



# A Cross-Sectional Study On Menstrual Hygiene Practices Among Adolescent Girls Residing In Urban Slums Of Vadodara

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**Abstract:** Adolescence is an important period of life due to rapid growth as well as puberty. Menstruation among girls is a key characteristic of sexual maturation and puberty. Maintaining menstrual hygiene is very important for ensuring good health among adolescent girls. The present study was conducted to study practices related to menstrual hygiene among adolescent girls living in an urban slum of Vadodara. A total of 314 adolescent girls between the ages of 11 to 19 years registered in Anganwadi centers were enrolled in the study. Data on knowledge and practices related to menstrual hygiene was collected using a pre-tested semi structured questionnaire in Gujarati- the local language. The results showed that the average age of menarche was  $13.3 \pm 1.5$  years among girls. Most of the girls received knowledge on menstruation from their mothers or sisters. Mother's literacy contributed to better menstrual hygiene practices among girls. More school going girls (55%) used sanitary napkins than out of school girls (45%). Practices related to disposal of used sanitary napkins was also better among school going adolescent girls. Thus, the results showed that the menstrual hygiene practices were better among girls whose mothers were literate and those who were attending schools. But there was still a gap in appropriate menstrual hygiene practices followed by both school going and out-of-school girls, focusing on a need to design awareness generation strategies.

**Key Words:** *Out of School girls, Adolescent girls, Menstruation, Menstrual Hygiene Management*

## I. INTRODUCTION

Adolescence is a critical period for growth and development. Adolescents are considered as an important vulnerable group that remains largely neglected in the global health community (Patil, N. et al 2018). Various factors contribute to their vulnerability especially health as well as nutrition related factors are important contributors to it. Problems such as infections and malnutrition including micronutrient malnutrition often compromise the well-being and growth of adolescents in various ways. Inadequate menstrual hygiene increases the risk of infections of the reproductive tract among these girls. Poor menstrual hygiene practices can also lead to genitourinary tract infections, cervical cancer, and other health issues. (Nawaz, I. et al. 2022)

Unfortunately, in Indian society, menstruation is often associated with uncleanness and talking about menstruation is still a taboo. Along with this, there is a lack of correct knowledge combined with limited resources that leads to compromised menstrual hygiene among adolescent girls in India.

Various research studies have shown that adolescent girls who go to schools have better menstrual hygiene as compared to those who do not go to schools. (Wihdaturrahmah and Chuemchit. M, 2023; Gyawali. A and Acharya. P, 2023) Thus, there is a need to address this issue, especially among populations that are underprivileged and far to reach. As reported by Rani et al. (2022), out-of-school girls face challenges such as

using old cloths as absorbents, improper disposal of used pads, irregular bathing during menstruation, and limited access to water for maintaining hygiene.

Thus, there is a need to generate more data on menstrual hygiene practices among out of school adolescent girls in different areas which will further help to design targeted strategies to improve knowledge, attitude as well as practices among them.

## II. METHODOLOGY

The study was done with an objective to assess the knowledge and practices related to menstrual hygiene among out of school adolescent girls of urban Vadodara. The study was a cross-sectional research conducted in the urban slums of Vadodara.

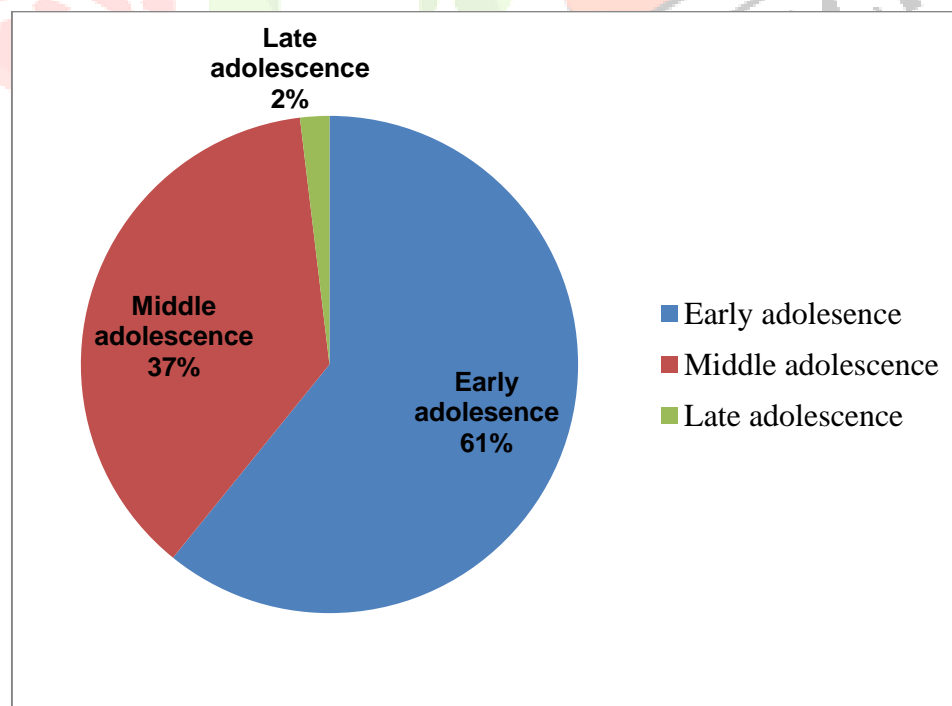
For selection of the sample, the entire Vadodara city was divided into four regions. All 399 AWCs were divided into 4 zones according to the Urban Primary Health Centres (UPHCs). Two UPHCs were randomly selected from each region and from each UPHC; selection of two AWCs was done randomly. So, a total of four AWCs from each zone making a total of 16 AWCs were selected for the study. All the adolescent girls registered under the selected AWCs were enrolled for the study. The pooled data comprised of total 314 adolescent girls.

A pre-tested semi-structured questionnaire prepared in the local language was administered for collection of data on knowledge and practices related to menstrual hygiene from the adolescent girls. The girls were interviewed after taking a written assent from them.

## III. RESULTS

The data on age of adolescent girls showed that of the total 314 adolescent girls, 86 of them belonged to early adolescence, 141 to middle adolescence and 87 to late adolescence (Figure 1). Half of the selected adolescent girls were school-going and 50.0% were out-of-school adolescent girls. In school-going age, the highest numbers of (25.5%) girls were of 14 years age and the lowest numbers of (1.9%) girls were in 19 years age group. In non-school going group, the highest number of (19.7%) girls were in the 16 and 17 years age groups. Data on menarche revealed that the mean age at menarche was  $13.3 \pm 1.5$  years among the girls. The majority of (83.8%) the girls had attained menarche. It was reported by 84.0% of girls that their menstrual cycle was regular (Table 1).

**Figure 1 Distribution of Subjects across the Stages of Adolescence (%)**



**Table 1 Age at Menarche of Adolescent Girls (N=314)**

Periods	N	%
Yes	263	83.75
No	51	16.24
Age of Menarche (N=263)		
10	7	2.66
11	25	9.5
12	46	17.49
13	82	31.18
14	38	14.44
15	46	17.49
16	14	5.3
17	5	1.9
18	0	0
19	0	0
Regularity of Menstruation (N=263)		
Regular	221	84.0
Irregular	42	15.96

All the girls who had attained menarche were further asked questions related to menstrual hygiene. The data revealed that 67% school going girls and 42.2% of the out-of-school girls reported that they received knowledge related to menstruation from their school teachers or friends. Most of the out of school girls reported that they received knowledge from their mother or sisters. None of the adolescent girls said that they received knowledge on menstruation from Anganwadi worker (AWW) or Accredited Social Health Activist (ASHA) worker. (Table 2)

**Table 2 Source of Knowledge on Menstruation (N=93)**

Knowledge of menstruation	School going N=33 n (%)	Out of school girls N=37 n (%)
Mahila Mitra	1 (50)	1 (50)
Mother	15 (37.5)	25 (62.5)
AWW/ASHA	-	-
Teacher	12 (63.1)	7 (36.8)
Friends	5 (55.5)	4 (44.5)

The data on association between education level of mother and menstrual hygiene practices among adolescent girls is given in Table 3. It showed that more number of adolescent girls (72.7%), whose mothers were literate reported that they used sanitary pads as compared to the girls (27.2%) whose mothers were not literate. Although, same number of girls reported to be using cloth in both these groups (50%). Thus, literacy among mothers was indicated to be improving the usage of disposable sanitary napkins, which is considered as a more hygienic option. However, the girls were still using cloths, which if are not cleaned and sun dried properly, may increase the changes of infections.

**Table 3 Association between literacy among mothers and menstrual hygiene practices among adolescent school girls (N=263)**

	Illiterate N=90 n (%)	Literate N=173 n (%)
Sanitary pad	46 (27.2)	123 (72.7)
Cloth	3 (50)	3 (50)
Red cloth	36 (48)	39 (52)
Pad & cloth	1 (25)	3 (75)
Pad & red cloth	4 (44.4)	5 (55.5)

Further, a comparison was done between school going and out of school girls. The data showed that more number of school going girls (55%) used sanitary napkins as compared to out of school girls (45%). More than three fourth of the out of school girls used red cloth where as 24% of school going girls used red cloth. This

red cloth was a type of cloth which is more absorbent than regular cloth commonly used during menstruation. (Table 4) Disposal of sanitary pad or cloth used by girls during menstruation is an important hygiene aspect. Most of (90%) of the school going girls and 64% out of school girls reported that they disposed the used pad/cloth in a dustbin. A small number of school going girls (3%) reported that they burn the used sanitary pad (table 5).

**Table 4 Menstrual hygiene practices among school going and out-of-school adolescent girls (N=263)**

	School going N=90 n (%)	Out of school girls N=173 n (%)
Sanitary pad	93 (55.0)	76 (45)
Cloth	3(50)	3(50)
Red cloth	18(24)	57(76)
Pad & cloth	2(50)	2(50)
Pad & red cloth	6(66.66)	3(33.33)

**Table 5 Disposal of pad/cloth by adolescent girls (N=182)**

Disposal of pad/cloth	School going N n (%)	Out of school girls N n (%)
Open	5 (4.9)	0 (0.00)
Drainage	2 (1.98)	11 (13.58)
Dustbin	91 (90.1)	65 (64.35)
Burn it	3 (2.97)	5 (6.17)

#### IV. DISCUSSION

Results of the study showed that mothers were the ones who imparted knowledge regarding of menstrual hygiene. The present study also highlighted significant association between menstrual hygiene management practices with mother's educational status. This finding is corroborated by results of another study done by Khan et al (2019), who found significant association between educational status of mothers of adolescent girls and absorbent material used during menstruation. Mothers' literacy was also reported to be significantly improving the menstrual hygiene practices followed by adolescent girls in a study conducted in Odisha. (Panda et al. 2024)

It was found in the present study that 64% of adolescent girls used sanitary pad during menstruation. This data was in agreement of the NFHS-5 report which showed that 64% girls between 15 to 24 years of age in India use sanitary pads and 50% use cloth during menstruation. (IIPS and ICF, 2021) The results revealed that more school going adolescents (55%) were using sanitary napkins as compared to out-of-school girls (45%). Hygienic disposal of used sanitary pads was also followed by more school going girls as compared to out-of-school girls. Panda et al (2024) showed that there was a positive correlation between educational status of adolescent girls and hygienic menstrual management practices.

#### V. CONCLUSION

Results of this study demonstrated significant associations between menstrual hygiene management practices of respondents with their mother's education level. School going adolescents were found to be following better menstrual hygiene practices than out-of-school girls. However, the practices among school going adolescents also needed improvement. This shows that there is a need to create more awareness regarding optimum menstrual hygiene practices among adolescent girls with a more focus on out-of-school girls.

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