



# A STUDY OF MENSTRUAL HYGIENE AMONG ADOLESCENT SCHOOL GIRLS IN A SLUM AREA OF KOLKATA

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## ABSTRACT

**Introduction:** Reproductive tract infections are common among the adolescent girls. Poor menstrual and personal hygiene are known contributory factors. Objectives were to examine the practice of menstrual hygiene among the adolescent school girls of urban slum area and to see the association between use of sanitary napkin and prevalence of Leucorrhoea with low back pain or abdominal pain and vaginal burning/itching among them.

**Methods:** A cross sectional observational study was carried out among 460 adolescent girl students of an urban slum area with a predesigned, pretested questionnaire based on Global School - based Student Health survey. Data were analyzed using SPSS, version 21.

**Results:** Among 460 girls, 275 (60%) girls were from low socioeconomic status. Out of 376 (81.73%) girls who used only sanitary napkin, 359 (94.14%) girls did not complain of symptomatic leucorrhoea and 326 (87.70%) had no vaginal itch or burning. Sixty eight (80.95%) and 62 (73.80%) girls out of 84 girls who did not use only sanitary napkin had symptomatic leucorrhoea. ( $P < 0.000$ , OR 68.38) and had vaginal itch/burning ( $P < 0.000$ , OR 18.37) respectively.

**Conclusion:** Use of sanitary napkin is highly prevalent among the adolescent girls from slum and incidence of symptomatic leucorrhoea and vaginal itch/burning was significantly less among sanitary napkin users.

**Key words:** Adolescent girls, Sanitary napkin, Leucorrhoea, Vaginal itch

## INTRODUCTION

Adolescence is a stage of transition from childhood to adulthood. During this stage youth undergoes rapid changes in body structure mediated by sex hormones<sup>1</sup>. Adolescence in girls is a turbulent period of development which includes

stress full events like menarche which is considered as landmark of female puberty. The slum dwellers are exposed to poor sanitary facilities and unhygienic practices. Poor menstrual hygiene can potentially be a cause of urinary tract infection, reproductive tract infection (RTI), sexually transmitted diseases(STD) like cancer cer-

vix, HIV/AIDS Prevalence of RTI among adolescent girls is determined by multiple factors. Lack of menstrual and personal hygiene is an important factor which is associated with RTI, that are preventable and treatable. Vaginal discharge is common symptoms in adolescent girls and may signify physiological leucorrhoea of puberty or endogenous cause or STDs<sup>1</sup>. Utilization of specialized services for management of RTI is often low because these infections are frequently asymptomatic or produce vague or nonspecific symptoms<sup>2</sup>. Shyness and silence also the other factors which delays the girl for seeking care for RTI Several studies from India showed that there were less use of sanitary napkin during menstruation among adolescent girls of rural area than the urban area and in slum area than non slum area<sup>3-7</sup>. Less use of sanitary napkin were also found in studies of Africa and other parts of Asia.<sup>8-10</sup>. Our study was conducted to see the practices of adolescent school girls of slum area during menstruation and the relation of use of sanitary napkin with the prevalence of symptomatic leucorrhoea and vaginal itch/burning.

## METHOD

This cross sectional observational study was carried out among 460 adolescent girl students of class X and XI (age 14-16 years) of the three Girls schools situated in urban slum area of Chetla, Kolkata in the field practice area of All India Institute of Hygiene and Public health. Study was conducted from October 2013 to January 2014. The study was approved by the institutional ethics committee and necessary permission was obtained from school authority of the selected schools. Students were briefed about the objectives and purpose of the research study and their written consent were obtained. Those who were not interested to participate were excluded from the study. Data were collected from the students in their class rooms during school hours by administering pre-designed pretested questionnaire mainly based on Global School Health Survey<sup>11</sup>. Sample size was calculated based on a study of menstrual hygiene among adolescent girls in an urban community where use of sanitary napkin (Prevalence) among the adolescent girls was reported to be 54%<sup>5</sup>. Considering the absolute error as 10% and design effect of 1.5%, the adjusted sample size calculated as 490. but 30 girls did not respond completely to the study questionnaire ultimately. So the study was conducted on 460 girls.

Data of 460 study subjects were checked for consistency and completeness and then entered into excel sheet. Data was analyzed by SPSS (version 21). Prevalence rate of use of sanitary napkin was estimated. Chi square test was applied as test of significance for categorical variables and significance level was set at P value <0.05. Odds ratios (including 95% confidence interval) were computed for bi-variate analysis to find the association between use of sanitary napkin with Leucorrhoea and Vaginal itch/burning

## RESULTS

Four hundred and sixty adolescent slum school girls were studied. Two hundred seventy five (60%) were from low socioeconomic status and 77% girls of low socioeconomic status were using sanitary napkin (Table 1).

During menstruation, among 460 girls, 396 (86.08%) took regular bath, 290 (63.04%) girls washed their hands regularly with soap and water, 298 (64.78%) girls cleaned their external genitalia regularly during menstruation with soap and water. (Table 2).

Three hundred seventy six girls (81.73%) used sanitary napkin. In contrast, 84 (18.27%) girls were not habituated with safe practice during menstruation and were accustomed to use clothes (old or new) or a combination of clothes and sanitary napkin (Table 3).

**Table 1: Distribution of study girls according to socio-economic status (n=460)**

Socioeconomic Status class	Modified B. G. Prasad's class 2013	Frequency (%)	Use of Sanitary napkin (%)
I	>Rs 5156	48 (10.43)	43 (89.56)
II	Rs 2578-5155	53 (11.52)	46 (86.79)
III	Rs 1547-2577	84 (18.26)	70 (83.33)
IV	Rs 773-1546	164 (35.65)	142 (86.58)

**Table 2: Personal hygiene practice during menstruation (n=460)**

Daily Bath	No. of girls students (%)
Yes	396 (86.08)
No	64 (13.91)
<b>Hand washing with soap and water</b>	
Yes	290 (63.04)
No	170 (36.95)
<b>Cleaning of external genitalia with soap and water</b>	
Yes	298 (64.78)
No	162 (35.21)

**Table 3: Type of absorbant used during menstruation by study girls**

Type of absorbant used	No of Girls n=460 (%)
New cloth	41 (8.91)
Sanitary napkin	376 (81.73)
Sanitary napkin +New cloth	7 (1.52)
Old washed cloth+new cloth	25 (5.43)
Sanitary napkin+Old washed cloth	11 (2.39)

**Table 4: Association of symptomatic Leucorrhoea and vaginal itching/burning with use of sanitary napkin. (n=460)**

Use of sani- tary napkin	Leucorrhoea pre- sent (%)	Leucorrhoea ab- sent (%)	To- tal
Yes	22 (5.85)	354 (94.14)	376
No	68 (80.95)	16 (19.04)	84
Total	90 (19.56)	370 (80.43)	460
Chi square 246.08, P<0.0000,OR 68.38, CI 34.15-136.93			
Use of sani- tary napkin	Vaginal itch/burning pre- sent (%)	Vaginal itch/burning absent (%)	To- tal
Yes	50 (13.29)	326 (86.70)	376
No	62 (73.80)	22 (26.19)	84
	112 (24.34)	348 (75.65)	460
Chi square 136.49, P<0.0000,OR 18.37, CI 10.38-32.49			

Again, out of 376 girls who used sanitary napkin, leucorrhoea was present in 22 (5.85%) girls, where as among 84 girls who were not using sanitary napkin, 68(80.95%) had leucorrhoea. (Table IV).There was a significant relation between use of sanitary napkin and less prevalence of leucorrhoea.(chi sq 246.08, P<0.0000,OR 68.38, CI134.15-136.93). Sixty two out of 84 (73.80%) who were not using sanitary napkin had vaginal itch/burning in comparison to only 50 out of 376 girls (13.29%) who used sanitary napkin.

Prevalence of vaginal itch /burning was significantly low with use of sanitary napkin (chi sq 136.49, P<0.000, OR 18.37.CI10.38-32.49) [Table 4]

**DISCUSSION**

The present study showed that majority (81.73%) of adolescent slum school girls are habituated to use sanitary napkin during menstruation. The use of sanitary napkin was significantly associated with less prevalence of leucorrhoea with low back pain or lower abdominal pain and vaginal itch/burning Among this 376 sanitary napkin users 77% were from low socioeconomic status. Several studies from different parts of India showed that the prevalence of use of sanitary napkin

was73%-97% among the urban adolescents and 11%-46% among the rural adolescents.<sup>3-7</sup>

Kendre Vet al showed that only 1(1.04%) from slum and 86(97,73%) non slum adolescent girls were using sanitary napkin<sup>6</sup> .Our study showed dissimilar result from the study by Kendre V et al and showed more prevalence of use of sanitary napkin among the urban slum girls. We presume that this difference may be due to the effect of media(TV) and repeated health education program regarding menstrual hygiene organized by our Institute where utility of use of sanitary napkin were explained to prevent RTI In the present study 90 out of 460(19.56%)girls suffered from leucorrhoea with low back pain or lower abdominal pain and 112(24.34%) girls suffered from vaginal itch/burning. Previous Studies reported the prevalence rate of leucorrhoea and vaginal itch/burning to be 29-47% and 9-15%, respectively <sup>12-14</sup> .The prevalence rate of vaginal itch and burning was higher among the girls who did not use sanitary napkins in the present study.

Similarly, the prevalence of leucorrhoea with low back pain or lower abdominal pain was less in our study.To the best of our knowledge, no other studies in published literature has shown any association between use of sanitary napkin and the occurrence of symptomatic leucorrhoea and vaginal itch /burning.

Present study reported that most of the girls took daily bath and 64.78% of girls cleaned their external genitalia with soap and water regularly during the days of menstruation. Different studies from India and abroad have reported that 34 - 42.2%adolescent cleaned their external genitalia with soap and water during menstruation<sup>4,16-18</sup> . Dasgupta A et al reported that 156 out of 160 (97.5%) rural adolescent girls cleaned their external genitalia with soap and water<sup>19</sup>. In comparison, in the present study less number of adolescent girls in urban slum area were practicing cleaning of external genitalia with soap and water during menstruation. This difference in observation may be due to more use of sanitary napkin among urban adolescent slum girls. We suggest more emphasis should be given on cleaning of external genitalia during menstruation during future health education programs.

Our study has few limitations. This study was conducted in a representative sample of urban slum school girls. It would have been better if we had taken 10% more sample than calculated sample size to overcome the 'nonresponse' factor in this study. Daily bath, hand washing, cleaning of

external genitalia which may be the confounding factors in leucorrhoea and vaginal itch should have been correlated with use of sanitary napkin. Laboratory study of vaginal /cervical swab is also required to analyze the actual prevalence of reproductive tract infection/vaginosis.

## CONCLUSION

Present study reflected the increased use of sanitary napkin in slum area school girls than previous studies. It also showed that prevalence of symptomatic leucorrhoea and vaginal itch/burning was significantly less among the sanitary napkin users. This association has not been reported in previous studies. During IEC programs in the schools, emphasis must be given on safe and good practice during menstruation and to make them aware of the sequel of unsafe practice during menstruation and bad personal hygiene on reproductive tract.

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