Research Article

A study to assess the knowledge regarding practices of menstrual hygiene and reproductive tract infections among school going adolescent girls

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Received: December 11, 2018; **Accepted:** January 03, 2019

ABSTRACT

Background: Poor menstrual hygiene and inadequate self-care are major determinants of morbidity and other complications among adolescent age groups. Some of these problems include urinary tract infections, scabies in the vaginal area, abnormal abdominal pain, and absence from school. Due to the silence prevailing in developing countries related to the topic of menstruation and related issues, many young girls lack appropriate information on menstrual hygiene. Learning about menstrual hygiene is a vital part of health education for adolescent girls so that they can continue to work and maintain hygienic habits throughout their adult life. **Objectives:** The objectives of this study were (1) to assess the knowledge of students about menstrual hygiene and the diseases contracted if the standards of hygiene are not maintained and (2) to educate and increase the awareness of the students about the proper hygiene to be maintained during the cycle and about the risks. **Materials and Methods:** This was a two-point cross-sectional study, carried out during October–December 2017 among 200 adolescent school going girl students of Government Hamidia Girls School, Bhopal. MS Excel and Epi info version 6 were used for statistical analysis. The study population was interviewed through pre-tested and pre-designed questionnaire, and intervention in the form of audiovisual presentations was given. **Results:** Of 200 students studied, majority, i.e., 71% of the girls was aged between 15 and 17 years. Only 38% of the girls were aware of menstruation before menarche. The main source of information about menstruation and menstrual hygiene was their mother in about 54% of girls. 76% of the girls used sanitary pads during menstruation. **Conclusion:** The present study shows the need for adolescent girls to have accurate and adequate information about menstruation. The study revealed that the knowledge on menstruation is poor and the hygiene practiced is often suboptimal. Awareness among adolescent girls regarding menstruation has increased in recent times, but lot more can be done to improve menstrual health management awareness among adolescent girls for addressing those problems.

KEY WORDS: Adolescent; Awareness; Educational Interventional Study; Menstrual Hygiene; Sanitary Pads

INTRODUCTION

Adolescence is a significant period in the life of a woman. They are the formative years when a maximum amount of physical, psychological, and behavioral changes take place. The World Health Organization (WHO) defines adolescents as individuals between 10 and 19 years of age. Adolescent girls constitute about one-fifth of the female population in the world. Adolescence in girls has been recognized as a special period in their life cycle that requires specific and special attention. This period is marked with the onset of menarche.[1] Adolescent girls often lack knowledge regarding reproductive health including menstruation which can be due to sociocultural barriers in which they grow up. These differences create various problems for the adolescent girls.[2] Menarche, which is an important milestone in a girl's

Access this article online	
Website: http://www.ijmsph.com	Quick Response code
DOI: 10.5455/ijmsph.2019.1234403012019	

transition to womanhood, can, however, place significant obstacles in the way of girls' access to health, education, and future prospects if they are not equipped for effective Menstruation Hygiene Management (MHM) (Uganda). Menstrual hygiene deals with the special health-care needs and requirements of women during monthly menstruation or menstrual cycle. MHM focuses on practical strategies for coping with monthly periods. MHM refers to ways women themselves keep clean and healthy during menstruation and how they acquire, use, and dispose of blood-absorbing materials.[1] Menstrual hygiene is a taboo subject; a topic that many women in South Asia are uncomfortable discussing in public. Naturally, topics that are excluded from public talks are most likely to be discarded without giving much importance.[3] Reproductive tract infections (RTIs), including both sexually transmitted infections (STIs) and non-STIs (non-STIs) of the reproductive tract, are responsible for major ill-health throughout the world. The WHO estimates that, each year, there are over 340 million new cases of STIs in which 75–85% occur in developing countries. In India alone, 40 million new cases emerge each year. A majority of women continue to suffer from RTIs leading to complications such as pelvic inflammatory disease (PID), infertility, cervical cancer, postabortal and puerperal sepsis, chronic pelvic pain, and ectopic pregnancy. RTIs in many cases are asymptomatic among women, making their detection and diagnosis difficult.[4] The notion behind the intervention is to bring about change in hygienic practices, thus inculcating safe hygienic practices in the girls who, in future when land up in reproductive events such as childbirth, abortion, postpartum complications, and many more, would be able to prevent the catastrophic outcome of infections. This study is, therefore, conducted with the aim of assessing the prevailing knowledge about menstruation, hygienic practices, and associated consequences of menstruation-related problems as RTIs.[5]

Objectives

The objectives of this study were as follows:

- To assess the knowledge of students about menstrual hygiene and the diseases contracted if the standards of hygiene are not maintained.
- To educate and increase the awareness of the students about the proper hygiene to be maintained during the cycle and about the risks.

MATERIALS AND METHODS

This was a community-based educational interventional two-point cross-sectional study conducted in girls' school situated in the field practice area of Gandhi Medical College, Bhopal. This study was carried out in three phases, the first of which was questionnaire-based assessment; the second, institution of audiovisual modules/awareness classes among school girls, and the third was again the questionnaire-based assessment. The lecture was designed in the mode of interactive sessions and was in a logical sequence. Due clearance was obtained, and after taking permission from the school authority, the class teachers of the Class IX and X and two sections of Class XI and XII were explained the purpose of the study, and rapport was built up with the girl students and verbal consent was obtained from them. Briefing was done to the students regarding the questionnaire provided to them. Care was taken to ensure privacy and confidentiality. Confidentiality of information was obtained by omitting any personal identifier from the questionnaire.

Duration of Study

The study was conducted for 3 months, from October 1, 2017, to December 1, 2017.

Study Population and Sampling

A total of 200 girls from the above-mentioned secondary school (Classes IX, X, XI, and XII) were selected. One section was covered every week. The purposive sampling method was adopted.

Study Tool

A pre-designed pre-tested semi-structured questionnaire with both closed-ended and open-ended questions included topics relating to awareness about menstruation, source of information regarding menstruation, hygiene practiced during menstruation, restricted activities practiced during menstruation, and awareness regarding symptoms of RTIs which were used for data collection.

Statistical Analysis

Data obtained were collated and analyzed statistically by simple proportions. Data were analyzed using Excel Windows 2007 and Epi info version 6. The descriptive analysis including proportions, percentages, frequency distribution, and measures of central tendency was done.

RESULTS

Table 1 depicts that majority of girls 78.00% were from the age group of 14 to 16 years while minimum 1.5% belongs to age span 12–14 years.

Tables 2 and 3 show that around half of fathers of girls were educated up to high school or graduation and more than half of mothers were illiterate.

Table 4 shows that 57.5% of girls obtained the information or knowledge regarding menstrual hygiene from their mothers, while around 20% of girls obtained information from peers.

Table 1: Distribution of participants according to their age group

Age group of girls	Number of girls (%)
12–14	3 (1.5)
14–16	156 (78.00)
16–18	36 (18.00)
18–20	5 (2.5)
Total	200 (100)

Table 2: Distribution of participants according to their religion

Religion	Number of girls (%)
Hindu	66 (33.0)
Muslim	128 (64.0)
Christian	2 (1.0)
Jain	4 (2.0)
Total	200 (100)

Table 3: Distribution of participants according to parents' education status

Education status of parents	Parents	
	Fathers (%)	Mothers (%)
Illiterate	48 (24)	102 (51)
Primary education	54 (27)	68 (34)
High school and college	98 (49)	30 (15)
Total	200 (100)	200 (100)

Table 5 shows that the majority of the participants, i.e., 63% had their menarche in between 13 and 15 years, while rest 34% had it between the age of 10 and 12 years.

Only 48.50% of girls were aware that secondary sexual characters and menstruation are part of physiological development. 24.50% of girls know that the uterus is the source of bleeding, while 21.50% of girls were unaware regarding facts of menstruation.

Tables 6 and 7 show that knowledge regarding nutritional awareness was very much poor although 118 girls agreed on the point of nutrition management. 22 girls believe that it is a disease or curse. 76% of girls, a very big proportion, do not engage in physical activity during these days. Restrictions were imposed on 43.5% of girls.

Table 8 shows that usage of sanitary pads increased from 57.5% to 69.5%. Usage of cloth decreased from 26.00% to 13.50%. Marked improvement in this study is that we are successful in bringing the reuse of clothes to nil. Number of girls using pads more than three increased from 40.10% to 94.41%. Even the rate of proper disposal of pads reached to 99.5%. 23.00% of girls admitted that they remain absent in school due to sociocultural belief imposed from the home for being not out of the house.

Table 4: Source of information for menstrual hygiene

Primary source of information	*n*=200 (%)
Mother	115 (57.5)
Friends	40 (20.00)
Teachers	14 (7.00)
Doctors	13 (6.50)
Others	18 (9.00)
Total	200 (100)

Table 5: Distribution of participants according to the age at menarche

Age at menarche (years)	*n*=200 (%)
<10	04 (2.00)
10–12	68 (34.00)
13–15	126 (63.00)
>15	02 (1.00)
Total	200 (100)

Table 6: Distribution of participants according to knowledge of menstruation

Knowledge about menstruation	*n* (%)
Aware of menstruation facts	11 (5.50)
Part of physiological development	97 (48.50)
Uterine bleeding	49 (24.50)
Do not know	43 (21.50)
Total	200 (100)

Table 7: Distribution of participants according to myths related with menstruation

Myths associated with menstruation	*n* (%)
Agreed for nutrition	118 (59)
Disease/curse	22 (11)
No physical activity	152 (76)
Restrictions imposed	87 (43.5)

When the girls were assessed for their daily schedule for hygiene. Only 81 (40.5%) girls were taking bath daily. Only 31 (15.50%) girls were washing genitalia with plain water. However, it was afterward improved to 100%. The figures of unsatisfactory cleaning of genitalia reduced from 59.0 % to 21.5%.

Tables 9 and 10 show that 26% of girls do not know how to use the sanitary pads. 42% were not able to afford the sanitary pads on regular basis due to the socioeconomic conditions in family. 8 % of the girls reported that the sanitary pads are not easily available in their locality.

Table 11 shows the awareness symptoms of RTIs among girls. They were most aware of vaginal discharge for RTI, i.e., 112. i.e., 56.00. Only 12.5% of girls could relate abdominal pain

Table 8: Behavioral habits during menstruation

Observations	Pre-intervention *n*=197 (%)	Post-intervention *n*=197 (%)	*P* value
Usage of sanitary pads	115 (57.5)	139 (69.5)	0.02 (s)
Usage of cloth	52 (26.00)	27 (13.50)	0.004 (s)
Reuse of cloth/pads	4 (2.00)	0 (0)	0.045 (s)
More than three pads/cloth per day	79 (39.50)	186 (93)	0.0001 (s)
Proper disposal of used cloth/pads	121 (60.5)	199 (99.5)	0.0001 (s)
Socio-cultural belief for being absent in school	46 (23.00)	17 (8.50)	0.000801 (s)

Table 9: Hygiene assessment of girls

Observed parameters	Pre-intervention *n* = 200 (%)	Post-intervention *n* = 200 (%)	*P* value
Bath daily	81 (40.50)	200 (100)	0.001 (s)
Washing of genitalia with water only	31 (15.50)	200 (100)	0.001 (s)
Washing of genitalia with water and soap	156 (78.0)	2 (1.0)	0.001 (s)
Unsatisfactory cleaning of genitalia 0–1 per day	118 (59.0)	43 (21.5)	0.00008 (s)

as symptom of RTIs and 15.5% could associate fever as a manifestation of RTI.

DISCUSSION

This study shows that the age of menstruating girls ranged from 12 to 20 years with maximum number of girls between 14 and 16 years of age, which is similar to a study conducted by Dasgupta and Sarkar,[6] among adolescent secondary school going girls in Singur, West Bengal, who reported the age of study participants to be maximum in between 14 and 15 years of age group. In the present study, age of menarche of the respondents was maximum in between 13 and 15 years (63%), whereas in a study conducted in Rajasthan by Khanna *et al*.,[7] age at menarche was found to be maximum in between 12 and 13 years (72.5%).

Every girl child should be aware about menstruation, which is an important event at the threshold of adolescence, and ideally a mother should be the main informant at this tender age and mother was the first informant in case of 57.5% of girls. In a study conducted among 664 schoolgirls aged 14–18 in Mansoura, Egypt by El-Gilany *et al*.,[8] mass media were the main source of information about menstrual hygiene, followed by mothers. In our study, it was observed that 48.50% of girls believed it to be a physiological process. However, studies conducted by Shamima *et al*.[9] reported that menstruation is believed to be normal physiological process by 72.8% girls. It was observed that 21.50% of the girls did not know about the source of menstrual bleeding.

Majority of the girls 57.50% preferred sanitary pads rather than clothes as menstrual absorbent in our study. Privacy for washing, changing, or cleaning purpose is very important

Table 10: Reason for not using sanitary pads

Reasons	*n* (%)
Not know the use of sanitary pads	52 (26)
Not afford sanitary pads	84 (42)
Not easily available in locality	16 (8)
Others reasons	48 (24)

Table 11: Awareness regarding symptoms of RTIs

RTI symptoms	Pre-intervention (%)
Itching	46 (23.0)
Rashes in perineum	96 (48.00)
Burning micturition	94 (47.0)
Pain in abdomen	25 (12.5)
Vaginal discharge with foul smell	112 (56.0)
Fever	33 (15.5)

RTIs: Reproductive tract infections

for proper menstrual hygiene, and lack of privacy was an important problem found in our study. Different restrictions were practiced by most of the girls in the present study, possibly due to their ignorance and false perceptions regarding menstruation. However, very limited studies discussed on the point of unsatisfactory frequency of changing pads/clothes which was 59.8% in our study compared to the study conducted by Tegegne and Sisay.[11] (78%). In our study, most common symptom of RTI known to girls is vaginal discharge (56%), while similar results were obtained in a study conducted in rural Tamil Nadu by Kannan *et al*.[10] among recently married women (32.5%). In a similar study conducted by Tegegne and Sisay, the usage of sanitary pads was 35.38% and reuse of absorbent material was 45.95%. Unclean rags and old clothes increase the chances of RTIs including urinary, vaginal, and perineal infection. Reuse of

clothes was 2.00%. In our study, proper cleaning of genitalia was followed by 15.5%, while this figure was 38% in a study conducted by Tegegne and Sisay.[11]

CONCLUSION

Menstrual hygiene is not commonly spoken, either between same genders or between opposite gender. The subject is taboo in many cultures and shrouded in myths and traditions. This study was conducted to ascertain menstrual hygiene among adolescent girls and to improve the knowledge and practices among them. The study revealed that menstrual hygiene was far from satisfactory among a large proportion of the adolescents. Girls should be well versed with the physiology of menstruation, its importance, and hygiene management well before menarche. Lack of appropriate and sufficient information about menstrual hygiene can be attributed to cultural and religious beliefs and taboos. Thus, the above findings reinforce the need to encourage safe and hygienic practices among the adolescent girls. The use of sanitary napkins has to be enhanced by social marketing and innovative programs from the side of government. Incorrect restrictions, myths, and beliefs associated with menstruation can be removed by the help of parents and teachers.

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How to cite this article: Nair AR, Pal DK, Dandotiya D, Verma S, Sawlani H, Kushwah S. A study to assess the knowledge regarding practices of menstrual hygiene and reproductive tract infections among school going adolescent girls. Int J Med Sci Public Health 2019;8(3):189-193.

Source of Support: Nil, **Conflict of Interest:** None declared.