



Comparative Study of Menstrual Hygiene and Perception Among Pre And Post Menarcheal Adolescents In West Bengal, India

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Abstract:

A girl's life has several turning points as she matures into a woman who can procreate. The first menstrual blood flow episode, known as menarche, is the final significant event of this sexual development. The purpose of this study was to evaluate menstrual hygiene behaviors among postmenarchal females and compare the knowledge and perspective of premenarchal and postmenarchal teenage girls. It was a community based cross-sectional study. Random sampling method was applied to select the school in rural area. The premenstrual group consisted primarily of early adolescents, aged 9 to 12, whereas the postmenstrual group included a larger proportion of late adolescents, aged 16 and older. The majority of respondents (84.48%, n = 98) had cycles lasting 3–8 days, followed by 2 days (13.89%, n = 16) and 1 day (1.72%, n = 2). Of the 116 respondents, 85.34% (n = 99) had regular periods. Respondents had a range of issues during their periods, including: cramps (10.34%, n=12), bodi pain (7.76%, n=9), weakness (6.90%, n=8), dizziness (4.31%, n=5), and most of them (68.97%, n=80) had all of the aforementioned issues. Leukorrhea (60.34%, n = 70), Pre-Menstrual Syndrome (58.68%, n = 62), and vaginal discomfort during periods (75%, n = 87) were the most common complaints among the responders. Before the commencement of menses, 78 individuals in the premenstrual group and 85 in the postmenstrual group were aware of the menstrual cycle. The organ where the bleeding originated was known to the responders. There was a discrepancy found between the post menarchal group's teenage girls' understanding and behaviors of menstrual hygiene. Ultimately, it is critical to have a holistic approach to menstrual health, viewing it as a human rights and health concern with physical, biological, and social ramifications that extends beyond menarche.

Keywords: menarche; adolesense girl; menstrual hygiene; premenstrual syndrome; menstrual complication; post menstruation.

Introduction:

A girl's life has several turning points as she matures into a woman who can procreate. The first menstrual blood flow episode, known as menarche, is the final significant event of this sexual development [1]. It has been shown that there are significant differences in this crucial developmental stage for females [2]. A research conducted in the United States of America (US) shown that menarcheal age might vary even within a same nation. The mean age at menarche for US girls in the 2000s was found to be 12.34 years in this US research, with racial variations: non-Hispanic black girls had a mean age of 12.06 years, Mexican American girls had a mean age of 12.09 years, and non-Hispanic white girls had a mean age of 12.52 years [3].

Both the research participants and the assessment tool may be to blame for the diversity in menarcheal ages seen worldwide [4]. Menarcheal age is, however, highly influenced by a number of variables, including genetics, environmental factors, body height, family size, BMI, socioeconomic position, and educational attainment [1, 5, 6, 7, 8, 9, 10, 11].

A biological process known as menstruation is experienced by females during their reproductive years and is brought on by changes in hormone levels in the body. Nevertheless, while occurring often, menstruation is frequently seen as taboo in many cultures and communities [12]. Due to the taboo nature of menstruation, the lack of conversation surrounding about puberty, and false information from peers, young girls lack awareness and understanding about managing their menstrual hygiene, which can have a detrimental effect on both their physical and mental health. In these communities, women and girls experience embarrassment and humiliation related to the regular menstrual cycle [13]. This raises the likelihood much more that unsanitary behavior which may lead to result in serious reproductive and urinary tract infections [14].

However, because to cultural taboos, a lack of awareness, and inaccurate beliefs among teenage girls, it is frequently viewed as an unclean event in Indian culture, which places unnecessary restrictions on their daily activities.[15] Education for girls has a long-term effect on social and economic growth, as well as personal wellbeing, particularly in low-income areas.[16] In addition to participating in the formal labor market and earning more money, educated girls also follow healthy habits like delaying marriage and having fewer children, which may guarantee better health and education for their offspring and help combat poverty and advance national development.

Girls in most poor nations have misconceptions about menstruation and inadequate awareness about menstrual hygiene, according to a systematic study [17]. In addition to having inadequate understanding about menstruation, women and girls in low- and middle-income nations also experience period poverty and lack access to resources for menstrual hygiene. Period poverty is caused by a number of factors, including inadequate water, sanitation, and hygiene facilities, low economic resources, a lack of organized instruction in schools, low cultural acceptance of menstrual hygiene products, and limited availability to safe menstrual products. Insufficient management of menstrual hygiene leads to poor performance, anxiety, and absenteeism among women and girls [18].

Nonetheless, several small-scale, primarily qualitative research have noted that many school-age girls avoid going to school when they are menstruating out of embarrassment, concern over getting noticeable stains on their clothes, lack of a private, secure space to manage menstruation in school, and dysmenorrhea.[19,20].

Adolescent girls are among the most susceptible groups in society and will become mothers in the future. Therefore, it is important that they have proper knowledge about menstrual hygiene to reduce their risk of contracting sexually transmitted infections (STIs), which are a serious problem for our society because they

can make many women infertile and have other negative health effects. Therefore, if appropriate knowledge is raised at the primary school level, a healthy girl will become a healthy mother in the future and will help to lower the death rate for both mothers and infants, leading to the overall empowerment of women's health.

Aims and Objectives:

The purpose of this study was to evaluate menstrual hygiene behaviors among postmenarchal females and compare the knowledge and perspective of premenarchal and postmenarchal teenage girls.

Material and Methods:

It was a community based cross-sectional study. This study was conducted in Bengali school going girls rural area of Paschim Medinipur district of West Bengal, India. The data were collected from January 2018 to December 2019. In this present study, random sampling method was applied to select the school in rural area. The inclusion of a specific institution depends on the judgment or decision of the researcher and the inclusion criteria of subject selection were 9 to 16 years girls. In this study, all subjects participated voluntarily in response to the appeal made by administrations of the respective academic institutions. Data were collected in a private area at their respective schools only during day time usually between 9 am and 4 pm. A written consent was obtained from their parents as subjects were minor and a short assent including study objective, times, measurements etc was informed to the subjects. The study was approved by the Ethical Committee of Vidyasagar University prior to data collection.

Statistical Analysis:

Version 24.0 of the SPSS software was used to analyze the data. The study's findings were presented using a descriptive summary that included cross-tabulation, percentages, and frequencies. To assess statistical significance at the 5% level of significance, probability (p) was computed. Using the Chi-square test, the relationship between the independent and dependent variables was ascertained.

Result:

The socio-demographic characteristics of the research subjects in both groups:

The premenstrual group consisted primarily of early adolescents, aged 9 to 12, whereas the postmenstrual group included a larger proportion of late adolescents, aged 16 and older. In house maximum respondent share her room with there siblings. In both groups, the majority of respondents were part of joint families. [Table-1].

Demographics		Pre menstrual(116) n(%)	Post menstrual(116) n(%)	P-value
Age ranges	Early stages of adolescence (9-12)	95(81.9)	18(15.5)	0.001*
	Late adolescence(12-16)	21(18.1)	98(84.5)	
The kind of house her family occupied at her menarche	Own room	16(13.8)	18(15.6)	0.175
	Distribute with siblings	60(51.8)	68(58.6)	
	Big room share with all	40(34.4)	30(25.8)	
Family type	Nuclear	30(25.9)	42(36.2)	0.05
	Joint	86(74.1)	74(63.8)	

Table 1: Features of the Demographic

Menstrual experiences:

The majority of respondents (84.48%, n = 98) had cycles lasting 3–8 days, followed by 2 days (13.89%, n = 16) and 1 day (1.72%, n = 2). Of the 116 respondents, 85.34% (n = 99) had regular periods. Respondents had a range of issues during their periods, including: cramps (10.34%, n=12), bodi pain (7.76%, n=9), weakness (6.90%, n=8), dizziness (4.31%, n=5), and most of them (68.97%, n=80) had all of the aforementioned issues. Leukorrhea (60.34%, n = 70),

Pre-Menstrual Syndrome (58.68%, n = 62), and vaginal discomfort during periods (75%, n = 87) were the most common complaints among the responders. Of them, 78.45% (n=91) reported having an unpleasant vaginal odor when they were menstruating, and 16.38% (n=19) reported having an unpleasant vaginal odor when they were not.

A thorough explanation is provided in Table -2

Questions		n (%)
Are you having regular periods?	Yes	99 (85.34)
	No	17 (14.66)
How long do your periods usually last?	1day	2 (1.72)
	2days	16 (13.79)
	3–8days	98 (84.48)
	2weeks	0
	More than 2weeks	0
How many days will there be a delay in periods?	Late for 15days	20 (17.24)
	Late for 1month	9 (7.76)
	Late for 3months	6 (5.17)
	Late for more than 3months	3 (2.59)
	Periods are not delayed	78 (67.24)
Do you experience the following during your menstruation?	Cramps	12 (10.34)
	Body pain	9 (7.76)
	Weakness	8 (6.90)
	Dizziness	5 (4.31)
	All of the above	80 (68.97)
	Do not know	2 (1.72)
Changes in behavior noted over the menstrual cycle?	Irritated	12 (10.34)
	Craving for different foods	10 (8.62)
	Mood swings	12 (10.34)
	All of the above	78 (67.24)
	Do not know	4 (3.45)
Do you have leukorrhea issues?	Yes	70 (60.34)
	No	30 (25.86)
	Do not know	16 (13.79)
Does Premenstrual Syndrome affect you?	Yes	68 (58.62)
	No	32 (27.59)
	Maybe	16 (13.79)
When you're menstruating, do you take any	Yes	20 (17.24)

painkillers?	No	86 (74.14)
	Maybe	10 (8.62)
Do your periods irritate your vagina?	Yes	87 (75)
	No	29 (25)
Do you typically get vaginal soreness while not menstruating?	Yes	20 (17.24)
	No	96 (82.76)
Do you smell bad while you're menstruating?	Yes	91 (78.45)
	No	25 (21.55)
Do you smell bad when you're not having periods?	Yes	19 (16.38)
	No	97 (83.62)

Table 2: Experiences regarding menstruation

Variable	Pre-menstrual (n=116)	Post-menstrual (n=116)	P
Understanding menses before they occur	78	85	0.003
Yes	38	31	
No			
Awareness of the organ from which bleeding originates	31	68	0.008*
Uterus	20	16	
Stomach	65	32	
Don't know			
Understanding the reason for the bleeding	59	86	0.153
Physiological	25	12	
God given	32	18	
Don't know			
Origin of first knowledge	15	12	0.07
Peer	65	64	
Mother	28	30	
Sibling	3	8	
Internet	5	2	
Teacher			
There has never been a menstrual hygiene education program offered at the institution.	20	40	0.003*
Yes	96	76	
No			

Table 3: Comparison of Awareness regarding Menstruation and Hygiene between the Two Groups

Comparison of Awareness regarding Menstruation and Hygiene between the Two Groups:

Before the commencement of menses, 78 individuals in the premenstrual group and 85 in the postmenstrual group were aware of the menstrual cycle. The organ where the bleeding originated was known to the responders. Twenty premenstrual participants and sixteen postmenstrual participants believed it to be the stomach, whereas thirty one premenstrual participants and sixty eight postmenstrual participants believed it to be the uterus. The remaining participants were unsure. Menstruation was perceived as a physiological process by 59 individuals in the premenstrual group and 86 in the postmenstrual group, while God-given menses were believed by 25 in the premenstrual group and 12 in the postmenstrual group; the other individuals were in the dark. In both groups, moms were the primary source of information, followed by siblings and then peers. Twenty respondents in the premenstrual group and forty in the postmenstrual group attended menstrual hygiene classes in their schools.

Discussion:

When girls reach puberty, the most significant event is the commencement of menstruation. Girls frequently have a lot of

questions and concerns around their periods. Giving girls accurate information about menstruation at the proper age can help them avoid forming false beliefs and a number of harmful genital and urinary infections, which have a significant negative impact on our primary care doctors. Menstrual hygiene, therefore, is crucial in assessing a woman's overall health.

Millions of women and girls worldwide lack access to menstruation products that are suitable and safe, as well as knowledge and resources on menstrual health management techniques (21). This increases their vulnerability to infections and other health problems, and it also makes them more likely to experience prejudice and stigma throughout their menstrual cycle (22).

According to a research by Alam et al., Gupta et al., Dasgupta et al., and Kamath et al., the majority of females in the premenstrual group were early adolescents, whereas the postmenstrual group had a higher proportion of late adolescents.[23–26] Similar to the findings of Chaudhary N and Gupta MK's study, the majority of respondents in both categories were Hindu and belonged to mixed families.[27]

In house maximum respondent share her room with their siblings.

Most of the girls of both group coming from joint family.

The majority of respondents to this survey had regular menstrual periods, according to the study's findings. Nonetheless, the majority of those surveyed had moderate to severe menstruation symptoms, such as weakness, dizziness, cramping, and bodily pain. In a research done in Australia, where women often reported menstruation symptoms, similar findings were noted (28). According to the study, over 50% of the participants had vaginal discomfort, premenstrual syndrome, and leukorrhea throughout their menstrual cycle. A quarter of the respondents reported having problems with poor vaginal odor even after their periods ended, and almost half of the respondents experienced these problems during their menstrual cycle. The results aligned with research carried out in India, where married women living in rural areas experienced comparable symptoms (29). Insufficient understanding of menstrual health and inadequate awareness of efficient hygiene management techniques might result in heightened gynecological morbidity in females and worse health-related quality of life (30). According to the present study's findings, the majority of respondents were aware of female menstrual hygiene, however only half were aware of any health issues linked to irregular menstrual cycles. In a research done in India, where women were aware of menstrual hygiene habits, similar findings were noted (31). The majority of respondents to the current study felt guilty while purchasing sanitary pads, which indicated that the majority of respondents thought that good menstruation health services were necessary in our culture. The results are consistent with an Indonesian research where adolescent girls experienced embarrassment when purchasing menstruation items. (32)

Adolescent females across age groups held varying conceptions around menstruation. Similar to the findings of Alam et al. and Deo et al., only 59 girls in the premenstrual group and 86 in the postmenstrual group understood that menstruation was a physiological occurrence. The remaining girls continued to see it as an illness or a divine punishment.[33,34] This demonstrates unequivocally that the majority of teenage girls in India were not taught proper menstrual hygiene, despite the introduction of free and mandatory education for those aged 6 to 14, and that the social shame associated with menstruation exposed them to even worse health consequences.

While in a review led by Dudeja et al. 56.4% girls knew about the process of menstruation before menarche and 60.7% girls uncovered mother as their wellspring of data while 31.8% announced that they got data from their friends.(35) Different wellsprings of data were sisters, friends, and relative. A study In Ethiopia revealed teacher to be the principal source of this phenomenon of 43.1% of girls[36].

Conclusion:

Teenage girls in the premenarchal and postmenarchal groups, respectively, expressed embarrassment during their periods, which amply demonstrated the stigma and unfavorable attitudes towards menstruation that are more prevalent among premenstrual females. There was a discrepancy found between the post menarchal group's

teenage girls' understanding and behaviors of menstrual hygiene. Therefore, despite those who are informed before onset of menarche tend to have better practices, unprepared females who experienced an early menarche displayed more unfavorable attitudes and beliefs connected to menstruation.

Ultimately, it is critical to have a holistic approach to menstrual health, viewing it as a human rights and health concern with physical, biological, and social ramifications that extends beyond menarche. This entails making education, information, and scientific research accessible, particularly with regard to diseases like endometriosis and polycystic ovaries, in order to guarantee that menstruation health is regarded as an essential component of the right to health rather than merely a health concern. Eradication myths and misunderstandings at the rudimentary level lingering in the public domain is important.

Abbreviations:

BMI- Body mass index
SPSS- Statistical package for the social science
STIs- Sexually transmitted infections
US- United states of America

Conflict of interest: The authors declare no conflict of interest

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Contribution:

AM implemented the study. AM is collected and analyzed data. AM analyzed the data. PD drafted the manuscript. SB revised the manuscript. Finally, all authors approved it.

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