Original Research Article

The effect of young girls' menstrual attitudes on dysmenorrhea

ABSTRACT

Aims: The study was conducted with the aim of determining the effect of young women's menstrual attitudes on dysmenorrhea.

Study design: The population of the study consisted of 3393 female students studying at a university in the Inner Aegean region of Turkey. The sample size was calculated as n=345 with the program Epi Info 2000, with a 95% confidence interval, a 5% margin of error, and a 50% unknown prevalence. The sample was determined using the stratified sampling method. Data which did not match the research criteria was left out of the study, and the analyses were conducted on 320 people. All necessary permissions were obtained in writing. In the collection of data, an Individual Description Form, the Menstrual Distress Questionnaire (MDQ) and the Menstrual Attitude Questionnaire were used.

Place and Duration of Study: The data of the research was collected between 14 April and 1 June 2014 at a university in the Inner Aegean region of Turkey.

Methodology: The sample was determined using the stratified sampling method. Data which did not match the research criteria was left out of the study, and the analyses were conducted on 320 people. All necessary permissions were obtained in writing. In the collection of data, an Individual Description Form, the Menstrual Distress Questionnaire (MDQ) and the Menstrual Attitude Questionnaire were used. In order to conduct statistical evaluation, t test in independent groups, One-way ANOVA test, the Mann-Whitney U test and the Kruskall Wallis test and correlation and multiple regression analysis were performed.

Results: It was found that the young women's mean age was 20.6± 1.86 years (NOT: 20 yaşında olan bir kadına "young girl" denmez. "Young girl", en fazla 10 yaşında bir kız için (yani teenager olmayan, menstrual olmayan) kullanılabilir. Bence "young woman" daha uygundur. Siz bilirsiniz.); 98.8% were single, and 1.2% were married. It was found that 6.6% of the young women were regularly unable to attend school, and 48.6% sometimes, because of dysmenorrhea. It was found that 45% of the young women used medication for dysmenorrhea, 51.1% used traditional or complementary methods, the most used of which was heat application. The young women's MDQ menstrual period score mean was 65.91±36.65, and it was found that the fields in the MDQ sub-dimensions in which they we most affected in the menstrual period were negative feelings. The young women's Menstruation Attitude Scale score mean was found to be 65.91±36.65. A weakly significant positive correlation was found between the young women's MDQ menstrual period score mean and their Menstrual Attitude Scale score means ($r=266$, $p<0.01$).

Conclusion: It may be said that an 11% part of the dysmenorrhea problem is affected by menstrual attitude.

Keywords: Young women, dysmenorrhea, menstruation, menstrual attitude

1. INTRODUCTION

In the change from childhood to adulthood, many physiological and psychological changes are seen along with menarche. One of the greatest problems of young women at this time is dysmenorrhea, which is seen at a frequency of 8.8% to 94% (12, 16, 32). Dysmenorrhea is defined as painful menstruation, and is divided into primary and secondary dysmenorrhea. Primary dysmenorrhea is one of the most widespread causes of pelvic pain (10), and it is generally seen at the age of 16-25 (32). It has been reported in national studies in Turkey to occur at frequencies of between 50% and 98% (6, 12, 17, 27,32). Primary dysmenorrhea is a gynecological disorder before or during menstruation with no established organic pathology accompanied by pain in the head, back and legs, beginning in the lower abdomen (6, 32). The pain generally starts on the first day of menstrual bleeding (Yılmaz & Şahin, 2019). However, not only pain, but symptoms such as also diarrhea, vomiting and fatigue are seen during menstruation (24). Accompanying this, psychological problems such as depression and anxiety are frequently seen (24). In the literature, dysmenorrhea is reported to have a negative effect on young women's school attendance and academic success, as also on their daily lives, their emotions and their interpersonal relations (12, 17, 32).

In the literature, studies generally focus on the organic causes of dysmenorrhea. However, it must be borne in mind that dysmenorrhea can be affected by cultural elements and personal attitudes. Positive or negative thoughts about menstruation and cultural factors can affect menstrual attitude. It is reported in the literature that young women experiencing primary dysmenorrhea have insufficient knowledge concerning menstruation, and have views such as seeing menstruation as something shameful and to be hidden, seeing women at this time as dirty, and seeing menstrual blood as dirty. It is reported that women go through this time in great fear and pain (21, 24). For this reason, it is of great importance to determine the attitudes of young women to dysmenorrhea. Determination of the effects of the menstrual attitudes of young women will contribute to the solution of the problems which they experience at this period.

2. MATERIAL AND METHODS / EXPERIMENTAL DETAILS / METHODOLOGY)

2.1. Research Type

The research was of a cross-sectional and descriptive type.

2.2. Population and Sample of the Research

The population of the research consisted of 3393 female students at a government university in the Inner Aegean region of Turkey. The size of the research sample was calculated as n=345 with the program Epi Info 2000, with a 95% confidence interval, a 5% error margin and 50% unknown prevalence. The sample was determined using the stratified sampling method based on the numbers of students of the faculties and colleges. All departments on the central campus were included in the research. A total of 345 young women who volunteered to participate in the research, who had no psychiatric problems, and who were not receiving any treatment which would affect their menstrual cycle were contacted, and those who left the questionnaire half completed or whose MDQ scores during and after menstruation were equal were excluded. Analysis was performed with 320 young women.

2.3. Data Collection Instruments

An Individual Description Form prepared by scanning the literature, the Menstrual Distress Questionnaire (MDQ) and the Menstrual Attitude Questionnaire were used in the collection of research data.

Individual Description Form: This consisted of 17 questions on the young women's descriptive characteristics and obstetric and menstrual health characteristics.

Menstrual Distress Questionnaire (MDQ): This scale was developed in 1968 by Moss, and is used to determine women's menstrual complaints. Validity and reliability for Turkish were tested by Kızılkaya and Tuncel (1994). The MDQ covers 47 symptoms, and is completed retrospectively. The MDQ is composed of eight sub-symptom groups. These are pain, water retention, autonomic reaction, negative affect, impaired concentration, behavior change, arousal and control. Complaints are scored separately from 0 to 4 on a five-place scale for the pre-menstrual, menstrual and post-menstrual periods. A score of between 0 and 188 can be obtained on the scale. The Cronbach alpha of Kızılkaya's study varied between 0.71 and 0.97. In the present study, the Cronbach alpha coefficients were found to be 0.94 for the total, 0.97 for the pre-menstrual period, 0.96 for the menstrual period and 0.96 for the post-menstrual period.

Menstrual Attitude Questionnaire (MAQ): This was developed in 1980 by Brooks-Gunn and Ruble. Validity and reliability for Turkish were tested by Kulakaç et al. (2007). The scale consists of 33 items in five sub-groups. These sub-groups are as follows: menstruation as something which leaves you weak (12 items), menstruation as something annoying (six items), menstruation as something natural (five items), anticipation of menstruation, or awareness that it will occur (five items), and denial of the effects of menstruation (seven items). Possible scores on the scale range from 33 to 165. In the study by Kulakaç et al., the Cronbach alpha of the MAQ was 0.79. In the present study, the Cronbach alpha of the total was found to be 0.74.

2.4. Analysis of Data

For the analysis of the data, numerical values, percentage distribution, t test in independent groups, one-way ANOVA test, the Mann Whitney U test and the Kruskall Wallis test, correlation and multiple regression analysis were used. If p values were less than 0.05 as a result of statistical analyses, they were accepted as significant.

2.5. Limitations of the Research

This research has various limitations. It was conducted with the female students studying at one university. Because there was only one researcher and because of restrictions of time and economics, it was not possible to select a sample which represented the whole of society and all age and education groups. Because the scales were long and took a long time to complete, the number of those refusing to participate in the study or leaving the form incomplete was more than expected. Data was collected by self-reporting. For these reasons, although the results have cross-sectional value representing society, they cannot be generalized to the whole of society.

2.6. Ethical Aspect of the Research

In order to conduct the research, approval (29.01.2014/20478486-45) was obtained from the Local Ethics Committee of the university where the researcher was located, and permission

(31.03.2014/70178236-3020801-517) was obtained from the rectorate of the university where the research was conducted.

The aim of the research was explained to all of the participants, and data was collected after informed oral consent had been obtained.

3. RESULTS AND DISCUSSION

It was found that 50.3% of the young women were aged 17-20 years, and 0.9% between 21 and 24 years. Their mean age was 20.6 years. Also, 32.2% of the participants were found to be in the first year, 27.8% in the second year, 12.8% in the third year and 27.2% in the fourth year of study. Examining the young women's place of residence, it was seen that 61.6% lived in the student dormitory, 21.9% in a house with a friend, 11.9% with their families, and 4.6% alone in lodgings. Also, 98.8% were unmarried.

Table 1. Distribution of the Young Women by Obstetric and Menstrual Health Characteristics

Characteristic	**No**	**%**
Menarche age		
11 years or less	13	4.1
12 years or more	307	95.9
Menarche age mean: 13.3 ± 1.35		
Menstruation regularity		
Regular	264	82.5
Irregular	56	17.5
Cycle length		
28 days or less	170	53.1
29 days or more	150	46.9
Cycle mean: 27.91±3.92		
Menstruation duration		
7 days or less	300	95.9
8 days or more	13	4.1
Menstruasyon süresi ortalaması: 5.48±1.32		
Dysmenorrhea		
Yes	211	65.9

No	109	34.1
Does dysmenorrhea prevent you from going to school?		
Always	21	6.6
Sometimes	156	48.8
No	143	44.7
Use of medication for dysmenorrhea		
Using	144	45
Not using	176	55
Total	320	100

The young women's mean age at menarche was 13.3 ± 1.35 years, their mean cycle was 27.91±3.92 days, and their mean menstruation duration was 5.48±1.32 days. It was found that 65.9% of the young women had dysmenorrhea problems, and 6.6% always and 48.8% sometimes were unable to attend school because of dysmenorrhea, while 45% used painkillers (Table 1).

Table 2. The Young Women's Menstruation Period Menstrual Distress Questionnaire (MDQ) Score Mean Distribution (n=320)

	X	SD	Min.	Max.
MDQ Score Mean	65.91	36.65	0.00	177.00
MDQ Sub-dimensions				
Pain	10.23	5.44	0.00	24.00
Water retention	5.88	3.19	0.00	15.00
Autonomic reaction	4.54	3.77	0.00	16.00
Negative affect	13.5	8.15	0.00	32.00

Impaired concentration	10.52	7.76	0.00	32.00
Behavior changes	7.97	5.30	0.00	20.00
Arousal	5.54	4.10	0.00	20.00
Control	6.06	5.02	0.00	24.00
Appetite increase	1.63	1.36	0.00	4.00

It was found that the MDQ menstrual duration score mean was 65.91±36.65. The MDQ sub-dimension means were found to be for 13.5±8.15 negative affect, 10.52±7.76 for impaired concentration, 10.23±5.44 for pain, 7.97±5.30 for behavior change, 6.06±5.02 for control, 5.88±3.19 for water retention, 5.54±4.10 for arousal, 4.54±3.77 for autonomic reaction, and 1.63±1.36 for increased appetite (Table 2).

Table 3. Comparison of the Young Women's Descriptive Characteristics and Their MDQ Score Means

	n	**x**	**SD**	**t/F/u/k.w**	**p**
Characteristics					
Age* **					
17-20 years	161	68.40	32.99		
21-24 years	156	64.33	39.72	8.271	**0.016**
25-30 years	3	13.66	5.13		
Year of study*					
1st year	103	65.44	34.09	5.600	**0.001**
2nd year	89	77.30	31.97		
3rd year	41	65.14	44.80		
4th year	87	55.17	37.04		
Marital status**					
Married	316	66.11	36.77	450.0	0.322
Single	4	50.00	21.55		

Place of residence*					
At home with family	38	81.15	41.75	7.936	**0.047**
In house with friend	70	58.37	34.52		
In dormitory	197	65.86	35.58		
In lodgings	15	63.13	68.39		

** One Way ANOVA test, **Mann Whitney u test, ***Kruskall wallis test*

Comparing the young women's year of study with their MDQ score means, it was seen that those in their second year had the highest score (77.30±31.97), and those in the fourth year the lowest (55.17±37.04). Statistical analysis showed a statistically significant difference between year of study and MDQ score mean (f:5.600, p=0.001). With regard to age, those aged between 17 and 20 had the highest score mean (68.40±32.99), and those aged between 25 and 30 had the lowest (13.66± 5.13). Statistical analysis showed that there was a statistically significant difference between age and MDQ score mean (k.w: 8.271, p=0.016). It was found as a result of statistical analysis on their place of residence that there was a statistically significant difference between place of residence and dysmenorrhea scale score means (k.w: 7.936, p=0.047), (Table 3).

Table 4. Distribution of the Young Women's Menstrual Attitude Questionnaire (MAQ) Score Means (n=320)

	X	SD	Min.	Max.
MAQ score mean	105.77	11.66	40.00	149.00
MAQ sub-dimensions				
Menstruation as something which leaves you weak	38.00	4.52	19.00	60.00
Menstruation as something annoying	19.02	3.73	0.00	30.00
Menstruation as something natural	15.30	3.05	4.00	20.00

Anticipation of menstruation, or awareness that it will occur	13.90	2.32	4.00	20.00
Denial of the effects of menstruation	19.54	4.48	7.00	33.00

The score mean of the MAQ of the young women was found to be 105.77±11.66. Their MAQ sub-dimension score means were found to be as follows: menstruation as something which leaves you weak 38.00±4.52, menstruation as something annoying 19.02±3.73, menstruation as something natural 15.30±3.05, anticipation of menstruation, or awareness that it will occur 13.90±2.32, and denial of the effects of menstruation 19.54±4.48 (Table 4).

Table 5. Relational Distribution of the Young Women's Menstrual Distress Complaints List Scores and Their Menstrual Attitude Questionnaire Scores

Variables	**Menstrual period**	**Menstrual Attitude**
Menstrual period	**-**	
Menstrual Attitude	**.266****	**-**

**** significant at 0.01 level. P<0.01.**

A weak, positive but significant correlation was found by Pearson correlation analysis between the young women's MDQ and MAQ score scales (r=266, p<0.01) (Table 5).

Table 6. Relational Distribution of the Young Women's Menstrual Distress Complaints List Scores and Their Menstrual Attitude Questionnaire Sub-Dimension Scores

Variables	**Something making you weak**	**Something annoying**	**Something natural**	**Effects anticipated**	**Effects denied**	**Menstrual period**
Menstruation as something making you weak	**-**					
Menstruation as something annoying	**.363****	**-**				
Menstruation as something natural	**.315****	**.363****	**-**			
Anticipation of the effects of menstruation	**.457****	**.404****	**.372****	**-**		

Denial of the effects of menstruation	**.135****	**.108**	**.120****	**.163****	**-**	
Menstrual period	**.242****	**.231****	**.200****	**.270****	**-0.20**	**-**

**** significant at the 0.01 level. P<.01**

Table 6 shows as a result of Pearson correlation analysis between the young women's MDQ and MAQ sub-dimensions that there was a weakly positive but significant correlation between the sub-dimensions of their menstrual distress complaints list scores and menstruation as something leaving you weak (r=0.242, p<0.01), a weakly positive but significant correlation between MDQ scores and the sub-dimension mean of menstruation as something annoying (r=231, p<0.01), a weakly positive but significant correlation between MDQ list scores and the menstruation as something natural sub-dimension mean (r=200, p<0.01), a weak to medium-level positive correlation between MDQ list scores and the menstruation anticipation sub-dimension mean (r=270, p<0.01), and a weakly negative but significant correlation between MDQ list scores and the variable of denying the effects of menstruation (r=-0.20, p<0.01).

Table 7. Multiple Regression Results of the Young Women's Menstrual Distress Complaints List and Menstrual Attitude Questionnaire Sub-Dimensions

		Std.				**Two-way**	**Partial**
Variable	**B**	**Error**	**Beta**	**T**	**P**	**R**	**R**
(Constant)	-25.699	18.551	-	-1.385	.167		
Leaving you weak	.956	.501	.118	1.910	.057	.242	.107
Annoying	1.038	.600	.106	1.729	.085	.231	.097
Natural	.899	.716	.075	1.254	.211	.200	.071
Anticipated	2.507	1.010	.159	2.482	.014	.270	.139
Denial of effects	-.670	.443	-.082	-1.513	.131	-.020	-.085

Dependent variable: Menstruation duration Menstrual Distress Complaint

R=.335 R^2=.112

F=7.954 p=.000

The ANOVA table relating to multiple regression analysis showed that the explained variance or the regression model relating to the correlation was statistically significant. When Menstruation Attitude sub-scales are examined, it is seen that along with the variables of something leaving you weak, something annoying, something natural, anticipating menstruation and denying the effects of menstruation, there was a significant correlation at a

low level with the young women's menstruation distress complaints list scores (R=.335, R^2=.112, p=.000). Together with thee five variables, menstruation duration explains approximately 11% of the total variance of the menstrual distress complaints. According to the standardized regression coefficient, it is accepted that the order of importance of the affected variables on menstruation duration menstrual distress complaint is anticipation of menstruation, something leaving you weak, something annoying, denying the effects of menstruation, and something natural. Examining t test results relating to the significance of regression coefficients, it is seen that only the variable of anticipating menstruation was an important (significant) predictor of menstrual distress complaint (Table 7).

DISCUSSION

Dysmenorrhea is an important health problem seen in a large proportion of young women (12, 17, 32). The aim of this research was to determine the effect of young women's menstrual attitudes on dysmenorrhea.

It was found that the mean age of menarche in the young women in the research was 13.3±1.35 years, the mean duration of their menstrual cycle was 27.9±3.92 days, and their mean duration of menstruation was 5.48 ± 1.32 days. These findings were in accordance with the literature (4, 8, 14, 30, 31). Also in accordance with the literature, an assessment with regard to dysmenorrhea showed that dysmenorrhea was experienced at a high frequency (65.9%). The rate of dysmenorrhea in Turkey was found to be 76.5% in a study by Türkmen (2014), and in Japan it was found to be 74% in a study by Tanaka (2014) (28, 31). In a meta-analysis study by Armor et al (2019), the rate of dysmenorrhea was reported to be 70.1% (5). In the light of the findings obtained and the literature, it can be said that dysmenorrhea is a very frequently encountered gynecological problem among young women.

The rates of use of painkilling drugs because of dysmenorrhea is very high in young women, varying in the literature between 20% and 66% (1, 6, 11, 28). It was found that almost half (45%) of the young women in the present study used painkiller drugs. In a study by Ameade et al. (2018) with university students in Northern Ghana, the use of medications in connection with dysmenorrhea was reported as 40% (3). In research in Japan by Tanaka (2014), it was found that 20% used medications for dysmenorrhea (28). It is thought that the differences in the results may arise from differences in age and societal differences.

It is known that dysmenorrhea has a negative effect on the daily life, emotions and interpersonal relations of young women (12, 17, 32). The research findings showed that 6.6% of young women experiencing dysmenorrhea always, and 48.8% sometimes, did not attend school. In a study by Yılmaz et al. (2019), it was found that 24.1% of students had absences from school because of dysmenorrhea (33). Also, in a study by Hailemeskel et al. (2016), school absences because of dysmenorrhea were found to be 80.4% (13). It can be said that dysmenorrhea is a serious cause of school absence, and that it has the potential to affect young women's academic success. In addition to this, when the young women's mean scores of the sub-dimensions of the menstrual distress complaints list in the menstrual period were examined, it was found that the sub-group complaints experienced most were negative affect, impaired concentration, and pain. Similarly, in a study by Daşıkan (2014), it was found that in the pre-menstrual and menstrual periods, the most frequently experienced complaints in the sub-groups of the MDQ scale were negative affect, pain and impaired concentration. These results are similar to the data of the present study (7).

It was seen that as the young women's age and year of study increased, their complaints were reduced and their MDQ score means fell statistically significantly. Examining the young

women's distribution by age, it was seen that those with the highest MDQ score means were between 17 and 20 years of age, and those with the lowest score means were in the 25-30-year age range. These findings are in accordance with the literature (23, 32). Comparing the young women's year of study and their MDQ score means, it was found that those in the second year had the highest means, and those in the fourth year the lowest. These findings are similar to the literature (9, 33). It may be that those who are older and in a higher class are not only physiologically more mature but also have higher levels of knowledge, so that the level of correct treatment increases and dysmenorrhea complaints decrease.

A statistically significant difference was found between the young women's place of residence and their MDQ score means. Those who lived at home with their families had the highest means, and those who lived in a house with a friend away from their families had the lowest. In some studies, no significant correlation was found between dysmenorrhea and place of residence (9, 19), while in others, although it was not investigated, the fact that MDQ score means in three groups living away from their families was lower suggests that the family environment and people lived with may have an effect.

Positive weakly significant correlations were found in this study between the young women's MDQ score means and their menstrual attitude scale means. That is, it can be said that as positive menstrual attitude increased, dysmenorrhea complaint decreased. The menstruation attitude sub-scales of the variables of something leaving you weak, something annoying, menstruation as a natural event, anticipation of menstruation and denial of the effects of menstruation together give a weak significant correlation with the young women's menstruation duration menstrual distress complaint scores. In this study, only the variable of anticipating menstruation is affected. The menstruation attitude scale sub-dimension scores were, in order, menstruation as something which leaves you weak, the mean of denial of the effects of menstruation, the mean of menstruation as something annoying, menstruation as something natural, and anticipation of menstruation. In a study by Padmanabhanunni & Fennie (2017), menstruation as something which leaves you weak and menstruation as something annoying had the highest means (20). In a study conducted by Altıntaş et al. (2021), it was found that students' menstruation attitudes were positive, and that a positive menstrual attitude reduced dysmenorrhea (2). Su & Lindel (2016) found that a positive menstrual attitude reduced dysmenorrhea and minimalized the use of dysmenorrhea-related drugs (26). In a study by Sönmezer and Yosmanoğlu (2014), menstruation as something which leaves you weak and menstruation as something annoying had the highest means (24). The results are similar to the data of the present study. At the same time, in certain traditionally minded countries, menstruation is seen as a taboo subject. When there is dysmenorrhea-related pain, a lack of knowledge of pharmacological and non-pharmacological methods and menstruation being seen as taboo or not to be talked about cause dysmenorrhea complaints to increase, and dysmenorrhea increases because of the negative attitude to menstruation (5, 25).

4. CONCLUSION

In line with the results obtained from the study, it was seen that dysmenorrhea was a health problem which was very frequently seen in young women, that it affected their daily lives and that it caused a high level of school absence. It was found that there was a correlation between menstrual complaints and menstrual attitude, and that as positive menstrual attitude increased, dysmenorrhea complaints decreased. It may be of benefit that health workers prepare education programs to develop a positive menstrual attitude in society as awareness of the effect of menstrual attitude on dysmenorrhea, that care and counselling relating to reproductive health and menstruation processes be given to adolescent girls and their mothers to develop a positive menstrual attitude, that guidance services and

psychosocial information services in schools be added to this education, and that place be given to a class on reproductive health for young people who want it as a class.

In addition, it may be recommended that health workers, as well as paying attention to young women's physical changes, should make easier a solution to the problems of providing stress management skills and providing early diagnosis and appropriate treatment in order to help young women to cope with worries relating to menstruation. It may be recommended that research on the topic be extended to different areas and broader samples.

CONSENT (WHERE EVER APPLICABLE)

The aim of the research was explained to all participants, and data was collected after informed oral consent had been obtained.

ETHICAL APPROVAL

In order to conduct the research, approval (29.01.2014/20478486-45) was obtained from the Local Ethics Committee of the university where the researcher was located, and permission (31.03.2014/70178236-3020801-517) was obtained from the rectorate of the university where the research was conducted. The aim of the research was explained to all participants, and data was collected after informed oral consent had been obtained.

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