

Menstrual Disorders and Self-Care Practices: A Study on Prevalence among Female Undergraduate Students

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Abstract

Background: Menstrual disorders are a significant global public health issue affecting many women during their reproductive years. These disorders include irregularities in the menstrual cycle, heavy bleeding, amenorrhea (absence of menstruation), dysmenorrhea (painful periods), and premenstrual syndrome (PMS), leading to physical, behavioral, and emotional changes. Factors such as weight changes, stress, drug use, hormonal imbalances, and recent childbirth or miscarriage can disrupt menstrual patterns. Menstrual issues not only impact women's health and quality of life but also result in economic consequences and poor academic performance. **Aim of the Study:** This study aimed to investigate the prevalence of menstrual disorders and self-care practices among female undergraduates in Bangladesh, as well as to explore potential factors that may influence these disorders. **Methods:** This cross-sectional study involved 180 female students at the Department of Obstetrics and Gynecology (outdoor) in Bangabandhu Sheikh Mujib Medical University, Dhaka from January 2021 to December 2021. It aimed to assess the prevalence of menstrual disorders and self-care practices. Participants, aged 18-25 years and willing to participate, were selected via stratified random sampling. Data were collected using a structured questionnaire covering demographics, menstrual history, and self-care practices. SPSS version 26.0 was used for statistical analysis, employing descriptive statistics and the chi-square test to explore associations. A p-value of <0.05 was considered significant, providing a comprehensive assessment framework. **Result:** The sociodemographic profile of 180 participants shows that most are aged 21-25 years, with a mean age of 22.48 ± 1.68 years. Early menarche was common among 88.33%, and 62.22% belonged to the low social class living in hostels. A significant proportion (82.78%) were single, with only 2.78% having experienced pregnancy. Parental sponsorship for education was prevalent (72.22%). Most participants correctly identified menstruation as a physiological process (66.67%) and knew menstrual blood originates from the uterus (62.78%). Common absorbent materials were disposable sanitary pads (88.89%). Patterns of menstrual health and self-care practices revealed proper hygiene but suboptimal management of menstrual disorders. Age, social class, education sponsorship, and knowledge of menstrual disorders significantly influenced self-care practices. Premenstrual syndrome and dysmenorrhea were the most common menstrual disorders. **Conclusion:** This research examines menstrual health knowledge, disorders, and self-care among female undergraduates, highlighting the impact of socio-demographic factors and educational support. It reveals significant knowledge gaps and underscores the need for better educational initiatives. Insights into menstrual disorders and self-care strategies provide guidance for targeted interventions and support within academic environments.

Keywords: Menstrual Disorders, Self-Care Practices and Undergraduate Students.

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INTRODUCTION

Menstrual disorders are a significant public health issue that affects a considerable proportion of women worldwide, particularly during their reproductive years [1]. Menstrual disorders refer to irregularities in the

menstrual cycle, heavy bleeding during the menstrual cycle, irregular menstrual cycle, infrequent or frequent menstruation, intermenstrual bleeding, amenorrhea [2], dysmenorrhea, and premenstrual syndrome [3], and it causes physical, behavioural, and emotional changes during menstruation [4]. For example, amenorrhea,

which refers to a lack of menstruation, can be classified as primary if it occurs before the age of 15 or secondary if it happens after the onset of menstruation [5]. Abnormal uterine bleeding includes conditions such as menorrhagia, which is heavy menstrual bleeding, and metrorrhagia, which is bleeding that occurs between menstrual periods [6]. Dysmenorrhea, marked by intense menstrual cramps, could be a sign of hormonal, ovarian, or uterine problems [7, 8]. Premenstrual syndrome (PMS) includes a range of both physical and psychological symptoms [9, 10]. Various factors affect menstrual patterns, including substantial weight gain or loss, stress, drug use, excessive alcohol consumption, which disrupts the metabolism of estrogen and progesterone in the liver, hormonal imbalances, recent childbirth or miscarriage, and others, all of which can lead to menstrual issues. Hence, it is essential to address menstrual disorders quickly to ease physical and emotional symptoms and enhance women's overall health [11, 12]. Menstrual disorders are a major burden affecting women's health and quality of life, with economic consequences due to healthcare costs [13, 14]. Menstrual problems not only carry an economic burden but are also one of the most common causes of absenteeism and poor academic performance among young females [15-17]. Studies conducted in various developing countries indicate that women are concerned by menstrual disorders. Reports suggest that data from low and middle-income countries on the prevalence of menstrual disorders and their impact on women's health, quality of life, and social integration highlight the need for greater emphasis on the evaluation and treatment of menstrual complaints in primary care programs [18]. In Bangladesh, where the female population accounts for 46.8% of the total population, with around 39 million women in the 15-49 age group, understanding the prevalence of menstrual disorders and self-care practices among female undergraduates is crucial. Prevalent premenstrual symptoms include changes in mood (71.6%), cramps (68.9%), abdominal bloating (45.9%), and breast discomfort (38.5%). Dysmenorrhea (50.6%) and menorrhagia (35.2%) are common, while polymenorrhea (10.8%) and oligomenorrhea are less frequent [19, 20]. Stigma and social taboos around menstruation are still strong in Bangladesh, with only 36% of adolescents and 30% of adult women having heard about menstruation before their first period. Nearly half of Bangladeshi girls reach menarche without knowledge of menstruation, and many fear seeking support due to pervasive menstrual stigma [20]. Ensuring comprehensive school-based menstruation education and strengthening engagement among schools, parents, and healthcare providers is important for improving access to reliable menstrual health information. It may relieve adolescents' concerns over whether their menstrual experiences are 'normal'. The Bureau of Health Education, under the Directorate General of Health Services, has set up the School Health Program at schools and madrassas, where health inspectors organize and conduct monthly health education sessions for

primary and secondary school students. Strengthening these programs by incorporating menstruation education and promoting them through teachers would also be beneficial for adolescents.

This study aimed to investigate the prevalence of menstrual disorders and self-care practices among female undergraduates in Bangladesh, as well as explore potential factors that may influence these disorders. The findings of this study will contribute to a better understanding of menstrual health issues among young women in Bangladesh and provide insights for healthcare professionals, policymakers, and researchers to develop targeted interventions and strategies to address these concerns.

METHODOLOGY & MATERIALS

This cross-sectional study was conducted among 180 female students at the Department of Obstetrics and Gynecology (outdoor) in Bangabandhu Sheikh Mujib Medical University, Dhaka from January 2021 to December 2021. The primary aim was to assess the prevalence of menstrual disorders and the self-care practices employed by the participants. The study population consisted of female students enrolled in various institutions, such as the Institution at the BSMMU.

- **Inclusion Criteria:**

Female students aged 18-25 years who had experienced menarche and were willing to participate in the study.

- **Exclusion Criteria:**

Students with known chronic medical conditions affecting menstruation (e.g., polycystic ovary syndrome, endometriosis) and those on long-term hormonal therapy.

A stratified random sampling technique was used to ensure representation across different academic Institutions. The student list was obtained from the Institution's administration, and participants were randomly selected using a computerized random number generator.

Data Collection

Data were collected using a structured, pre-tested, and self-administered questionnaire. The questionnaire comprised three sections: Demographic Information (Age, academic year, marital status, and BMI), Menstrual History (Age at menarche, regularity of menstrual cycles, duration, and flow characteristics) and Self-Care Practices (Use of pain relief methods, dietary habits, exercise routines, and other coping strategies).

Data Analysis

Data were entered into SPSS version 26.0 for statistical analysis. Descriptive statistics were used to

summarize demographic characteristics and the prevalence of menstrual disorders. The chi-square test was employed to explore associations between menstrual disorders and self-care practices. A p-value of <0.05 was considered statistically significant. This methodology provides a comprehensive framework for assessing the prevalence of menstrual disorders and self-care practices among female undergraduates.

RESULT

The sociodemographic profile of 180 participants in Table 1 shows that the majority (65.56%) are aged 21-25 years, with a mean age of 22.48±1.68 years. Early menarche (9-16 years) was predominant among 88.33% of participants, while 11.67% experienced late menarche (17-25 years). Socially, 62.22% belonged to the low social class, and most (62.22%) lived in hostels. A significant proportion (82.78%) were single, and only 2.78% had experienced pregnancy. Parental sponsorship for education was common, with 72.22% relying on their parents for financial support. Table 2 reveals participants' knowledge and misconceptions about menstruation. A majority (66.67%) correctly identified menstruation as a physiological process, while 33.33% believed it to be pathological. Most respondents (62.78%) knew that menstrual blood originates from the uterus, although 34.44% mistakenly thought it came from the vagina. The preferred absorbent material during menstruation was disposable sanitary pads (88.89%). Knowledge of menstrual disorders varied: 71.11% knew the normal bleeding duration, 72.78% were aware of the average cycle length, but only 11.67% recognized that menstrual pain is not an indicator of illness. Common misconceptions included that menstrual blood is impure (55%) and foul-smelling (61.67%). When assessing overall knowledge, 43.89% of participants demonstrated excellent understanding, while 13.33% had poor knowledge. Table 3 outlines the patterns of menstrual

health and self-care practices. Disposable sanitary pads were used by 80.56% of respondents, with most (88.33%) practising proper disposal. Genital hygiene was well-maintained by 71.11% who used water, and 81.11% bathed twice or more daily during menstruation. However, poor self-care practices were prevalent, with 60.56% exhibiting suboptimal management of menstrual disorders. Self-care included using medications (49.44%) and warm compresses (39.44%) for pain relief, but only 28.89% engaged in physical exercise to alleviate symptoms. Table 4 presents the association between sociodemographic characteristics and menstrual health self-care practices among 180 participants. Age showed a significant association with self-care practices, where those aged 21-25 were more likely to practice good self-care (p = 0.046). Social class was also significant, with higher self-care observed in the high social class (32.39%) compared to the low social class (39.44%, p = 0.048). Education sponsorship revealed a statistically significant difference, with parental support linked to better self-care (p = 0.039). Level of knowledge about menstrual disorders significantly affected self-care, with excellent knowledge correlating to improved practices (p = 0.042). Other factors like age at menarche, residence, marital status, and the prevalence of menstrual disorders showed no significant associations (p > 0.05). Figure 1 presents the incidence of various menstrual disorders among the study respondents (N=128). The figure highlights the high prevalence of premenstrual and pain-related menstrual disorders while also reporting irregularities in cycle timing and flow. Premenstrual syndrome is the most commonly reported condition, affecting 85.16% of the participants, followed closely by dysmenorrhea at 79.69%. Amenorrhea is reported by 39.84%, while irregular menstrual cycles and irregular menstrual periods are noted in 29.69% and 18.75% of respondents, respectively. Menorrhagia is experienced by 32.03%, and metrorrhagia is the least common, affecting 13.28% of the group.

Table 1: Sociodemographic profile of study participants (N=180)

Variables	Frequency (N)	Percentage (%)
Age (years)		
≤20	62	34.44
21-25	118	65.56
Mean±SD	22.48±1.68	
Age at menarche (years)		
9-16 (early menarche)	159	88.33
17-25 (late menarche)	21	11.67
Mean±SD	12.89±1.98	
Social class		
Low	112	62.22
Moderate	39	21.67
High	29	16.11
Residence		
Home	68	37.78
Hostel	112	62.22
Marital status		
Single	149	82.78

Variables	Frequency (N)	Percentage (%)
Married	31	17.22
Number of pregnancies		
One	5	2.78
None	175	97.22
Education sponsor		
Self	17	9.44
Parents	130	72.22
Guardian	33	18.33

Table 2: Awareness and comprehension of menstruation and menstrual disorders among respondents (N=180)

Variables	Frequency (N)	Percentage (%)
Cause of menstruation		
Physiological process	120	66.67
Pathological process	60	33.33
Don't know	0	0.00
Source of menstrual blood		
Uterus	113	62.78
Vagina	62	34.44
Abdomen	5	2.78
Use of ideal absorbent material during menstruation		
Disposable sanitary pads	160	88.89
Re-usable clothes	12	6.67
Rag/pieces of clothes	8	4.44
Knowledge of menstrual disorders		
I know the normal menstrual bleeding duration is 5-7 days	128	71.11
I know the average menstrual cycle length to be 28 days	131	72.78
I know that menstrual blood is dirty and impure	99	55.00
I know menstrual blood is foul- smelling during menstruation	111	61.67
I know the pain during menstruation does not mean someone is sick	21	11.67
Amenorrhea is absence of menstrual period which is caused by pregnancy	121	67.22
Dysmenorrhea often improves with age and following after child birth	79	43.89
Metrorrhagia/bleeding in between regular periods is abnormal	74	41.11
Menorrhagia/heavy bleeding is a common cause of anemia leaving you tired and weak	81	45.00
Symptoms women often experience before menstrual period is termed premenstrual syndrome	41	22.78
Overall knowledge		
Poor	24	13.33
Fair	45	25.00
Good	32	17.78
Excellent	79	43.89

Table 3: Patterns of menstrual health and associated self-care practices among respondents (N=180)

Variables	Frequency (N)	Percentage (%)
Sanitary materials used during menstruation		
Disposable sanitary pads	145	80.56
Disposable piece of rags	19	10.56
Re-usable sanitary pads	16	8.89
Genital cleaning materials used during menstruation		
Only water	128	71.11
Soap and water	44	24.44
Plain paper	8	4.44
Washing genitals twice or more times per day	159	88.33
Taking bathes twice or more per day during menstruation	146	81.11
Frequency of changing sanitary materials used during menstruation		
Could not change it	7	3.89
1-2 times	121	67.22

Variables	Frequency (N)	Percentage (%)
3 times or more	52	28.89
Proper disposal of used menstrual hygiene materials	159	88.33
Consultations because of menstrual problems		
Doctor/Nurse	52	28.89
Parent	47	26.11
Friend	66	36.67
None	34	18.89
Self-care practices for menstrual disorders		
I increase coffee or tea consumption before and during period pain	34	18.89
I perform exercise to reduce premenstrual symptoms	52	28.89
Practices to manage period pain and premenstrual symptoms		
Use medications	89	49.44
Use herbal preparations	9	5.00
Put warm compresses on your abdomen	71	39.44
Increase water intake	19	10.56
Decrease spicy and salty foods	13	7.22
Use of drugs for menstrual disorders		
Self-medication	89	49.44
Treatment given by parents	32	17.78
Treatment given by medical personnel	59	32.78
Overall self-care practices		
Poor	109	60.56
Good	71	39.44

Table 4: Association between knowledge and socio-demographic characteristics in menstrual health self-care practices (N=180)

Variables	Self-care practices				P value
	Poor		Good		
	N	%	N	%	
Age (years)					
≤20	45	41.28	17	23.94	0.046
21-25	64	58.72	54	76.06	
Age at menarche (years)					
9-16 (early menarche)	99	90.83	60	84.51	0.354
17-25 (late menarche)	10	9.17	11	15.49	
Social class					
Low	84	77.06	28	39.44	0.048
Moderate	19	17.43	20	28.17	
High	6	5.50	23	32.39	
Residence					
Home	29	26.61	39	54.93	0.412
Hostel	80	73.39	32	45.07	
Marital status					
Single	101	92.66	48	67.61	0.522
Married	8	7.34	23	32.39	
Education sponsor					
Self	12	11.01	5	7.04	0.039
Parents	79	72.48	51	71.83	
Guardian	18	16.51	15	21.13	
Level of knowledge of menstrual disorders					
Poor	29	26.61	17	23.94	0.042
Fair	35	32.11	12	16.90	
Good	26	23.85	20	28.17	
Excellent	19	17.43	22	30.99	
Prevalence of menstrual disorders					
Yes	80	73.39	48	67.61	0.398
No	29	26.61	23	32.39	

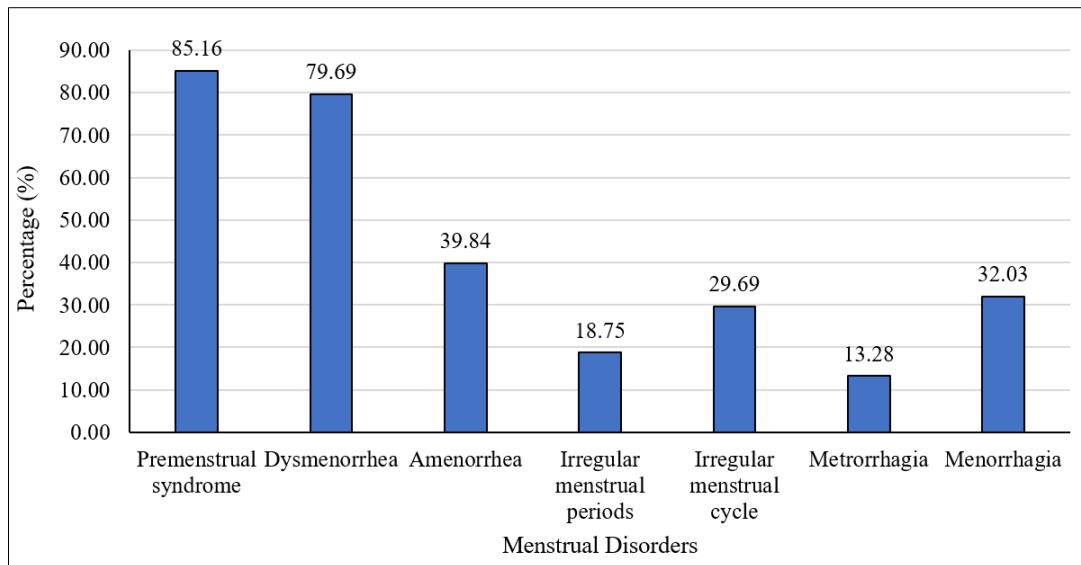


Figure 1: Incidence of menstrual disorders among respondents (N=128)

DISCUSSION

This study provides a comprehensive examination of menstrual health knowledge, associated disorders, and self-care practices among female undergraduate students. The socio-demographic characteristics of the participants highlighted key factors influencing menstrual self-care, including awareness of menstruation and the prevalence of menstrual disorders. Younger students (≤ 20 years) demonstrated a higher tendency to report menstrual disorders, likely due to hormonal fluctuations, while older, higher-level students showed lower incidences of such disorders. This suggests a correlation between increased education and awareness of menstrual health. Furthermore, the role of financial sponsorship emerged as a significant socio-economic factor; students without financial support were more susceptible to menstrual disorders and exhibited inadequate self-care practices. Access to equitable resources and supportive systems was essential in promoting menstrual health across all female students. A comparative analysis of menarche onset across various regions of Nigeria revealed notable regional variations, likely influenced by differences in population density, geography, and cultural norms [21]. The observed strong association between educational sponsorship and self-care behaviors aligns with established research on the determinants of health behaviors. Education consistently plays a crucial role in shaping health-related practices, including self-care behaviors, as highlighted in previous studies [10, 22, 23]. Education fosters health literacy, informed decision-making, and heightened health awareness, further underscoring its importance in self-care practices [24]. The findings suggest that financial sponsorship significantly impacts students' ability to adopt effective self-care practices [21]. The study revealed critical gaps in menstrual health knowledge among female undergraduates, emphasizing the need for comprehensive menstrual health education. While the majority of participants were knowledgeable about

menstruation, consistent with prior findings from studies among students in private universities [8], gaps persisted in understanding biological processes, such as the menstrual cycle and hormonal variations. This highlighted the role of social networks and access to information in shaping students' knowledge of menstruation. Comprehensive education that addresses both biological and societal dimensions is vital. Comparisons with earlier research indicated a substantial portion of respondents lacked knowledge about menstrual disorders, consistent with systematic reviews on the epidemiology of menstrual disorders in developing countries [18, 25-27]. However, some studies offered contrary findings, reinforcing the need for context-specific educational strategies [11, 28]. The academic environment of this study, which fosters peer interaction and information sharing, contributed to a significant level of menstrual knowledge among participants. A notable 71.11% of respondents reported experiencing various menstrual disorders, a prevalence consistent with similar studies conducted among female undergraduates at the University of Ibadan and Lebanese nursing students, where prevalence rates of 90.4% and 80.7% were observed, respectively [11]. However, this study's prevalence exceeded that found at the University of Uyo, which reported an overall prevalence rate of 34.6% [29]. These differences in prevalence rates may be attributed to variations in demographics, study methodologies, and cultural contexts. Premenstrual syndrome (PMS) was identified as the most common disorder, followed by dysmenorrhea, which is characterized by painful menstrual cramps. This is consistent with earlier research among secondary school girls in Ibadan, where dysmenorrhea was also a leading concern [8, 30]. Most students reported mild to moderate pain levels, underscoring the subjective nature of pain perception. This highlights the necessity for personalized support and management strategies for students dealing with dysmenorrhea. The study also presented the

prevalence of other menstrual disorders, emphasizing the urgent need to prioritize menstrual health within university settings. Self-care practices varied significantly among respondents, with 60.56% demonstrating poor self-care, while 39.44% exhibited good practices. The most common practices included the use of disposable sanitary pads (80.56%) and washing with water (71.11%). Notably, a large proportion of students did not seek medical consultation for menstrual issues, reflecting gaps in awareness, education, and access to healthcare services. This trend was consistent across different income levels, emphasizing the need for comprehensive menstrual health education that empowers individuals to seek professional healthcare for persistent menstrual issues. A holistic approach is essential, one that includes raising awareness, normalizing healthcare-seeking behavior, and providing inclusive and accessible healthcare services for all [14, 26].

Limitations of the Study:

Every study conducted in a hospital setting is inevitably accompanied by certain limitations, and the current research is no different in this regard. The constraints inherent in this study have been duly noted. Consequently, the findings may not fully reflect the broader population, whether on a national or global scale. The sample size in this study was relatively small compared to other research efforts, largely due to the brevity of the trial. Additionally, potential biases stemming from self-reporting and limitations on generalizability may influence the results.

CONCLUSION AND RECOMMENDATIONS

This research provides a detailed examination of menstrual health knowledge, related disorders, and self-care practices among female undergraduates. It highlights the profound impact of socio-demographic factors and educational support on menstrual health experiences and behaviors. The study uncovers significant gaps in knowledge and emphasizes the urgent need for thorough educational initiatives to enhance awareness and self-care practices. Additionally, the insights gained into the prevalence of menstrual disorders and self-care strategies offer valuable guidance for the development of targeted interventions and support systems within academic environments.

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