form consisted of two main parts. Students who met the inclusion criteria in the first part (regularly menstruating, not pregnant, not using birth control pills, etc.) filled out the second part of the form. The second part instructs students to complete the Premenstrual Symptoms Screening Tool (PSST) form, which includes the first 1–14 items. Steiner et al. (2003) developed the PSST in order to recognize PMS symptoms. Özdel et al. (2015) updated the Turkish version of the tool. The tool consists of 22 four-point Likert scale items. At least one of the first fourteen items must be marked to indicate premenstrual symptoms. In addition, students who marked at least one of the items 1–14 as mild, moderate, or severe continued to fill out the data collection tools.

The researchers developed the Descriptive Information Questionnaire (DIQ). It consisted of two parts. The first part comprised questions on demographic characteristics. The second part consisted of questions on gynecologic characteristics (Abay & Kaplan, 2020; Cormac et al., 2016).

The Premenstrual Coping Measure (PMCM) was developed by Read et al. (2014) to assess the coping status of PMS in Australian women. The Turkish validity and reliability were accomplished by Abay & Kaplan (2020). It comprise of 27 items scored on a five-point Likert-type scale. The PMCM sub-dimensions are “Avoiding Harm (min=7, max=35),” “Awareness and Acceptance of Premenstrual Change (min=9, max=45),” “Adjusting Energy (min=3, max=15),” “Self-care (min=4, max=20),” and “Communicating (min=4, max=20)”. We do not evaluate the total score on the PMCM. As the score obtained from the sub-dimensions of the scale increases, the level of coping with premenstrual symptoms also increases.

In Abay and Kaplan (2020) study, the "Avoiding harm" sub-dimension Cronbach alpha was 0.885, the "Awareness and Acceptance of Premenstrual Change" sub-dimension Cronbach alpha was 0.890, the "Adjusting Energy" sub-dimension Cronbach alpha was 0.751, the "Self-care" subdimension Cronbach alpha was 0.831, and the "Communicating" sub-dimension Cronbach alpha was 0.860, whereas in our study, the "Avoiding harm" sub-dimension Cronbach alpha was 0.880, the "Awareness and Acceptance of Premenstrual Change" sub-dimension Cronbach alpha was 0.899, the "Adjusting Energy" sub-dimension Cronbach alpha was 0.630, the "Self-care" sub-dimension Cronbach alpha was 0.811, and the "Communicating" sub-dimension Cronbach alpha was 0.870

The 36-Item Short Form Survey (SF-36) was developed by Ware & Sherbourne (1992). The Turkish validity and reliability were accomplished by Koçyiğit et al. in 1995. The SF-36 takes the form of a questionnaire, comprising 36 questions, and uses eight sub-dimensions to assess quality of life. The eight sub-dimensions of the SF-36 are "Physical function," "Physical role difficulties," "Emotional role difficulties," "Pain," "General health," "Social functioning," "Mental health," and "Energy/vitality". The scores vary between 0 and 100; the highest score indicates a better quality of life, and the lowest score indicates a worse quality of life. The Turkish version has a Cronbach alpha score of 0.73-0.76 (Koçyiğit et al., 1995), which was 0.87 in the present study.

Procedure

The population of study included all female nursing students at a state university (N=551). The researcher collected the data for the study using the survey method. The survey was administered by the researcher within the first 15 minutes of the course hours, after getting permission from the lecturers of the courses in the department of nursing. The purpose of the research was explained to the students. Written informed consent was obtained from the students who agreed to participate in the study. We then asked the students who had given informed consent to fill out an inclusion form. The inclusion criteria form consisted of two parts. In the first part, participants who meet the inclusion criteria can start the second part. In the second part, which included the first 1-14 PSST items, we told students they had to mark at least one gentle, moderate, or severe item. We thanked the students who had not met the criteria.

Data Analysis

We analyzed the data using the Statistical Package for Social Sciences (IBM, SPSS, v. 26.0) at a significance level of 0.05. We used percentage, median (minimum, maximum), mean (standard deviation), Student-t test, and ANOVA for analysis. On the other hand, the correlation coefficient measures the strength of the relationship between two variables [Correlation coefficient value (r)= 0.01 - 0.29 weak correlation, 0.30 - 0.70 moderate correlation, 0.71 - 0.99 strong correlation, 1.00 perfect correlation] (Taro et al., 2001).

Ethical Considerations

The study was approved by an Ethics Committee (approval date/number: October 06, 2022/14). We also obtained approval from the relevant university Nursing Department of Health Sciences Faculty. Additionally, we obtained permissions from the course lecturers during the data collection process for their application. The students were informed before the questionnaire, and their signatures were taken on the "Informed Consent Form". There wasn't a conflict of interest between students and researchers.

Results

In our study the mean age of the students was 20.21±1.76 years (n=287). Additionally, 116 (40.4%) were in the first grade, 74 (25.8%) were in the second grade, 59 (20.6%) were in the third grade, and 38 (13.2%) were in the fourth grade. 84.3%

of the students had a menstruation period of 3 to 7 days, and the majority (87.2%) experienced dysmenorrhea. In addition, about 87.2% of the students did not receive any counseling to cope with PMS.

Table 1. Distribution of PMCM Scale's and the SF-36 Quality of Life Scale's Sub-dimensions Scores

Scales	$\bar{x}$ **±SS**	**Min-Max**
PMCM Scale Sub-dimensions		
"Avoiding Harm"	21.07 ± 5.98	7-35
"Awareness and Acceptance of Premenstrual Change"	34.2 ± 7.14	9-45
"Adjusting Energy"	8.7 ± 3.06	3-15
"Self-care"	13.92 ± 3.66	4-20
"Communicating"	11.72 ± 4.01	4-20
SF-36 Quality of Life Scale Sub-Dimensions		
"Physical Function"	80.71 ± 22.37	10-100
"Physical Role Difficulties"	54.67 ± 38.30	0-100
"Emotional Role Difficulties"	45.18 ± 41.61	0-100
"Energy/Vitality"	45.31 ± 17.25	0-95
"Mental Health"	48.11 ± 15.54	4-92
"Social Functionality"	63.63 ± 18.86	12.5-100
"Pain"	57.91 ± 19.83	0-100
"General Health"	51.99 ± 16.29	0-100

Abbreviation: PMCM: Premenstrual Coping Measure, SF-36: The 36-Item Short Form Survey.

Table 1 demonstrates the distributions of the mean scores for the sub-dimensions of the PMCM and the SF-36. The participants' mean score on the PMCM's "Avoiding harm" sub-dimension was 21.07±5.98, and "Awareness and acceptance of premenstrual change" was 34.2±7.14. The "Adjusting energy" sub-dimension was 8.7±3.06, "Self-care" was 13.92±3.66, and "Communication" was 11.72±4.01 sub-dimension scores. The SF-36's "Physical function" sub-dimension had an average score of 80.71±22.37, "Physical role difficulties" scored 54.67±38.30, "Emotional role difficulty" scored 45.18±41.61, "Energy/vitality" scored 45.31±17.25, "Mental Health" scored 48.11±15.54, "Social functionality" scored 63.63±18.86, "Pain" scored 57.91±19.83, and "General Health" scored 51.99±16.29.

Table 2. Comparison of Some Characteristics of the Students and the Mean Sub-Dimension Scores of PMCM Scale

	Premenstrual Coping Measure Subscales									
	Avoiding Harm		Awareness and Acceptance of Premenstrual Change		Adjusting Energy		Self-care		Communicating	
Variables	**$\bar{x}$±SS**	**Analyze***	**$\bar{x}$±SS**	**Analyze***	**$\bar{x}$±SS**	**Analyze***	**$\bar{x}$±SS**	**Analyze***	**$\bar{x}$±SS**	**Analyze***
Age										
20 age and ↓	20.97 ± 6.17	t=-0.287	35.14 ± 7.04	t=3.017	8.79 ± 3.12	t=0.660	14.15 ± 3.94	t=1.338	11.72 ± 4.19	t=-0.002
21 age and ↑	21.18 ± 5.67	p=0.774	32.52 ± 7.07	**p=0.003**	8.54 ± 2.99	p=0.509	13.54 ± 3.11	p=0.182	11.72 ± 3.71	p=0.998
Smoking										
Yes	20.40 ± 6.32	t=-0.679	31.68 ± 8.17	t=-1.900	8.52 ± 2.93	t=-0.398	12.52 ± 3.75	t=-2.098	11.16 ± 2.62	t=-0.690
No	21.25±5.95	p=0.498	34.53 ± 7.05	p=0.058	8.78 ± 3.09	p=0.691	14.12 ± 3.63	**p=0.037**	11.75 ± 4.16	p=0.491
Menarche Age										
13 Age and ↓	21.18 ± 5.87	t=0.144	34.55 ± 7.10	t=0.953	8.55 ± 3.07	t=-2.014	13.92 ± 3.77	t=-0.465	11.73 ± 3.99	t=-0.157
14 Age and ↑	21.05 ± 6.41	p=0.886	33.54 ± 6.73	p=0.341	9.48 ± 3	**p=0.045**	14.18 ± 3.66	p=0.642	11.82 ± 4.05	p=0.875
Dysmenorrhea										
Yes	20.96 ± 6.15	t=-0.682	34.21 ± 7.18	t=0.036	8.94 ± 3.08	t=3.451	14.12 ± 3.65	t=2.246	11.75 ± 4.05	t=0.375
No	21.68 ± 4,71	p=0.496	34.16 ± 7.00	p=0.971	7.11 ± 2.54	**p=0.001**	12.68 ± 3.54	**p=0.025**	11.49 ± 3.79	p=0.708
Menstrual bleeding duration										
Less than 3 days	17.93 ± 3.99	F=2.017	26.71 ± 2.61	F=10.047	7.43 ± 2.06	F=1.664	11.21 ± 2.08	F=4.373	11.71 ± 2.30	F=4.937
3-7 days	21.20 ± 6.01	p=0.135	34.84 ± 6.94	**p=0.000**	8.71 ± 3.13	p=0.191	14.12 ± 3.74	**p=0.013**	11.99 ± 4.12	**p=0.008**
More than 7 days	21.29 ± 6.32		32.58 ± 8.09		9.23 ± 2.92		13.65 ± 3.21		9.61 ± 3.11	

*Student -t (t test) was used for the difference between the means of the two groups,
ANOVA test was used for the difference between the means of three or more groups ($p<.05$; $p<.001$).

Table 2 presented that, the mean score of the “Awareness and Acceptance of Premenstrual Change” sub-dimension of the PMCM was higher in students aged 20 years and over than in students aged 21 years and under (p<.05). At the same time, in the dimension of “Awareness and Acceptance of Premenstrual Change”, in terms of menstrual duration, the mean score of those who said 3–7 days was 34.84±6.94, which was higher than that of those who said less than three days: 26.71±2.61, and those who said more than seven days: 32.58±8.09 (p<.000). In the dimension of “Adjusting Energy” in terms of dysmenorrhea, the mean score of those who said yes was higher than the mean score of those who said no (p<.05). In the dimension of “Adjusting Energy” in terms of menarche age, the mean score of 13 years and under was than the mean score of 14 years and over (p<.05). In the “Self-care” dimension in terms of cigarette smoking, the mean score of those who said yes was lower than the mean score of those who said no (p<.05). At the same time, the mean score of those who said yes in the “Self-care” dimension was higher than the mean score of those who said no in terms of dysmenorrhea (p<.05). In terms of menstrual duration, the mean score in the “Self-care” sub-dimension was higher for those who said three to seven days than for those who said less than three days and more than seven days (p<.05). Lastly, in the “Communication” sub-dimension, the mean score of those who said three-seven days was higher than those who said less than three days and those who said more than seven days in terms of menstrual duration (p<.05).

Table 3. Correlation of PMCM Sub-dimensions Mean Scores and the SF-36 Quality of Life Sub-dimensions Mean Scores

	PMCM Sub-dimensions				
SF-36 Sub-dimensions	Avoiding Harm	Awareness and acceptance of premenstrual change	Adjusting Energy	Self-care	Communicating
Physical Function	**0.245****	**0.328****	0.032	**0.348****	**0.197****
	0.000	0.000	0.585	0.000	0.001
Physical Role Difficulties	**-0.160****	0.048	**-0.189****	0.046	0.045
	0.007	0.414	0.001	0.439	0.448
Emotional Role Difficulties	**-0.131***	0.002	**-0.152****	0.051	0.075
	0.026	0.972	0.010	0.387	0.204
Energy/Vitality	-0.075	-0.110	**-0.193****	**-0.161****	0.114
	0.204	0.062	0.001	0.006	0.054
Mental Health	0.036	0.054	**-0.165****	0.036	0.068
	0.543	0.358	0.005	0.541	0.250
Social Functionality	-0.031	**0.159****	**-0.190****	0.086	**0.173****
	0.600	0.007	0.001	0.144	0.003
Pain	-0.010	0.049	**-0.154****	-0.055	0.054
	0.866	0.409	0.009	0.357	0.365
General Health	0.011	0.021	**-0.229****	0.006	0.100
	0.857	0.721	0.000	0.926	0.092

*Correlation is significant at the 0.05 level (2-tailed).
**Correlation is significant at the 0.000 level (2-tailed).

Table 3 shows the correlations between the PMCM sub-dimensions mean scores and the SF-36 Quality of Life sub-dimensions mean scores. The "Physical Function" sub-dimension had a weakly positive correlation with PMCM sub-dimensions, such as "Avoiding Harm" (r=0.245, p=.000), "Awareness and Acceptance of Premenstrual Change" (r=0.328, p=.000), "Self-care" (r=0.348, p=.000), and "Communicating" (r=0.197, p=.001). The “Physical Role Difficulties” sub-dimension had a weakly negative correlations with PMCM’s “Avoiding Harm” (r=-0.160, p=.007) and “Adjusting Energy” (r=-0.189, p=.001). Also, there were weak negative correlations between the "Emotional Role Difficulties" and the PMCM's "Avoiding Harm" (r=-0.131, p=.026) and "Adjusting Energy" (r=-0.152, p=.010) scales. The “Energy/Vitality” sub-dimension showed weak negative correlations with PMCM’s “Adjusting Energy” (r=-0.193, p=.001) and “Self-care” (r=-

0.161, p=.006), while the “Mental Health” sub-dimension was negatively correlated with “Adjusting Energy” (r=-0.165, p=.005). Lastly, the “Pain” sub-dimension of SF-36 had a weak negative correlation with “Adjusting Energy” (r=-0.154, p=.009), and “General Health” showed a weak negative correlation with the same sub-dimension (r=-0.229, p=.000).

Discussion

The study aims to investigate the relationship between the level of coping with premenstrual symptoms and the quality of life in university students. When the mean scores of the PMCM sub-dimension scores of the students were analyzed, it was determined that their coping approaches to PMS were at a moderate level. A study conducted to evaluate the effectiveness of a training program for coping with PMS symptoms based on IMB model in university students determined that the coping levels of university students with PMS were at a moderate level (Abay & Kaplan, 2019). In the study conducted by Edis & Keten (2023), it was determined that the university students' coping skills with PMS were at a good level. The highest Premenstrual Coping Measure sub-dimension score was in the self-care and awareness and acceptance of premenstrual change dimensions. In another study, it was determined that the university students were not enough to cope with premenstrual symptoms (Topatan & Kahraman, 2020). According to the study results, students' coping levels with PMS differ. This may be due to the use of different measurement tools in the studies. In addition, in our study about 87.2% of the students did not receive any counseling to cope with premenstrual symptoms. The Studies have revealed that the majority of students experiencing PMS do not receive any counseling to cope with premenstrual symptoms (Özmermer, 2017; Vatansever, 2019). The low level of receiving counseling regarding PMS can be due to a lack of awareness, lack of knowledge, or limited access to counseling services due to their economic condition.

The awareness and acceptance of premenstrual changes sub-dimension of the PMCM assesses the awareness and acceptance of physical and emotional changes experienced during the premenstrual period (Keten & Keten, 2023). Moreover, Read (2014) defined “women’s coping strategies with PMS as awareness and acceptance of premenstrual symptoms, managing PMS with self-control, and staying away from stress and conflict” (Read, 2014). In our study, it was determined that the mean score of the awareness and acceptance of premenstrual changes sub-dimension of the PMCM was lower in students aged 21 years and older than in students aged 20 years younger. The studies showed that young women who experience PMS have lower levels of coping strategies with it due to their low level of awareness and knowledge about their monthly body changes, and most of them get their social support from the internet or a family member (Mohib et al., 2018; Yorulmaz & Karadeniz, 2021).

The adjusting energy sub-dimension of the PMCM assesses the awareness of adapting energy in coping with PMS. In this context, it is assessed that the woman reduces her social activity and focuses on her own needs (Read, 2014). In our study, we determined that the mean score of the adjusting energy sub-dimension of the PMCM was higher in students with menarche ages 14 years and over compared to those with menarche ages 13 years and under. This finding indicated that students who entered late menarche had higher levels of energy adaptation in coping with PMS. Marván & Herrera (2014) conducted research investigating the relationship between the age of menarche among young women and their perspective regarding menstruation. The findings of this study revealed that those who had menarche either later or earlier than their colleagues showed a decrease in knowledge about appropriate actions to take during their first menstrual cycle in comparison to their other colleagues. As a result, the age of menarche can be one of the factors that indirectly affects coping with menstruation and PMS.

Also in our study, it was determined that the mean score of the adjusting energy sub-dimension of the PMCM was higher in students with dysmenorrhea compared to those without dysmenorrhea. This finding showed that students with

dysmenorrhea had a higher level of adapting energy to dealing with PMS. Severe menstrual pain can cause severe pelvic pain, discomfort, limit physical activities, and disrupt daily routines (Nohara et al., 2011). Although students often need to maintain their academic responsibilities and social events even while experiencing dysmenorrhea (FernándezMartínez et al., 2019). In our study, the students with dysmenorrhea had a high level of adaptation depending on the severity of their symptoms, their personal coping strategies, and the extent to which they were affected by the condition.

The self-care sub-dimension of the PMCM assesses awareness of self-care in the premenstrual period. The ability to perform or complete activities of daily living on one's own to maintain one's life, health, and well-being is defined as self-care. Activities of daily living are regular activities such as feeding, exercising, and bathing (Abay & Kaplan, 2019). In the Self-Care sub-dimension of the PMCM, there are items to assess the student's ability to focus on their own needs, to rest, take a bath, read a book, and spend time on activities that help relaxation, such as massage, yoga, and mindfulness. In our study, it was determined that students without a smoking habit had higher levels of self-care during premenstrual periods than students with a smoking habit. At the same time, it was determined that students with dysmenorrhea had higher levels of self-care during premenstrual periods than those without dysmenorrhea. Furthermore, it was determined that students with a menstruation period of less than three days had lower mean self-care scores than those with 3 or more days. As a result, the students who had dysmenorrhea and, at the same time, the students who had longer menstrual periods may have used more self-care due to prioritizing their self-care.

Another important subject in coping with premenstrual symptoms is communication. In the communication sub-dimension of the PMCM, it was questioned how the students felt while expressing their needs, sharing their feelings and emotions, and asking for help (Abay & Kaplan, 2019). In our study, it was determined that the mean score of the PMCM communication sub-dimension was lower in students with a menstruation period longer than seven days than in students with a menstruation period of seven days or less. This finding showed that coping approaches in the field of communication in the premenstrual period were inadequate as the duration of menstruation increased. Moreover, there are indirect ways in which menstrual-related factors can potentially influence communication, including severe menstrual symptoms can lead to missed school days or workdays, which can indirectly impact communication by reducing opportunities for interaction with peers (Yeşim et al., 2020; Akın & Erbil, 2024). Consequently, our research seems to align with the current studies.

The World Health Organization (WHO, 1997) defines the quality of life (QOL) as "an individual's perception of their position in life in the context of the culture and value systems in which they live and about their goals, expectations, standards, and concerns". Significantly, there are a great number of studies that have been conducted across a wide variety of disciplines in the literature that give evidence for the presence of a connection between PMS and low quality of life (Farrokh-Eslamlou et al., 2015; Bakir & Yangın, 2019; Karpagavalli & Rani, 2020; Al-Shahrani et.al., 2021; Yorulmaz & Karadeniz, 2021). In our study, the relationship between students' PMCM and their quality of life was examined.

Regarding the relationship between PMCM mean scores and SF-36, a very weak positive correlation was found between the "Avoiding Harm" sub-dimension of PMCM and the "Physical Function" sub-dimension of SF-36. Conversely, a very weak negative correlation existed between the "Physical Role Difficulty" and "Emotional Role Difficulty" sub-dimensions ($p<.001$). According to this finding, physical function increased as avoiding harm increased. In addition, role difficulty and emotional role difficulty decreased as avoiding harm increased. Besides, it was found weak negative correlation between the “Adjusting Energy” sub-dimension of PMCM and “physical role difficulties, Emotional role difficulties, Energy, Mental Health, Social functionality, Pain, General Health” sub-dimensions of SF-36 ($p<.001$). According to this finding, physical function, emotional role difficulties, energy, mental health, social functionality, pain, and general health increased as

adjusting energy decreased. Our study results showed that, as students' ability to cope with premenstrual symptoms improved, their quality of life also increased. Therefore, it is very important to increase the coping levels of PMS in students who experience PMS.

Conclusion and Recommendations

Based on these results, it's recommended to organize educational workshops, health seminars, and awareness campaigns, led by healthcare professionals, to improve PMS knowledge and management. Nurses should actively promote awareness of PMS, menstrual changes, and self-care. Wellness challenges, including yoga and mindfulness, could help students manage PMS, and campus policies should support menstrual health through free products, pain relief options, and counseling services. It is also recommended that research be conducted to determine cultural and religious factors that may affect university students' perceptions and practices regarding PMS. It is also recommended that the study be conducted as a multicenter study in a larger population.

Ethical Approval of the Study ▪ Etik Kurul Onayı
Ethical approval was obtained from the Ankara Yildirim Beyazit University Health Science Ethics Committee (Approval date/number: October 06, 2022/14). ▪ Bu çalışma Ankara Yıldırım Beyazıt Üniversitesi Sağlık Bilimleri Etik Kurulu tarafından onaylanmıştır (Onay tarih/sayı: 06 Ekim 2022/14).

Informed Consent ▪ Bilgilendirilmiş Onam
Written consent was obtained from participants participating in the study. ▪ Çalışmaya katılan katılımcılardan yazılı onam alınmıştır.

Peer-review ▪ Hakem Değerlendirmesi
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Author Contributions ▪ Yazar Katkıları
DG; Concept, Desing, Literature Search, Data Collection, Data Analysis and İnterpretation, Writing the Manuscript.
SK; Consept, Desing, Data Analysis and İnterpretation, Critical Review, Writing the Manuscript. ▪ DG; Fikir, Tasarım, Literatür Taraması, Veri Toplama, Veri Analizi ve Yorumlama, Makale Yazımı. SK; Fikir, Tasarım, Veri Analizi ve Yorumlama, Eleştirel İnceleme, Makale Yazımı.

Declaration of Interests ▪ Çıkar Çatışması
The authors declare that there is no conflict of interest. ▪ Yazarlar arasında herhangi bir çıkar çatışması bulunmamaktadır.

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References

Abay, H., & Kaplan S. (2019). Current approaches in premenstrual syndrome management. *Bezmialem Science, 7*(2), 150–156. https://doi.org/10.14235/bas.galenos.2018.2358

Abay, H., & Kaplan S. (2020). Validation and reliability of the turkish premenstrual coping measure/Premenstrual semptomlarla bas etme ölçegi'nin Türkce gecerlik ve güvenirlik çalışması. *Bezmialem Science, 8*(3), 289-90. https://doi.org/10.14235/bas.galenos.2019.3608

Akın, Ö., & Erbil, N. (2024). Investigation of coping behaviors and premenstrual syndrome among university students. *Current Psychology, 43*, 1685-95. https://doi.org/10.1007/s12144-023-04419-1

Al-Shahrani, A. M., Misken, E., Shroff, F., Elnour, S., Algahtani, R., Youssry, I., & Ahmed, S. (2021). Premenstrual syndrome and its impact on the quality of life of female medical students at Bisha University, Saudi Arabia. *Journal of Multidisciplinary Healthcare*, *14,* 2373–79. https://doi.org/10.2147/JMDH.S327893

Arafa, A. E., Senosy, S. A., Helmy, H. K., & Mohamed, A. A. (2018). Prevalence and patterns of dysmenorrhea and premenstrual syndrome among Egyptian girls (12–25 years). *Middle East Fertility Society Journal*, *23*(4), 486-90. https://doi.org/10.1016/j.mefs.2018.01.007

Aşcı, Ö., Süt, H. K., & Gökdemir, F. (2016). Üniversite Öğrencilerinde Premenstrüel Sendrom Prevalansı ve Risk Faktörleri. *Dokuz Eylül Üniversitesi Hemşirelik Fakültesi Elektronik Dergisi, 9*(3), 79–87. https://dergipark.org.tr/tr/pub/deuhfed/issue/46794/586782

Bakir, N., & Yangın, H. B. (2019). Üniversite öğrencilerinde premenstrual sendrom ve sağlıklı yaşam biçimi davranışları arasındaki ilişki. *Yaşam Becerileri Psikoloji Dergisi, 3*(5), 39–51. https://dergipark.org.tr/tr/download/article-file/719761

Cormac, J. S., Irwin, N., & Petersen, I. (2016). Recording and treatment of premenstrual syndrome in UK general practice: A retrospective cohort study. *BMJ Open*, *6*(3), e010244. https://bmjopen.bmj.com/content/bmjopen/6/3/e010244.full.pdf?gathStatIcon=true

Dutta, A., & Sharma, A. (2021). Prevalence of premenstrual syndrome and premenstrual dysphoric disorder in India: A systematic review and meta-analysis. *Health Promotion Perspectives, 11*(2), 161-70. https://doi.org/10.34172/hpp.2021.20

Edis, E.K., & Keten, M. (2023). Premenstrual Syndrome Experiences and Coping Levels of University Students: A Mixed Method Study. *Bezmialem Science*, *11*(3), 308-314. https://doi.org/10.14235/bas.galenos.2023.86547

Farrokh-Eslamlou, H., Oshnouei, S., Heshmatian, B., & Akbari, E. (2015). Premenstrual syndrome and quality of life in Iranian medical students. *Sexual & Reproductive Healthcare*, *6*(1), 23-27. https://doi.org/10.1016/j.srhc.2014.06.009

Fernández-Martínez, E., Onieva-Zafra, M. D., & Parra-Fernández, M. L. (2019). The impact of dysmenorrhea on quality of life among Spanish female university students. *International Journal of Environmental Research and Public Health*, *16*(5), 713. https://doi.org/10.3390/ijerph16050713

Goker A, Artunc-Ulkumen B, Aktenk F, Ikiz N. (2015). Premenstrual syndrome in Turkish medical students and their quality of life. *Journal of Obstet Gynaecol*, *35*(3), 275-8. https://doi.org/10.3109/01443615.2014.948820

Karpagavalli, G., & Rani R. (2020). A Study to assess the effect of premenstrual syndrome on quality of life among college students at Chennai. *International Journal of Health Sciences and Research, 10*(6), 110–15. https://www.ijhsr.org/IJHSR_Vol.10_Issue.6_June2020/17.pdf

Keten E. E., & Keten M. (2023). Premenstrual syndrome experiences and coping levels of university students: A mixed method study. *Bezmialem Science*, *11*(3), 308–14. https://doi.org/10.14235/bas.galenos.2023.86547

Kısa, S., Zeyneloğlu, S., & Güler, N. (2012). Üniversite Öğrencilerinde premenstrual sendrom görülme sıklığı ve etkileyen faktörler. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi*, *1*(4), 284–97. https://dergipark.org.tr/en/download/article-file/84312

Koçyiğit, H., Aydemir, Ö., Fişek, G., Ölmez, N., & Memiş, A. (1995). The reliability and validity of Turkish version of short form 36 (SF 36). *Turkish J Drugs Therap*, *12*(2), 102–6. https://cir.nii.ac.jp/crid/1573387451141993728?utm_medium=email&utm_source=transaction

Kucukkelepce, D. S., Unver H., Nacar G., & Tashan, S. T. (2021). The effects of acupressure and yoga for coping with premenstrual syndromes on premenstrual symptoms and quality of life. *Complementary Therapies in Clinical Practice, 42*, 101282. https://doi.org/10.1016/j.ctcp.2020.101282

Kwan, I., & Onwude, J. L. (2015). Premenstrual syndrome. *BMJ Clinical Evidence*. 2015, 0806. https://pmc.ncbi.nlm.nih.gov/articles/PMC4548199/pdf/2015-0806.pdf

Marván, M. L., & Herrera V.A. (2014). Age at menarche, reactions to menarche and attitudes towards menstruation among Mexican adolescent girls. *Journal of Pediatric and Adolescent Gynecology*, *27*(2), 61-66. https://doi.org/10.1016/j.jpag.2013.06.021

Mohib, A., Zafar, A., Najam A., Tanveer, H., & Rehman R. (2018). Premenstrual syndrome: Existence, knowledge, and attitude among female university students in Karachi. *Cureus, 10*(3), e2290. https://doi.org/10.7759/cureus.2290

Nohara, M., Momoeda, M., Kubota T., & Nakabayashi, M. (2011). Menstrual cycle and menstrual pain problems and related risk factors among Japanese female workers. *Industrial Health, 49*(2), 228-34. https://www.jstage.jst.go.jp/article/indhealth/49/2/49_MS1047/_pdf

Özdel, K., Kervancıoğlu, A., Taymur İ., Efe C., Türkçapar A. F., Güriz S. O., & Turkcapar, M. H. (2015). Premenstrual symptom screening tool: A useful tool for DSM-5 premenstrual dysphoric disorder. *Journal of Clinical and Analytical Medicine, 6*(5), 581–85. https://doi.org/10.4328/JCAM.2314

Özmermer, T. (2017). *Şanlıurfa'da üniversite öğrencilerinde premenstrual sendrom sıklığı, baş etme yolları ve etkileyen faktörler*. [Yayınlanmamış Yüksek Lisans Tezi] Harran Üniversitesi, Sağlık Bilimleri Enstitüsü, Şanlıurfa. http://acikerisim.harran.edu.tr:8080/xmlui/bitstream/handle/11513/1474/489936.pdf?sequence=1&isAllowed=y

Ranjbaran, M., Samani, R. O., Almasi-Hashiani A., Matourypour, P., & Moini, A. (2017). Prevalence of premenstrual syndrome in Iran: A systematic review and meta-analysis. *International Journal of Reproductive Biomedicine, 15*(11), 679-86. https://pmc.ncbi.nlm.nih.gov/articles/PMC5780553/pdf/ijrb-15-679.pdf

Read, J. R., Perz J., & Ussher J.M. (2014). Ways of coping with premenstrual change: Development and validation of a premenstrual coping measure. *BMC Women's Health, 14*(1), 9000. https://bmcwomenshealth.biomedcentral.com/articles/10.1186/s12905-014-0155-0

Sut, H. K., & Mestogullari, E. (2016). Effect of premenstrual syndrome on work-related quality of life in Turkish nurses. *Safety and Health at Work, 7*(1), 78–82. https://doi.org/10.1016/j.shaw.2015.09.001

Steiner M, Macdougall M, Brown E. (2003). The premenstrual symptoms screening tool (PSST) for clinicians. *Archives Womens Mental Health*, *6*(3), 203-9. https://doi.org/10.1007/s00737-003-0018-4

Taro, Y., Esin, A., Bakir, A., & Aydın, C. (2001). *Temel örnekleme yöntemleri*. Literatür Yayınevi, ISBN:975-8431-34-X, İstanbul 94-95.

https://books.google.com.tr/books/about/Temel_%C3%B6rnekleme_y%C3%B6ntemleri.html?id=zklUtwAACAAJ&redir_esc=y

Topatan, S., & Kahraman, Ş. (2020). Premenstrual sendrom yaşayan üniversite öğrencilerinin yaşam kaliteleri ile başetme yöntemlerinin incelenmesi. *Anadolu Hemşirelik ve Sağlık Bilimleri Dergisi*, *23*(1), 35–44. https://dergipark.org.tr/tr/download/article-file/1013549

The American College of Obstetricians And Gynecologists (ACOG). (2023). Management of Premenstrual Disorders, Clincal Practice Guideline, Number 7. https://www.acog.org/clinical/clinical-guidance/clinical-practice-guideline/articles/2023/12/management-of-premenstrual-disorders

Vatansever, B. (2019). *Üniversite öğrencilerinde premenstrual sendrom semptomları ve öğrencilerin semptomlarla baş etme yöntemleri,* [Yayınlanmamış Yüksek Lisans Tezi] Kırklareli Üniversitesi, Sağlık Bilimleri Enstitüsü, Kırklareli. https://acikbilim.yok.gov.tr/bitstream/handle/20.500.12812/164555/yokAcikBilim_10273514.pdf?sequence=-1&isAllowed=y

Victor, F. F., Souza, A. I., Barreiros, C. D. T., Barros, J. L. N., Silva, F. A. C. D., Ferreira, A. L. C. G. (2019). Quality of Life among University Students with Premenstrual Syndrome. *Revista Brasileira de Ginecoogia a Obstericia*, *41*(5), 312-17. https://doi.org/10.1055/s-0039-1688709

Ware, J. E., & Sherbourne, C. S. (1992). The MOS 36-item short-form health survey (SF-36): I. conceptual framework and item selection. *Medical Care, 30*(6), 473–83. https://www.espalibrary.eu/media/filer_public/f5/31/f531ce0b-0584-476b-b46a-abe3df14d0ec/ware-mc1992.pdf

World Health Organization (WHO). (1997). WHOQOL: Measuring quality of life. World Health Organization (WHO/MSA/MNH/PSF/97.4). https://iris.who.int/bitstream/handle/10665/63482/WHO_MSA_MNH_PSF_97.4.pdf?sequence=1&isAllowed=y

Yazıcı, S. (2015). Perimenstrual şikayetler ve hemşirelik yaklaşımı. *Sağlık Bilimleri ve Meslekleri Dergisi*, *1*(1), 58–67. https://dergipark.org.tr/tr/download/article-file/97954

Yeşim, A. D., Erdemoğlu, Ç., & Özşahin Z. (2020). Üniversite öğrencilerinde menstrual semptom yaşama durumu ve yaşam kalitesine etkisi. *Acibadem Universitesi Saglik Bilimleri Dergisi*, *10*(2), 176-181. https://journal.acibadem.edu.tr/en/download/article-file/1701788

Yorulmaz, D. S., & Karadeniz H. (2021). Premenstrual sendrom yaşayan üniversite öğrencilerinin yakinmalarini azaltmaya yönelik kültürel uygulamalari. *İnönü Üniversitesi Sağlık Hizmetleri Meslek Yüksek Okulu Dergisi 9*(2), 755–69. https://doi.org/10.33715/inonusaglik.833166