

MENSTRUAL HYGIENE PRACTICES AND REPRODUCTIVE TRACT INFECTION AMONG SLUM DWELLING ADOLESCENT GIRLS AGED 15-19 YEARS OF DIBRUGARH TOWN, ASSAM

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ABSTRACT

BACKGROUND

Menstruation is a natural physiological process linked with several misconceptions and practices having crucial role for health and dignity of girls and women. Hygiene-related practices increases vulnerability to reproductive tract infections. Adolescent girls dwelling in slums are vulnerable to poor reproductive health due to lack of awareness about reproductive health. Keeping in view the above, study has been undertaken with the following aim and objective.

The aim of the study is to assess the menstrual hygiene practices and reproductive tract infection among slum dwelling adolescent girls aged 15-19 years.

MATERIALS AND METHODS

A community-based cross-sectional study was conducted for 1 year from June 2014 to May 2015 covering 210 adolescent girls aged 15-19 years living in the slums of Dibrugarh Town, Assam. An interview using a predesigned and pretested format conducted by house to house survey. For analysis, mean, standard deviation and proportions were calculated, Chi-square and Fischer's exact test was done to see the association.

RESULTS

Mean age of girls was (16.57 ± 1.48) years and mean age of menarche was (12.73 ± 1.44) years. Awareness about menstruation was 27.1% prior to attainment of menarche. Rate of sanitary napkins use was 68.6% and 53.2% girls cleaned external genitalia >2 times per day. Regarding cultural practices of restriction, 100% girls did not attend any religious occasions during menstruation. Prevalence of reproductive tract infection was 43.3%, which was significantly more among girls using homemade reusable pad and washing external genitalia ≤2 times per day during menstruation.

CONCLUSION

There is a need to improve menstrual hygiene practices amongst adolescent girls. Awareness building on menstrual hygiene and other factors like traditional beliefs and practices needs to be addressed.

KEYWORDS

Adolescent Girl, Slum, Menstrual Hygiene, Reproductive Tract Infection.

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BACKGROUND

Adolescence in girls has been recognised as a special period, which signifies the transition from girlhood to womanhood.¹ This period is marked with onset of menarche and menstruation is a phenomenon unique to all females.^{2,3} It is a key phase in the reproductive cycle of a woman and also crucial for girls as their health determines the health of future generation.^{1,4}

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Menstruation is generally considered as unclean in the Indian society. Isolation of the menstruating girls and restrictions being imposed on them in the family have reinforced a negative attitude towards this phenomenon.¹

Menstrual hygiene is an issue that every girl and woman has to deal with in her life, but there is lack of awareness on the process of menstruation and proper requirement for managing menstruation. Issues associated with menstruation are never discussed and this burdens young girls by keeping them ignorant of this biological function.⁵

An adolescent girl should be made aware of the phenomenon of menstruation at least a little ahead of its occurrence, so as to enable her to accept it as a normal developmental process and manage it appropriately. Poor personal hygiene and defective menstrual management practices give rise to repeated Reproductive Tract Infections (RTIs), which are otherwise preventable.⁶

Slums not only lack appropriate shelter facilities, but also have poor health and hygiene conditions. All these factors add to the toll of vulnerable adolescents already burdened with poverty.⁷ Failure of government policies, improper governance and inappropriate regulations have resulted in the proliferation of urban slums and poverty. It has been projected that in 2020, nearly one-third of the urban population would be slum-dwellers.⁸

Keeping in view the need for creating awareness and increasing access to the requisite sanitary infrastructure related to menstrual hygiene, the study has been undertaken.

Aims and Objective

To assess the menstrual hygiene practices and prevalence of reproductive tract infection among slum dwelling adolescent girls aged 15-19 years.

MATERIALS AND METHODS

A community-based cross-sectional study was conducted for 1 year from June 2014 to May 2015 among unmarried and nonpregnant married adolescent girls aged 15-19 years residing in the study area who attained menarche at least 1 year prior to the study.

Considering the prevalence of sanitary pad use as 65% among rural adolescent girls of Raichur⁹ taking 10% relative error and 95% confidence interval, the sample size was calculated to be 206.8, which was rounded up to 210.

Study Design- All 10 registered slums in Dibrugarh town were included in the study. Number of adolescent girls aged 15-19 years included from each slum was determined by using proportional allocation. In each of the slums, the first house was selected randomly; thereafter, consecutive houses were visited until the required number of study subjects in each slum area was obtained. The same procedure was repeated in all the slums until the required sample size was achieved. All the study subjects present in each selected house were included in the study. Girls who were not willing to give consent and severely ill were excluded.

Ethical Consideration- Ethical clearance was obtained from the Institutional Ethics Committee. Written informed consent was taken from all participants above 18 years and for girls aged below 18 years. Assent was taken from them along with written informed consent from their guardians.

Study Tool- Data was collected by interviewing the study participants using a predesigned and pretested proforma. The adolescent girls were interviewed for the presence of symptoms related to reproductive ill health and about menstrual hygiene practices within last 3 months prior to the interview.

The operational definition of RTI was framed based on self-reported symptoms. The respondents were asked about the symptoms of excessive vaginal discharge, pain or itching in vagina, lower abdominal pain, lower back pain, burning sensation while passing urine, genital ulcer and inguinal

bubo. History of painful coitus and bleeding after intercourse were asked only to married respondents.¹⁰

Socioeconomic status of the adolescent girls was assessed by using updated BG Prasad Socioeconomic Classification, 2014.¹¹

Statistical Analysis

Data was entered and analysed by SPSS V-16.0. Data were presented in proportion, mean and standard deviation. Association was seen by using Chi-square test and Fischer's exact test.

RESULTS

Most (35.7%) of the adolescent girls in the study were in 15 years of age. Mean age of girls was (16.57 ± 1.48) years and mean age of menarche was (12.73 ± 1.44) years. Demographic characteristics of the study population showed that majority were Hindu (64.8%) by religion, unmarried (91.9%) and belonged to socioeconomic status IV (46.7%). About educational status, majority (37.6%) were middle school passed while 1.9% were illiterate. Mother of study participants was illiterate in majority (49%) while only 19% educated up to middle school level (Table 1).

Sociodemographic Profile		No.	%
Age (in years)	15	75	35.7
	16	44	21
	17	31	14.8
	18	25	11.9
	19	35	16.7
Religion	Hindu	136	64.8
	Muslim	74	35.2
Marital status	Unmarried	193	91.9
	Married	17	8.1
Educational status	Illiterate	4	1.9
	Literate, but below primary school	18	8.6
	Primary school	70	33.3
	Middle school	79	37.6
	High school	28	13.3
Socioeconomic status	Higher secondary school	11	5.2
	I	0	0
	II	14	6.7
	III	47	22.4
	IV	98	46.7
Mothers educational status	V	51	24.3
	Illiterate	103	49
	Literate, but below primary school	36	17.1
	Primary school	31	14.8
	Middle school	40	19

Table 1. Sociodemographic Profile of Adolescent Girls (n=210)

Awareness about menstruation was less as 27.1% only were aware about menstruation prior to attainment of menarche. Most common source of information about menstruation were friends (64.9%) followed by sisters (33.3%) and mothers (1.7%).

Types of pad used during menstruation were sanitary pad (68.6%), homemade disposable pad (5.2%),

homemade reusable pad (17.1%) and both sanitary pad and homemade reusable pad (9%). Reason for not using sanitary pad was cited as financial reason (57.4%), no response (23.4%) and difficulty to dispose (19.1%). Among those who use sanitary pad or homemade disposable pad, majority (59.8%) disposed by packing with paper and throwing indiscriminately, 39.1% in pit and 1.1% in dustbin. Among those who use homemade reusable pad, 69.8% clean the pad using soap and water and 71.4% dry the pad outside the house in the sunlight. Girls reported of washing external genitalia >2 times per day and taking bath daily during menstruation were 53.2% and 100%, respectively. Regarding cultural restriction during menstruation, all girls do not attend any religious functions. Regarding nutrition, they avoid sour food during menstruation. Other social norms included not doing any household work (12.8%), not sleeping on routine bed (6.6%) and not touching stored food (6.6%) (Table 2 and 3).

Awareness About Menstruation		No.	%
Awareness about menstruation prior to attainment of menarche (n=210)	Aware	57	27.1
	Not aware	153	72.9
Source of information about menstruation before attaining menarche among those who were aware (n=57)	Mother	1	1.7
	Sister	19	33.4
	Friend	37	64.9
Awareness about the sanitary pad	Aware	210	100
	Not aware	0	0

Table 2. Awareness about Menstruation Among Adolescent Girls

Menstrual Hygiene Practices		No.	%
Types of use of pads during menstruation (n=210)	Sanitary pad	144	68.6
	Homemade disposable pad	11	5.2
	Homemade reusable pad	36	17.1
	Both sanitary pads and homemade reusable pad	19	9
Adolescent girls not using sanitary pads according to reason (n=47)	High cost	27	57.4
	No reason	11	23.4
	Difficulty to dispose pads	9	19.1
Method of disposal of pads (sanitary pad and homemade disposable pads) (n=174)	Dustbin	2	1.1
	Thrown indiscriminately	104	59.8
Pit		68	39.1
Washing of homemade reusable cloths (n=63)	Soap and water	44	69.8
	Water	19	30.2
Drying of homemade reusable clothes (n=63)	Outside house in the sunlight	45	71.4
	Outside house without sunlight	18	28.6
Number of washing of external genitalia per day (n=210)	≤2	97	46.2
	>2	113	53.8

Taking of bath during menstruation (n=210)	Daily	210	100
Restriction during menstruation (n=210)*	Attending religious functions	210	100
	Household work	27	12.8
	Sleep on routine bed	14	6.6
	Touch stored food	14	6.6
	Sour food	210	100

Table 3. Menstrual Hygiene Practices Among Adolescent Girls

*Multiple responses allowed.

Prevalence of Reproductive Tract Infection (RTI) (one or more symptoms) among girls was 43.3%. Most common RTI symptoms were vaginal discharge (22.38%), vaginal purities (17.14%) and lower backache (17.14%) (Figure 1 and 2).

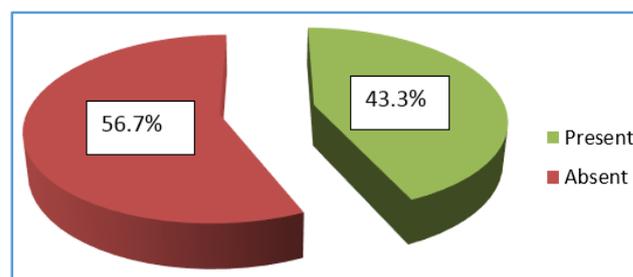


Figure 1. Distribution of Adolescent Girls Based on Presence of Symptoms of One or More Reproductive Tract Infection (RTI) Symptoms (n=210)

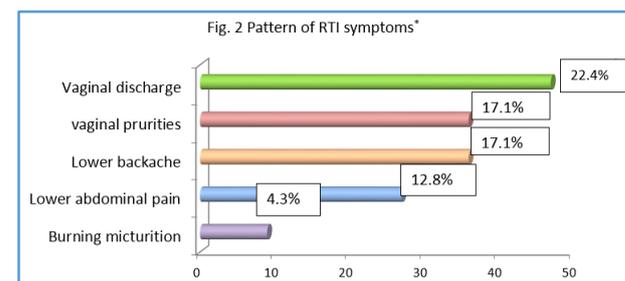


Figure 2. Distribution of Adolescent Girls Based on Type of Reproductive Tract Infection (RTI) Symptoms (n=210)

*Multiple responses were allowed.

A significant association was found between Reproductive Tract Infection (RTI) and type of pad use (P=0.028). Prevalence of RTI was highest among study participants using homemade reusable pad followed by both sanitary pad and homemade reusable pad. RTI was also found to be significantly associated with number of washing of external genitalia per day (p=0.012) and socioeconomic status (p=0.017). Prevalence of RTI was found to increase with lowering of socioeconomic status. Married adolescent girls were having RTI more than unmarried, but the difference was not found to be significant (Table 4).

Menstrual Practices		Total	RTI	p-value
			Present No. (%)	
Type of pad used during menstruation	Sanitary pad	144	54 (37.5)	0.028
	Homemade disposable pad	11	4 (36.4)	
	Homemade reusable pad	36	23 (63.9)	
	Both sanitary pad and homemade reusable pad	19	10 (52.6)	
Washing of external genitalia during menstruation	≤2 times per day	97	51 (52.6)	0.012
	>2 times per day	113	40 (35.4)	
Marital status	Unmarried	193	81 (42)	0.179
	Married	17	10 (58.8)	
Socioeconomic status	Class II	14	3 (21.4)	0.017
	Class III	47	15 (31.9)	
	Class IV	98	43 (43.9)	
	Class V	51	30 (58.8)	

Table 4. Association of RTI with Menstrual Practice and Socioeconomic Variables (n=210)

DISCUSSION

Menstrual hygiene is crucial in reproductive life of every woman. Therefore, adolescent girls should have sound knowledge on menstrual hygiene and improve their menstrual hygiene practice.

In our study, only small proportions of girls (27.1%) were aware about menstruation prior to attainment of menarche. Friends (64.9%) were most common source of information about menstruation while mothers were only 1.7%. Our study finding is similar to the finding of study done by Bhattacharjee S et al¹² and Juyal R et al.⁵ Each and every girl child should be aware about menstruation and ideally a mother should be the main informant at this tender age. Peer education may play an important role in improving menstrual hygiene. RMNCH+A (reproductive, maternal, newborn, child and adolescent health) also focuses on menstrual hygiene, there holistic implementation of this scheme has potential to improve the situation.

Though all girls were aware about sanitary pad, but only 68.6% reported of using sanitary pad during menstruation. Most common reasons for not using sanitary pad were financial reason (57.4%), no reason (23.4%) and difficulty to dispose (19.1%). Kamath R et al in their study depicts the reasons for not using sanitary pads as difficulty in disposing followed by high cost of pad.¹³ For rural area, ASHA (Accredited Social Health Activist) supply sanitary pad in the name of free days. These scheme need to improve coverage in slum population also. Girls group can be empowered to make sanitary pad as part of skill building/vocational training, which can help in productive utilisation of their free time with impact in their own reproductive health.

With respect to the method of disposal among those who used sanitary pad or homemade disposable pad, most of girls disposed by throwing indiscriminately while only few disposed into pit/dustbin. In Thakre et al¹⁴ study, majority of the girls disposed by burning. Out of those who used homemade reusable pad, most of girls cleaned the pad using soap and water and dried the pad outside the house in the sunlight. Menstrual hygiene management training needs to be imparted to adolescent girls where frontline workers and community-based organisation maybe utilised.

Regarding washing of external genitalia and taking bath during menstruation, majority (53.2%) reported of washing

external genitalia >2 times per day and all practiced of taking bath daily. Thakre et al¹⁴ in their study reported that 41.91% practiced cleaning of external genitalia during menstruation >2 times per day, which is less as compared to our finding.

Regarding the restriction practiced during menstruation, all girls (100%) practiced different types of restriction during menstruation. Among them, all practiced not attending religious functions and not taking sour food. Other restrictions, which practiced were not attending household work (12.8%), not sleeping on routine bed (6.6%) and not touching stored food (6.6%). However, no one reported of not attending school during menstruation. In Thakre et al¹⁴ and Dasgupta et al¹⁵ study, 73.64% and 85% girls respectively practiced different restrictions during menstruation.

Reproductive Tract Infection (RTI) symptoms (one or more) were reported among 43.3% of adolescent girls. Most common RTI symptoms were vaginal discharge (22.38%) followed by vaginal pruritus (17.14%). Balamurugan S et al¹⁶ and Dutt R et al¹⁰ also reported similar prevalence of RTI, which may be due to similar geographical location and study population.

Prevalence of RTI was found significantly higher among girls using homemade reusable pad (0.028), washing external genitalia ≤2 times per day (0.012) during menstruation and lower socioeconomic status (0.017). Adequate menstrual hygiene is crucial for the health of the woman. RTI was also found more among married study participants than unmarried, but difference was not found to be statistically significant. Early marriage results into early sexual activity, early motherhood, also exposes adolescents to greater risk of reproductive morbidity, mortality and contracting STD.¹⁷ Balamurugan S et al,¹⁶ Parashar et al¹⁸ and Dutt R et al¹⁰ in their study also observed the association of RTI with marital status, socioeconomic status and type of pad used.

Implementation of 5 x 5 matrix of RMNCH+A (reproductive, maternal, newborn, child and adolescent health) for adolescent health with focus on social and behaviour change communication along with addressing menstrual health problem and RTI amongst adolescent girls needs to be done with effectiveness studies.

Conclusion and Recommendation

Only around one fourth of girls had heard of menstruation before attaining menarche. Girls should be aware of the process of menstruation before attaining menarche and also should know about the importance of maintaining hygiene. All mothers irrespective of their educational status should be taught to break their inhibitions about discussing with their daughters regarding menstruation much before the age of menarche. Half of girls used sanitary pads, which were available in the market possibly due to their low socioeconomic status and difficulty to dispose pads. There is need to mobilise adolescent girls to use sanitary pads. This study reveals that menstrual hygiene is not very satisfactory among a large proportion of the adolescent girls and significant association of reproductive tract infection with menstrual hygiene practices was noted. There is a strong need to encourage hygienic practices among the adolescent girls. Proper menstrual hygiene and correct perceptions can protect the women from this suffering. They should also be made aware about its effect on their forthcoming reproductive health. A physically and mentally healthy adolescent girl can become a healthy adult female in her future life.

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