

## Original Article

## Complementary and Alternative Medicine Therapy Use of Western Turkish Students for Menstrual Symptoms

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### Abstract

**Background:** This study was conducted to determine the methods of complementary and alternative (CAM) use for the treatment of perimenstrual symptoms.

**Methods:** The sample of this descriptive and analytical study consists of 198 midwifery students of Midwifery Department of the Faculty of Health Sciences of a public university who voluntarily participated in the study. The study data were collected through questionnaire form prepared by the researchers in accordance with literature and "Visual Analogue Scale (VAS)".

**Results:** It was determined that the average age of the students was  $20,01 \pm 1,52$ , 70.7% of the students were experiencing dysmenorrhea, 70.7% were suffering from low back pain, 66.7% were experiencing irritability and unease. When the students with dysmenorrhea were assessed according to VAS, it was determined that 28.9% were exposed to severe and 58.6% to moderate pain. For the treatment of the perimenstrual symptoms, it was determined that 38.2% of the students were using various analgesics, 61% were using hot application, 42.9% were having massage, 19.7% were drinking herbal tea and 11.6% were applying movement therapies (pilates).

**Conclusion:** It was observed that the prevalence of the perimenstrual symptoms amongst the midwifery students is quite high and it was determined they preferred CAM methods more than medical treatment to treat these symptoms.

**Keywords:** Complementary and Alternative Medicine, Menstrual Symptoms, Midwifery Students, Dysmenorrhea

### Introduction

Women may experience some physical and psychological symptoms that begin within about a week before the menstrual period and disappear within a few days following menstruation (Belden, 2010). It was stated in the studies that 40-91,5% of women in reproductive age experience at least one symptom in the perimenstrual period, the symptoms which are experienced affect the daily activities and harm interpersonal relationships (Yucel et al., 2009; Adewuya et al., 2009). The causes of menstrual symptoms affecting women's health and daily life activities in the negative way are still unclear. However, in the etiology, ovarian

activity, estradiol and progesterone, serotonin and gamma-aminobutyric acid neurotransmitters were thought to have effect (Dickerson et al., 2003; RCOG, 2016).

Among women in reproductive age, CAM methods for the treatment of perimenstrual symptoms are increasing day by day even they are widely used. It was reported that the use rate of CAM is 41-48.5% in the world and 12.6-76% in Turkey according to the studies (MacLennan et al., 1996; Yu-Fu, 2003; Kav et al., 2008). CAM methods are often preferred to reduce side effects of medications, strengthen healthy behaviors, support conventional treatments, strengthen the immune system, improve quality of life, reduce

pain, provide physical and spiritual recovery (Ozcelik, & Fadiloglu, 2009; Keskin et al., 2016). CAM interventions for perimenstrual symptoms include applications like mega-vitamins, herbal remedies, osteopathy, cryopathy, homeopathy, massage, acupuncture, movement therapies, music therapy, hypnosis, relaxation techniques, meditation, reiki, yoga, prayer and suggestion (Munstedt et al., 2014; Fisher et al., 2016).

Although there are various CAM methods in our country, there is not enough data on what these methods are, how frequently they are used, and how the healthcare staff approaches to this issue (Araz et al., 2012). For this reason, the purpose of this study was to determine the frequency of complementary and alternative medicine methods used by midwifery candidates in the management of menstrual symptoms.

## Method

This study which was planned as descriptive and cross-sectional and it was conducted with students from Department of Midwifery of a Faculty of Health Sciences of a public university during the 2015-2016 Spring Semester. The population of the study consists of 245 midwifery students in the 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> grades in Faculty of Health Sciences. The selection of the sample in the study has not been made and it is aimed to reach the entire population and 198 volunteers who provided verbal consent were included in the study (*Participation rate: 80.8%*).

**Data Collection Instruments:** The data were obtained by the questionnaire form prepared by the researchers in accordance with the literature and "Visual Analogue Scale (VAS)".

**Questionnaire form;** It consists of 23 questions in two sections. In the first section, questions were asked to determine the demographic characteristics of the students. In the second part, questions were asked about the students' perimenstrual symptom conditions and CAM interventions applied to cope with these symptoms.

**Visual Analogue Scale;** The severity of pain experienced by the students during menstruation was graded between 0 (no pain) and 10 (excruciating pain) by using VAS. VAS is a very common scale used for pain assessment in everyday practice, in which pain averages ranging from 0 to 10. According to this scale, "0" indicates no pain, 1-4 means dull, 5-6 moderate

pain and 7-10 indicates severe pain. Students with complaints of dysmenorrhea were asked to evaluate their pain according to VAS. The average pain scores of the students were recorded in the form.

**Data Evaluation:** In the evaluation of data, by using SPSS 17.0 software, from descriptive statistical analyzes the number, percentage, mean, standard deviation were used and Chi-square test was used to compare categorical variables. The accepted confidence interval was 95% and the significance level for all analyses was set at  $p < 0.05$ .

**Ethical Aspect of the Study:** Before the beginning of the study, written permission was gained from the University of Health Sciences, Department of Midwifery and verbal approval was gained from students participating in the research.

**Limitations of the Study:** The limitation of the study is that it was conducted with only midwifery students studying at one university. For this reason, these findings can not be generalized to all midwifery students in Turkey.

## Results

When the socio-demographic characteristics of the students participating in the study were examined, it was determined that the average age of the students was  $20.01 \pm 1.53$  and the average age of the first menarche was  $13.20 \pm 1.41$  (Table 1).

It was observed that the menstrual cycle order of 68,7% of the students was changing between 21-35 days, and the menstruation period of 86.9% was changing between 2-7 days (Table 2). 70.7% of the students were found to have dysmenorrhea, 70.2% lower back pain, 67.7% irritability and unease and 21.7% nausea-vomiting. When the students with dysmenorrhea were evaluated according to VAS, it was found that 28,9% of the students had severe and 58,6% had moderate pain (Table 2).

The majority (80.1%) of the patients who had a family history of dysmenorrhea and half of the patients (50.4%) without had a family history of dysmenorrhea had dysmenorrhea. The difference was statistically significant ( $p < 0.05$ ). While 86% of the cigarette smokers were experiencing dysmenorrhea, this rate decreased to 64.5% in non-smokers and the difference was statistically significant ( $p < 0.05$ ). Besides, this analysis

revealed that the age at menarche and menstrual regularity in the last 6 month did not affect the presence of dysmenorrhea ( $p > 0.05$ ), (Table 3).

For menstrual symptoms, it was determined that 38.2% of students were using various analgesics,

61.6% of them were resting, 61.1% were using hot application, 49.4% vitamin-mineral supplement, 42.9% massage, 19.7% herbal tea and 11.6% were applying movement therapies (Table 4).

**Table 1. Individual Characteristics of Students**

Individual Characteristics	Mean $\pm$ SD
Age	20.01 $\pm$ 1.53
Age of menarche	13.2 $\pm$ 1.41
Menstruation Duration (Day)	5.6 $\pm$ 2.34
Height(cm)	164.05 $\pm$ 5.21
Weight (kg)	58.44 $\pm$ 10.69
Body Mass Index (BMI)	21.70 $\pm$ 3.70

**Table 2. Menstrual Features of Female Students**

Menstruation duration	n	%
2-7 days	172	86.9
Over than 7 days	26	13.1
<b>Menstruation period</b>		
Irregular	37	18.7
Less than 20 days	25	12.6
21-35 days	136	68.7
<b>Dysmenorrhea</b>		
Yes	140	70.7
No	58	29.3
<b>Beginning of Dysmenorrhea</b>		
2-3 days before menstruation	43	21.7
24 Hours before menstruation	66	33.3
During menstruation	45	22.7
24 Hours after menstruation	44	22.2
<b>Medication for Menstrual symptoms</b>		
Yes	76	38.2
No	122	61.8
<b>Drug proposing person</b>		
Doctor	22	28.9
Nurse/Midwifery	7	9.2
Friends	36	47.4
She preferred	11	14.5
	<b>Mean <math>\pm</math> SD</b>	
<b>Dysmenorrhea VAS score</b>	6.48 $\pm$ 2.38	
<b>Menstrual symptoms</b>	<b>n*</b>	<b>%</b>
Back Pain	139	70.2
Headache	29	14.6
Tiredness	107	54.0
Nervousness And Restlessness	134	67.7
Nausea-Vomiting	43	21.7
Frequent Urination	46	23.2
Diarrhea	49	24.7
Constipation	4	2
Sensitivity in Breasts	43	21.7

\* Participants have indicated more than one option

**Table 3. Comparison of Factors Affecting Dysmenorrhea According to the Presence of Dysmenorrhea**

Features		Presence Of Dysmenorrhea		$\chi^2/p$
		Yes n (%)	No n (%)	
Family history of dysmenorrhea	Yes (n:66)	57 (86.4)	9(13.6)	$\chi^2$ : 13.694 p: .000
	No (n:132)	80 (60.6)	52(39.4)	
Menstrual regularity in the last 6 month	Regular (n:136)	99(72.8)	37(27.2)	$\chi^2$ : 1.395 p: .238
	Irregular (n:62)	40(64.5)	22(37.5)	
Age at first menarche	9-11 age (n:11)	5 (45.5)	6(54.5)	$\chi^2$ : 3.196 p: .202
	12-14 age (n:172)	122 (70.9)	50(29.1)	
	15-17 age (n:15)	10 (66.7)	5(33.5)	
Cigarette smoking	Yes (n:43)	37 (86)	6 (14)	$\chi^2$ : 7.320 p: .007
	No (n:155)	100 (64.5)	55(35.5)	

**Table 4. CAM Treatments Applied by Students in the Treatment of Menstrual Symptoms**

CAM Methods	n*	%
Movement Therapies (Pilates)	23	11.6
Relaxation techniques	24	12.1
Cold Application	22	11.1
Hot Application	121	61.1
Resting	122	61.6
Vitamin-Mineral Supplement	98	49.4
Herbal Tea	39	19.7
Massage	85	42.9

\* Participants have indicated more than one option

## Discussion

A 85% of women who had menstruation have experienced one or more perimenstrual symptoms and 2-10% of these women have adversely affected in terms of their quality of life with severity of these symptoms (Gulerman, 2007). Studies have reported that at least one symptom have been experienced in the rate of 50.1-98.2%, and the most common symptoms are dysmenorrhea and back pain (Keskin et al., 2016). In this study, it was determined that students had at least one symptom with 91% rate

with 71.7% of pelvic pain and 70.2% of lower back pain. While 38.2% of the students were using medical treatment for menstrual symptoms, 72% of the students were applying complementary and alternative methods. In a study conducted in Turkey, the rate of medical treatment use to treat perimenstrual symptoms was 46.4%, and in a study conducted in Spain it was reported to be 60.1% (Lete et al., 2011; Dasikan et al., 2014). The low rate of medication use for dysmenorrhea in our country can be explained by side effect of drugs, anxiety of

deterioration of menstrual cycle regimen due to drugs, decrease of bleeding and anxiety of infertility. For this reason, young girls are trying to cope with the dysmenorrhea, which cause difficulties in family, education and social relations with their own methods. As a matter of fact, it was determined that 70.7% of the students have experienced dysmenorrhea, but only 8.6% of these students applied to the health institution. In particular, painkillers are the choice of women who do not know that PMS is a treatable health issue. This also prevents women from getting help from health professionals to cope with perimenstrual symptoms.

It was determined that CAM methods such as rest (61.6%), hot application (61.1%), vitamin mineral supplement (49.4%) and massage (42.9%) were the most frequently used methods by students for symptoms. In a study conducted in the United States, it was determined that women were using complementary therapies such as exercise (15%), herbal therapies (7%), tea (20%) and resting (58%) in dysmenorrhea management (Banikarim et al., 2000). In another study conducted in Ethiopia, it was found that the treatments used for premenstrual syndrome were painkillers (36%), hot beverages (7%), massage and exercise (4%) (Tolossa & Bekele, 2014). In a study conducted in Taiwan, the use of herbal therapies among traditional therapies was found to be quite frequent (96.6%) due to menstrual symptoms (Chen et al., 2014). In Turkey, in a study conducted by Keskin et al., it was determined that 76.8% of the students had massage, 75.1% hot application, 69.6% physical exercise and 66.3% were using herbal products to cope with menstrual symptoms. In another study, it was found that 50.6% sleeping, 29.8% abundant fluid intake and 28.6% herbal products were used (Kircan et al., 2012; Keskin et al., 2016). The results of the CAM methods in the research differ not only in terms of use percentage but also in terms of the diversity of the methods used. This situation suggests that the perception of pain severity, reaction to pain and coping methods of women in different countries/regions differ because of their cultural differences.

It was determined that 70.7% of the students were experiencing dysmenorrhea, 28.9% of the students with dysmenorrhea had severe pain and 58.6% had moderate pain. While 38.2% of the students were using medical treatment for menstrual symptoms, 72% of the students were

applying complementary and alternative methods. 86.7% of students who used complementary and alternative methods, said that they had benefited and satisfied from these methods, 82.1% of them would advise to the close people. In addition, the majority of participants use the drugs according to friend suggestions, without physician recommendation. According to these findings women see the dysmenorrhea as a condition they can handle themselves.

Factors such as age at menarche (Yilmaz & Yazici, 2008; Potur et al., 2013; Chia et al., 2013; Seven et al., 2014), menstrual regularity (Unsal et al., 2012; Potur et al., 2013) have been reported in the literature to affect the rate of dysmenorrhea. In our study, however, these factors did not affect the rate of dysmenorrhea. Literature shows dysmenorrhea is not an inherited disorder, but it is closely related to family history. This is explained by the fact that dysmenorrhea is a learned behavior or psychological experience. In the study of Citak and Terzioglu, it was stated that more than half (57.9%) of the students with dysmenorrhea history were experiencing dysmenorrhea (Citak & Terzioglu, 2002). Similarly, more than half (80.1%) of the students with dysmenorrhea in our study stated that they have first degree relatives such as mother or sister who had dysmenorrhea history. A result in line with various studies proposing that dysmenorrhea is associated with a family history (Gagua et al., 2012; Potur et al., 2013; Seven et al., 2014; Ju et al., 2014). In studies, the frequency of dysmenorrhea in smokers higher than non-users (Deb and Fenning, 2008; Gagua et al., 2012). In our study, 86% of cigarette smoking students suffering from dysmenorrhea and It was found that the ratio was significantly higher than non-smokers ( $p < 0.05$ ). According to these results, a family history of dysmenorrhea and cigarette smoking seem to be an important risk factor for students with dysmenorrhea.

In the literature, it was stated that movement therapies has positive effects on dysmenorrhea (Locke & Warren, 1999). According to four RCSs and two observational studies conducted by Golomb, it was found that exercise is effective in reducing the symptoms of dysmenorrhea (Golomb et al., 1998). Durain reported that menstrual symptoms were significantly lower in those exercising during menstruation than in those who did not, and another study with

university students reported that physical exercise had positive effects on dysmenorrhea (Durain, 2004; Abbaspour et al., 2006). Contrary to these findings, Blakey's study found that exercise did not reduce dysmenorrhea symptoms (Blakey et al., 2010). However, since these studies have numerous methodological deficiencies (in particular, lack of objective measures of pain or activity level), the evidences presented regarding the use of exercise as an additional treatment for dysmenorrhea is limited. In this study, students 11.6% were applying movement therapies (pilates). When the students' exercise program exercise was evaluated, it was determined that they were not applying a standard program and its time and frequency were changing according to the student. Therefore, there is a need for well-designed randomized controlled studies to evaluate the effect of exercise on dysmenorrhea.

Several herbal teas have been reported in the literature to alleviate dysmenorrhea by decreasing intrauterine blood stasis and regulating blood flow (Khorshidi et al., 2003; Tseng et al., 2005). Seven et al. reported that the herbal tea use as 32,4%, and Wong and Khoo reported in their study that the herbal methods use as 19.4% (Wong&Khoo, 2010, Seven et al., 2013). In this study, the rate of use of herbal tea was determined as 19.7%. In addition, it was determined that the herbal teas frequently used by the students were green tea, fennel, daisy, rosehip, sage and linden.

In this study, it was determined that students applied hot application method for dysmenorrhea at high rate (61.1%). In literature, the efficacy of local heat method in dysmenorrhea treatment has been reported. At the same time, it is stated that the most used method in the treatment of dysmenorrhea is hot application (Oskay et al., 2008; Seven et al., 2013; Potur, Bilgin& Komurcu, 2013). In a randomized controlled trial conducted by Akin et al. with 84 patients with dysmenorrhea, it was shown that heat application is at least effective as ibuprofen (Akin et al., 2001). In another randomized controlled trial of 367 patients, comparing heat application with acetaminophen, it has been shown that heat application is more effective than acetaminophen and it can be better tolerated (Akin et al., 2004).

### Conclusion and Suggestions

While menstrual symptoms were observed frequently among the students, it was determined

that students preferred CAM methods more than medical treatment to cope with these symptoms. In line with these results; It is suggested that students should be given more importance and place in the curriculum of CAM methods, increase awareness in this subject, It is recommended to get support from health professionals on CAM methods.

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