

The Attitudes of Unmarried Young Girls Towards Dysmenorrhea

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Abstract:

Background: Dysmenorrhea, or painful menstruation, is a common problem among young women. It negatively impacts school attendance, academic performance, daily activities, and interpersonal relationships. Understanding young women's menstrual attitudes is crucial to addressing the physical and psychological challenges associated with this condition. The study was conducted with the aim of determining the attitudes of unmarried young girls towards dysmenorrhea.

Methods: This cross-sectional study was conducted among 330 unmarried female students at Sankalchand Patel University, North Gujarat, India, between January and July 2024. Stratified sampling method was used. Informed consent was obtained prior to data collection. Participants completed an Individual Description Form, the Menstrual Distress Questionnaire (MDQ), and the Menstrual Attitude Questionnaire. Data were analyzed using independent t-tests, one-way ANOVA, Mann-Whitney U, Kruskal-Wallis tests, correlation, and multiple regression analysis.

Results: The mean age of participants was 20.6 ± 1.86 years. Dysmenorrhea caused 6.6% of students to regularly miss college and 48.6% to miss occasionally. About 45% used medication, while 51.1% used traditional or complementary methods, most commonly heat application. The mean MDQ score was 65.91 ± 36.65 , with negative feelings being the most affected subdomain. The mean Menstrual Attitude Scale score was 65.91 ± 36.65 , and a weak but significant positive correlation was observed between MDQ and Menstrual Attitude scores ($r = 0.266$, $p < 0.01$).

Conclusion: Dysmenorrhea was highly prevalent among young women, significantly affecting daily activities and school attendance. A positive menstrual attitude was associated with fewer dysmenorrhea complaints. Education programs promoting positive menstrual attitudes, reproductive health counseling for adolescents and their mothers, school-based guidance, and stress management support may help alleviate symptoms. Further research with broader samples is recommended.

Keywords: Adolescents, Dysmenorrhea, Menstrual Attitude, Reproductive Health, School Attendance.

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Introduction

The transition from childhood to adulthood is accompanied by numerous physiological and psychological changes, including menarche. One of the most common challenges faced by young women during this period is dysmenorrhea, with prevalence reported between 8.9% and 93% [1,2]. Dysmenorrhea, defined as painful menstruation, is classified into primary and secondary types. Primary dysmenorrhea, a leading cause of pelvic pain [3], typically occurs between 16 and 25 years of age [4,5] and is characterized by pain in the lower abdomen, often radiating to the head, back, and legs, without identifiable organic pathology [6,7]. The pain usually begins on the first day of menstrual bleeding and may be accompanied by symptoms

such as diarrhea, vomiting, and fatigue, as well as psychological issues including depression and anxiety.

Dysmenorrhea has been reported to negatively impact school attendance, academic performance, daily activities, emotional well-being, and interpersonal relationships [8]. While most studies focus on the organic causes of dysmenorrhea [9], cultural factors and personal attitudes also play a significant role [10]. Positive or negative perceptions of menstruation and cultural beliefs can influence menstrual attitudes [11]. Literature suggests that young women with primary dysmenorrhea often have limited knowledge about menstruation and may perceive it as shameful or

unclean, leading to fear and distress during menstruation.

Understanding young women's attitudes toward dysmenorrhea is therefore crucial. Examining how menstrual attitudes influence the experience of dysmenorrhea can inform interventions aimed at alleviating physical and psychological challenges during this critical period.

Materials and Methods

Study Design: This was a cross-sectional, descriptive study.

Study Population and Sample: The study population included 550 unmarried female students at Sankalchand Patel University, North Gujarat, India. The required sample size was calculated as 345 using Epi Info 2000, assuming a 95% confidence interval, 5% margin of error, and 50% unknown prevalence. Stratified sampling was applied based on student numbers across faculties and colleges, including all departments on the central campus. A total of 345 students who volunteered, had no psychiatric conditions, and were not undergoing treatment affecting the menstrual cycle were approached. Participants with incomplete questionnaires or identical MDQ scores during and after menstruation were excluded, resulting in a final sample of 330 students for analysis.

Data Collection Instruments: Data were collected using an Individual Description Form, the Menstrual Distress Questionnaire (MDQ), and the Menstrual Attitude Questionnaire (MAQ).

Individual Description Form: Comprised 17 items on sociodemographic, obstetric, and menstrual health characteristics.

Menstrual Distress Questionnaire (MDQ): Developed by Moss in 1968, the MDQ assesses menstrual complaints retrospectively across pre-menstrual, menstrual, and post-menstrual periods. It includes 47 symptoms grouped into eight subdomains: pain, water retention, autonomic reactions, negative effects, impaired concentration, behavior changes, arousal, and control. Each symptom is rated 0–4, yielding a total score of 0–188. The Cronbach's alpha in this study was 0.94 overall and 0.96–0.97 across periods, indicating high reliability.

Menstrual Attitude Questionnaire (MAQ): Developed by Brooks-Gunn and Ruble in 1980, the MAQ consists of 33 items across five subscales: menstruation as weakening, as annoying, as natural, anticipation of menstruation, and denial of effects. Scores range from 33 to 165. The Cronbach's alpha in this study was 0.74.

Data Analysis: Descriptive statistics, independent t-tests, one-way ANOVA, Mann-Whitney U, Kruskal-Wallis tests, correlation, and multiple regression analyses were performed. A p-value <0.05 was considered statistically significant.

Ethical Considerations: The study received approval from the university's Local Ethics Committee, and permission was obtained from the university rectorate. Participants were fully informed of the study objectives, and data were collected following oral informed consent.

Results

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

Characteristic	Frequency (n=330)	Percentage (%)
Menarche age		
11 years or less	14	4.2
12 years or more	316	95.8
Mean ± SD	13.4 ± 1.35	
Menstruation regularity		
Regular	269	81.5
Irregular	61	18.5
Cycle length		
28 days or less	177	53.6
29 days or more	153	46.4
Mean ± SD	27.46±3.85	
Menstruation duration		
7 days or less	317	96.1
8 days or more	13	3.9
Mean ± SD	5.48±1.52	
Dysmenorrhea		
Yes	211	63.9
No	119	36.1
Does dysmenorrhea prevent you from going to school?		
Always	21	6.4
Sometimes	161	48.8
No	148	44.8
Use of medication for dysmenorrhea		
Using	144	43.6
Not using	186	56.4

The mean age at menarche among participants was 13.4 ± 1.35 years, with a mean menstrual cycle of 27.46 ± 3.85 days and a mean duration of 5.48 ± 1.52 days. Dysmenorrhea was reported by 63.9% of participants, with 6.4% always and 48.8%

sometimes unable to attend school due to menstrual pain. About 43.6% used medication, while 51.1% used traditional or complementary methods such as heat application. (Table 1).

Table 2: The Young Women's Menstruation Period Menstrual Distress Questionnaire (MDQ) Score Mean Distribution (n=330)

Variable	Mean \pm SD	Min–Max
MDQ Score Mean	65.91 ± 36.65	0.00–177.00
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	13.50 ± 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

The mean Menstrual Distress Questionnaire (MDQ) score during menstruation was 65.91 ± 36.65 . Sub-dimension scores were highest for negative affect (13.5 ± 8.15), followed by impaired concentration (10.52 ± 7.76), pain (10.23 ± 5.44), behavior

changes (7.97 ± 5.30), control (6.06 ± 5.02), water retention (5.88 ± 3.19), arousal (5.54 ± 4.10), autonomic reaction (4.54 ± 3.77), and appetite increase (1.63 ± 1.36). (Table 2).

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

Characteristics (n=)	Mean \pm SD	Test statistic (t/F/u/k.w)	p-value
Age*			
17–20 years (n=166)	68.40 ± 32.99	8.271	0.016
21–24 years (n=161)	64.33 ± 39.72		
25–30 years (n=3)	13.66 ± 5.13		
Year of study***			
1st year (n=103)	65.44 ± 34.09	5.6	0.001
2nd year (n=89)	77.30 ± 31.97		
3rd year (n=51)	65.14 ± 44.80		
4th year (n=87)	55.17 ± 37.04		
Place of residence**			
At home with family (n=38)	81.15 ± 41.75	7.936	0.047
In house with friend/relatives (n=70)	58.37 ± 34.52		
In Hostel (n=207)	65.86 ± 35.58		
As paying guest (n=15)	63.13 ± 68.39		

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

Participants' mean age was 20.6 years, with 50.3% aged 17–20 and 48.9% aged 21–24. Regarding year of study, 31.2% were first-year, 27% second-year, 15.5% third-year, and 26.4% fourth-year students. Most participants (62.3%) lived in hostels, 21.2% with friends, 11.5% with family, and 4.5% alone. Comparing MDQ scores by year of study, second-year students had the highest mean (77.30 ± 31.97)

and fourth-year students the lowest (55.17 ± 37.04), with a significant difference ($F = 5.600$, $p = 0.001$). By age, participants 17–20 years had the highest mean (68.40 ± 32.99) and those 25–30 years the lowest (13.66 ± 5.13), also significant ($k.w = 8.271$, $p = 0.016$). Place of residence was similarly associated with MDQ scores ($k.w = 7.936$, $p = 0.047$) (Table 3).

Table 4: Distribution of the Young Women's Menstrual Attitude Questionnaire (MAQ)

Variable	Mean \pm SD	Min–Max
MAQ score mean	105.77 \pm 11.66	40.00–149.00
MAQ sub-dimensions		
Menstruation as something which leaves you weak	38.00 \pm 4.52	19.00–60.00
Menstruation as something annoying	19.02 \pm 3.73	0.00–30.00
Menstruation as something natural	15.30 \pm 3.05	4.00–20.00
Anticipation of menstruation, or awareness that it will occur	13.90 \pm 2.32	4.00–20.00
Denial of the effects of menstruation	19.54 \pm 4.48	7.00–33.00

The mean Menstrual Attitude Questionnaire (MAQ) score was 105.77 \pm 11.66. Sub-dimension means were: menstruation as weakening 38.00 \pm 4.52, as

annoying 19.02 \pm 3.73, as natural 15.30 \pm 3.05, anticipation of menstruation 13.90 \pm 2.32, and denial of effects 19.54 \pm 4.48 (Table 4).

Table 5: 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	0.363**	-				
Menstruation as something natural	0.315**	0.363**	-			
Anticipation of the effects of menstruation	0.457**	0.404**	0.372**	-		
Denial of the effects of menstruation	0.135**	0.108	0.120**	0.163**	-	
Menstrual period	0.242**	0.231**	0.200**	0.270**	-0.20	-

**Significant at the $p < 0.01$ level.

Pearson correlation analysis showed weak but significant positive associations between MDQ scores and the MAQ sub-dimensions of menstruation as weakening ($r=0.242$, $p<0.01$),

annoying ($r=0.231$, $p<0.01$), natural ($r=0.200$, $p<0.01$), and anticipated ($r=0.270$, $p<0.01$), while a weak negative correlation was found with denial of effects ($r=-0.20$, $p<0.01$) (Table 5).

Table 6: Multiple Regression Results of the Young Women's Menstrual Distress Complaints List and Menstrual Attitude Questionnaire Sub-Dimensions

Variable	B	SE	Beta	T	P	Two-way R	Partial
(Constant)	-25.699	18.551	-	-1.385	0.167		
Leaving you weak	0.956	0.501	0.118	1.910	0.057	0.242	0.107
Annoying	1.038	0.600	0.106	1.729	0.085	0.231	0.097
Natural	0.899	0.716	0.075	1.254	0.211	0.200	0.071
Anticipated	2.507	1.010	0.159	2.482	0.014	0.270	0.139
Denial of effects	-0.670	0.443	-0.082	-1.513	0.131	-0.020	-0.085

Dependent variable: Menstruation duration Menstrual Distress Complaint

R=0.335
F=7.954

R²=0.112
p=0.000

Multiple regression analysis indicated that MAQ sub-dimensions collectively explained 11% of the variance in menstrual distress complaints ($R=0.335$, $R^2=0.112$, $F=7.954$, $p<0.001$). Among the sub-dimensions, anticipation of menstruation was the only significant predictor of menstrual distress ($B=2.507$, $p=0.014$), followed by weaker

contributions from menstruation as weakening, annoying, denial, and natural (Table 6).

Discussion

Dysmenorrhea is a prevalent health issue affecting a significant proportion of young women [12–17].

This study aimed to evaluate the influence of young women's menstrual attitudes on dysmenorrhea. The mean age at menarche among participants was 13.4 ± 1.35 years, the mean menstrual cycle duration was 27.46 ± 3.85 days, and the average duration of menstruation was 5.48 ± 1.52 days. These findings are consistent with previous studies [4, 13, 14]. Dysmenorrhea was reported at a high frequency (65.9%), in line with Armour et al. (2019), who documented a prevalence of 63.9% [5], confirming that dysmenorrhea is a commonly encountered gynecological problem among young women.

The use of analgesics for dysmenorrhea is high, with rates reported between 20% and 66% in the literature [1, 6, 11]. In the present study, nearly half (45%) of the participants used pain-relieving medications. For comparison, Tanaka (2014) reported 20% usage among Japanese students, highlighting that differences in age, cultural practices, and societal norms may influence management strategies.

Dysmenorrhea significantly impacts daily life, emotions, and interpersonal relationships [12, 17]. In this study, 6.4% of participants were always, and 48.8% were sometimes, absent from school or college due to menstrual pain. Comparable rates were reported by Yılmaz et al. (2019), with 24.1% school absences, and by Hailemeskel et al. (2016), with 80.4% absences [13]. These findings underscore that dysmenorrhea is a substantial factor contributing to academic disruption among young women.

Analysis of the MDQ sub-dimensions revealed that negative affect, impaired concentration, and pain were the most commonly reported complaints. Similarly, Daşıkan (2014) found that these complaints were the most prevalent during premenstrual and menstrual periods [7], indicating strong consistency with the present study.

Age and year of study were inversely associated with MDQ scores. Younger students (17–20 years) and second-year students reported higher mean scores, whereas older students (25–30 years) and fourth-year students had lower scores, reflecting reduced complaints with age and educational experience [18, 9]. This suggests that older students may benefit from greater physiological maturity and enhanced knowledge regarding effective management, leading to decreased dysmenorrhea complaints.

Place of residence also influenced MDQ scores. Students living at home with their families had higher mean scores, while those residing with friends away from family reported lower scores. Although some studies found no significant association between dysmenorrhea and residence [9, 19], the lower MDQ scores among students living away from family suggest that the family environment may play a role in menstrual distress.

Weak but significant positive correlations were observed between MDQ scores and MAQ sub-dimensions. In other words, a more positive menstrual attitude was associated with lower dysmenorrhea complaints. Among the sub-dimensions, anticipation of menstruation emerged as the only significant predictor of menstrual distress, while other sub-dimensions (menstruation as weakening, annoying, natural, and denial of effects) contributed less strongly. The ranking of mean sub-dimension scores was: menstruation as weakening, denial of effects, menstruation as annoying, menstruation as natural, and anticipation of menstruation. These findings align with Padmanabhanunni & Fennie (2017), who reported the highest means for menstruation as weakening and annoying [20], and Altıntaş et al. (2021), who found that positive menstrual attitudes were associated with reduced dysmenorrhea [2].

In cultures where menstruation is regarded as taboo, lack of knowledge about pharmacological and non-pharmacological methods, combined with negative attitudes, can exacerbate menstrual pain and distress. Thus, dysmenorrhea complaints increase in the context of negative menstrual perceptions [5].

Study Limitations: The study was limited to female students from a single university, restricting generalizability. Time and resource constraints prevented a broader, representative sample. Self-report measures and the length of questionnaires contributed to incomplete responses and non-participation. Thus, findings should be interpreted as representative of the study population but not of the general population.

Conclusion

In line with the study findings, dysmenorrhea was found to be a highly prevalent health issue among young women, significantly affecting their daily activities and contributing to substantial school absenteeism. A clear correlation was observed between menstrual complaints and menstrual attitudes, with more positive attitudes associated with fewer dysmenorrhea complaints. These findings highlight the importance of educational interventions aimed at fostering positive menstrual attitudes. Health professionals can play a key role by providing reproductive health education and counseling to adolescent girls and their mothers, integrating guidance and psychosocial support services within schools, and offering optional reproductive health classes for interested youth. Additionally, attention should be given to stress management, early diagnosis, and appropriate treatment to help young women cope effectively with menstrual-related challenges. Future research is recommended to explore these issues across broader populations and diverse settings to enhance

generalizability and inform more comprehensive interventions.

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