

# Assessment of Knowledge and Practices about Menstrual Hygiene amongst Rural and Urban Adolescent Girls –A comparative Study

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## Research Article

**Abstract:** Adolescence is the period of transition from childhood to adulthood, spanning the age between 10 to 19 years. In girls Menarche starts during this period, and girls feel shy to discuss the topic openly, So to assess the knowledge and practices amongst rural and urban adolescent, present study was carried out in Study area comprises Z.P. High school Ambelohale form rural area and Sharda Mandir Girls High School Aurangabad from Urban area. In the field practice area of MGM Medical College Aurangabad. (M.S.). During the period January 2011 to April 2011. A total of 189 rural and 132 urban girls of 8<sup>th</sup> to 10<sup>th</sup> standard were included in this study. Pretested questionnaire was used to collect the information. Post test health Education was given about reproductive health, menstrual hygiene by Gynecologists. Findings were analyzed and statistical relationship was determined by using chi-square test.

**Results:-** 93(49%) rural & 94(71%) urban girls had started menarche ,regularities of menstruation was better in rural girls i.e. 87(94%) compared to urban girls, 53(56%). Percentage of using market available sanitary napkins was more in urban girls 56(60%) compared to rural girls 6 (06%) whereas homemade sanitary napkins were used by 87(94%) rural girls & 38 (40%) urban girls and this difference was statistically significant .amongst rural girls ,female teacher was the main source of knowledge 89(47%) while it was mother in urban area 48(36%).knowledge about reproductive system, determination of foetal sex, age of marriage etc. was better amongst urban girls. Social taboos like separate sitting, restriction on attending school & social functions were more amongst rural girls while sanitary facilities like attached toilet , full wall bathroom ,sufficient water etc were less in rural areas. Differences came out of study were statistically significant.

**Conclusion:** - knowledge, practices, sanitary facilities were less amongst rural girl compared to urban girls.

**Recommendation:-**1) sanitary facilities should made available to each house under NRHM.

2) Sanitary napkins should made available at lowest cost with AWW/ANM/ASHA

3) Health education in small groups of girls, to increase health awareness and healthful practices should be given regularly.

## Introduction:

The word adolescent is derived from Latin word adolescere which means to grow into maturity. Adolescence is a period of transition from childhood to adulthood. These are the formative years, when maximum amount of physical, psychological & behavioral changes takes place. The WHO defines adolescent as individual between 10-19 years of age. Today approximately 1/5 of world's population is adolescent, with more than four-fifth in developing countries [1].

An adolescent belongs to a vital age group not only because they are "entrant population" to parenthood but also because they are on the threshold between childhood and adulthood. As they attempt to cross the threshold they face various physiological, psychological and developmental changes [2]. Adolescence is the transitional period between childhood and adulthood. Menstruation can be first indication of puberty [3]. Menstruation is generally considered as unclean in the Indian society. Isolation of the menstruating girls and restrictions being imposed on them in the family, have reinforced a negative attitude towards this phenomenon [4].

Menstrual practices are clouded by taboos and social cultural restrictions even today, resulting in adolescent girls remaining ignorant of the scientific facts and hygienic health practices, necessary for maintaining positive reproductive health [5].

Technology offers sanitary pads, tampons etc. to user to decide what suits her best. The secretive aspect of menstruation is exaggerated to a great extent. Very few mothers are ready to share the information which is of paramount significance of their daughters. In spite of increased publicity given to

sanitary products through television, Radio, News papers in recent years. A key priority for women and girls is to have the necessary knowledge, facilities and the cultural environment to manage menstruation hygienically and with dignity. Very few studies having detailed information about menstrual practices among adolescent girls. So it was necessary that to investigate knowledge and practices about menstruation in adolescent school going girls, and which will be beneficial for planning a program for improving the awareness level of adolescent girls. This present study was carried out.

### Objectives:

- 1) To Assess & Compare Knowledge and practices about menstrual Hygiene in Rural & urban adolescent Girls.
- 2) To Know & Compare the sources of information in Rural & urban Girls.
- 3) To know and compare about availability of basic Sanitation facilities in Rural & urban Girls ,
- 4) To assess and compare knowledge about reproductive system in Rural & urban Girls.

### Material & Methodology:

**Study design:** Community based cross sectional comparative study.

The present study was carried out in rural Z. P. high school in village Ambelohale. Which is situated 26 Kilometers' to the south east of MGM

### Observations:

**Table1: Distribution According to Standard & attainment of Menarche:**

Std	Menarche in Rural girls			Menarche in urban girls		
	Yes	No	Total	Yes	No	Total
VIII	15(16%)	65(68%)	80(42%)	22(23%)	28(74%)	50(38%)
IX	36(39%)	30(31%)	66(35%)	43(46%)	10(26%)	53(40%)
X	42(45%)	01(1%)	43(23%)	29(31%)	00(00%)	29(22%)
Total	93(100%)	96(100%)	189(100%)	94(100%)	38(100%)	132(100%)
Chi-square value	105.1					
	70.9			32.3		
p-value	0.000 S					
	0.000 S			0.000 S		

Table 1 shows there were 189 girls from rural area of class VIII 80 (42%), class IX ,66 (35%) and class X 43 (23%), out of 189 ,93 (49%) girls had attended menarche ,where as 96 (51%) had not menarche. Out of these 93 girls, 42 (45%) of X standard, 36 (39%) of IX and 15 (16%) were of VIII Standard.

Medical College Aurangabad and Sharda Mandir Girls High School Aurangabad from Urban area. In the field practice area of MGM Medical College Aurangabad. (M.S.). During the period January 2011 to April 2011. A total of 189 rural and 132 urban girls of 8<sup>th</sup> to 10<sup>th</sup> standard were included in this study.

**Study tools and technique:** A pre-designed, pre-tested and structured questionnaire was used in the study. The data collection technique was a personal interview of the study subjects.

**Study population:** Total Three hundred and twenty one girls from the above mentioned schools, of the 8<sup>th</sup> and 10<sup>th</sup> standards, From Rural 189 & from urban 132 girls were selected for the study.

**Methodology:** permission from the school authorities were taken, the class teachers & investigators were explained the purpose of the study and the nature of the information which had to be furnished by the study subjects. This pre-designed, pretested and structured questionnaire included topics which were related to the awareness about menstruation, the sources of information regarding menstruation, regularity of menstrual period, Duration of menstrual period, Facilities available to maintain hygiene & social taboos followed during menstruation. Post interviewed health education related to menstrual hygiene was given by expert doctors of MGM Medical College Aurangabad.

Amongst 132 urban adolescent girls 50 (38%) were of VIII standard, 53 (40%) were of IX standard & 29 (22%) were of X standard, 94 (71%) girls had attended menarche, whereas 38 (29%) of girls had not started menarche. Out of these 94 girls, 22 (23%) of X standard, 43 (46%) of IX and 29 (31%) were of VIII Standard attended menarche.

The percentage of girls who had started menarche was higher in X Std compared to VII & IX std both in Urban ( $p < 0.05$ ). & Rural ( $p < 0.05$ ) area this difference was statistically significant.

The percentage of attending menarche was higher (45%) in X std rural girls compared to X std urban girls (31%).The difference was statistically significant ( $p < 0.05$ ).

**Table 2: Knowledge & attitude about Sex Education:**

		Rural Girls	Urban Girls	Total	Chi-square value	p-value
Necessity Sex Education	Yes	64 (34%)	74 (56%)	148 (43%)	15.6	0.000 S
	No	125 (64%)	58 (44%)	183(57%)		
	Total	189(100%)	132 (100%)	321(100%)		
Reproductive System	Yes	28 (15%)	67(51%)	95 (30%)	48.2	0.000 S
	No	161(85%)	65(49%)	226 (70%)		
	Total	189 (100%)	132(100%)	321(100%)		
Determination of Foetal Sex	Correct	09(05%)	50 (38%)	59 (17%)	56.8	0.000 S
	Incorrect	180(95%)	82 (62%)	262 (83%)		
	Total	189(100%)	132(100%)	321(100%)		
Age of Marriage (Boys)	Correct	93 (49%)	96 (73%)	189 (59%)	17.8	0.000 S
	Incorrect	96 (51%)	36 (27%)	132 (41%)		
	Total	189 (100%)	132 (100%)	321(100%)		
Age of Marriage (Girls)	Correct	122 (64%)	97 (74%)	219(68%)	2.86	0.091 NS
	Incorrect	67 (36%)	35 (26%)	102 (32%)		
	Total	189 (100%)	132(100%)	(100%)		

Table 2 shows that knowledge about necessity of sex education, about reproductive system, determination of fetal sex, age of mirage of Boys & girls.

**Necessity Sex Education:** Out of 321 adolescent girls, 148 (43%) of girls were willing to know about sex education, while 183 (57%) of adolescent girls were not willing. In rural area out of 189, 64(34%) girls were willing to know about sex education, where as in urban girls this was 74(56%) girls. Willing to Know about sex education amongst rural girls was less compared to urban girls. This shows statistical significant difference ( $p < 0.05$ ).

**Reproductive System :** 226 (70%) of the adolescent girls were not having proper knowledge about reproductive system. only 95 (30%) adolescent girls were having proper knowledge about reproductive system and urban adolescent girls had more knowledge 67 (51% ) than rural girls 28(15%).This difference was statistically significant ( $p < 0.05$ ).

**Determination of Foetal Sex:** out of 321 girls , only 59 (17%) adolescent girls were having correct knowledge about determination of Foetal sex .Where as in rural area knowledge about determination of Foetal sex was very less 09 ( 05%) compared to Urban area 50 (38%) and this difference was statistically significant ( $p < 0.05$ ).

**Age of Marriage (Boys):** 189 (59%) of adolescent girls known correctly the age of marriage of boys.In rural area 93 (49%) of adolescent girls knows correctly the age of marriage of boys which was less as compared to urban area i.e.96 (73%) of adolescent girls. and this difference was statistically significant ( $p < 0.05$ ).

**Age of Marriage (Girls):** 219 (68%) of adolescent girls known correctly the age of marriage of the girls. In rural area 122 (64%) of adolescent girls knows correctly the age of marriage of girls & in urban area i.e 97 (74%) of adolescent girls knows correctly. This difference was not statistically significant ( $p > 0.05$ )

**Table 3: Source of Knowledge about Menstrual Hygiene:**

Source of Knowledge	Rural Girls	Urban Girls	Total	Chi-square value	p-value
Mother	39 (21%)	48 (36%)	87 (27%)	92.1	0.000 S
Female Relatives	15 (08%)	19 (14%)	34 (11%)		
Teachers	89 (47%)	13 (10%)	102 (32%)		
Friends	39 (21%)	13 (10%)	52 (16%)		
Books	05 (03%)	39 (30%)	44 (13%)		
Other	02 (01%)	00 (00%)	02 (01%)		
Total	189 (100%)	132 (100%)	321(100%)		

Table 3 shows that source of knowledge about Menstrual Hygiene, In Rural girls the main source of knowledge was Teacher 89 (47%),mother & friends was 39 (21%) , female relatives 15 (08%),Books & other source of Knowledge was 05(03%) & 02 (01%) respectively. Where as in urban girls the

main source of knowledge about Menstrual Hygiene was Mothers 48 (36%) & Books & family relatives was 39 (30%) & 19 (14%) respectively. Teachers & Friends was 13 (10%). The Association between Source of Knowledge about Menstrual Hygiene and area of living were statistically significant ( $p < 0.05$ ).

**Table 4: Regularity of Menstrual period:**

	Rural	Urban	Total	Chi-square value	p-value
Regular	87 (95%)	53 (56%)	140 (75%)	34.3	0.000 S
Irregular	06 (05%)	41 (44%)	47 (25%)		
Total	93 (100%)	94 (100%)	187(100%)		

Table 4 shows that regularity of Menstrual period, out of 93 rural adolescent girls, 87 (95%) were having regular Menstrual period and 06 (05%) were having irregular menses. Whereas out of 94 in urban

adolescent girls 53 (56%) were having regular & 41(44%) were having irregular menses. Menstruation was regular in rural girls compared to urban girls .This difference was statistically significant ( $p < 0.05$ ).

**Table 5: Duration of Menstrual period:**

Duration	Rural	Urban	Total	Chi-square value	p-value
Optimum (5 days)	77(83%)	55(59%)	132(71%)	13.31	0.000 S
More than 5 days	16(17%)	39(41%)	55(29%)		
Total	93(100%)	94(100%)	187(100%)		

In Table 5, it has been observed that in rural adolescent girls, 77(83%) were having optimum 5 days menstrual duration while in urban girls it was 55 (59%). The more than 5 days menstrual duration in

rural & urban girls were 16 (17%) & 39 (41%) respectively. This shows statistical significant difference ( $p < 0.05$ ) may be due to sedentary life style in urban girls.

**Table 6: Type of Napkins used during Menstrual period:**

Type of Napkins	Rural Girls	Urban Girls	Total	Chi-square value	p-value
Market Available	06(07%)	56(60%)	62(33%)	59.5	0.000 S
Home made	87(93%)	38(40%)	125(67%)		
Total	93(100%)	94(100%)	187(100%)		

Table 6 reveals that the study of the practices during menstruation showed that 62(33%) girls were using market available Napkins during menstruation and 125 (67%) girls used Homemade Napkins. In urban girls, the use of market available Napkins was 56(60%) and in rural girls, it was only 06 (07%). The

use of Homemade Napkins was 87(93%) in the rural girls and 38(40%) in the urban girls and this difference was found to be statistically significant ( $p < 0.05$ ).This difference may be due to non availability, low socio-economical status & feeling Shy etc.

**Table 7: Facilities available to maintain Hygiene during Menstruation:**

		Rural Girls	Urban Girls	Total	Chi-square value	p-value
Water	Sufficient	00(00%)	84 (89%)	84(45%)	15.1	0.000 S
	Insufficient	93(100%)	10 (11%)	103(55%)		
	Total	93(100%)	94 (100%)	187 (100%)		
Toilet Facility at Home	Yes	23 (25%)	81 (86%)	104 (56%)	71.5	0.000 S
	No	70 (75%)	13 (14%)	83 (44%)		
	Total	93 (100%)	94 (100%)	187 (100%)		
Bath room facility	Open	43(46%)	12(13%)	55 (25%)	25.21	0.000 S
	Close	50 (54%)	82 (87%)	132 (75%)		
	Total	93 (100%)	94 (100%)	187 (100%)		

**Table 7** shows that facilities available to maintain hygiene.

**Water Facility:** 84(45%) girls were having sufficient water facility and 103 (55%) girls were having insufficient water facility. For rural girls 0% having sufficient water facility where as 84 (89%) urban girls have sufficient water facility and this difference highly significant ( $p < 0.05$ ).

**Toilet Facility at Home:** Out of 187 adolescent girls, for 104 (56%) girls , toilet facility at home was

available , whereas for 83(44%) of the girls ,it was not available . In rural adolescent girls 23 (25%) were having toilet facility at home where as in urban girls it was 81 (86 %).This difference highly significant ( $p < 0.05$ ).

**Bath room facility:** The close type of bath room facility was available for 132 (75%) girls. For urban girls this facility was for 82 (87%) & for rural girls it was for 50 (54%) girls only. The difference was statistically significant ( $p < 0.05$ ).

**Table 8: social Taboos followed during Menstruation:**

Social Taboos		Rural Girls	Urban Girls	Total	Chi-square value	p-value
Do Household work	Yes	45 (48%)	85 (90%)	130 (70%)	39.1	0.000 S
	No	48 (52%)	09 (10%)	57 (30%)		
	Total	93 (100%)	94 (100%)	187 (100%)		
Separate Sitting	Yes	36 (39%)	14 (15%)	50 (27%)	13.5	0.000 S
	No	57 (61%)	80 (85%)	137 (73%)		
	Total	93 (100%)	94 (100%)	187 (100%)		
Attend School	Yes	67 (72%)	89 (94%)	156 (83%)	16.8	0.000 S
	No	26 (28%)	05 (05%)	31 (17%)		
	Total	93 (100%)	94(100%)	187(100%)		

**Do Household work:** Out of 187 adolescent girls, for 130(70%) girls were doing household work during menstruation,. In rural area 45 (48%) were doing household work during menstruation where as in urban girls it was 85(90%).This difference was statistically significant ( $p < 0.05$ ).

**Separate Sitting:** The separate sitting of adolescent girls followed during menstruation was 50 (27%). In rural area it was 36 (39%) where as in urban area it was only 14(15%). This difference was statistically significant ( $p < 0.05$ ).

**Attend School:** 156 (83%) adolescent girls were attended school during menstruation. In rural area 67 (72%) adolescent girls were attended school during menstruation where as in urban area it was 89(94%) . This difference was statistically significant ( $p < 0.05$ ).

**Discussion:**

In the present study, the mean age at menarche was found to be 13.65 years, whereas the mean age for menarche was calculated to be 12.8 and 13.2 years, as reported by Khanna A, et.al [6] and Dasgupta A,[7].In our study, the menarche attended at average age by 94(71%) Urban adolescent girls which was more than the rural girls 93(49%).

The urban adolescent girls having more knowledge about sex education, reproductive system, determination of Foetal sex, age of marriage of boys & girls etc. than the rural adolescent girls. And these differences were also statistically significant.

Menarche is an important event in girls at the threshold of adolescent and ideally, mothers should be main source of knowledge about menstrual Hygine.However in this study in rural area main source of gaining knowledge about menstrual hygiene was teacher 89(49%), where as in urban area mother 48 (38%) was the main source, and this difference was also statistically significant. The study conducted by Dasgupta et al [7] reported that the first informant was the mother in 40.67%.

The rural and urban differences was found to be statistically significant with regard to the regularity of menstrual period, the regularity of menstrual period in rural adolescent girls (87%) was more than the urban adolescent girls(53%).

The 83% of rural adolescent girls was having optimum five days menstrual period where as in urban it was 59%.and this difference was statistically significant ( $p < 0.05$ ).

Very few girls from the rural areas used sanitary pads/ napkins which were available in the market possibly due to their low socioeconomic status, lesser availability of the pads at the rural area and lack of awareness. Narayan KA, et al [8] and Quazi S.Z.et al [9] in their researches reported that a majority of the rural school girls who used old clothes, sanitized the material by boiling and drying them before reuse. In this study rural adolescent girls, 06 (07%) were used market available Napkins during menstrual period. Whereas the urban adolescent girls

56(60%) were used market available Napkins during menstrual period. The difference between Type of Napkins used during Menstrual period and area of living were statistically significant ( $p < 0.05$ ).

Maintaining menstrual hygiene is very important. As far India is concerned as it is developing country, in rural part of India due to lack of facilities available for maintaining the hygiene during menstrual period of adolescent girls was less [7]. In this study rural area of family having lack of facilities like sufficient water (00%), toilet facility at home (75%) and closed bath room facility (46%) as compared with urban family adolescent girls.

“A woman is ritually impure during menstruation and anyone or anything she touches becomes impure as well. It is usually the mothers who enforce these restrictions”. In India different restrictions & social taboos have practices by most of girls during menstruation, possibly due to different rituals in their communities. In this study social taboo like not doing house work, separate sitting and not attending school during menstruation was more in rural adolescent girls as compared to urban adolescent girls, and these differences were also statistically significant. This difference may be due lack of awareness during menstruation in rural area as compared to the urban area. This finding is similar with finding of Dasgupta et al.[7].

### Conclusions:

It can be said that amongst the adolescent school girls in both the urban and rural areas, the knowledge on menstruation, Sex education, and reproductive system etc. is poor and also it comparatively lesser in rural area. The practices are often not optimal for proper hygiene. The social taboos like separate sitting, attending school etc. are followed more in rural girls. Menstrual hygiene & social taboos followed during menstruation are issues needs to be addressed at all levels. A variety of factors are known to affect menstrual behaviors, the most influential ones being economic status and residential status (urban and rural). The regularity of menstruation period and duration of menstruation is not adequate in urban areas. So on these factors there is need to increase awareness.

### Recommendations:

1) For Most of the rural girls, sanitary facilities like adequate water, separate toilet & bath room facility at home was not available, so Government should make

available these sanitary facilities to each house under NRHM or any other scheme.

2) Considering the lesser use of sanitary napkins by the rural adolescent girls as compared to urban girls, there is a need to motivate adolescent girls to use sanitary napkins, and these Sanitary napkins should made available at lowest cost with AWW/ANM/ASHA.

3) It is important therefore that a sustained public health awareness program is to be developed to operate in population to create better awareness amongst adolescent girls.

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