



A comparative study of menstrual health and hygiene among school going and out of school adolescent girls in urban slum area

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ABSTRACT

Background

Out of school adolescent girls unlike school going girls don't get an opportunity to gain information about menstruation and may remain more prone for poor menstrual hygiene. This study was conducted aimed at comparative assessment of menstrual health and hygiene among school going and out of school adolescent girls.

Objectives

To compare the knowledge regarding puberty changes and menstruation, menstrual hygiene practices, genital hygiene and health problems related to menstruation among school going and out of school adolescent girls.

Materials and Methods

A cross sectional analytical study was conducted in urban slums for a period of 2 years among 115 school going adolescent girls (age 10-19 years) and 115 out of school girls, who never attended the school, who left the school before completing 10th or who were not attending the school for at least last one year using a semi structured validated interview schedule containing assessment of knowledge about menstruation, menstrual and genital hygiene and menstrual health problems. Data analysis was done by SPSS software version 24.

Results

Pre-menarcheal awareness of menstruation, adequate knowledge about menstruation and usage of sanitary napkin were significantly higher in school going girls (63.5%, 37.4% and 67.8% respectively), as compared to out of school girls (26.7%, 4.3% and 20% respectively). Health problems like itching in groin region, lesions in groin, per vaginal discharge and lower abdominal pain other than menstrual pain was faced more by out of school girls with less health seeking behavior than school going girls.

Conclusion

Role of schooling is very important for knowledge as well as practice pertaining to menstrual health and hygiene of adolescent girls. Special attention is needed to address the menstrual health needs of out of school adolescent girls.

Keywords: Menstrual Hygiene, Adolescent Girls, Out of School, Genital Hygiene

INTRODUCTION

Menstruation though a normal biological phenomenon, is considered as unclean and embarrassing and surrounded by many taboos.¹ School is the best opportunity to educate a girl regarding menstruation. Almost 17% adolescent girls unluckily fail to step into the school or some have to

leave the school.² Several studies are conducted regarding awareness about menstruation and menstrual hygiene practices among school going adolescent girls.^{4,3-6} Menstrual health and hygiene among school going and out of school adolescent girls is compared in very few studies.⁷⁻⁹ So this study was conducted aimed at comparative assessment of

awareness regarding menstrual health and menstrual hygiene practices among school going and out of school adolescent girls.

METHOD AND MATERIALS

This is a cross sectional analytical study conducted in urban slums under field practice area of medical college during October 2016 to December 2018. Study subjects were adolescent girls (age 10-19 years).¹⁰ Group I containing school going girls and Group II containing out of school adolescent girls who never attended the school, who left the school before completing 10th. Girls who were mentally challenged, had not attained menarche and pregnant were excluded. Assuming 49% school going adolescent girls and 31% out of school adolescent girls have good knowledge about menstruation from previous study⁷ sample size was calculated as 230 with 115 for each group. School going girls from two municipal schools were enrolled using simple random sampling and out of school girls by convenient sampling method. Written informed consent from girls was taken. For girls under 18 years written informed consent from parents/guardians with assent from girls was taken. Each girl was interviewed in separate room either in schools or in NGO office/AWC in community using a semi structured validated interview schedule containing assessment of knowledge about menstruation, menstrual and genital hygiene and menstrual health problems.

There were 6 knowledge based questions. For each correct answer a score of 1 was awarded and a score 0 was given for an incorrect answer. Knowledge score > 50% was considered as adequate and that of \leq 50% as Inadequate. Genital hygiene consists of frequency of changing menstrual absorbent, frequency of cleaning external genitalia, materials used to clean genitalia and bathing practices. A frequency of changing menstrual absorbent <4 times a day was considered Inadequate and a frequency of changing menstrual absorbent \geq 4 times a day was considered Adequate. A frequency of washing external genitalia <2 times a day was considered unsatisfactory and a frequency of washing external genitalia \geq 2 times a day was considered satisfactory. Cleaning of external genitalia with soap and water at least once a day was considered ideal. Bathing with some cloths on (e.g.

underclothes, petticoat) interferes with cleaning of external genitalia. Hence bathing without any cloths on was considered ideal.^{1,7} Data analysis was done by SPSS software version 24.

RESULTS

There were 115 school going adolescent girls and 115 out of school adolescent girls with mean age 14.20 ± 1.96 years & 16.11 ± 1.84 years respectively. All school going and 43.7% out of school girls were unmarried. Maximum school going and out of school girls were belonging to Hindu religion (52.2% and 44.3% respectively) followed by Muslim (30.4% and 26.1% respectively) with Upper lower socio economic class (54.8% and 46.9% respectively) followed by Lower Middle class (28.7% and 33.1% respectively).

Mean age at menarche found to be 12.80 ± 1.96 years for school going and 13.2 ± 1.06 years for out of school girls. 63.5% school going and 26.7% out of school girls knew about menstruation prior to menarche with source of knowledge being NGO volunteers (60%) in most of the school going adolescent girls followed by mother (46.1%) while mother was the most common source of knowledge among out of school adolescent girls followed by sister or friend (47.8%).

Cause of menstruation was correctly understood as a natural phenomenon by 51.3% school going and 32.2% out of school girls. 48.7% school going and 33.1% out of school girls knew correctly that menstrual blood comes through vagina. 53% school going and 31.3% out of school girls were aware about fact that menstrual blood comes from uterus. 41.7% school going and 23.5% out of school girls knew correctly that uterus is situated in lower part of the abdomen. 57.3% school going and 33.9% out of school girls were aware about normal duration of menstrual cycle to be 21 to 35 days. 47.8% school going and 32.2% out of school girls knew normal duration of menstrual flow correctly i.e. 3 to 7 days. (Table 1). 37.4% school going girls and 4.3% out of school girls had adequate knowledge about menstruation with $X_1^2 = 38.107$ and $p < 0.01$.

Table 1 Distribution and Comparison According to Knowledge About Menstruation Among Study Groups

Question	Answers	School going (n ₁ =115)	Out of school (n ₂ =115)	Total (N=230)	Test of Significance
Cause of menstruation	Natural phenomenon	59 (51.3)*	37 (32.2)	96 (41.7)	$X_3^2 = 14.704$ p = 0.002
	Curse	1 (0.9)	9 (7.8)	10 (4.3)	
	Disease	7 (6.1)	15 (13.1)	22 (9.6)	
	Don't know	48 (41.7)	54 (46.9)	102 (44.4)	
Location of menstrual outflow	Urinary opening	54 (46.9)	68 (59.1)	122 (53.0)	$X_2^2 = 6.196$ p = 0.045
	Vagina	56 (48.7)	38 (33.1)	94 (40.9)	
	Don't know	5 (4.4)	9 (7.8)	14 (6.1)	
Organ of menstruation	Urinary bladder	8 (7)	7(6.1)	15 (6.5)	$X_2^2 = 12.239$ p = 0.002
	Uterus	61 (53)	36 (31.3)	97(42.2)	
Location of uterus	Don't know	46 (40)	72 (62.6)	118(51.3)	$X_2^2 = 30.393$ p < 0.01
	Abdomen	13 (11.3)	50 (43.5)	63(27.4)	
	Lower abdomen	48 (41.7)	27(23.5)	75(32.6)	
	Don't know	54 (47)	38 (33)	92(40.0)	
Normal cycle length	Correct	66 (57.3)	39 (33.9)	105 (45.7)	$X_2^2 = 12.964$ p = 0.002
	Incorrect	44 (38.3)	70 (60.9)	11 (4.8)	
	Don't know	5 (4.4)	6 (5.2)	114 (49.5)	
Normal duration of menstrual flow	Correct	55 (47.8)	37 (32.2)	20 (8.7)	$X_2^2 = 5.911$ p = 0.052
	Incorrect	54 (47)	71 (61.7)	92 (40.0)	
	Don't know	6 (5.2)	7 (6.1)	13 (5.7)	

* Figures in parenthesis are percentages

67.8% school going girls were using sanitary napkin and 66.1% out of school girls were using piece of old cloth or sometimes sanitary napkin and sometimes old cloth to collect menstrual blood. Thus use of

unhygienic menstrual absorbent was significantly more among out of school girls with $X_3^2 = 55.457$ and $p < 0.01$ (Figure1).

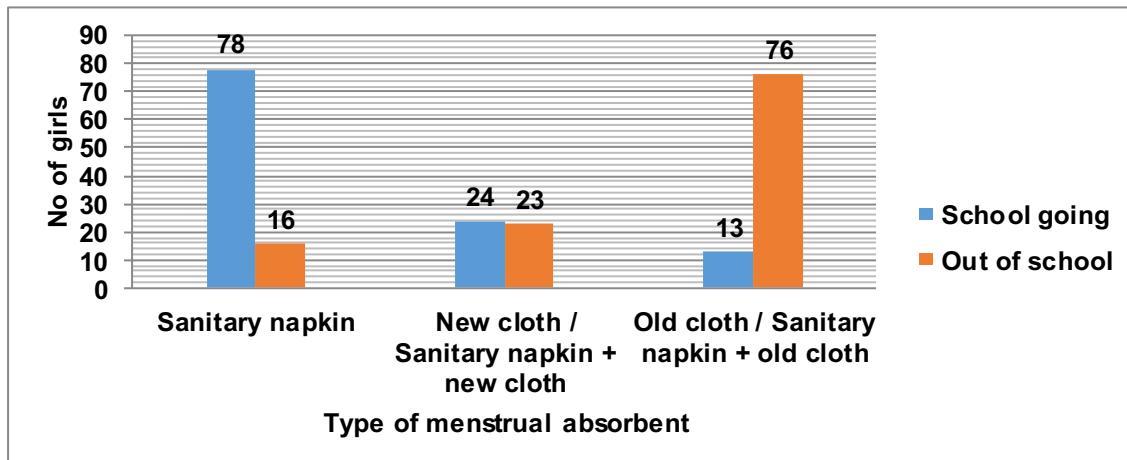


Fig 1

Distribution and Comparison According to Menstrual Absorbent Used Among Study Groups

Among school going girls, 58.3% have adequate frequency of changing menstrual absorbents, 59.1% were cleaning external genitalia satisfactorily 53.1% were using soap and water to clean external genitalia and 61.7% were bathing without cloths. Among out of school girls 67% have inadequate frequency of changing menstrual absorbent, 64.3% have unsatisfactory cleaning of external genitalia, 63.5%

were cleaning external genitalia with water only and 74.8% girls were bathing with cloths. Good genital hygiene practices like adequate frequency of changing sanitary absorbents, satisfactory frequency of genital washing with use of soap and water and bathing without cloths were found to have statistical significant association with school going girls. (Table 2)

Table 2 Distribution and Comparison According to Menstrual and Genital Hygiene Among Study Groups

Practice	Options	School going (n ₁ =115)	Out of school (n ₂ =115)	Total (N=230)	Test of significance
Frequency of pad change/day	< 4 (Inadequate)	48 (41.7)*	77 (67)	125 (54.3)	$\chi^2 = 14.738$ $p < 0.01$
	≥ 4 (Adequate)	67 (58.3)	38 (33)	105 (45.7)	
Frequency of washing external genitalia/day	< 2 (Unsatisfactory)	47 (40.9)	74 (64.3)	121 (52.6)	$\chi^2 = 12.713$ $p < 0.01$
	≥ 2 (Satisfactory)	68 (59.1)	41 (35.7)	109 (47.4)	
Material used to wash external genitalia	Water	54 (46.9)	73 (63.5)	127 (55.2)	$\chi^2 = 6.347$ $p = 0.01$
	Water + soap	61 (53.1)	42 (36.5)	103 (44.8)	
Cloths while bathing	Yes	44 (38.3)	86 (74.8)	130 (56.5)	$\chi^2 = 31.209$ $p < 0.01$
	No	71 (61.7)	29 (25.2)	100 (43.5)	

* Figures in parenthesis are percentages

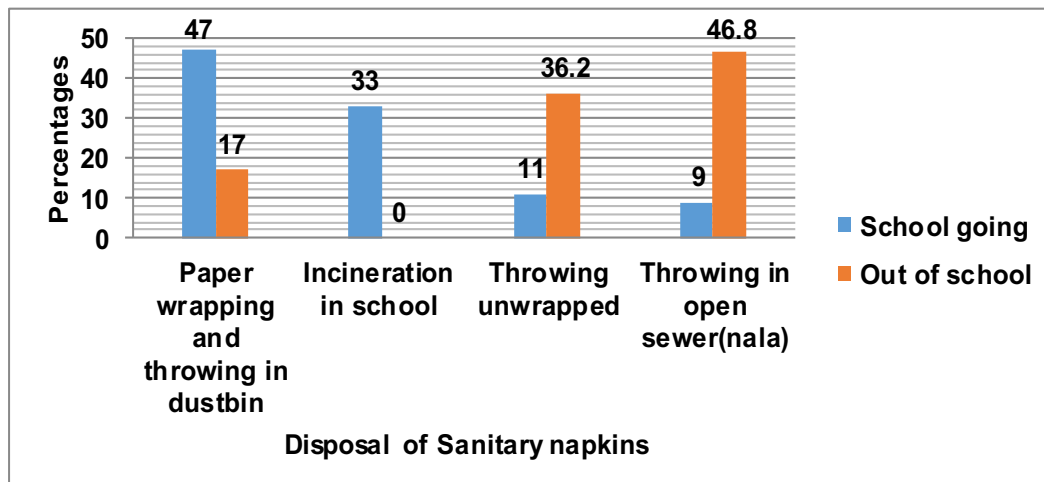


Fig 2 Distribution and Comparison According to Disposal of Sanitary Napkin Among Study Groups
Note: Only those who were using sanitary napkins are considered

Health problems like itching in groin region, lesions in groin, burning micturition, per vaginal discharge and lower abdominal pain other than menstrual pain was faced by 17.4%, 9.6%, 5.2%, 5.2% and 6.1% of school going girls respectively and 29.6%, 20%, 10.4%, 25.2% and 13% out of school girls respectively. Except for burning micturition all symptoms are reported significantly more among out of school girls. Health seeking behavior was seen significantly among school going girls (61.6%) as compared to out of school girls (39.7%).

DISCUSSION

In this study, pre-menarcheal awareness about menstruation was 63.5% and 28.7% among school going and out of school girls respectively which was 9.8%⁸ and 47.8%⁹ among school going and 5.9%⁸ and 38.8%⁹ among out of school girls as per other studies.

In this study, cause of menstruation was correctly understood as a natural phenomenon by 51.3% school going and 32.2% out of school girls. In other studies, 18.35% school going girls,³ 19.3% private school going, 19.3% government school going and 18.8% out of school,⁹ 63.9% female adolescents,⁷ 86.25% school going girls¹ knew menstruation as a physiological process.

In present study, 48.7% school going and 33.1% out of school girls knew correctly that menstrual blood comes through vagina. 53% school going and 31.3% out of school girls were aware about fact that menstrual blood comes from uterus. In other studies, 21.5% government school going and 42.9% out of school girls knew that menstrual blood comes from vagina.⁹ 15.9% government school going and 19.7% out of school girls,⁹ 14.5% adolescent girls⁷ and 2.5% adolescent school going females¹ were reporting uterus to be source of menstrual blood. In present study, adequate knowledge about menstruation was significantly associated with school going girls similar to other study.⁷

As mentioned in current study, use of sanitary napkins and genital hygiene practices were found to have significant association with school going girls similar to other studies.^{3, 7-9}

As per this study, Health seeking behavior was seen significantly better among school going girls (61.6%) as compared to out of school girls (39.7%) while in other study, 23.89% of girls with some menstrual health morbidity sought health care while other suffered silently.¹¹ Higher health seeking behavior among school going girls in this study may be because of annual school health checkup of all students from municipal schools.

CONCLUSION

Pre-menarcheal menstrual awareness, adequate knowledge about menstruation, use of adequate sanitary protection with safe disposal and good genital hygiene was significantly associated with school going girls. With poor knowledge about menstruation and poor menstrual as well as genital hygiene, out of school girls experience significantly more menstrual health problems coupled with less health seeking behaviour. Thus role of schooling is very important for knowledge as well as practice pertaining to menstrual health and hygiene of adolescent girls.

This study recommends prevention of school drop outs among adolescent girls and mainstreaming of the one who are already out of school in view of menstrual health. Provision of knowledge imparting sessions on menstrual health and adequate sanitary protection to out of school girls through involvement of community health volunteers, social workers, non-governmental organizations is also recommended.

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