Original Article

# Investigation of Menstrual Symptom Level and Dysmenorrhea in Young Women Aged 18-30; Coping Methods, Pain Levels and Associated Factors

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**Abstract**
**Background:** Many women experience menstruation-related health problems during their reproductively fertile years, such as dysmenorrhea, and premenstrual syndrome.
**Aim:** This study aimed to examine menstrual symptoms, dysmenorrhea, coping methods, pain levels and related factors in young women between the ages of 18-30.
**Method:** This cross-sectional study was conducted with 295 participants between the ages of 18-30. 'Personal Information Form', 'VAS Scale (Visual Analog Scale)' and 'Menstruation Symptom Scale (MSS)' were used as data collection tools. In the analysis of the data, the t test, ANOVA, Kruskal Wallis-H Test, Mann-Whitney U, post-hoc tests LSD and Tamhane T2 test were used.
**Results:** 73.2% of the participants are between the ages of 22-25. The region where 66.1% live the longest is the Mediterranean region of Turkey. 82.7% of the participants had dysmenorrhea. The average value of dysmenorrhea pain intensity is 5.63±2.39 (0-10). Resting lying down, rubbing the abdominal area, wearing socks and undershirts, applying heat to the abdomen, listening to music, massage and green tea are among the most commonly used non-drug methods for dysmenorrhea. MSS total score was found to be 73.86±15.97. Age, being an immigrant, and smoking significantly affected MSS scores ($p<0.05$).
**Conclusion:** The incidence of dysmenorrhea is high in young women. Women with dysmenorrhea mostly need coping methods such as lying down, resting, applying heat, keeping warm and massaging. To improve global women's health, women can be given supportive training on coping with menstrual symptoms and managing the process effectively. It should also be taken into consideration that menstrual symptoms may be affected by factors such as age, culture, physical and psychological health, and adaptation to the living environment.

**Keywords:** Coping, Dysmenorrhea, Menstrual symptom, Pain,Women

## Introduction

The menstrual cycle encompasses the regular monthly changes in a woman's reproductive organs from menarche to menopause, necessary for maintaining reproductive function (Taskin, 2016). Throughout the menstrual cycle, which spans from the first day of menstruation until the next menstrual period, the woman's body undergoes various changes due to major hormonal fluctuations. Menstruation-related symptoms are a common issue faced by women, with primary dysmenorrhea and premenstrual syndrome being particularly impactful on daily life (Mitsuhashi et al.,2022).

Many women experience menstruation-related health problems during their reproductively fertile years, such as dysmenorrhea, heavy menstrual bleeding, and premenstrual syndrome (Komada et al., 2019). Dysmenorrhea is the presence of painful uterine cramps that occur during or before menstruation. It affects 50-90% of women of reproductive age and can last from a few hours to several days (Hanoch Kumar & Elavarasi, 2016; Rogers et al.,2021; Alkhatib et al.,2023). Women with dysmenorrhea may experience pain that radiates to the lower back and upper legs, as well as gastrointestinal symptoms (Rogers et al.,2021). Dysmenorrhea is a common cause of gynecological morbidity in

women of reproductive age, regardless of their age, nationality, or economic status. Its effects extend beyond the individual to the community, causing a significant loss of productivity each year (Bernardi et al.,2017). Many women experience dysmenorrhea, which can cause unproductive days at school or work and difficulty focusing on daily activities. Additionally, women may report feeling depressed and irritable during menstruation (Barcikowska et al.,2020). Mild menstrual symptoms typically do not impact women's daily lives or work. However, negative experiences associated with menstruation can have adverse effects on a woman's daily routine and work performance (Bernardi et al.,2017). Menstrual symptoms can result in a significant economic burden, primarily due to decreased work productivity (Komada et al.,2019).

The impact of menstrual symptoms on women covers various significant aspects of health and development (Li et al., 2023). Measures can be taken to improve and reduce the impact of menstrual symptoms, alleviating economic losses and reducing the burden on society. It is crucial to measure and assess symptoms to achieve effective management (Li et al., 2023). Based on this information, this study aimed to examine menstrual symptoms, dysmenorrhea, coping methods, pain levels and related factors in young women aged 18-30 years.

## Material and Methods

**Study design:** This research was designed as a cross-sectional type. This study was conducted with female students studying at the 'Faculty of Health Sciences' at a state university for ease of access to the participants. The population of the study consisted of a total of 678 female students studying at the Faculty of Health Sciences in the 2022 fall academic year. The study's inclusion criteria required female participants who were 18 years or older, enrolled in the Faculty of Health Sciences, completed the questionnaires in full, and voluntarily participated in the study. In the sample calculation made according to the population number, it was determined that 246 volunteer participants should be reached with a 95% confidence interval and a margin of error of 0.05. Ultimately, the study was completed with a total of 295 participants who met the inclusion criteria. Data was collected through face-to-face questionnaires administered by the researcher between December 15, 2022, and February 3, 2023. Each participant took 20-30 minutes to completed the questionnaire.

**Instrument:** Data were collected using three types of forms: the 'Personal Information Form', the 'Visual Analog Scale (VAS)', and the 'Menstruation Symptom Scale (MSS)'.

***Personal Information Form:*** The researcher prepared this form by utilizing the literature to determine descriptive characteristics of the participants, their pain levels, and the coping methods they use for dysmenorrhea (Aksoy Derya et al., 2019; Sonmez et al., 2019; Yilmaz et al., 2020).

***VAS (Visual Analog Scale):*** The severity of dysmenorrhea pain in participants was determined using the VAS scale. Prior to completing the questionnaire, participants were informed about the scoring system of the VAS. The VAS is a one-dimensional scale that is frequently used to measure subjective parameters due to its simplicity, effectiveness, reproducibility, and minimal instrumentation. The pain scale is a measurement tool consisting of a 10 cm line, drawn either vertically or horizontally, with two extreme descriptive words at each end of the line. The words are 'no pain at all' and 'worst/unbearable pain', assigned values of 0 and 10, respectively. The individual is instructed to mark the line at the point that corresponds to the intensity of their pain (Yaray et al., 2011; Chou et al.,2016).

***Menstruation Symptom Scale (MSS):*** The Menstruation Symptom Scale (MSS) was originally developed in English by Chesney and Tasto in 1975 to evaluate menstrual pain and symptoms. The scale was later adapted into Turkish by Guvenc et al. (2014). Participants are asked to rate the symptoms they experience related to menstruation on a five-point Likert-type scale ranging from 1 (never) to 5 (always). The scale consists of 22 items and three dimensions. The MSS score is calculated by averaging the total score of the scale items. The severity of menstrual symptoms increases with a higher mean score. The scale has a Cronbach's Alpha value of 0.86 (Guvenc et al., 2014). In this study, the Cronbach's Alpha value of the scale was found to be 0.87.

**Data Analysis:** The statistical package program SPSS (IBM SPSS for Windows, ver.23) was used to perform the analyses. The normality assumptions of the numerical variables were evaluated using the Kolmogorov-Smirnov and Shapiro-Wilk normality tests. Descriptive information was

analyzed using a frequency table. The MSS scale scores were analyzed using T test, ANOVA, Kruskal Wallis-H Test, Mann-Whitney U, post-hoc tests LSD and Tamhane T2 test based on the variables. The findings were evaluated at a 95% confidence interval and $p<0.05$ level.

**Ethical Aspect of Study:** Ethical approval was obtained from the Non-Interventional Clinical Research Ethics Committee of Hatay Mustafa Kemal University (Decision No: 27, Date: 07.12.2022, Page: 5/5). Participants provided both verbal and written consent after reading the study explanation text prior to the study. The study adhered to the principles of the Declaration of Helsinki.

## Results

Of the participants, 73.2% (n=216) were between the ages of 22 and 25. 78.3% experienced menarche between the ages of 10 and 14. 66.1% had lived in the Mediterranean region of Turkey for the longest period of time. 5.2% (n=17) reported being immigrants. The majority of participants (81.7%) experienced regular menstruation. Almost half of the participants (46.8%) reported using painkillers to manage their dysmenorrhea. The study found that 82.7% of participants experienced dysmenorrhea, while 88.8% did not have any gynecologic disease. Additionally, 59.3% reported frequent consumption of caffeinated beverages, and 89.5% were non-smokers. According to Table 1, 53.9% of participants reported using non-pharmacological methods to manage dysmenorrhea.

When asked to rate the severity of their dysmenorrhea on a scale of 0-10 using the VAS pain scale, 13.2% of participants reported a pain level of 5, 19.3% reported a pain level of 6, 18% reported a pain level of 7, and 12.9% reported a pain level of 8. The mean dysmenorrhea pain intensity for participants was calculated as 5.63±2.39 (0-10) (Figure 1).

When the non-pharmacological methods used by the participants to cope with dysmenorrhea were examined, it was found that 67.3% of them used the method of listening to music from mind-body techniques, 53.2% used massage, 40.3% used breathing exercises, and 37.3% used the method of praying. When the other methods used by the participants for dysmenorrhea were examined, it was seen that the most commonly used application was lying down and resting (89.2%), followed by rubbing the abdominal area (66.1%), wearing socks and undershirts (65.4%), hot application to the abdomen (58.6%), hot application to the feet (56.3%), and taking a hot shower (55.6%). When the herbal methods used by the participants for dysmenorrhea were analyzed, it was found that green tea (49.8%), mint (44.1%), chamomile (36.9%), linden (34.6%), thyme (32.9%), and black tea (32.5%) were used the most (Table 2).

The study found no significant difference between age and MSS total score, 'negative effects/somatic complaints' sub-scale score, and 'pain symptoms' sub-scale score ($p>0.05$). However, a significant difference was observed between age and the 'coping methods' sub-scale scores. The study found that participants aged 18-21 years had significantly higher scores on the 'coping methods' sub-scale (9.89±3.38) compared to participants aged 22-25 years (8.74±3.34) ($F=3.134$, $p=0.045$).

There were no significant changes in the MSS total score and sub-scale scores based on the region of longest residence ($p>0.05$). Additionally, there were no significant differences found in the MSS total score, 'negative effects/somatic complaints', and 'coping methods' sub-scale scores based on immigrant status ($p>0.05$). However, a significant difference was found between immigrant status and 'pain symptoms' sub-scale scores. Nonimmigrants had significantly higher 'pain symptoms' sub-scale scores (22.28±4.80) compared to immigrants (19.29±3.70) ($Z=2.641$, $p=0.008$). There was no significant difference found between the variables of 'menstrual pattern' and 'excessive consumption of caffeinated beverages' and the MSS total score and all sub-scale scores ($p>0.05$). Participants with dysmenorrhea had a significantly higher total score on the MSS and all other subscales compared to those without dysmenorrhea ($p<0.05$). However, there was no significant difference in the total MSS score, 'negative effects/somatic complaints' subscale score, and 'coping methods' subscale score based on smoking status ($p>0.05$). However, smokers scored significantly higher on the 'pain symptoms' sub-scale compared to non-smokers ($Z=2.135$, $p=0.033$). Participants who used painkillers to manage dysmenorrhea had a significantly higher total score on the MSS and all other subscales ($p<0.05$). The study found that participants who used non-pharmacological methods to cope with dysmenorrhea had

significantly higher total MSS scores (76.01±15.45) and 'negative effects/somatic complaints' subscale scores (44.17±10.36) compared to those who did not use non-pharmacological methods (71.37±16.25; 41.11±10.04, respectively) (p>0.05). The participants' total MSS scores were 73.86±15.97. The sub-scale scores for negative effects/somatic complaints, pain symptoms, and coping methods were 42.73±10.35, 22.11±4.79, and 9.01±3.39, respectively (Table 3).

**Table 1. Descriptive information of the participants**

| Variables (n=295) | n | % |
|---|---|---|
| **Age** | | |
| 18-21 | 73 | 24.7 |
| 22-25 | 216 | 73.2 |
| 26-30 | 6 | 2.0 |
| **Age of menarche** | | |
| 10-14 | 231 | 78.3 |
| 15-19 | 64 | 21.7 |
| **Longest lived region** | | |
| Mediterranean | 195 | 66.1 |
| Southeast Anatolia | 79 | 26.8 |
| Eastern Anatolia | 9 | 3.1 |
| Central Anatolia | 7 | 2.4 |
| Syria | 3 | 1.0 |
| Other | 2 | 0.7 |
| **Immigration status** | | |
| Yes | 17 | 5.8 |
| No | 278 | 94.2 |
| **Menstrual pattern** | | |
| Regular | 241 | 81.7 |
| Irregular | 54 | 18.3 |
| **Dysmenorrhea** | | |
| Yes | 244 | 82.7 |
| No | 51 | 17.3 |
| **Presence of gynecological disease** | | |
| Yes | 33 | 11.2 |
| No | 262 | 88.8 |
| **Excessive consumption of caffeinated drinks** | | |
| Yes | 175 | 59.3 |
| No | 120 | 40.7 |
| **Smoking** | | |
| Yes | 31 | 10.5 |
| No | 265 | 89.5 |
| **Taking medication (painkillers) for dysmenorrhea** | | |
| Yes | 138 | 46.8 |
| No | 157 | 53.2 |
| **Using non-pharmacological methods for dysmenorrhea** | | |
| Yes | 159 | 53.9 |
| No | 136 | 46.1 |

| ***0- No pain*** | | | | | | | | | | ***10- Most unbearable pain*** |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| (6) | (20) | (13) | (15) | (28) | (39) | (57) | (53) | (38) | (14) | (12) |
| 2.0% | 6.8% | 4.4% | 5.1% | 9.5% | 13.2% | 19.3% | 18.0% | 12.9% | 4.7% | 4.1% |

VAS-pain score (mean:5.63±2.39)

**Figure 1.** *Determination of the severity of dysmenorrhea on the VAS scale*

**Table 2. Non-pharmacological methods used for dysmenorrhea**

| Non-pharmacological Methods | N | % |
|---|---|---|
| **Mind Body Techniques** | | |

| | | |
|---|---|---|
| Listening to Music | 188 | 63.7 |
| Massage | 157 | 53.2 |
| Breathing Exercises | 119 | 40.3 |
| Praying | 110 | 37.3 |
| Dreaming | 77 | 26.1 |
| Yoga | 16 | 5.4 |
| Hypnosis | 3 | 1.0 |
| Acupuncture | 3 | 1.0 |
| **Other Methods** | | |
| Lying Down Rest | 263 | 89.2 |
| Rubbing the Abdominal Area | 195 | 66.1 |
| Wearing socks and undershirts | 193 | 65.4 |
| Hot Application to the Abdomen | 173 | 58.6 |
| Hot Application to the Feet | 166 | 56.3 |
| Taking a Hot Shower | 164 | 55.6 |
| Lying on your stomach | 90 | 30.5 |
| Physical Exercise | 63 | 21.7 |
| Binding the Waist Area | 58 | 19.7 |
| **Herbal Methods** | | |
| Green Tea | 147 | 49.8 |
| Mint | 130 | 44.1 |
| Chamomile | 109 | 36.9 |
| Linden | 102 | 34.6 |
| Thyme | 97 | 32.9 |
| Black Tea | 96 | 32.5 |
| Fennel | 61 | 20.7 |
| Rosehip | 40 | 13.6 |
| Ginger | 25 | 8.5 |
| Rose | 5 | 1.7 |

**Table 3. Distribution of MSS and MSS sub-scale scores according to variables**

| **Variables (n=295)** | **MSS Total (73.86±15.97)** | **Negative effects/somatic complaints (42.73±10.35)** | **Pain symptoms (22.11±4.79)** | **Coping methods (9.01±3.39)** |
|---|---|---|---|---|
| **Age** | | | | |
| 18-21 (1) | 75.51±17.65 | 43.35±11.58 | 22.36±4.54 | 9.89±3.38 |
| 22-25 (2) | 73.13±15.12 | 42.37±9.74 | 22.03±4.82 | 8.74±3.34 |
| 26-30 (3) | 79.66±23.74 | 48.66±13.53 | 21.83±7.11 | 9.16±4.70 |
| ***F/X²*** | *1.001* | *1.259* | *0.100* | *3.134, 1>2* |
| ***p*** | *0.369* | *0.285* | *0.951* | ***0.045*** |
| **Longest lived region** | | | | |
| Eastern Anatolia | 75.77±7.52 | 43.11±5.39 | 23.00±2.50 | 9.66±3.77 |
| Mediterranean | 74.45±17.07 | 43.20±10.98 | 22.23±5.06 | 9.06±3.44 |
| Southeast Anatolia | 72.50±14.92 | 41.71±9.58 | 21.92±4.41 | 8.84±3.47 |
| Central Anatolia | 75.00±5.94 | 42.28±5.76 | 22.71±3.35 | 10.00±2.64 |
| Syria | 67.00±5.19 | 38.66±4.04 | 19.66±0.57 | 8.66±0.57 |
| Other | 67.50±2.12 | 44.00±7.07 | 15.00±4.24 | 8.50±0.70 |
| ***F/X²*** | *0.366* | *0.332* | *0.691* | *0.238* |
| ***p*** | *0.872* | *0.893* | *0.875* | *0.945* |
| **Immigration status** | | | | |
| Yes | 68.52±11.90 | 41.29±7.23 | 19.29±3.70 | 7.94±2.88 |
| No | 74.19±16.15 | 42.83±10.47 | 22.28±4.80 | 9.10±3.42 |
| ***t/Z*** | *1.858* | *0.598* | *2.641* | *1.369* |
| ***p*** | *0.078* | *0.551* | ***0.008*** | *0.172* |
| **Menstrual pattern** | | | | |
| Regular | 73.61±15.53 | 42.50±9.55 | 22.16±4.84 | 8.99±3.49 |
| Irregular | 74.92±17.87 | 43.81±13.22 | 21.88±4.59 | 9.22±3.00 |
| ***t*** | *0.542* | *0.842* | *0.295* | *0.441* |

| | | | | |
|---|---|---|---|---|
| ***p*** | *0.588* | *0.400* | *0.768* | *0.660* |
| **Dysmenorrhea** | | | | |
| Yes | 76.56±14.89 | 44.03±10.10 | 23.03±4.31 | 9.50±3.27 |
| No | 61.25±14.86 | 36.66±9.13 | 17.78±4.57 | 6.80±3.16 |
| ***t*** | *6.662* | *4.806* | *6.897* | *5.391* |
| ***p*** | ***0.000*** | ***0.000*** | ***0.000*** | ***0.000*** |
| **Excessive consumption of caffeinated drinks** | | | | |
| Yes | 74.64±16.11 | 43.27±10.28 | 22.38±4.83 | 9.00±3.55 |
| No | 72.72±15.76 | 41.98±10.35 | 21.72±4.72 | 9.09±3.18 |
| ***t*** | *1.001* | *1.049* | *1.298* | *0.226* |
| ***p*** | *0.317* | *0.295* | *0.194* | *0.821* |
| **Smoking** | | | | |
| Yes | 78.29±14.22 | 44.80±9.00 | 23.58±5.01 | 9.90±3.60 |
| No | 73.32±16.11 | 42.50±10.44 | 21.93±4.74 | 8.93±3.37 |
| ***t*** | *1.639* | *1.177* | *2.135* | *1.499* |
| ***p*** | *0.102* | *0.240* | ***0.033*** | *0.135* |
| **Taking medication (painkillers)** | | | | |
| Yes | 80.74±14.13 | 46.07±10.16 | 23.55±4.12 | 11.05±2.77 |
| No | 67.99±15.11 | 39.84±9.56 | 20.87±4.98 | 7.27±2.89 |
| ***t*** | *7.361* | *5.388* | *4.755* | *11.404* |
| ***p*** | ***0.000*** | ***0.000*** | ***0.000*** | ***0.000*** |
| **Using non-pharmacological methods** | | | | |
| Yes | 76.01±15.45 | 44.17±10.36 | 22.70±4.29 | 9.08±3.23 |
| No | 71.37±16.25 | 41.11±10.04 | 21.42±5.24 | 8.98±3.60 |
| ***t*** | *2.484* | *2.555* | *1.888* | *0.243* |
| ***p*** | ***0.014*** | ***0.011*** | *0.059* | *0.808* |

Kruskal Wallis-H Test, Mann-Whitney U,t test, ANOVA

## Discussion

Menstrual symptoms can be a significant burden for women of reproductive age, affecting their health and quality of life globally (Shimamoto et al., 2021). Treatment options for menstrual symptoms include both pharmacological and non-pharmacological methods. Pharmacological methods include painkillers, oral contraceptives, and non-steroidal anti-inflammatory drugs. Non-pharmacological treatments for various conditions include acupuncture, transcutaneous electrical nerve stimulation (TENS), yoga, exercise programs, massage and relaxation methods, vitamin and mineral supplements, and herbal therapies (Gunebakan & Acar, 2023). This study examined menstrual symptom levels, dysmenorrhea frequency, coping methods, pain levels, and related factors in young women aged 18-30 years. The participants had a total menstrual symptom score of 73.86±15.97, indicating symptoms above the middle level. In their respective studies, Aksoy Derya et al. (2019) and Sonmez et al. (2019) found the MSS total score to be 69.36 ± 17.59 and 65.34 ± 15.65 among university and midwifery students, respectively. In their respective studies, Aksoy Derya et al. (2019) and Sonmez et al. (2019) found the MSS total score to be 69.36 ± 17.59 and 65.34 ± 15.65 among university and midwifery students, respectively. Meanwhile, Gunebakan and Acar (2023) found the total score of MSS to be 71.50±16.25 among pre-menopausal women. (Aksoy Derya et al.,2019; Sonmez et al., 2019; Gunebakan & Acar, 2023). In this respect, the result supported the literature. The study revealed that participants aged 18-21 years had a higher need for coping methods, such as painkillers and hot applications, to alleviate menstrual symptoms compared to those aged 22-25 years. Sonmez et al. (2019) discovered that the negative effects of menstrual symptoms increased with age (Sonmez et al., 2019). Furthermore, environmental factors such as lifestyle, diet, weather changes, nutrition, body weight, and stress have been reported to affect menstrual symptoms (Alkhatib et al., 2022).

In this study, the researchers found that the length of time living in a particular region did not have an effect on menstrual symptom scores. However, they did find that immigrant participants reported lower levels of menstrual pain symptoms. This suggests that cultural factors may influence the way pain is perceived. This is supported by a study conducted in China, which found that participants from different cultures experienced menstrual symptoms differently

in terms of pattern, intensity, severity, and psychological and somatic effects. It has been reported that coping methods for menstrual symptom changes are often influenced by social, cultural, and economic upbringing (Alkhatib et al., 2023). Therefore, it is important to view menstruation not only from a biological perspective but also from a sociocultural and religious perspective (Chew et al., 2021; Akin & Erbil, 2023). This study found that smokers experience higher levels of pain symptoms. Similarly, Duman et al. (2022) found a higher rate of dysmenorrhea in smokers compared to non-smokers. Sonmez et al. (2019) also found that smokers experience more menstrual symptoms. Additionally, a meta-analysis study by Jenabi et al. (2019) found a significant relationship between smoking and dysmenorrhea (Duman et al., 2022; Sonmez et al., 2019; Jenabi et al.,2019). It is important to inform women about the link between smoking and increased menstrual symptoms. The study found a high rate of dysmenorrhea among the participants, with a prevalence of 81.7%. The mean dysmenorrhea pain severity among the participants was 5.63±2.39 on the VAS scale (0-10). This is consistent with previous research conducted by Duman et al. (2022), Nyirenda et al. (2023), and Alshdaifat et al. (2022) (Alshdaifat et al.,2022; Duman et al., 2022; Nyirenda et al.,2023). Duman et al. (2022) reported a similar mean VAS score of 5.99±2.06 for dysmenorrhea severity in their study. In their study, Yilmaz et al. (2020) found that the mean pain intensity was 6.35±1.97 (Yilmaz et al.,2020; Duman et al., 2022), indicating the negative impact of dysmenorrhea on women's roles, performance, and functions.

The study observed that women with dysmenorrhea who used painkillers as a coping method had higher menstrual symptom scores and all subscale scores. This may be due to the fact that pain increases symptom levels, leading to the use of painkillers as a widely known method of coping with symptoms. The study found that participants who used non-pharmacological methods had higher levels of menstrual symptoms and negative/somatic symptoms. Therefore, it can be concluded that those who experience negative/somatic effects tend to resort to non-pharmacological methods more often.The study examined non-pharmacological methods for dysmenorrhea and found that the most commonly used methods were lying down, rubbing the abdomen, wearing socks and undershirts, applying heat to the abdomen, listening to music, and massage. Additionally, green tea and mint tea were the most commonly used herbal methods. In a comparable study, the most frequently utilized methods for dysmenorrhea were resting while lying down, paying attention to wearing socks and undershirts, rubbing the abdominal area, applying heat to the feet, and consuming green tea (Yilmaz et al., 2020). A recent study by Duman et al. (2022) found that massage, hot application to the abdomen, abdominal massage, listening to music, taking a hot shower, consuming green tea, and linden tea were the most commonly used methods for managing dysmenorrhea (Duman et al., 2022). These results suggest that women with dysmenorrhea typically rest lying down to relax, perform hot application and massage, and consume green tea. Additionally, studies have reported that the use of aroma oil massage, as well as vitamin D and calcium supplements, can effectively reduce the severity of primary dysmenorrhea and the need for analgesics (Zeynali & Haghighian, 2019; Najaf Najafi et al., 2021; Donayeva et al., 2023).

**Conclusion:** The participants experienced menstrual symptoms above the moderate level. Migrants reported lower levels of pain symptoms. Participants with dysmenorrhea who used painkillers also experienced higher levels of menstrual symptoms. Smoking was found to increase pain symptoms. The negative/somatic symptom levels were found to be higher in those who used non-pharmacologic coping methods. The rate of dysmenorrhea was 81.7% and the most commonly used non-pharmacological methods to cope with dysmenorrhea were resting in bed, rubbing the abdomen, wearing socks and undershirts, applying heat to the abdomen, listening to music, massage, consuming green tea and mint tea. To enhance global women's health, it is important to identify menstrual symptom levels and effective methods to alleviate them. Women should also receive supportive training to manage their symptoms. It is worth noting that menstrual symptoms may be influenced by cultural, physical, and psychological factors, as well as adaptation to their environment. One limitation of this study is that it was cross-sectional and conducted only with students. Another limitation is that it only evaluated painkiller use among medication methods and did not evaluate psychosocial well-being.

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