

Content available at: <https://www.ipinnovative.com/open-access-journals>

Indian Journal of Obstetrics and Gynecology Research

Journal homepage: www.ijogr.org

Original Research Article

Knowledge and practice on menstrual hygiene among girl students of Balika Vidya Mandir School, Digboi, Tinsukia, Assam

Aparajita Phukan Baruah^{1*}¹Dept. of Obstetrics and Gynecology, Srimanta Sankaradeva University of Health Sciences, Guwahati, Assam, India

ARTICLE INFO

Article history:

Received 26-06-2023

Accepted 14-07-2023

Available online 22-11-2023

Keywords:

Menstruation

Hygiene

Reproductive

Health

ABSTRACT

Background: Effective menstrual hygiene is vital to the health, wellbeing, dignity, empowerment, mobility and productivity of girls and women. The inadequate knowledge and improper practice of menstrual hygiene among various age group of girls and women may affect their reproductive health.

A descriptive study was carried out with the objectives to assess the knowledge and practice on menstrual hygiene and to assess the significant association between selected Demographic variables with knowledge and practice among the girl students of Balika Vidya Mandir School, Digboi, Tinsukia, Assam.

Materials and Methods: The study was conducted in Balika Vidya Mandir School, Digboi, Tinsukia, Assam, among 60 girl students selected by simple random sampling technique. A self structured questionnaire and a checklist was used to assess the knowledge and practice on menstrual hygiene. Both descriptive and inferential statistics were used to find out the result of the study.

Result: Findings related to knowledge revealed that majority 82% (49) girl students had moderately adequate knowledge, 10% (6) had inadequate knowledge and only 8% (5) had adequate knowledge on menstrual hygiene.

Findings related to practice revealed that majority 75% (45) girl students had moderately adequate practice, 17% (10) had inadequate practice and only 8% (5) had adequate practice on menstrual hygiene.

Findings related to association between knowledge and selected demographic variables revealed that there is significant association between knowledge and age of girl students and family income.

Findings related to association between knowledge and selected demographic variables revealed that there is significant association between practice and family income and religion.

Conclusion: From the study findings it can be inferred that knowledge and practice of girl students of the school have moderately adequate. Therefore more emphasis should be given on providing knowledge regarding menstrual hygiene among the girl students.

This is an Open Access (OA) journal, and articles are distributed under the terms of the [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License](https://creativecommons.org/licenses/by-nc-sa/4.0/), which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprint@ipinnovative.com

1. Introduction

Hygiene is a series of practices performed to preserve health. According to the World Health Organization (WHO), "Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases."¹

Menstruation is a phenomenon unique to the females (WHO, 2003).² Menarche is defined as the first menstrual period in a female adolescent occurs between the ages of 10 and 16, with the average age of onset being 12.4 years. Menstruation is a natural fact of life and a monthly occurrence for the 1.8 billion girls, women, transgender men and non-binary persons of reproductive age. Yet millions of menstruates across the world are denied the right to manage their monthly menstrual cycle in a dignified, healthy way.³

* Corresponding author.

E-mail address: aparajitajan@gmail.com (A. P. Baruah).

Menstruation is still regarded as something unclean or dirty in Indian Society. The reaction to menstruation depends upon awareness and knowledge about the subject. The manner in which a girl learns about menstruation and its associated changes may have an impact on her repose to the event of menarche.⁴ Menstruation is a normal physiological phenomenon for females indicating her capability for procreation. However, this normal phenomenon is not an easy one for every growing young girl. Menstruation has often been associated with the some degree of sufferings and embarrassment by the society.³

Many adolescent girls face stigma, harassment and social exclusion during menstruation. Transgender men and non-binary persons also face discrimination due to their gender identity, depriving them of access to the materials and facilities they need.⁵ Gender inequality, discriminatory social norms, cultural taboos, poverty and lack of basic services like toilets and sanitary products can all cause menstrual health and hygiene needs to go unmet.⁶

Adolescent girls belong to vital age group, not only because they are the entrant population to motherhood but also because they are threshold between childhood and motherhood.⁷

Soiled menstrual blood products serve as breeding grounds for pathogens such as *Salmonella*, *Staphylococcus* and *E. coli*. These bacteria can proliferate quickly in the reproductive system, beginning with the cervix and progressing higher. In many parts of India, menstruation and everything related to it is still a taboo and women are treated differently when on periods.⁸ This is the reason why several menstruating females in India don't have access to proper menstrual hygiene products. It is quite concerning as it makes women prone to many severe and fatal diseases because of poor menstrual practices.⁹

The girls should be educated about the menstruation and, its importance and hygiene maintenance; to enable them to lead to a healthy reproductive life in the future.¹⁰ Therefore, the researcher of the present study decided to conduct a study on knowledge and practice on menstrual hygiene among the girl students of Balika Vidya Mandir School, Digboi, Tinsukia, Assam.

2. Material and Methods

2.1. Research approach

Quantitative research approach.

2.2. Research design

Descriptive research design.

2.3. Setting of the study

The present study was conducted in Balika Vidya Mandir School, Digboi, Tinsukia, Assam.

2.4. Variable of the study

Independent variable: knowledge and practice on menstrual hygiene among girl students of Balika Vidya Mandir School, Digboi, Tinsukia, Assam.

Selected demographic variables: Age of girl student, age at menarche, type of family, religion, education of mother, occupational status of father and mother, family income, prior information.

2.5. Population of the study

The girl students of class VIII, IX, X of Balika Vidya Mandir School, Digboi, Tinsukia, Assam.

2.6. Accessible population

The girl students of class VIII, IX, X of Balika Vidya Mandir School, Digboi, Tinsukia, Assam, who fulfill the inclusion and exclusion criteria and were present at the time of data collection.

2.7. Sample

60 girl students i.e 20 students of each class VIII, IX and X of Balika Vidya Mandir School, Digboi, Tinsukia, Assam, who were present at the time of data collection and gave consent to participate in the present study.

2.8. Sample size

60.

2.9. Sampling technique

Under the probability sampling technique, simple random lottery method was used to select the subjects for the present study.

2.10. Development and description of tool

Part 1: Demographic Performa: Age, age at menarche, type of family, religion, education of mother, occupational of the mother, occupation of the father, income, information received on menstruation hygiene.

Part 2: A self- structured validated questionnaire consisting of 14 questions to assess the knowledge on menstrual hygiene and a checklist consisting of 14 statements on practice of menstrual hygiene to assess the hygiene practice were used to collect data. 1 Mark is given for each correct option and 0 mark for each incorrect option. Total score is 14.

Scoring: The level of knowledge and practice were divided into adequate, Moderate and inadequate by using the formula mean+SD

>Mean + SD = Adequate

Between Mean + SD & Mean- SD= Moderate

< Mean-SD = Inadequate

2.11. Data collection procedure

Obtaining formal written permission from the principal of Balika Vidya Mandir School, Digboi, Tinsukia, Assam data was collected from 60 students of class VIII, IX, X of Balika Vidya Mandir School, Digboi, Tinsukia, Assam selected through simple random lottery method. After explanation of the purpose of the study written consent was taken from each sample for data collection. self-structured questionnaires to assess knowledge and checklist to assess practice on menstrual hygiene was introduced. It took around 30 minutes for each class to complete the questionnaire and completed questionnaire was collected in the same sitting.

2.12. Plan for data analysis

Descriptive and inferential statistics was used to analyses the data.

3. Result

The finding of the study were arranged and analyzed under the following sections.

Section 1: Findings of the selected demographic variables of the girl students i.e. age of girl students, age at menarche, type of family, religion, education of mother, occupational status of father, occupational status of mother, family income and information received on menstruation hygiene.

Table 1: Frequency & percentage distribution of girl students according to their age. (N=60)

| Age | Frequency | Percentage |
|-------------|-----------|------------|
| 12-13 years | 5 | 8% |
| 14-15 years | 43 | 72% |
| 16-17 years | 12 | 20% |

Table 1 shows that maximum 72% (43) of girl students belong to 14-15 years of age group, 20% (12) girls belongs to 16-17 years of age group and 8%(5) girls students belong to 12-13 years of age group.

Table 2: Frequency & percentage distribution of girl students according to their age at menarche. (N=60)

| Age | Frequency | Percentage |
|---------------|-----------|------------|
| 9 - 12 years | 23 | 38% |
| 13 - 14 years | 33 | 55% |
| 15 - 16 years | 4 | 7% |

Table 2 shows that majority 13-14 yrs of age, 38% (23) attained menarche at 9-12 years and 7% (4) attained menarche at 15-16 years.

Table 3 shows that maximum 58% (35) girl students are from Nuclear family, 30%(18) girl students are from joint family and 12%(7) girl students are from extended family.

Table 3: Frequency & percentage distribution of girl students according to their type of family. (N=60)

| Type of family | Frequency | Percentage |
|----------------|-----------|------------|
| Nuclear | 35 | 58% |
| Joint | 18 | 30% |
| Extended | 7 | 12% |

Table 4: Frequency & percentage distribution of girl students according to their religion. (N=60)

| Religion | Frequency | Percentage |
|----------|-----------|------------|
| Hinduism | 55 | 92% |
| Muslim | 5 | 8% |

Table 4 shows that majority i.e 92% (55)girl students belongs to Hinduism and 8% (5) girl students are belongs to Muslim.

Table 5: Frequency & percentage distribution of girl students according to the education of their mother (N= 60)

| Education of the mother | Frequency | Percentage |
|-------------------------|-----------|------------|
| No formal Education | 4 | 7% |
| Primary school | 43 | 72% |
| Secondary school | 10 | 17% |
| Graduate and above | 3 | 5% |

Table 5 shows that 72% (43) girl student's mothers have education of primary school, 17%(10) girl student's mothers have education of Secondary school, 7%(4) girl student's mothers have no formal education and 5%(3) girl student's mothers have education of graduate and above.

Table 6: Frequency & percentage distribution of girl students according to their occupational status of father (N=60)

| Occupational status of father | Frequency | Percentage |
|----------------------------------|-----------|------------|
| Business | 24 | 40% |
| Farmer | 3 | 5% |
| Daily wager/Labour | 21 | 35% |
| Employed in private organization | 8 | 13.33% |
| Govt. employed | 3 | 5% |
| Unemployed | 1 | 1.67% |

Table 6 shows that majority i.e.40% (24) girl student's of fathers are having occupation as business, 35% (21) girl student's fathers are having occupation as daily wager/labour, 13.33% (8) girl student's fathers are employed in private organization, 5% (3) girl student's fathers are having occupation as farmer, 5% (3) girl student's fathers are having occupation as Govt.employee and 2% (1) girl student's fathers are unemployed.

Table 7 shows that 90%(54) girl student's mother's occupation is housewife, 5%(3) girl student's mother's occupation is Govt. Employed, 3%(2) girl student's

Table 7: Frequency & percentage distribution of girl students according to their occupational status of mother (N=60)

| Occupational status of mother | Frequency | Percentage |
|-------------------------------|-----------|------------|
| Business | 1 | 2% |
| Housewife | 54 | 90% |
| Daily wagger/Labour | 2 | 3% |
| Govt. Employed | 3 | 5% |

mother's occupation is Daily wagger/Labour and 2% (1) girl student's mother's occupation is business.

Table 8: Frequency & percentage distribution of girl students according to their family income. (N=60)

| Family income per annum | Frequency | Percentage |
|-------------------------|-----------|------------|
| <10000/- | 33 | 55% |
| 10001-15000/- | 3 | 5% |
| 15001/- | 24 | 40% |

Table 8 shows that majority i.e. 55% (33) of the girl students' family income is less than Rs 10,000/- per annum, 40%(24) of the girl students' family income is less than Rs 15,001/- per annum and 5% (3) of the girl students' family income is in between Rs 10,001-15,000/- per annum.

Table 9: Frequency & percentage distribution of girl students according to their information received on menstruation hygiene (N=60)

| Any prior information | Frequency | Percentage |
|-----------------------|-----------|------------|
| Family members | 48 | 80% |
| Friends | 4 | 7% |
| No information | 8 | 13% |

Table 9 shows that majority of the girl students i.e. 80% (48) use to receive information on menstruation hygiene from family members, 13% (8) of the girl students used to receive no information on menstruation hygiene and 7% (4) of the girl students use to receive information on menstruation hygiene from friends.

Section 2: Findings of the level of knowledge and level of practice scores on menstrual hygiene among the girl students of Balika Vidya Mandir School, Digboi.

Table 10: Frequency & percentage distribution of girl students according to their level of knowledge on menstrual hygiene (N=60)

| | Adequate | Moderately adequate | Inadequate |
|-----------|----------|---------------------|------------|
| Knowledge | 8%(5) | 82% (49) | 10% (6) |

Table 10 shows that majority of the girl students i.e. 82% (49) had moderately adequate knowledge, 10% (6) of the girl students had inadequate knowledge, 8%(5) of the girl

students had moderately adequate knowledge on menstrual hygiene.

Table 11: Frequency & percentage distribution of girl students according to their practice score on menstrual hygiene (N=60)

| | Adequate | Moderately adequate | Inadequate |
|----------|----------|---------------------|------------|
| Practice | 8% (5) | 75% (45) | 17% (10) |

Table 11 shows that majority i.e. 75% (45) of the girl students had moderately adequate practice on menstrual hygiene, 17% (10) of the girl students had inadequate practice on menstrual hygiene, 8% (5) of the girl students had adequate practice on menstrual hygiene.

Section 3: Association between knowledge and demographic variables and association between practice and demographic variables on menstrual hygiene among the girl students.

Table 12 show that there is no significant association between knowledge on menstrual hygiene and demographic variables of age at menarche, type of family, religion, education of the mother, occupational status of father, occupational status of mother and information received on menstruation hygiene except age of the girl students and family income.

Table 13 shows that there is no significant association between practice and demographic variables of age of the girl, age at menarche, type of family, education of the mother, occupational status of father, occupational status of mother, and information received on menstruation hygiene except religion and family income.

4. Discussion

From the first objectives of the study it was found that majority of girl students i.e. 72% (43) were between age group of 14-15 years, 55% (33) attained menarche at the age of 13-14 years, 58% (35) are from nuclear family, 92% (55) belongs to Hinduism, 72% (43) of girl students had education of mother up to the primary level, 40%(24) of girl student's fathers had occupation as business, 90%(54) of girl student's mothers were housewife, 55%(33) had family income of Rs. 10,000/-, 80%(48) had information received on menstruation hygiene through family members.

From the second objectives to assess the level of knowledge and level of practice scores on menstrual hygiene it was revealed that majority 82%(49) girl students had moderately adequate knowledge, 10% (6) had inadequate knowledge and only 8% (5) had adequate knowledge on menstrual hygiene. Findings related to the practice on menstrual hygiene it was revealed that majority 75% (45) girl students had moderately adequate practice, 17(10) had inadequate practice and only 8%(5) had adequate practice on menstrual hygiene.

Table 12: Association between knowledge on menstrual hygiene and demographic variables (N=60)

| Demographic Variable | Sub-categories | Chi-square (X ²) | df | Tabulated value (p=0.05) | Remarks |
|---|--|------------------------------|----|--------------------------|-----------------|
| Age of girl students | 12-13 years | 9.537 | 4 | 9.49 | Significant |
| | 14-15 years | | | | |
| | 16-17 years | | | | |
| Age at menarche | 9-12 years | 5.284 | 4 | 9.49 | Not significant |
| | 13-14 years | | | | |
| | 15-16 years | | | | |
| Type of family | Nuclear Joint Extended | 0.998 | 4 | 9.49 | Not significant |
| Religion | Hindu | 0.984 | 2 | 5.99 | Not significant |
| | Muslim | | | | |
| Education of the mother | No formal education Primary secondary Graduate and post graduate | 3.853 | 6 | 12.59 | Not significant |
| Occupational status of father | Business Farmer Daily wager | 8.492 | 10 | 18.31 | Not significant |
| | Employed in private organization | | | | |
| | Govt. Employee | | | | |
| | Unemployed | | | | |
| Occupational status of mother | Business Housewife Daily wager | 1.181 | | | Not significant |
| | Govt. employee | | | | |
| | Employed in private organization | | | | |
| Family income | < Rs 10,000/- | 11.951 | | | Significant |
| | Rs 10,001-15,000/- | | | | |
| | >Rs 15,001/- | | | | |
| Information received on menstruation hygiene. | Family members Friends No information | 6.008 | | | Not significant |

The findings of the present study related to age of menarche, knowledge level on menstrual hygiene and practice on menstrual hygiene was similar to the findings of the study conducted by Pranjali Sonowal and Kaushik Talukdar where it was found that the mean age of menarche in the study group was 12.53 ± 1.235 years. Only 49.3% girls were aware of menstruation before menarche. More than four fifth of the girls were not aware of the cause and 72% did not know the source of bleeding. 76.7% study population used sanitary pad only while 15.3% used both cloth and sanitary napkins during the time of menstruation.⁹

From the third objectives to assess the association between knowledge on menstrual hygiene and demographic variables of the girl students it was revealed that there is significant association between knowledge and age of girl students and family income. To assess the association between practice on menstrual hygiene and demographic variables of the girl students it was revealed that there is

significant association between religion and family income of the family.

The findings of the present study also similar to the findings of the study conducted by Soraya Siabani et al. where it was found that the Participants' mean age and menarche age were (14.6 ± 1.4 years), and (12.5 ± 1.0 years), respectively. About 92% had relatively positive attitude, 64% had poor knowledge and 81% expressed a poor practice toward menstruation. Mothers (37.4%) were the main source of information for most participants. Age ($r=0.360$), family income ($r=0.186$), and the source of information ($r=0.112$) were significantly positively associated with their level of knowledge. Participants' practice regarding menstruation was significantly associated with age and mother's education ($P \leq 0.05$).¹¹

The findings regarding practice on menstrual hygiene of the present also supported by the study conducted by Sapkota Diksha et al. where it was found that

Table 13: Association between practice on menstrual hygiene and demographic variables (N=60)

| Demographic variable | Sub- categories | Chi-square (X ²) | df | Tabulated Value (p=0.05) | Remarks |
|--|----------------------------------|------------------------------|----|--------------------------|-----------------|
| Age of girl students | 12-13 years | 4.763 | 4 | 9.49 | Not Significant |
| | 14-15 years | | | | |
| | 16-17 years | | | | |
| Age at menarche | 9-12 years | 4.55 | 4 | 9.49 | Not Significant |
| | 13-14 years | | | | |
| | 15-16 years | | | | |
| Type of family | Nuclear joint | 0.551 | 4 | 9.49 | Not Significant |
| | Extended | | | | |
| Religion | Hindu | 7.76 | 2 | 5.99 | Significant |
| | Muslim | | | | |
| Education of the mother | No formal education primary | 9.04 | 6 | 12.59 | Not Significant |
| | Secondary | | | | |
| | Graduate and post graduate | | | | |
| | Secondary | | | | |
| Occupational status of father | Business Farmer | 16.21 | 10 | 18.31 | Not significant |
| | Daily wager | | | | |
| | Employed in private organization | | | | |
| | Govt. employee | | | | |
| | Unemployed | | | | |
| Occupational status of mother | Business Housewife | 7.89 | 8 | 15.51 | Not significant |
| | Daily wager | | | | |
| | Govt. employee | | | | |
| | Employed in private organization | | | | |
| Family income | <Rs 10,000/- | 14.09 | 4 | 9.49 | Significant |
| | Rs 10,001/- | | | | |
| | 15000/-> | | | | |
| Information received on menstruation hygiene | Family members | 4.96 | 4 | 9.49 | Not significant |
| | Friends | | | | |
| | No information | | | | |

traditional beliefs regarding menstruation still persist and menstrual hygiene among the adolescents was found to be unsatisfactory.¹²

5. Conclusion

Menstruation is a normal physiological phenomenon for females indicating her capability for procreation. However, this normal phenomenon is not an easy one for every growing young girl. Therefore, it is very important and mandatory for every growing young girl to have knowledge regarding the maintenance of menstrual hygiene and practice in the future. Based on the findings of the study, the following conclusions were drawn:

1. The girls students had moderate knowledge and practice on menstrual hygiene.

2. There was significant association between knowledge and age of girl student and family income.
3. There was significant association between practice and family income and religion.

6. Source of Funding

None.

7. Conflict of Interest

None.

References

1. Hygiene: Overview. World Health Organization (WHO); 2020. Retrieved 29 January 2020. Available from: <https://www.afro.who.int/health-topics/hygiene>.

2. Dasgupta A, Sarkar M. Menstrual Hygiene: How Hygienic is the Adolescent Girl? *Indian J Community Med.* 2008;33(2):77–80.
3. Mahajan A, Kaushal K. A descriptive study to assess the knowledge and practice regarding menstrual hygiene among adolescent girls of Government School of Shimla, Himachal Pradesh. *CHRISMED J Health Res.* 2017;4(2):99–103.
4. Dasgupta A, Sarkar M. Menstrual Hygiene: How Hygienic is the Adolescent Girl? *Indian J Community Med.* 2008;33(2):77–80.
5. Hughto JMW, Reischer SL, Pachankis JE. Transgender Stigma and Health: A Critical Review of Stigma Determinants, Mechanisms, and Interventions. *Soc Sci Med.* 2015;147:222–31.
6. Menstrual hygiene. Available from: <https://www.unicef.org/wash/menstrual-hygiene>.
7. Diseases & Conditions. Available from: <https://www.thehealthsite.com/diseases-conditions/diseases-conditions-womens-health/poor-menstrual-hygiene-practices-can-lead-to-these-5-health-risks/>.
8. Garg S, Anand T. Menstruation related myths in India: strategies for combating it. *J Family Med Prim Care.* 2015;4(2):184–6.
9. Sonowal P, Talukdar K. Menstrual Hygiene Knowledge and Practices amongst Adolescent Girls in Urban Slums of Dibrugarh Town- A Cross Sectional Study Galore International Journal of Health Sciences and Research. *Galore Int J Health Sci Res.* 2019;4(1):44–51.
10. Deshpande TN, Patil SS, Gharai SB, Patil SR, Durgawale PM. Menstrual hygiene among adolescent girls – A study from urban slum area. *J Family Med Prim Care.* 2018;7(6):1439–45.
11. Siabani S. Attitudes and Practices (KAP) Regarding Menstruation among School Girls in West of Iran: A Population Based Cross-Sectional Study. *Int J Pediatr.* 2018;6. doi:10.22038/IJP.2018.28633.2495.
12. Diksha S. Knowledge and practices regarding menstruation among school going adolescents of rural Nepal. *J Kathmandu Med Coll.* 2013;2(3):122–8.

Author biography

Aparajita Phukan Baruah, Principal

Cite this article: Baruah AP. Knowledge and practice on menstrual hygiene among girl students of Balika Vidya Mandir School, Digboi, Tinsukia, Assam. *Indian J Obstet Gynecol Res* 2023;10(4):408-414.