

Menstrual hygiene practices and related infections among adolescent girls of an urban poor locality

Ravish HS¹, Iswarya Siddhareddy², Ramya MP³, Nitu Kumari⁴, Pradeep Kumar DP⁵

¹Professor, ^{2,3,4}Post Graduate, Department of Community Medicine, Kempegowda Institute of Medical Sciences, Banashankari 2nd Stage, Bangalore, India.

⁵Senior Medical Officer, Community Health Centre, Shanthi Nagar, Hassan, India.

DOI: <https://doi.org/10.24321/2349.2880.201817>

Abstract

Background: Hygienic practices during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to infections. Menstrual hygiene management is a special problem for adolescent girls, particularly when attending school due to limited or lack of access to safe sanitary pads and good sanitary facilities. Government of India under RMNCH+A programme, introduced priority intervention for menstrual hygiene to prevent hygiene related infections.

Objectives: (1) To assess the knowledge regarding menstrual hygiene among adolescent girls. (2) To assess the menstrual hygiene practices & related infections among the adolescent girls.

Methods: A cross-sectional study was conducted among 330 adolescent girls who had attained menarche and residents of an urban poor locality Yarab Nagar, which comes under the field practice area of KIMS, Bangalore. Data regarding socio demographic details and menstrual hygiene practices was obtained in a pre- designed, semi structured proforma. All the subjects were examined for any related infections from a trained female doctor. The data was analysed in Microsoft Excel using mean & percentages.

Results: The mean age of the study subjects was 13.63 ± 5.76 years. Majority i.e., 306 (92.7%) of them used sanitary pads; whereas, 24 (7.3%) used old clothes as an absorbent during menstruation. Similarly, 98% cleaned the external genitalia with water during menstruation. The common infections related to menstruation were contact dermatitis (7.2%), candidiasis (5.4%) & UTI (3.5%).

Conclusion: The knowledge and practice regarding menstrual hygiene was inadequate among the adolescent girls; and this inadequate hygienic practices has led to infections.

Keywords: Adolescent girls, Menstrual hygiene, Practices, Related infections, Urban poor

Corresponding Author: Dr. Ravish HS, Department of Community Medicine, Kempegowda Institute of Medical Sciences, Banashankari 2nd Stage, Bangalore, India.

E-mail Id: drravishhs@rediffmail.com

Orcid Id: <https://orcid.org/0000-0002-0583-0826>

How to cite this article: Ravish HS, Siddhareddy I, Ramya MP et al. Menstrual hygiene practices and related infections among adolescent girls of an urban poor locality. *Ind J Youth Adol Health* 2018; 5(3): 28-33.

Introduction

Adolescence in girls has been recognized as a special period, which signifies the transition from girlhood to womanhood. Attainment of menarche and starting of menstruation is a normal body function and a significant process that begins in the life of a girl at the time when she enters the adolescence. Despite this, women had to endure health discomfort, lack of hygiene and even personal risk in trying to manage this normal function.

Menstrual hygiene management (MHM) is a special problem for adolescent girls in urban poor locality, particularly when attending school due to limited or lack of access to safe sanitary pads and good sanitary facilities.¹ Poor water, sanitation and hygiene (WASH) facilities in schools, inadequate puberty education and lack/ non-affordability to sanitary pads, cause girls to experience menstruation as shameful and uncomfortable.² This leads to girls dropping out of school as there is a lack of these basic facilities being provided which makes it difficult to manage their menstruation.

Hygiene-related practices during menstruation are of considerable importance, as it has a health impact in terms of increased vulnerability to infections.³ Similarly, the interplay of socio-economic status, menstrual hygiene practices and infections are noticeable.⁴ Likewise, the taboos and socio-cultural practices related to menstruation, such as not being allowed to visit holy places and entering the kitchen and other restrictions makes them feel socially ostracised.

However, the adolescent girls, do not get the appropriate knowledge/advice either in the school due to lack of proper health education programmes or in their house where, in a traditional and conservative Indian society, these matters are hardly discussed and discourage open discussion either in the house or in the school. This leads to culmination in repression of feelings which can intense mental stress. Moreover, the routine health services do not have adequate care about adolescent health problems, which further manifolds the problem.⁵ In this background, the present study was conducted among adolescent girls to assess the knowledge and practices regarding menstrual hygiene and related infections due to unhygienic practices.

Materials and Methods

A cross-sectional study was conducted in an urban poor locality Yarab Nagar which comes under the field practice area of KIMS, Bangalore, during January to June, 2017. The study included 330 adolescent girls in the age group of 12-18 years, who have attained menarche and were available at the time of study. The data was collected by personal interview using pre-designed, semi structured proforma

regarding their socio demographic details and knowledge pertaining to menstruation and practices regarding hygiene during menstruation. The confidentiality of information was assured and their assent/ consent was taken before collecting data. All the study subjects were asked regarding any problems/ clinical symptoms of infection & if they have; than simultaneous examination for any related infections was done from a trained lady doctor at their respective house, in the presence of their mother.

The data was analysed in Microsoft Excel using mean and percentages.

Results

The present study was conducted among 330 adolescent girls in the age group of 10-19 years of urban poor locality. The mean age of the study subjects was 13.63 ± 5.76 years. Most of the adolescent girls i.e., 280 (84.8%) were going to school/ college for education and the remaining 50 (15.2%) had stopped studying because of domestic reasons. Majority of the study subjects (86.5%) were from lower socio-economic status as determined by modified Kuppuswamy's classification.

The knowledge about menstruation among the study subjects showed that only 206 (62.4%) of girls knew about the correct age of attaining menarche; 211(63.9%) knew about the correct reason for menstruation and very few of them i.e., 72(21.8%) had correct knowledge regarding the source of menstrual flow. Similarly, the knowledge regarding duration of flow was known to only 200 (60.6%) of the study subjects and 270(81.8%) had knowledge about duration between each menstrual flow (Table 1).

Table 1. Knowledge on Menstrual hygiene among the adolescent girls

Knowledge on menstruation	Correct Knowledge Number (%)
Knowledge on age of menarche	206 (62.4%)
Reason for menstruation	211 (63.9%)
Source of menstrual flow	72 (21.8%)
Duration of flow	200 (60.6%)
Duration between each menstrual cycle	270 (81.8%)

The menstrual hygiene practices among study subjects showed that, majority i.e., 306(92.7%) of the adolescent girls used sanitary pads; whereas, still 24(7.3%) used old clothes as an absorbent during menstruation. 295(89.3%) did proper disposal of used sanitary pads and 213(64.5%) changed 2-3 sanitary pads a day. 325 (98.4%) of the adolescent girls practiced cleaning of external genitalia with water during menstruation/after attending toilet and 295(89.3%) took bath daily during menstruation (Table 2).

Table 2. Practice on Menstrual hygiene among the adolescent girls

Practice on menstruation	Correct Practice Number (%)
Using sanitary pads	306 (92.7%)
Proper disposal of the absorbent	295 (89.3%)
Drying reusable cloth in sunlight	129 (3.9%)
Changing absorbent in a day (2-3)	213 (64.5%)
Bathing during menstruation	295 (89.3%)
Cleaning of external genitalia	325 (98.4%)
Access to clean & covered toilets	330 (100%)

In the present study, 63 (19.1%) of the study subjects had complaints/ symptoms of infection related to menstruation. On clinical examination by the trained lady doctor, 54(16.2%) of the adolescent girls had menstrual hygiene related infections. These were contact dermatitis among 24(7.2%), candidiasis 18 (5.4%) & UTI 12 (3.6%) (Table 3).

Table 3. Menstrual hygiene and its related infections among the adolescent girls

Infections related to menstrual hygiene	Number (%)
Contact dermatitis	24 (7.2%)
Candidiasis	18 (5.4%)
Urinary Tract infection	12 (3.6%)

All the study subjects were provided treatment for their respective infections and were educated regarding correct menstrual hygiene practices in order to prevent infections in future.

Discussion

Adolescence is a period of major physical and psychological change with sexual development, as well as great changes in social interactions and relationship. Owing to these normal, rather drastic changes, many have a feeling that they are no longer in control of their body or mind and can develop anxiety and abnormal behaviour which can cause long lasting damage to body and personality. This period needs special attention because of the changes the adolescent faces due to development, different needs and diverse problems. There are an estimated 1.2 billion adolescents, one in every five people in the world today.⁶ In India, adolescents constitutes to about 23% of the population and adolescent girls constitute to about 10-12%.⁷ Adolescent girls in India, have additional problems like menstruation, anemia, early marriages and teenage pregnancy which compounds to the situation.⁸ During this phase of growth, the adolescent girl first experiences the menstruation and related problems which is marked by feeling of anxiety and eagerness.⁹ The knowledge regarding menstruation and menstrual hygiene

management has to be imparted in the school by teachers and in their house by their mother.¹⁰

The present study assessed the knowledge and practices regarding menstrual hygiene in adolescent girls, which will help us to know their perception and practices regarding menstruation and help to provide proper health care services for these adolescent girls, so as to promote, protect and maintain her health to meet the demands imposed on her in the future life as a mother and care taker of the whole family.

In the present study, 330 adolescent girls were included with mean age 13.63 ± 5.76 years. Most of the adolescent girls (84.8%) were going to school/ college for education and the remaining 15.2% had stopped studying because of domestic reasons. Majority of the study subjects (86.5%) were from lower socio-economic status and the affordability to purchase sanitary pads is an important issue, which as be solved by providing sanitary pads free of cost at the nearest health care facility.

The present study showed that 62.4% of the adolescent girls had correct knowledge about age of attaining menarche, 63.9% knew the correct reason for menarche, 60.6% knew about correct duration of flow during menstruation and 81.8% knew regarding correct duration between each menstrual cycle, but only 21.8% had correct knowledge regarding source of menstrual flow. Similarly, a cross-sectional study done on menstrual hygiene knowledge and practice among adolescent school girls in Hyderabad including 263 adolescent girls of age 13-16 years showed that, majority 226 (85.9%) of the girls were not aware of the cause of the menstrual bleeding and only 22 (8.3%) knew about the source of menstrual blood is uterus and 178 (67.6%) knew that it's a natural phenomenon.¹¹ Another cross-sectional study in urban community of Gandhinagar on Menstrual hygiene among adolescent girls including 155 adolescent girls showed that, 39.8% girls knew about menstruation before menarche. Only 17% girls have correct knowledge regarding organ from where bleeding occurs, while 33.1 % girls knew that menstruation is a physiological process.¹²

Other descriptive study on menstrual hygiene knowledge and practice among secondary school girls of Hosakote, rural Bangalore including 378 adolescent girls showed that 166(43.9%) subjects knew that menstruation is a physiological process and 101(26.7%) subjects knew that menstrual blood comes from uterus. Majority of the study subjects 244(64.6%) opined that menstrual blood is impure and 177(46.8%) answered that excessive bleeding can lead to anemia.¹³ Another cross sectional study on menstrual hygiene knowledge and practice among adolescent girls of rural Kheda, Maharashtra including 200 adolescent girls of age 13 to 18 years, showed that 94 (47%) girls believed

that it was a natural process and 64 (32 %) believed it as a hormonal process. Only 55 (27.5 %) girls were aware that the source of the menstrual bleeding was the uterus and 76% girls believed that menstrual blood is impure.¹⁴ Other study on knowledge and practices regarding menstrual hygiene among urban adolescent girls conducted among 550 school going adolescent girls in the age group of 13-16 years in Bangalore showed that only 83 (33.2%) of the participants had awareness about menstruation prior to menarche.¹⁵ All these studies showed that, the knowledge on menstruation and menstrual hygiene management among the adolescent girls were inadequate, which has to be addressed as a priority.

The present study revealed that 92.7% of the adolescent girls used sanitary pads during menstruation and 7.3% used old clothes as an absorbent during menstruation. Among the study subjects, 64.5% used to change 2-3 pads/day and 89.3% did proper disposal of the absorbent. Similarly a community based study on menstrual hygiene practices among adolescent girls residing in tribal and social welfare hostel in Andhra Pradesh conducted during April to September 2015 among 583 adolescent girls showed that, sanitary pads usage during menstruation was seen in 78.5% of study subjects; 20.1% of them changed pads more than twice a day and disposal of absorbent was by throwing them into the dust bins.¹⁶ Another cross sectional study from North India on determinants of menstrual hygiene practices among adolescents conducted among 375 adolescent girls showed that, 91.2% girls used only napkin (readymade sanitary pads) during menstruation while, 1.3% girls used only clothes and 99.7% disposed of the absorbent by throwing into the dust bin.¹⁷ Another cross sectional study on menstrual hygiene practices among adolescent girls in a resettlement colony of Delhi including 85 adolescent girls (10-19 years old) showed that, 85.9% girls used sanitary pads during menstruation and 91.1% disposed of the absorbent by throwing along with routine waste.¹⁸ Likewise a cross sectional study on menstrual practices among adolescent girls in rural area of Belgaum, Karnataka including 1071 adolescent girls in the age group of 10-19 years showed that, most of these adolescent girls (73.5%) used old clothes during menstruation and a large proportion of them were reusing the same during subsequent periods after washing and not properly drying. Only about 72 (26.5%) were using sanitary napkins.¹⁹ All these studies showed that the menstrual hygiene practices were inadequate, which may be because of lack of knowledge or lack of availability/ affordability.

In the present study 98.4% of adolescent girls practiced cleaning of external genitalia with water during menstruation/ after using toilet and 89.3% took bath daily during menstruation. Similarly a community based cross sectional study on factors influencing menstrual hygiene

practice among late adolescent girls in an urban area of Belgaum conducted among 625 late adolescent girls between 16 - 19 years showed that 52.8% of the girls practiced cleaning of external genitalia during menstruation and Less than half, 43.4% of the adolescent girls used sanitary pads.²⁰ Another community based, cross sectional study on menstrual hygiene: knowledge and practice among adolescent school girls of Saoner, Nagpur conducted in January- March, 2011 on 387 school going girls showed that 33.85% practiced cleaning of external genitalia during menstruation.²¹ Likewise, a cross sectional study done on perceptions regarding menstruation and practices during menstrual cycles among high school going adolescent girls in resource limited settings around Bangalore city including 506 adolescent girls showed that 56.8% used water to clean their genital organs and 88.8% of the girls took bath daily during menstruation.²² The above results showed that, the adolescent girls has to be educated on simple hygienic practices like taking regular bath, cleaning the genitals and changing the pads are important to prevent most of the menstruation related infections.

The present study showed that, the infections related to menstruation among adolescent girls were contact dermatitis (7.2%), candidiasis (5.4%) & UTI (3.5%). Similarly a cross-sectional study done on menstrual hygiene and reproductive morbidity in adolescent girls in Dehradun among 485 unmarried adolescent girls showed that 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 . 7.9 % girls had history of itching in genitalia and 2% reported burning sensation during micturition.²³ Another cross sectional study on reproductive health problems and menstrual hygiene practices among adolescent girls living in slums of Guwahati city, Assam including 119 adolescent girls showed that 24.4% of them had symptoms suggestive of UTI, 15.1% had excessive vaginal discharge and 6.9% had vaginal itching.²⁴ A community-based cross-sectional study on menstrual hygiene practices and reproductive tract infection among slum dwelling adolescent girls aged 15-19 years of Dibrugarh town, Assam conducted among 210 adolescent girls aged 15-19 years showed that 22.38% of study subjects had excessive vaginal discharge and 17.1% had vaginal puritis.²⁵ Likewise, a cross sectional study on the prevalence of reproductive health problems of school going adolescent girls of Kashmir valley conducted among 428 adolescent girls of age group 12 to 18 years showed that 39.5% had excessive vaginal discharge, 21.13% had vulval pruritis, 12.89% had lower abdominal pain and 6.18% had burning micturition.²⁶ Similarly a study on prevalence of reproductive tract infections among adolescent girls in rural area of Raigad district, Maharashtra including 100 adolescent girls in the age group of 10-19 years showed that 22% had excessive vaginal discharge, 23% had itching

over vulva and 6% had burning micturition.²⁷ All the above studies showed that, many adolescent girls suffer from infections related to improper menstrual hygiene, which can be prevented.

Conclusion

The hygienic practices during menstruation were inadequate among the study subjects; which may lead to infections. Health education regarding menstrual hygiene management should be given by the mother and teachers to these adolescent girls and it should also be included as a part of school curriculum. Education, television programmes, trained school/ health personnel, motivated school teachers and knowledgeable parents can play a very important role in imparting the critical messages of correct practices about menstrual hygiene to the adolescent girls of today.

Institutional Ethical Committee approval has been obtained before starting the study.

Conflict of Interest: None

References

1. Menstrual hygiene management: National Guidelines. Ministry of Drinking water and sanitation, Government of India 2015.
2. Global Water, Sanitation and Hygiene (WASH) facts. Available at: https://www.cdc.gov/healthywater/global/wash_statistics.html. Accessed on July 20, 2018.
3. Menstrual hygiene management. www.wash-united.org/our-work/issues/menstrual-hygiene-management. Accessed on July 20, 2018.
4. Guidance booklet on Menstrual Hygiene Management, UNICEF India, 2017.
5. UNICEF. The state of world children: adolescence, an age of opportunity. In: UNICEF, eds. UNICEF Report, New York: UNICEF; 2011.
6. World Health Organisation. Programming for adolescent health and development. Geneva: WHO, Technical Report 886, 1999:2-5.
7. World Health Organisation. Adolescent nutrition: A review of the situation in selected South-East Asian countries. Bali, Indonesia: WHO, 2006:12-5.
8. RCH Programme. New Delhi: Department of Health Family Welfare, 1999:10-2.
9. National Rural Health Mission. Training module for ASHA on menstrual hygiene. Ministry of Health Family Welfare. 2011: 101-21.
10. A strategic approach to reproductive, maternal, newborn, child and adolescent health (RMNCH+A) in India. Ministry of Health & Family Welfare Government of India, January. 2013.
11. Channawar K, Prasad VSV. Menstrual Hygiene: Knowledge and Practice among Adolescent School Girls. *Panacea Journal of Medical Sciences* 2016; 6(1): 31-33.
12. Prajapati J, Patel R. Menstrual hygiene among adolescent girls: A cross sectional study in urban community of Gandhinagar. *The Journal of Medical Research* 2015; 1(4): 122-125.
13. Madhusudan M, Chaluvraj TS, Chaitra MM et al. Menstrual hygiene: knowledge and practice among secondary school girls of Hosakote, rural Bangalore. *International Journal of Basic and Applied Medical Sciences* 2014; 4(2): 313-32.
14. Prajapati D, Shah J, Kedia G. Menstrual Hygiene: Knowledge and Practice among Adolescent Girls of Rural Kheda District. *Ntl J of Community Med* 2015; 6(3): 349-353.
15. Ramachandra K, Gilyaru S, Eregowda A et al. A study on knowledge and practices regarding menstrual hygiene among urban adolescent girls. *Int J Contemp Pediatr* 2016; 3: 142-5.
16. Udayar SE, Kruthika K, Devi PV. Menstrual Hygiene Practices among Adolescent Girls Residing in Tribal and Social Welfare Hostel in Andhra Pradesh: A Community Based Study. *Ntl J Community Med* 2016; 7(8): 681-685.
17. Amit MV, Neha S, Arvind K S et al. Determinants of menstrual hygiene practices among adolescents: A cross sectional study from North India. *International Journal of Current Research* 7(9): 20093-96.
18. Sharma S, Mehra D, Kohli C et al. Menstrual hygiene practices among adolescent girls in a resettlement colony of Delhi: a cross-sectional study. *Int J Reprod Contracept Obstet Gynecol* 2017; 6: 1945-51.
19. Ravish H S, Sheela PH, Katti S M et al. Menstrual practices among adolescent girls in rural area. *Int J Child Adolesc Health* 2013; 6(3): 305-309.
20. Kanyadi S, Metgud C. Factors Influencing Menstrual Hygiene Practice Among Late Adolescent Girls in an Urban Area of Belgaum. *Annals of Community Health* 2019; 4(4): 20-24.
21. Subhash BT, Sushama ST, Monica R et al. Menstrual Hygiene: Knowledge and Practice among Adolescent School Girls of Saoner, Nagpur District. *Journal of Clinical and Diagnostic Research* 2011; 5(5): 1027-1033.
22. Shanbhag D, Shilpa R, D'Souza N et al. Perceptions regarding menstruation and Practices during menstrual cycles among high school going adolescent girls in resource limited settings around Bangalore city, Karnataka, India. *International Journal of Collaborative Research on Internal Medicine & Public Health* 2012; 4(7): 1353-62.
23. Juyal R, Kandpal SD, Semwal J. Menstrual Hygiene and Reproductive Morbidity in Adolescent Girls in Dehradun, India. *Bangladesh Journal of Medical Science* 2014; 13(2): 170-174.
24. Barthakur C, Barkataki M. A Study on Reproductive Health Problems and Menstrual Hygiene Practices

- among Adolescent Girls Living in Slums of Guwahati city, Assam. *Natl J Community Med* 2017; 8(10): 602-605.
25. Barman P, Mahanta TG, Sharma H. Menstrual hygiene practices and reproductive tract infection among slum dwelling adolescent girls aged 15-19 years of Dibrugarh Town, Assam. *J Evid Based Med Healthc* 2017; 4(34), 2062-2066.
26. Ali D, Fazili A, Shah RJ et al. The prevalence of reproductive health problems of school going adolescent girls of Kashmir valley – a cross sectional study. *International Journal of Contemporary Medical Research* 2017; 4(3): 636-639.
27. Dutt R, Patil S, Joshi S et al. Prevalence of reproductive tract infections among adolescent girls in rural area of Raigad district, Maharashtra. *Bombay Hosp J* 2010; 52: 309-11.

Date of Submission: 2018-07-24

Date of Acceptance: 2018-09-04