

Original article

Menstrual Hygiene and Reproductive Morbidity in Adolescent Girls in Dehradun, India

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Abstract:

Context: In India, adolescent girls face serious health problem due to socio-economic, environmental and cultural conditions as well as gender discrimination. A vast majority of girls in India are suffering from either general or reproductive morbidities. Unhygienic practices during menstruation expose them for Reproductive Tract Infections (RTI). If not treated early, it could lead to various disabilities and consequently affect their valuable lives. This study was done with the aim of estimating the magnitude of gynaecological morbidities among unmarried adolescent girls as well as to find out the relation between menstrual hygiene and RTI. **Settings and Design:** Cross-Sectional Observational study conducted in two randomly selected Inter colleges (one rural and one urban) of district Dehradun, Uttarakhand state. **Methods and Material:** A cross-sectional study was undertaken in school going unmarried adolescent girls to know their menstrual hygiene practices as well as reproductive morbidity. Data was collected by interview method using a pretested, prestructured questionnaire after taking consent. **Statistical analysis used:** percentages and Chi-square test **Results:** Approximately 65 % of the girls reported having dysmenorrhoea and 19 % of the girls had given the history of excessive vaginal discharge with or without low backache/lower abdominal pain. Strong association was found between Reproductive Tract Infections and poor menstrual hygiene. **Conclusions:** Girls should be made aware of the process of menstruation and importance of maintaining its hygiene before attaining menarche. They should also be made aware about its linkages with their forthcoming reproductive health.

Key-words: Adolescent girls, India, menstrual hygiene, Reproductive Tract Infections

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Introduction:

Addressing reproductive health issues of women especially adolescents is now on the global social agenda. Adolescent girls constitute a vulnerable group in developing countries like India. Menstruation is still regarded as something unclean or dirty in Indian society. Although menstruation is a natural physiological process, it is linked with several misconceptions and practices, which sometimes result into adverse health outcomes.

Good menstrual hygiene is crucial for the health,

education, and dignity of girls and women. This is an important sanitation issue which has long been in the closet and still there is a long standing need to openly discuss it. Most of the time adolescent girls are unprepared – in terms of knowledge, skills and attitudes - for managing the menstrual cycle.

Hygiene-related practices of girls and women during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to Reproductive Tract Infections (RTI). The interplay of socio-economic status, menstrual hygiene

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practices and RTI are noticeable. Today millions of women are sufferers of RTI and its complications and often the infection is transmitted to the offspring of the pregnant mother.

Several studies have found that the true incidence of RTIs can be alarmingly high, often several times higher than that identified by conventional health statistics¹⁻³. In developing countries, reproductive morbidity commonly affects the quality of women's lives. This form of ill health has largely been ignored by the policy makers, health planners as well as researchers. The reproductive morbidity includes the obstetric and gynaecological conditions of ill health related to the reproductive process during and outside the childbearing episodes. The obstetric morbidity encompasses the conditions during pregnancy, delivery and post partum period and gynaecological morbidity includes the conditions outside pregnancy related events⁴.

In India, Uttarakhand state was carved out from its parent state Uttar Pradesh in the year 2000. Till date very few studies from this state have been published on the level of knowledge, attitude and practices of adolescent girls regarding menstruation, related hygiene and co-existing reproductive morbidities. So, this study was planned to know the magnitude of this problem in the area, so that interventions can be planned in the future.

Objectives:

1. To estimate the magnitude of gynaecological morbidities among unmarried adolescent girls.
2. To find out the relation between menstrual hygiene and Reproductive Tract Infections.

Material and Methods:

Multistage random sampling was done to select the requisite sample size. First of all, one block (Doiwala) was chosen out of six blocks in district Dehradun by random sampling. Then, a list of all exclusive girls' inter-colleges in the Doiwala block was made for rural and urban areas separately. Assuming menstrual problems in urban and rural girls' population to be 50 % (based on pilot study findings), 400 girls were sufficient to estimate the true proportion in the study population with a 10% relative precision and 95% confidence interval. In order to compare the prevalence of menstrual problems in both rural and urban areas, one inter college was randomly selected from the rural area and one from urban area.

First of all, permission to carry out the study was sought from the school authorities. In both schools, all the girls studying in 9th to 12th standards were oriented about the need of the study and were asked to seek consent from their parents to participate in this study. Girls were personally interviewed for the information regarding awareness about menstruation, sources of information, practices to maintain menstrual hygiene, problems related to menstruation and symptoms related to Reproductive Tract Infection (RTI) by using a pre-designed and pre-tested schedule. After collecting the data from a school, an educational session related to the same subject was conducted, in which all the doubts and misconceptions of the study subjects were cleared as well as health education was imparted. The data so collected were analyzed through SPSS package.

During analysis, girls reporting use of sanitary napkin/ new cloth or rag every time / If washing, then drying the cloth in direct sunlight, taking daily bath during menstrual periods and washing genitalia at least twice daily with water were put in "satisfactory menstrual hygiene" category. Girls not fulfilling these criteria were categorised under "not satisfactory menstrual hygiene" category.

As the respondents was unmarried, per vaginal examination was not done. Operational definition of RTI was framed based on self-reported symptoms. Vaginitis was diagnosed in presence of visible or excessive vaginal discharge without lower abdominal pain/low backache. History of lower abdominal pain/low backache with vaginitis and only vaginal discharge together constituted RTI⁵.

Exclusion Criteria:

Girls who had not attained menarche at the time of survey. Girls whose parents had not given consent for the study

Results:

A total of 485 girl students studying in classes 9th to 12th were involved in this study, out of which 32 girls had not attained menarche, so they were excluded from the study. Finally 453 participants were interviewed. Most of the girls were in the age group 15-16 years (53.6 %) followed by 17-18 years (27.8 %). Most of the girls were Hindu (92.1 %), while 7.1 % were Muslims. About 85% students were from nuclear families and this pattern was same for rural and urban area.

Majority (76.4 %) of girls had 3-5 days of menstrual flow, 59 (13 %) girls had more than 5 days bleed-

ing and 48 (10.6 %) had two days flow. About two third of girls reported that they had normal bleeding. Two out of three girls reported that they had a regular menstrual cycle (25 – 30 days) and 79 (17.4 %) girls had cycle of 25 days. About 3.3 % girls reported having cycles longer than 35 days.

During menstruation, 38.4 % and 34.9 % girls were using sanitary napkins and clothes/rags respectively. Among sanitary napkin users, the use was significantly higher among rural girls as compared to the urban girls. However, the use of both sanitary napkins as well as cloth pads was more among urban girls. The practice of reuse of cloth after washing was significantly more among rural girls⁶.

Table – 1-Maintenance of hygiene during menstruation

	Rural (239)	Urban (214)	Total (453)
Bathing during period			
Daily	138 (57.7)	150 (70.1)	288 (63.6)
Alternate day	83 (34.7)	53 (24.8)	136 (30.0)
> 2 days	15 (6.2)	9 (4.2)	24 (5.3)
NR	3 (1.3)	2 (0.9)	5 (1.1)
Washing Genitalia during Menstruation			
Satisfactory*	223 (93.3)	203 (94.9)	426 (94.0)
Not Satisfactory	16 (6.7)	11 (5.1)	27 (6.0)

* *Satisfactory- cleaning of external genitalia > two times in a day during menstruation*

Approximately two out of three girls were taking daily bath during their menstrual periods. The practice of daily bathing was significantly higher among urban girls (p<0.05). Majority of the girls were washing their genitalia with water daily (Table 1).

Table-2: Reproductive Morbidities in adolescent girls:

Reproductive Morbidity	Rural (239)	Urban (214)	Total (453)	P value
Dysmenorrhoea	154 (64.4)	140 (65.4)	294 (64.9)	P >0.05
Discharge from Genitalia	25 (10.5)	60 (28.0)	85(18.8)	P <0.01
Itching in Genitalia	9 (3.8)	27 (12.6)	36 (7.9)	P <0.01
Pustules over Genitalia	3 (1.3)	8 (3.7)	11 (2.4)	P >0.05
Pain in lower abdomen	13 (5.4)	29 (13.6)	42 (9.3)	P <0.01
Pain in lower back	20 (8.4)	22 (10.3)	42 (9.3)	P >0.05
Difficulty in micturition	5 (2.1)	4 (1.9)	9 (2.0)	P >0.05

*Yates correction applied 294 girls (64.9%) reported having dysmenorrhoea (Table-2). Out of these, 181 (61.6 %) had severe dysmenorrhoea, restricting their normal routine activities. Majority of these girls did not take any medication for this problem. Only 126 (43.1 %) took rest for one or two days, while 130 (44.2 %) did not do anything. Approximately 93 (31.6 %) girls took medication from some medical

store while 18 (6.1%) used home remedies prescribed by mother or some elderly person (not shown in the table).

It was observed that 85 (18.8 %) girls had given the history of excessive vaginal discharge with or without low backache/lower abdominal pain and were probably suffering from RTIs (Table- 2). Approximately 7.9 % girls had history of itching in genitalia and 2% reported burning sensation during micturition.

Table-3: Menstrual Hygiene and Reproductive Tract Infection:

Menstrual Hygiene	RTI		Total
	Yes	No	
Satisfactory	70 (16.1)	366 (83.9)	436(96.2)
Not Satisfactory	15 (88.2)	2 (11.8)	17(3.8)

Symptoms suggestive of probable Reproductive Tract Infections were found to be on the higher side among the girls who were not maintaining their menstrual hygiene properly (Table- 3) and this difference found to be highly significant statistically (p<0.001).

Discussion:

Studies conducted to find out the reproductive morbidities among women often ignore unmarried adolescent girls, but they are also exposed to similar environment as of married adolescents with the exception of marital sex. In recent years, attention has been focused on the problem of high level of maternal mortality in developing countries. Dixon-Mueller et al, opined of “culture of silence” surrounding women’s health that typifies these countries and the constraints of living conditions particularly for poor women that prevent the use of health services⁷.

Menstrual hygiene is a taboo subject; a topic that most women in India are uncomfortable discussing in public. This is compounded by gender inequality, which excludes women and girls from decision-making processes. This study was planned to know the knowledge and practices of menstrual hygiene as well as the reproductive morbidities among unmarried adolescent girls in a rural area of Dehradun district of Uttarakhand; so that results can further be used for some intervention according to needs. The presented findings are a part of that broader study. Majority (76.4 %) of girls had 3-5 days of menstrual flow, which is in consensus with the findings by Balasubramanian⁸. The prevalence of dysmenor-

rhoea in our study (64.9 %) is comparable to the 63.75% prevalence found in the rural unmarried adolescent girls in East Delhi⁹, 63.5% in tribal adolescent girls¹⁰ and 67% in rural area of Wardha¹¹. Approximately 40% girls in our study experienced episodes of severe dysmenorrhoea, preventing them from doing their routine activities. The prevalence of dysmenorrhoea in the present study was similar in rural and urban areas, whereas it was higher in urban girls in Rajasthan¹².

Approximately 19 % of the girls had given the history of excessive vaginal discharge with or without low backache/lower abdominal pain and they were probably suffering from RTIs. Among them, 7.9 % girls had history of itching in genitalia and 2% reported burning sensation during micturition. In contrast to our findings, Ram et al⁵ reported that 64 % of the adolescent girls in their study were suffering from RTIs. Among them, 12 % had history of burning sensation. Khanna et al¹² also revealed that the most commonly reported symptoms of RTIs/STIs among girls were white discharge and

pain in the lower abdomen (41% each). White discharge was more common in urban (60.6%) and out-of-school (42.1%) girls as compared to the rural (21.8%) and school going girls (39.1%).

Conclusion:

Girls should be made aware of the process of menstruation and importance of maintaining its hygiene before attaining menarche. They should also be made aware about its linkages with their forthcoming reproductive health. Only then they will be better equipped to handle the situation. This will fulfil the target of National Rural Health Mission (NRHM) of taking care of Adolescent Sexual & Reproductive Health (ASRH). A physically and mentally healthy adolescent girl can become a healthy adult female in her future life.

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References:

1. Younis N, Khattab H, Zurayk H. A Community Study of Gynaecological and Related Morbidities in Rural Egypt. *Studies in Family Planning* 1993; **24** : 175 - 86 <http://dx.doi.org/10.2307/2939232>
2. Wasserheit Judith N, Jeffery RH, Chakraborty J, Bradford AK. Reproductive Tract Infections in a family planning population in rural Bangladesh. *Studies in Family Planning* 1989; **20**:69-80. <http://dx.doi.org/10.2307/1966461>
3. Bang RA, Bang AT, Batulc M, Choudhury Y. High Prevalence of Gynaecological diseases in rural Indian women. *Lancet* 1989;**1**:85-8. [http://dx.doi.org/10.1016/S0140-6736\(89\)91438-4](http://dx.doi.org/10.1016/S0140-6736(89)91438-4)
4. Zurayk H, Khattab H, Younis N, El-Mouelhy M, Fadle M. Concepts and measures of reproductive morbidity. *Health Transition Review* 1993; **3**:17-40.
5. Ram R, Bhattacharya SK, Bhattacharya K, Baur B, Sarkar T, Bhattacharya A et al. Reproductive Tract Infection among Female Adolescents. *Indian Journal of Community Medicine* 2006;**31**:32-3. <http://dx.doi.org/10.4103/0970-0218.54931>
6. Juyal R, Kandpal SD, Semwal J, Negi KS. Practices of menstrual hygiene among adolescent girls in a District of Uttarakhand. *IJCH* 2012;**24** (2):124-8.
7. Dixon-Mueller R, Wasserheit Judith N. The Culture of Silence: Reproductive Tract Infections among women in the third world. New York: International Health Women's Health Coalition. 1991.
8. Balasubramanian P. Health needs of poor unmarried adolescent girls-A community based study in rural Tamilnadu. *Indian Journal of Population Education* 2005; 18-33.
9. Nair Parvathy, Grover Vijay L, Kannan AT. Awareness and practices of menstruation and pubertal changes amongst unmarried female adolescents in a rural area of East Delhi. *Indian Journal of Community Medicine* 2007;**32**:156-7. <http://dx.doi.org/10.4103/0970-0218.35668>
10. Dhingra R, Kumar A, Kour M. Knowledge and Practices Related to Menstruation among Tribal (Gujjar) Adolescent Girls. *Ethno-Med* 2009; **3**:43-8.
11. Mudey AB, Kesharwani N, Mudey GA, Goyal RC. A Cross-sectional Study on Awareness Regarding Safe and Hygienic Practices amongst School Going Adolescent Girls in Rural Area of Wardha District, India. *Global Journal of Health Science* 2010;**2**:225-31.
12. Khanna A , Goyal R S, Bhawsar R. Menstrual Practices and Reproductive Problems: A Study of Adolescent Girls in Rajasthan. *Journal of Health Management* 2005;**7**:91-107. <http://dx.doi.org/10.1177/097206340400700103>