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

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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.

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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

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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.

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