

**ORIGINAL RESEARCH**

Medicine Science 2019;8(2):291-5

**Prevalence of dysmenorrhea in young women and their coping methods****Aynur Kizilirmak<sup>1</sup>, Bahtisen Kartal<sup>2</sup>, Pelin Calpbinici<sup>1</sup>**<sup>1</sup>*Nevsehir Haci Bektas Veli University, Semra and Vefa Kucuk Health College, Department of Gynecology and Obstetrics Nursing, Nevsehir, Turkey*<sup>2</sup>*Gaziosman Pasa University, Health Science Faculty, Department of Gynecology and Obstetrics Nursing, Tokat, Turkey*

Received 26 September 2018; Accepted 25 October 2018

Available online 16.12.2018 with doi:10.5455/medscience.2018.07.8937

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The study was conducted to determine the frequency of dysmenorrhea in young women and their coping methods. The study was conducted at 2014-2015 education year, spring semester of a university as descriptive. Total 3526 girl students consisted of the universe. Sample size table was used for sample choosing and sample size was determined as 600 participants with 0.03 sample error and  $p = 0.08$ . A questionnaire form that improved by the researcher and Visual Analogue Scale (VAS) were used. It is determined that average age of the students was  $20.58 \pm 1.73$ , 65.0% lived at hall of residence, 8.7% smoked and 3.5% used alcohol. Of them; average age of menarche was  $13.45 \pm 1.17$ , 68% had 3-6 days for menstrual period, 48.5% had 28-33 days for menstrual cycle, 15.3% lived menstrual irregularity. Also, 93.3% lived dysmenorrhea, mean of severity of dysmenorrheal pain was  $6.33 \pm 2.69$  and 24.5% of them who lived pain applied to health institute. It is found that of the girls; 63.2% used analgesic, 67.8% had rest in bed, 63.7% applied hot for foot, 56.3% applied hot for abdomen, 26.0% applied massage to abdomen for coping with dysmenorrhea. Also, 66.4% of them stated that these methods make them relax. In the study, it is found that dysmenorrheal prevalence was high in young women and they used both pharmacologic and non-pharmacologic methods for coping with it. It is suggested that informative education programs about complementary and holistic treatment approaches for young women.

**Keywords:** Dysmenorrhea, coping methods, menstruation**Introduction**

Women live some problems related to menstruation and menstrual period. There are premenstrual syndrome, abnormal uterus bleedings and dysmenorrhea among these problems [1]. Dysmenorrhea that is one the gynecologic problems [2,3] in women in fertility period is defined as painful menstruating periodic [4]. There are two types as primer and secondary [5]. Primer dysmenorrhea generally appears under 20 years old women, after ovulation cycle starts without any pelvic pathologic disease. However, there is pathology in secondary dysmenorrhea and it is more common in women over than 20 years [6,7]. Prevalence of dysmenorrhea in young women shows change from country to country and changes between 45% and 86.9% [5,8-14].

Dysmenorrhea is characterized by a severe pain especially in sub-abdominal region, and similar to labour pain. Pain could spread out suprapubic or sub-abdominal region as lumbar region and upper leg [1,15]. Also, nauseous, vomiting, diarrhea, headache, irritability and anorexia could go with dysmenorrheal [1-3].

In the studies, it is stated that age, age at first menstruation, regular menstrual cycle, frequency of menstrual cycle, presence of dysmenorrhea in family history and use of oral contraceptive pills are risk factors of dysmenorrhea in young women [16,17].

It is suggested that dysmenorrhea decreased quality of life [10] and concentration, changed normal physical activity [8], and cause to school absenteeism, insomnia and skipping meal [18].

Treatment of dysmenorrhea changes according to its type, in secondary dysmenorrhea, treatment is planned direct to eliminate pathology under pain. However, in primer dysmenorrhea, some methods are used as hot application, balanced nutrition, regular exercise, regular and enough sleep, massage besides medicine treatment [19]. Again, Acupuncture, Acupressure, Spinal Manipulation Therapy, Yoga, Vitamin and mineral support, vegetative therapies are among holistic therapies [15].

There are many integrated treatment methods in coping with dysmenorrhea. It is important for nursing approaches to know whether young women use these methods. Therefore, this study was conducted to determine the prevalence of dysmenorrhea in young women and their coping methods.

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## Material and Methods

The study was conducted to determine prevalence of dysmenorrhea and coping methods in young women attending to a university between 2014-2015 education years spring semester, as descriptive. Total 3526 girl students constituted of the universe of the study. Sample size table was used for choosing sample and sample size was calculated as 600 with 0.03 sample error and  $p = 0.08$ . The study was conducted with 600 participants who accepted to participate and filled the forms, completely.

A questionnaire form that improved by the researchers was used. The form consisted of 34 questions related to socio-demographic characteristics (age, gender, living place, body mass index, using cigarette or alcohol etc.), menstrual characteristics, dysmenorrhea and coping strategies of the students. Also, Visual Analogue Scale (VAS) was used for determining severity of pain. VAS is a scale that is used to determine the pain commonly and it has got scores between 0-10. According to this, "0" means no pain, 1-4 means mild pain, 5-6 means middle pain and 7-10 means severe pain [20].

### Ethical dimension of the study

Ethical Committee consent from a university (ethical number: 84902927) and institute consent were obtained. Also, aim and subject of the study were told to the students and their verbal consents were obtained with voluntary principle.

### Statistical analysis

Data was analyzed with SPSS/Windows/15.0 (Statistical Package for the Social Sciences) package program. Data was evaluated by using descriptive statistics (mean, standard deviation, percentage).

## Results

It is found that of the students; average age was  $20.58 \pm 1.73$ , mean of length was  $163.36 \pm 5.72$  cm, mean of weight was  $56.62 \pm 8.06$  kg, and mean of Body Mass Index (BMI) was  $21.22 \pm 2.83$ . It is determined that 65.0% of the girls lived hall of residence, 8.7% smoked and 3.5% of them used alcohol. When their gynecologic characteristics were investigated; their mean menarche age was found as  $13.45 \pm 1.17$ . Of them; 68% had menstrual duration as 3-6 days, 48.5% had menstrual cycle as 28-33 days and 15.3% had irregular menstrual cycle. Also it is determined that of the young women; 91% took information related to menstruation, 51.7% took this information from health professional, 33.3% took from their mothers and 64.8% took the information before menarche (Table 1).

While 47.5% of the young women lived dysmenorrhea at every menstrual cycle, 45.8% had dysmenorrhea sometimes and totally, 93.3% had dysmenorrhea, mean pain score of VAS was  $6.33 \pm 2.69$ . It is determined that 46.8 of the young women had dysmenorrhea at the first 2-3 days, 41.7% had at the first day and 24.5% of them who had dysmenorrhea applied to hospital because of this problem. Also, there were dysmenorrhea history in their mothers and sisters (30.3%, 29.3% respectively) (Table 2).

When the dysmenorrhea status of some young women is examined; a statistically significant relationship was found between age and dysmenorrhea ( $p < 0.005$ ) (Table 3).

When their coping strategies were investigated; it is found that of the young women; 63.2% used analgesic, 46.3% used same analgesic regularly, and the most common used analgesic was non-

inflammatory (64.2%). They used analgesic because of their pain is getting increased, when their pain started and with doctor advice (48.3%, 41.2%, 38.7%, respectively). Again, 65.0% of the young women used other methods except analgesic. It is determined that of them; 67.8% had rest in bed, 63.7% applied hot application for their feet, 56.3% performed hot application for their abdomen and 26.0% massaged for abdomen in order to cope with dysmenorrhea. Also, 66.4% of them stated that these methods made them relax (Table 4).

**Table 1.** Some Socio-Demographic and Gynecologic Characteristics of Young Women

CHARACTERISTICS	$X \pm SS$	
Age	20.57	1.73
BMI	21.22	2.83
Menarche Age	13.45	1.17
<b>Living place</b>	<b>n</b>	<b>%</b>
With family at home	62	10.3
With friends at home	92	15.3
At residence	190	65.0
Other	56	9.3
<b>Smoking</b>		
Yes	52	8.7
No	548	91.3
<b>Using alcohol</b>		
Yes	20	3.5
No	579	96.5
<b>Mean of menstrual duration</b>		
< 3 days	19	3.2
3-6 days	408	68.0
7-10 days	173	28.8
<b>Menstrual Period/Day</b>		
20-27 days	201	33.5
28-33 days	291	48.5
40-45 days	16	2.7
Irregular	92	15.3
<b>Taking information relation to menstruation</b>		
Yes	546	91.0
No	54	9.0
<b>Information Source *</b>		
Relatives	202	33.8
Friends	30	5.3
Health Professional	310	51.7
Teacher	55	9.2
Other (Conference, Religious Books)	9	1.5
<b>Time of taking information</b>		
Before menarche	389	64.8
After menarche	157	26.2

\*More than one answer was given.

**Table 2.** Some characteristics about dysmenorrhea in young women

CHARACTERISTICS	n	%
<b>Living Dysmenorrhea</b>		
At every menstruation	285	47.5
Some menstruation	275	45.8
No	40	6.7
<b>Dysmenorrhea duration (n=560)</b>		
First day	250	41.7
First 2-3 days	281	46.8
Until the end of menstruation	20	3.3
Other	9	1.5
<b>Applying to Health Institute because of</b>		
Dysmenorrhea (n=560)	147	24.5
Applied	413	68.8
<b>VAS mean (n=560)</b>		
Mild	69	11.5
Middle	263	47
Severe	228	40.8
X $\pm$ SS		6.33 $\pm$ 2.69
<b>Dysmenorrhea History in Family*</b>		
No	158	26.3
In mother	178	30.3
In sister	171	29.3
In Aunt	43	7.2
Other	38	6.3

**Table 3.** According to Some Characteristics of Young Women Living Dysmenorrhea\*

Characteristics	Living Dysmenorrhea						p
	No ( n=40 )		Some menstruation ( n= 275 )		At every menstruation ( n= 285 )		
	n	%	n	%	n	%	
<b>Age</b>							
≤19 age	13	6.9	102	54.3	73	38.8	
≥20 age	27	6.6	173	42.0	212	51.5	.014
<b>Menarche Age</b>							
<12	2	11.8	5	29.5	10	58.8	
≥12	38	6.5	270	46.3	275	47.2	.336
<b>Mean of menstrual duration</b>							
< 3 days	2	10.5	10	52.6	7	36.8	
3-6 days	26	6.4	195	47.8	187	45.8	.439
7-10 days	12	6.9	70	40.5	91	52.6	
<b>Body mass index</b>							
Underweight <18.5	8	8.3	47	49.0	41	42.7	
Normal 18.5 <24.9	30	6.8	197	44.9	212	48.3	.630
Overweight/obese >25	2	3.1	31	47.7	32	49.2	
<b>Living place</b>							
With family at home	9	14.5	28	45.2	25	40.3	
With friends at home	6	6.5	45	48.9	41	44.6	
At residence	23	5.9	175	44.9	192	49.2	.216
Other	2	3.6	27	48.2	27	48.2	
<b>Smoking</b>							
Yes	4	7.7	19	36.5	29	55.8	
No	36	6.6	256	46.7	256	46.7	.391
<b>Using alcohol</b>							
Yes	3	15.0	6	30.0	11	55.0	
No	37	6.4	268	46.3	274	96.1	.173

\*Percentage of rows received

**Table 4.** Using Analgesic for Dysmenorrhea Treatment in Young Women and Their Coping Strategies except Analgesics

CHARACTERISTICS	n	%
<b>Using analgesics (n=560)</b>		
Not used	206	36.8
Used	197	35.2
Sometimes used	157	28.0
<b>Using Same Analgesic Regularly</b>		
Yes	164	46.3
No	190	53.7
<b>Analgesic Type (n=299)**</b>		
Paracetamol	124	41.4
Noninflammatory	192	64.2
Relaxant	6	2.01
Antispasmodic	17	5.6
<b>Time of taking Analgesic</b>		
When pain starts	146	41.2
When menstruation starts	37	10.4
With increased pain	171	48.3
<b>People who advice analgesic*</b>		
Friend	49	13.8
Doctor	137	38.7
Midwife/Nurse	11	3.1
Family members	79	22.3
Own self from pharmacy	78	22.0
Other (women blogs on the internet)	7	1.9
<b>Using another method except analgesic</b>		
Used	364	65.0
Not used	196	35.0
<b>Coping Methods that used except analgesic**</b>		
Having rest in bed	247	67.8
Hot application to feet	232	63.7
Hot application to abdomen	205	56.3
Massage for abdomen	95	26.0
Having hot shower by standing	84	23.0
Walking	70	19.2
Distracting	41	11.2
Consider for nutrition	26	7.1
Exercise	24	6.5
Having hot shower by sitting	17	4.6
Relaxation techniques	17	4.6
Other (Hot drinks)	14	3.8
<b>Relaxing Statutes of These Coping Methods Except Analgesics</b>		
Yes	241	66.4
Sometimes	114	31.4
No	8	2.2

\*More than answer was given. \*\*It is calculated on the basis of people gave answer and more than one answer was given.

## Discussion

It is found that prevalence of dysmenorrhea was high in young women. Again, in other studies, it is found as 84.1% in Italy by Grandi et al.[12]; 76.1% in Egypt by Mohamed [21]; 78% in Nigeria by Adegbite et al. [22]; 78% in Pakistan by Gulzar et al. [23]; 89.1% in Iran by Habibi et al. [24]; 80% in Australia by Hillen et al. [25]; 72.8% in Japan by Kazama et al. [26]; and 74.5% in Malesia by Wong and Khoo [27]. It is seen that between 72.7% and 85.7% in studies conducted in Turkey [5,16,17,28]. The studies show that although there are geographic differences, dysmenorrhea is a common gynecologic problem among young women.

In the study, almost half of women had got middle degree pain. Similar results of some studies support this finding [5,16,22,30,31,39].

Also, almost one quarter of women who had dysmenorrhea applied a health institute because of this problem. Most of studies that were conducted support this result [21,28,32]. It could be stated that dysmenorrhea was accepted as a normal state by the most of the women and they preferred individual treatment methods. Otherwise, it is thought that although rate of applying was low, high rate of using analgesic could be because of its accessibility and its use as unconsciously. Cheng and Lin [33] suggested that using medicine unconsciously for coping with dysmenorrhea could increase adverse effects and priority should be given for women education about safe use of drug for coping with dysmenorrhea.

In the study, a significant difference was found between age and dysmenorrhea. Women who were older than 20 years had more dysmenorrhea. In another study, it was determined that women under twenty years had more dysmenorrhea but no statistically significant difference was found [31].

Pharmacologic treatment that used in dysmenorrhea and evidence as high level is non-inflammatory (NSAID) drugs [21,34]. NSAID

decrease uterine prostaglandin level, contractility of uterine and so minimize the pain [34]. The most used drug among young women was non-inflammatory drugs (NSAID). However, when literature is screened, it is seen that there are different analgesics [22,23,35].

Young women use very different methods for coping with dysmenorrheal pain except using analgesic and they believe that these methods reduce the pain density [31]. In the study, it is found that two of three of the young women used complementary treatment except analgesics and the most used methods were as following; having rest in bed, hot application to feet and abdomen. As similar to our results, according to literature also, Gün et al. [36] found that hot application to abdomen was used mostly; in the study of Mohamed [21], this method was having rest in bed; Potur et al. [16] found resting and hot application were common; Karabulutlu [37] found resting in bed, having shower as standing were common; Erdogan and Ozsoy [38] determined that sleeping and hot application were used mostly.

In the study, relaxation techniques, watching the nutrition and exercise were the methods that were used as the coping strategies by the young women, at least. However, in literature, healthy nutrition is seen as an effective method in management of dysmenorrhea [15]. In a study of Kazama et al. [26], it is determined that level of dysmenorrheal symptom was higher in women who didn't have breakfast. It is thought that lack of taking some nutrients could be reason for this finding. It is determined that lack of taking polyunsaturated fatty acids had got anti-inflammatory effect and this effect could cause the pain [39,40]. Again, in literature, exercise had got positive effects on dysmenorrhea. Such that, Daley [41] suggested that exercise did not only decrease the dysmenorrhea, but also got under control the menstrual cramps and other related symptoms, decreased the need of medicine treatment. Kiatmala [42], also, suggested that the nurses who give gynecologic care should have information about exercise in order to help to reduce dysmenorrheal pain.

There are a lot of complementary treatment methods that evidenced in coping with dysmenorrheal as acupuncture, TENS, aromatherapy, acupressure and yoga, in literature [43-46]. Besides, difference in affectivity of these methods are also discussed as differences of methods. Aziato et al. [47] suggested that as well as some methods aren't effective on dysmenorrhea pain, some of them could increase dysmenorrhea symptoms. In the study, the young women applied to complementary and holistic treatment but they used limited methods. As seen in literature; there are various methods in coping with dysmenorrhea. Thus, it is very important that nurses should have information about complementary and holistic treatment and raise awareness of women about this subject.

It is determined that prevalence of dysmenorrhea was high in young women; they used both pharmacologic and non-pharmacologic methods in coping with dysmenorrhea. Also, while the rate of applying any health institute of them was low, their using analgesic was very high. It is found that they preferred resting and hot application among non-pharmacologic methods for coping with dysmenorrhea, mostly.

## Conclusion

As basing on this, it is needed that the nurses should take more active roles regarding treatment of dysmenorrhea and consultancy.

Education programs for raising awareness of women, about using analgesic and evidence based complementary and holistic treatment should be organized and the outcomes of these programs should be followed.

*This study was announced in Complementary and Supportive Care Practices Congress, 27-29th of May 2015 Kayseri Turkey, as poster announcement.*

### Acknowledgments

*We would like to thank our students, Kubra Ergün, Hatice Merve Biber and Muhammed Tokcan, for their support during the data collection phase of our work.*

### Competing interests

*The authors declare that they have no competing interest*

### Financial Disclosure

*The authors declared that this study has received no financial support.*

### Ethical approval

*Ethics committee approval was received for this study from the ethics committee of Nevşehir Hacı Bektaş Veli University.*

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