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Consequences and management of symptoms of menstrual cycle and association with a healthy lifestyle among educated females in Tangail region of Bangladesh: a cross sectional study

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ABSTRACT

Background: Menstrual cycle is a normal physiological incident in the life of a girl. Often it is not properly understood or realised that, maintaining a proper hygiene and the symptom management play a vital role in leading a healthy life for a woman. The condition is even worse in developing countries. The aim of the study is to assay the effects, pattern of the cycle and symptom management among the educated female populations in Tangail region in Bangladesh.

Methods: A cross sectional study was conducted in Tangail with 305 participants. Data collection took place from October, 2020 to December, 2020 following a structured questionnaire. The data obtained were analysed through SPSS 23.0 version.

Results: Among the study population 61.5% were in the age range from 20-30 years. Most of the participants have done their post graduation (42.4%). The daily water intake is really important for a good menstrual cycle. 40.8% of the female take less than 2 litres of water which is alarming. 78.3% having their cycle regular with 68.8% of normal flow. 70.4% having their cycle for 3-5 days which is okay. 53.6% of the participants faces Premenstrual syndrome for which 12.2% take medications and 18.8% participants take medicine during menstruation. The study demonstrates a statistically significant association between the age and PMS as well as between the life stress of a woman and PMS.

Conclusions: The study's goal is to look into the effects and management of menstruation, as well as the demographic and lifestyle characteristics of the participants. To ensure female's health, menstrual cycles must be maintained properly.

Keywords: Menstrual cycle, menarche, hygiene, premenstrual syndrome

INTRODUCTION

The "periodic release of blood from the uterus occurring more or less at regular monthly intervals throughout the active reproductive life of a female" is characterized as menstruation. Menstruation, which is a normal physiological function, can be viewed as more than simply that.¹ The menstrual cycle, a regular occurrence in most women's life, has been related to a variety of biological, mental, and behavioral changes. It is obvious that it has a major impact on the health and sickness of women.² The body homeostasis of women between the ages of 13 to 50

years is profoundly affected by periodic fluctuations in ovarian hormone levels, specifically estrogen and progesterone during the natural ovulatory cycle.³

As a girl grows into a woman capable of reproducing, she passes through various milestones.⁴ Puberty is a stage of development during which hormonal, psychological, cognitive, and physical changes occur at the same time.⁵ The adolescent period (10-19) is considered as a unique stage in a girl's life that needs specific attention. Menarche indicates the beginning of female reproductive phase. So, it is a significant biological milestone in a woman's life.⁶

The onset of menarche depends on the variety of cultural, social, geographic, dietary and genetic aspects among different populations.⁷ Menarche is considered as a pivotal period in a girl's transition to young adulthood all across the world. The event of first bleeding has been celebrated, concealed, mourned over, or cheered over in underdeveloped nations, but it has remained under-researched and under-addressed in health and educational programs.⁸ Many psychological changes occur during the menstrual cycle, including irritability, mood swings, melancholy, and anxiety. Breast soreness, diarrhea, back pain, nausea, vomiting, and fluid retention are some of the most common physical symptoms of the menstrual cycle.⁹ Menstrual health is fundamental to population health around the world. Menstrual experiences and their connections with physical, mental, and social health have gained sophisticated understanding through research and practice.¹⁰ Menstruation is generally seen unfavorably in modern society, despite the fact that reproductive health is a crucial sign of a woman's overall health. Women all around the country are dealing with hormone and menstrual problems.¹¹

MHM is described as 'women and adolescent girls using a clean and safe menstrual management material to absorb or collect blood that can be changed in privacy as often as essential for the duration of the menstruation period, washing the body as needed with soap and water, and having access to facilities to dispose of used menstrual management materials'.¹² Menstruation had long been overlooked by The Water, Sanitation, and Hygiene (WASH) sector, which treated it as a taboo subject, but it is now a source of worry.¹³ There is a considerable gap in empirical evidence regarding the menstrual hygiene management (MHM) problems experienced by adolescent girls and women in emergency situations. Women and girls in many emergency situations lack access to basic items like sanitary pads, cloths, and underwear, which are required to manage monthly blood flow.¹⁴

The global development community is paying more attention to girls' education. As a result of this development, we now face new obstacles as well as new chances for girls to obtain an egalitarian education. Menstrual hygiene management (MHM) is just one of the issues and opportunities that exist.¹⁵ Because of discriminatory social situations, false information, inadequate facilities, and a restricted variety of absorbent materials, many girls and women are unable to practice proper menstrual health and hygiene at home, at school, at work, or in other public settings.¹⁶ Menstruation, according to a number of experts and policymakers, has an important role in reducing school attendance and achievement. The menstruation problem has been quantified by the World Bank.¹⁷ It is essential for girls to be present in school and develop professionally in order to achieve gender equality. Inadequate menstrual hygiene alternatives have recently been highlighted as a barrier to girls' education in low and middle-income nations.¹⁸ Menstrual blood absorbents that are unsafe and unclean can cause vaginal infections, which

can have long-term consequences for reproductive health.¹⁹

Premenstrual tension syndrome (PMS) is a prevalent disease among women of reproductive age that can cause major disruption in everyday activities.²⁰ In the week leading up to menses, most women of reproductive age may experience increased physiological and/or emotional discomfort. These symptoms can differ from person to person and can have an impact on work, personal life, and contribute to the tension in a relationship.²¹ In women before menopause, PMS symptoms can range from mild to severe.²² Since most women menstruate between the ages of menarche and menopause, menstrual health is an important element of overall health. Menstruation, on the other hand, affects the physical, mental, and social well-being of tens of millions of women around the world.²³

The goal of this study was to examine the effects and management of menstrual cycle symptoms, as well as their link to a healthy lifestyle, among educated females in Tangail region in Bangladesh.

METHODS

Study design and sample size setting

A prospective research was conducted in Tangail, Bangladesh. The research lasted three months (October, 2020 to December, 2020). Females of various ages made up the study population. 305 female sample was taken for our research.

Data collection

A structured questionnaire was developed to collect the data from participants in Tangail. following queries were included in data sheet.

Demographic characteristics

Age, occupational status, academic qualification are variables to consider.

Participant's life-style related

Exercise, frequency of exercise, reason of exercise, daily water intake, daily sleep, sandals preference, frequency of journey, stress of life.

Menstruation related data

Menarche age, primary used things in period, current used thing, menstrual cycle type, cycle length, mens flow, pads needed a day are variables to consider.

Menstruation related sickness and management

PMS, severity of PMS, symptoms during menstruation, difficulties during menstruation, medication for PMS,

types of drug for PMS, medication during menstrual cycle, drugs during menstruation.

Data analysis and data presentation

Data were analysed through Statistical package for social sciences (SPSS) version 23. We used relevant statistical tests to measure the specific objectives. Data entry, data consistency, validity, reliability were checked thoroughly. Patient’s privacy was maintained carefully.

RESULTS

Participant’s demographic analysis

The data of 305 patients was evaluated in total. Maximum 187 (61.5%) participants were age of 20 to 30 years. In our study maximum participants 137 (45.1%) were student.

Table 1: Participant’s demographic analysis.

Parameter	Subgroup	Frequency	%
Age (in years)	Below 20	7	2.3
	20-30	187	61.5
	31-40	110	36.2
Occupation	Student	137	45.1
	Job holder	104	34.2
	Housewife	52	17.1
	Other	11	3.6
Academic qualification	Undergraduate	115	37.8
	Graduate	60	19.7
	Post graduate	129	42.4

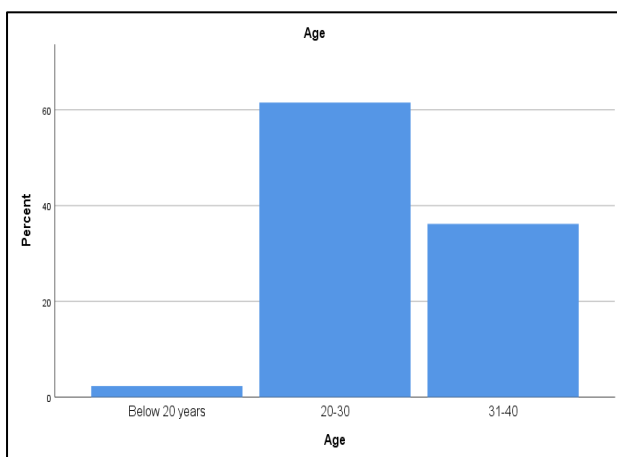


Figure 1: Age of surveyed participants.

Participant’s life-style related analysis

According to our research, about 30 (9.9%) participants do exercise daily and 129 (42.4%) participants do exercise weekly. 136 (44.7%) number of contributors do exercise to lead a healthy life.

Table 2: Participant’s life-style related analysis.

Parameter	Subgroup	Frequency	Percentage
Exercise	Yes	47	15.5
	No	73	24.0
	Sometimes	184	60.5
Frequency of exercise	Daily	30	9.9
	Weekly	129	42.4
	Monthly	37	12.2
	Other	22	7.2
	Never	86	28.3
Reason of exercise	To loose some weight	88	28.9
	To lead a healthy life	136	44.7
	Doctor said me to do so	11	3.6
	Other	3	1.0
	No exercise	66	21.7
Daily water intake	Less than 2 litres	124	40.8
	2-3 litres	167	54.9
	4 litres	9	3
	More than 4 litres	4	1.3
Daily sleep	Less than 6 hours	46	15.1
	6-7 hours	162	53.3
	8 hours	78	25.7
	More than 8 hours	18	5.9
Sandals preference	Flat	194	63.8
	Flat heels	103	33.9
	High heels	7	2.3
Frequency of journey	Daily	72	23.7
	Weekly	41	13.5
	Monthly	153	50.3
	Other	38	12.5
Life stress	Very stressful	76	25.0
	Sometimes stressful	184	60.5
	Not really	44	14.5

Menstruation related data analysis

Among 305 participants, maximum 239 (78.6%) experienced their first menstruation between the age of 12 to 15. 214 (70.4%) participant’s menstrual cycle length is 3-5 days.

Table 3: Menstruation related data analysis.

Parameter	Subgroup	Frequency	Percentage
Menarche age	Before 12	64	21.1
	12-15	239	78.6
	15-17	1	0.3
Primary used things in periods	Cotton	16	5.3
	Cloth	151	49.7
	Sanitary pads	137	45.1
Current used things in mens	Cloth	4	1.3
	Sanitary pads	289	95.1
	Mens cup	9	3.0
	Tempoon	2	0.7
Mens cycle type	Regular	238	78.3
	Irregular	53	17.4
	Can't tell	13	4.3
Cycle length	3-5 days	214	70.4
	6-10 days	85	28.0
	More than 10 days	5	1.6
Mens flow	Normal	209	68.8
	Heavy	32	10.5
	Changes with each cycle	60	19.7
	Very little	3	1.0
Pads needed per day	<2 pads	115	37.8
	2-5 pads	157	51.6
	5-10 pads	26	8.6
	Others	6	2.0
Reason for using things	Affordable	79	26.0
	Readily available	55	18.1
	Better and protective against staining	74	24.3
	Hygienic	54	17.8
	Comfortable	42	13.8

Menstruation related sickness and management analysis

163 (53.6%) participants suffers from PMS and 57 (18.8%) participants take medicine during menstrual cycle.

PMS and age: is there a link?

The p-value is 0.001, which is less than 0.05, the outcome is substantial. So, we can say the relation between age and PMS is significant.

Life stress and PMS: is there a link?

The p value for the association between life stress and PMS of the surveyed people is 0.001, which is less than 0.05. As

a result, the outcome is substantial. There is a clear link between life stress and PMS.

Table 4: Data analysis of participant's menstrual sickness and management.

Parameter	Subgroup	Frequency	%
PMS	Yes	163	53.6
	No	50	16.4
	Sometimes	91	29.9
Severity of PMS	Mild	220	72.4
	Moderate	5	1.6
	Severe	58	19.1
	No PMS	21	6.9
Syndromes of PMS	Mood swing	189	62.2
	Dizziness	16	5.3
	Abdominal/pelvic cramping	49	16.1
	Fatigue	6	2.0
	Feeling upset, anxious and irritable	8	2.6
	Bloating or tummy pain	16	5.3
	All	4	1.3
Alleviating PMS	No PMS syndrome	8	2.6
	Get regular aerobic physical activity throughout the month	5	1.6
	Try to get enough sleep	92	30.3
	Choose healthy food	27	8.9
	Try to reduce stress as much as I can	32	10.5
	I do nothing for this	145	47.7
	Others	3	1.0
Medication for PMS	Yes	37	12.2
	No	232	76.3
	Sometimes	35	11.5
Sickness during menstruation	Muscle aches	105	34.5
	Joint pain	39	12.8
	Acne	46	15.1
	Nausea and vomiting	8	2.6
	Bloating	5	1.6
	Headache	8	2.6
	Fatigue	16	5.3
	Others	1	0.3
	No sickness	11	3.6
	Medication during menstrual cycle	Yes	57
No		180	59.2
Sometimes		67	22.0

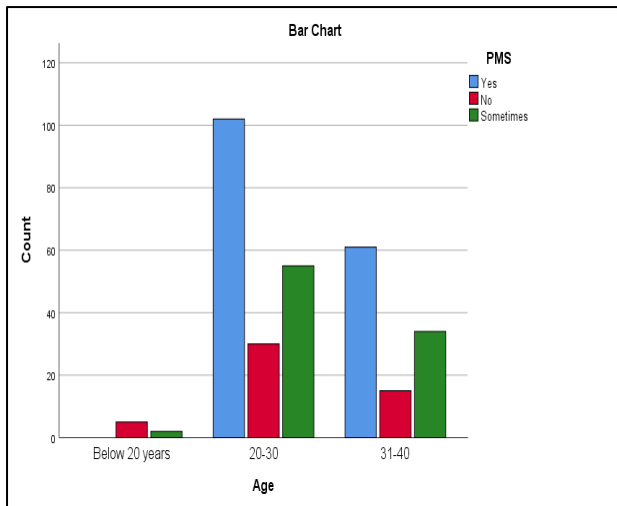


Figure 2: Association between age and PMS.

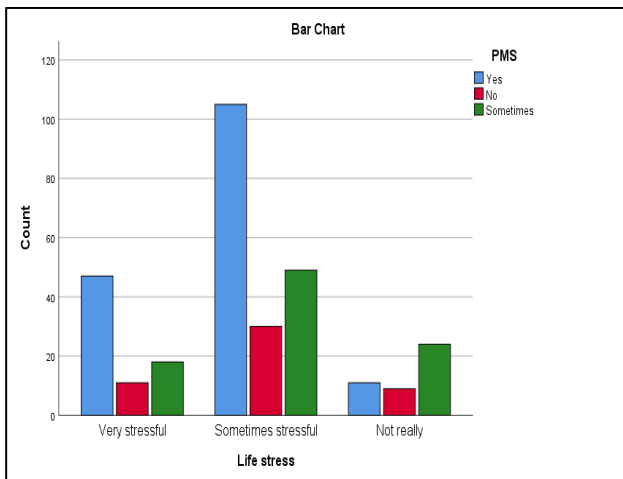


Figure 3: Relation between life stress and PMS.

DISCUSSION

Our study involved 305 females, of whom 187 (61.5%) were between the age of 20-30 and 110 (36.2%) were between the age of 31-40. We discovered a connection between age and PMS in our research. In another study, a statistically significant connection was discovered between the participants' age and the occurrence of premenstrual syndrome.²⁴ The majority of participants were 45.1% students, 34.2% job holder; 37.8% were undergraduates, 19.7% graduates and 42.4% postgraduates. The women included in our research, 15.5% did exercise regularly and 60.5% occasionally. Of these 9.9% did exercise daily and 42.4% weekly to lose some weight (28.9%), to lead a healthy life (44.7%). Drinking plenty of water every day and getting regular sleep is important for good menstrual cycle. According to the study, 54.9% of women drink 2-3 liters of water per day and 40.8% of women drink less than 2 liters of water per day which is harmful to health. Some females (25%) lead very stressful lives. There is a link between life stress and PMS, according to our research. The p-value is 0.001,

which is significant. High perceived stress was highly connected with the chance of suffering numerous moderate/severe symptoms and moderate/severe PMS in the subsequent cycle, according to another study.²⁵

According to our findings, 78.6% of participants had their menarche between the ages of 12-15, 21.1% had their first period before the age of 12, and 0.3% had their menarche beyond the age of 15. Another study found some similarities, stating that the age at menarche for all the women examined ranged from 7 to 19 years, and just one woman had never menstruated. The median age of menarche was 12 years, while the mean was 12.4 years ($SD \pm 1.5$). Outside of the 11 to 14-year age range, only 15.5% of women menstruated for the first time.²⁶ According to our findings, 49.6% of girls used cloths in their first period. But sanitary pads are currently most used things in period. For period use, 28% of women prioritize affordable items.

In our research, there were 53.6% participants who were suffering from PMS. The PMS syndromes were mood swing (62.2%), dizziness (5.3%), abdominal/pelvic cramps (16.1%), bloating or tummy pain (5.3%), fatigue (2%), irritability (2.6%). Another study stated their findings that, premenstrual symptoms were found in 426 girls (75.4%). The most prevalent symptom of PMS was abdominal cramp, which was reported by 330 people (76.2%).²⁷ In our study, mild PMS were found in 72.4% and severe PMS in 19.1% females. For alleviating PMS 30.3% tried to get enough sleep and 12.2% females took medicine. 34.5% participants were suffering from muscle aches and 18.8% participants took medicine during menstruation for reducing menstrual sickness. There were 55.3% participants did not take any medication during menstruation. On the other hand, 27.6% of women took paracetamol during this time, as well as mefenamic acid (4.6%), ibuprofen (1%), Timonium (4.3%), drotaverine hydrochloride (1%), hyoscine butylbromide (2.3%) were taken by participants and 4.9% of women took other drugs.

CONCLUSION

The research was examined the menstrual data of 305 women in Tangail where their demographic information, life-style and their menstrual cycle and management were discussed. We can observe how a woman's way of life, her consumption of nutritious food and water, her stress level, and a variety of other factors can influence her physical and mental health, which can occasionally affect her menstruation. Every woman should be conscious of her lifestyle, as well as her physical and mental health.

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Ethical approval: The study was approved by the Institutional Ethics Committee

REFERENCES

1. Ali TS Rizvi SN. Menstrual knowledge and practices of female adolescents in urban Karachi, Pakistan. *J Adolesc.* 2010;33:531-41.
2. Teatero ML, Mazmanian D, Sharma V. Effects of the menstrual cycle on bipolar disorder. *Bipolar Disord.* 2014;16:22-36.
3. Pereira HM, Larson RD, Bembem DA. Menstrual Cycle Effects on Exercise-Induced Fatigability. *Front. Physiol.* 2020;11.
4. Ameade EPK, Garti HA. Age at menarche and factors that influence it: A study among female university students in Tamale, Northern Ghana. *PLoS One.* 2016;11:1-10.
5. Marván ML, Chrisler JC. Menarcheal timing, memories of menarche, and later attitudes toward menstruation. *Cogent Psychol.* 2018;5:1-12.
6. Kaur R, Kaur K, Kaur R. Menstrual Hygiene, Management, and Waste Disposal: Practices and Challenges Faced by Girls/Women of Developing Countries. *J Environ Public Health.* 2018;2018.
7. Sharma K. Age at menarche in northwest Indian females and a review of Indian data. *Ann Hum Biol.* 1990;17:159-62.
8. Sommer M. Where the education system and women's bodies collide: The social and health impact of girls' experiences of menstruation and schooling in Tanzania. *J Adolesc.* 2010;33:521-29.
9. Y Khamdan H. The Impact of Menstrual Period on Physical Condition, Academic Performance and Habits of Medical Students. *J. Women's Heal. Care.* 2014;03:3-6.
10. Hennegan J. Menstrual health: a definition for policy, practice, and research. *Sex Reprod Heal Matters* 2021;29.
11. Eleanor T, Gilbrech KI. ScholarWorks @ UARK The Impact of Stress on the Menstrual Cycle The Impact of Stress on the Menstrual Cycle. 2020.
12. Budhathoki SS. Menstrual hygiene management among women and adolescent girls in the aftermath of the earthquake in Nepal. *BMC Womens Health.* 2018;18:1-8.
13. Joshi D, Buit G, González-Botero D. Menstrual hygiene management: Education and empowerment for girls? *Waterlines.* 2015;34:51-67.
14. Schmitt ML. Understanding the menstrual hygiene management challenges facing displaced girls and women: Findings from qualitative assessments in Myanmar and Lebanon. *Confl Health.* 2010;11:1-11.
15. Haver J, Long J, Lee S. Menstrual Hygiene Management: Operational Guidelines. United States of America: Save The Children International. 2014;1:130.
16. Roeckel S, Cabrera-Clerget A, Yamakoshi B. Guide to menstrual hygiene materials. Unicef. 2019;38.
17. Oster E, Thornton R. Menstruation, sanitary products, and school attendance: Evidence from a randomized evaluation. *Am. Econ. J Appl Econ.* 2011;3:91-100.
18. Sivakami M. Effect of menstruation on girls and their schooling, and facilitators of menstrual hygiene management in schools: Surveys in government schools in three states in India, 2015. *J Glob Health.* 2019;9.
19. SIDA. Health: Both a prerequisite and an outcome of sustainable development. *Menstrual Hygiene Management.* 2012;014-7.
20. Seedhom AE, Mohammed ES, Mahfouz EM. Life Style Factors Associated with Premenstrual Syndrome among El-Minia University Students, Egypt. *ISRN Public Health.* 2013;1-6.
21. Liu Q, Wang Y, van Heck CH, Qiao W. Stress reactivity and emotion in premenstrual syndrome. *Neuropsychiatr. Dis. Treat.* 2017;13:1597-602.
22. Karajibani M, Montazerifar F, Nazare N, Dashipour AR. The Relationship Between Age at Menarche and Premenstrual Syndrome with Anthropometric Indices in High School Female Students in Zahedan in 2017. *Zahedan J Res Med Sci.* 2019;22.
23. Critchley HOD. Menstruation: science and society. *Am J Obstet Gynecol.* 2020;223:624-64.
24. Abeje A, Berhanu Z. Premenstrual syndrome and factors associated with it among secondary and preparatory school students in Debremarkos town, North-west Ethiopia, 2016. *BMC Res.* 2019;12:1-5.
25. Gollenberg AL. Perceived stress and severity of perimenstrual symptoms: The biocycle study. *J Women's Heal.* 2010;19:959-67.
26. Da Silva CML, Gigante DP, Minten GC. Premenstrual symptoms and syndrome according to age at menarche in a 1982 birth cohort in southern Brazil. *Cad. Saude Publica.* 2008;24:835-44.
27. Zegeye DT, Megabiaw B, Mulu A. Age at menarche and the menstrual pattern of secondary school adolescents in northwest Ethiopia. *BMC Womens Health.* 2009;9:29.

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