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## Original Research Article

## An observational study on menstrual hygiene practices among adolescent girls attending zilla parishad high school at Kommadi village in Visakhapatnam

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## ABSTRACT

**Background:** Under RMNCH+A strategy, adolescent health program is relatively a new concept, particularly for female gender, and has been considered to be a continuum of health services up to adolescent age. The priority interventions among adolescent girls are, nutrition, Adolescent Friendly Health clinics (AFHCs), Counselling, Menstrual hygiene and preventive health checkups. Menstrual hygiene component has been taken for the present study among the adolescent girls in a Zilla Parishad High School aged 10 to 19 years. Rastriya Kishora Swasthya Karyakram (RKSK) is broader one including both gender for distinct health services in India.

**Aim and Objective:** To study the association of various socio- economic and cultural practices influencing the usage of sanitary napkins by menstruating adolescent school girls.

**Materials and Methods:** Cross sectional study among menstruating adolescent girls in a Zilla Parishad High School at Kommadi village. 198 adolescent girls were randomly selected for study using semi structured questionnaire. Each menstruating girl is questioned categorically (yes/no) as per the structured questionnaire covering socio economic status, literacy of mother, awareness about ASHA etc. Appropriate statistical tests like frequencies, percentages and chi-square tests are applied to analyse and interpret the collected data.

**Results:** Socio-demographic factors of the target population in the community from where the adolescent girls attending zilla Parishad High school were subjected to study and found that 19(22%) adolescent girls having white ration card are using sanitary napkin. 46% of sanitary napkin users in our study are aware of using cloth available in the house during menstruation. 39 (52%) adolescent girls using sanitary napkin are aware of ASHA worker visiting their colony. One of the family members, either mother or elder sister being a member in Self Help Group in the colony is influencing the usage of sanitary napkin 46 (50.5%). Habit of Over-the-Counter drugs usage in the family has significantly (55%) influenced the adolescent school girls in using sanitary napkin. School drop-outs 51(62.9%) are also observed among sanitary napkin users during menstruation.

**Conclusion:** The usage of sanitary napkin replacing the traditional home-made cloth is highly essential for proper menstrual hygiene management among adolescent girls attending the school regularly without drop out. The role of ASHA workers and other paramedical staff in the community cannot be undermined.

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## 1. Introduction

Adolescent girl when attains menarche, a unique phenomenon in the female sex. The parents celebrate the vital event and discriminates the girl from that day

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onwards by giving separate status as per our tradition and custom and restrict her socio-cultural life. There are myths attached with this phenomenon.<sup>1</sup> Fortunately, over a period of time, it has been understood as normal biological change in any woman during adolescence. Girls' education, employment and women empowerment brought commendable change in the status of women in the society. But for a few days during menstruation every month, both for adolescent girls and women till they attain menopause, they need special attention. Unless they follow modern ways of menstrual management practices of using sanitary products, they will not be comfortable in daily activities. Menstruation in adolescents needs further attention by the parents and society because it is first experience among adolescent girls usually school going, must be given encouragement to relieve her fear and anxiety.

In fact, the recently introduced Adolescent Friendly Health Clinics (AFHCs) under Adolescent Reproductive and Sexual Health (ARSH) is strong move for Menstrual Hygiene services among adolescent girls particularly from weaker section colonies.<sup>2</sup>

The onset of puberty, when the girl has her first period is known as Menarche<sup>3</sup> and it may take place between 9-16 years of age. During this period, most girls observe bleeding for the first time from the vagina. This bleeding becomes a periodic occurrence in a girl's life with the cycle of bleeding observed in a gap of 28-40 days. Girls have thousands of eggs in their ovaries when they are born. Every month, or about once in 21-40 days, one of the eggs leaves one of the ovaries, and travels through a fallopian tube. When the egg leaves the ovary, this is called ovulation. As the egg travels in the fallopian tube, a soft spongy lining gets formed within the uterus. This lining is mostly made up of tiny blood vessels. In case an egg and sperm meet to form an embryo, or a baby, that begins to grow in the uterus and the lining will provide the nutrition. If the egg is not joined by a sperm, the lining of the uterus begins to break. The blood that is released from the broken lining, flows out of the vagina. This bleeding is the menstrual period and this whole cycle is called menstruation. A menstrual cycle lasts from the first day of one period to the first day of the next. The typical cycle of an adult female is 28 days, Periods usually last about 3-7 days and woman passes about 2-4 tablespoons of menstrual blood.

Girls and women use different ways to absorb menstrual blood. One of the most common methods used is a cloth which is folded and placed within the underwear, or passes over the private parts by means of a string tied around the waist. This cloth is washed and reused most of the time. A sanitary napkin is a pad that is worn during menstruation to absorb the flow of blood. The sanitary napkin is to be used by the girl during her periods (when the blood is flowing) so that it can help her carry out normal work without any discomfort. Sanitary napkins are disposable and should be

discarded after being used once.

Safe disposal of sanitary napkins is important. Where there are facilities for regular garbage removal, girls should be encouraged to wrap the used napkin in an old newspaper and throw them into dustbins which are emptied daily. If garbage is not collected daily, the napkins should be disposed of by burying them in a deep pit or by burning them. Some schools have machines in which a large quantity of napkins can be burnt. These are called incinerators. However, not all schools have these. Girls should be cautioned against throwing away used napkins under bushes or out in the open. Sanitary napkins, if collected in one place for a long time, begin to emit bad odour, and become a site where bacteria can multiply. They can also block drains and cause problems with sanitation. Once menarche sets in, girls should be encouraged to plan for their menstrual periods. This includes keeping track of their menstrual cycles so that they are prepared for the time when the bleeding starts. As periods may be irregular in the early years, girls should be encouraged to be alert for the bleeding. If they are school going girls or plan to be out of home for a long while, they should carry a sanitary napkin with them.

One of the most important components of the RMNCH+A is menstrual hygiene and is to be popularized through Adolescent Friendly Health Clinics (AFHCs).<sup>4</sup>

## 2. Aim and Objective

1. To study the association of various socio- economic and cultural practices with usage of sanitary napkins by menstruating adolescent school (zilla parishad school) girls.
2. Create awareness about Adolescent Friendly Health Clinics (AFHCs) to get sanitary napkins on nominal price

## 3. Material and Methods

This study is descriptive cross- sectional study, this Study was conducted in area and population of ZP High School at Kommadi is an upper-primary co-education school up to Xth class. The school provides free education mainly serving the children from BPL families and in-habitants of nearby slums, who are the target Adolescent children for our present study. Total strength of students in the school is 978. We have taken about 198 adolescent menstruating girls for our study.

### 3.1. Sample size

The proportion of adolescent girls in the general population is 18%. List of all the adolescent menstruating girls in the school is prepared. 18% of the sample is taken with 95% confidence limits and 5% as margin of error. 198 adolescent girls taken as sample size for the study.

### 3.2. Sampling technique

Systematic random sampling procedure is adopted. Since the girl children admitted in the ZP High school are at various ages, starting from 1st standard to 10th standard, we have taken the total strength of the school children, i.e. 978. All the attendance registers class wise were taken as sampling frame. A random number 9 was taken from last number of a hundred rupee note. We selected every 9th number from class attendance registers till we get the sample size of 198 menstruating adolescent girl children. During the selection of successive 9th number, we got non-menstruating girl children and boys who were skipped off and continuing without any deviation till we get the required number of samples i.e. 198 out of 978.

Institutional Ethics Committee approval Exempted because of the reason that it is merely survey in the field practicing area of Community Medicine Department, no biological material is examined, not an interventional study and no recorded information is used except age and present menstruation related factors and the data is de-identified analysed. Administrative approval is taken from school head master and Local Health Authority.

### 3.3. Data collection instrument

questionnaire form is prepared and each girl child is questioned as per questionnaire containing variables like, awareness about usage of sanitary napkin, AFH Cs, literacy mother etc.

### 3.4. Statistical analysis

Epi Info, and MedCalc software is used for statistical analysis. The statistical tests we used in the study is chi-square. 2x2 table to study the effect of Socio demographic variables on usage of sanitary napkin among adolescent menstruating girls representing mostly from weaker-section colonies.

**Table 1:** Descriptive statistics table- Usage of sanitary napkin

S. No	Study variable	Sanitary napkin users
1	Total number of school children	978
2	Menstruating adolescent girls' study sample	198
3	White card families	22
4	Awareness about homemade traditional cloth	45
5	Awareness about ASHA worker	39
6	SHG family member	46
7	Adopting family planning methods	50
8	Usage of OTC drugs	77
9	Literate mothers	37

## 4. Results

Adolescent girl from BPL family only 22(19.5%) are using sanitary napkin. Awareness about traditional method using cloth available in the home during menstruation, boosted 2 times (AOR, 2.29) among the adolescent girls 45 (46%) in the usage of sanitary napkin. 52% (39) among adolescent girls using sanitary napkin know about ASHA workers visiting their colonies. Awareness about AFHC 4 times (AOR 4.88) influenced the adolescent girls 50 (55%) in usage sanitary napkin. Family member in SHG group, 3 times (AOR 3.18) influenced the usage of sanitary napkin among adolescent girls 46 (50.5%). Mothers' literacy did not significantly influence the usage of sanitary napkin. Less than 4 members in a family significantly (AOR 2.8) influenced the usage of sanitary napkin 23(56%). Usage of FP methods significantly increased (AOR 4.8) the usage 50 (55%). Purchase and using OTC drugs significantly improved the usage of sanitary napkin (AOR 2.5) among adolescent girls 77 (56%). Significant school drop outs among adolescent girls 51(62.9%) using sanitary napkin.

## 5. Discussion

Deriba BS et al, the safe management of menstrual hygiene was low among adolescent girls. People with whom adolescent girls live, the occupational status of mother and father, residence, the availability of a container to dispose of sanitary napkins in school toilets were factors associated with menstrual hygiene management. In our study also found no dedicated room for privacy of menstruating school girls near wash room. Water supply, sanitizers and container for disposed pads with tight lid. Prompt collection of pads by municipal garbage vehicle is also equally important.<sup>5</sup>

Bhusal CK et al, educational status of mother and father, family size, and living status were found to be independent associated factors of menstrual hygiene practice. In this context, their study demonstrates that administrators and policy makers should provide specific education regarding on menstrual hygiene to both parents. Similarly local government needs to subsidize hygiene towels for school adolescents.<sup>6</sup>

Majeed J et al, Menstrual hygiene management (MHM) and practices by adolescent females of low and middle-income countries (LMICs) are a severe public health issue. Learning about menstrual hygiene and health is essential for adolescent girls' health education to sustain the habit of menstrual hygiene. Infections of the reproductive system and their repercussions can be avoided with better awareness and safe menstruation practices.<sup>7</sup>

Bulto GA et al, menstruation is a natural event that is a physiological and psychological milestone in women's reproductive life. But Menstrual Hygiene Management (MHM) continues to be a monthly challenge for adolescent girls in low-income countries, including Ethiopia harming

**Table 2:** Study of variables influencing the usage of sanitary napkin among adolescent school girls

Independent variable	n % using sanitary napkin	AOR	95% CI	P*
Family white card	22(19.5)	0.169	0.089 – 0.319	< 0.0001
Awareness about homemade traditional cloth	45(46)	2.295	1.267 – 4.157	0.005
Awareness about ASHA	39(52)	0.385	0.208 – 0.713	0.0024
Awareness about AFHC	50(55)	4.886	2.612 – 9.140	< 0.0001
SHG Family member	46(50.5)	3.184	1.741 – 5.822	0.0002
Mothers' literacy	37(41.4)	1.456	0.813 – 2.605	0.205
Family members => 4	23(56)	2.816	1.394 – 5.689	0.0039
Usage of FP method	50(55)	4.886	2.612 – 9.140	< 0.0001
Usage of OTC drugs	77(56)	2.493	1.372 – 4.530	0.0027
School dropouts	51(62.9)	7.771	4.045 – 14.930	< 0.0001

\*P Value considered significant = < 0.05, AOR (Adjusted Odds Ratio) CI (Confidence Interval). ASHA (Accredited Social Health Activist), AFHC (Adolescent Friendly Health Clinic). SHG (Self Help Group), FP (Family Planning Method), OTC (Over the Counter), Family White Card (below Poverty Line Family).

their school attendance, health, and daily life. Therefore, their study aimed to determine the practice of MHM and associated factors in central Ethiopia. The study revealed three-fourth of adolescents had good overall knowledge and two-third of them had inadequate MHM practice.

In our present study also though usage of sanitary napkin is indecisive among white card families, awareness about ASHA, knowledge about traditional family practice of using cloth available in the home, awareness about AFHC significantly influenced in usage of sanitary napkin.

Rural residence, source of information on menstruation, school toilets with inside lock, experiencing menstrual-related problems, and overall knowledge were associated with adequate MHM practice. Therefore, working on enhancing the awareness of adolescent girls on menstruation and MHM practice and making school environments conducive to safe MHM practice were recommended in their study.<sup>8</sup>

Ahmed Shallo S et al, menstruation is still regarded as something unclean in many parts of Ethiopia. Despite the challenges related to menstrual hygiene management, it has been routinely overlooked in the school setting. The existing evidence on menstrual hygiene management lack of objective measurement approaches. Therefore, the aim of their study was to assess factors affecting menstrual hygiene management practice among school adolescents in Ambo, Western Ethiopia. High prevalence of unsafe menstrual hygiene management in the study area implies that urgent measures are needed from the concerned body. The school environments were not female friendly for managing their menses safely highlighting that the water, sanitation, and hygiene facilities in the schools need urgent solutions.<sup>9</sup>

Shumie ZS et al, overall, nearly two-third of respondents had good knowledge and good practice of menstrual hygiene management in their study. Factors significantly associated with their knowledge included age, grade level, residence, learning on menstrual hygiene, and knowledge of sanitary pads. Residence, knowledge on menstrual hygiene,

know about sexually transmitted infections and having a private shower were found to be associated with practice of menstrual hygiene management. In general, their finding indicates that menstrual hygiene was unsatisfactory among adolescent school girls and more should be done on the factors identified. In our study also knowledge about menstruation is fairly known to adolescent girls. What is required is provision of facilities in govt schools to reduce the school dropouts.<sup>10</sup>

Uwadia RC et al, in their study, even though the situation in the public schools was worse, both public and private schools lack the enabling environment for MHM. School health promotion interventions, such as provision of subsidised/affordable menstrual pads and basic WASH facilities and campaigns to break the culture of silence are required for the wellbeing of girls. The same is true in our study also.<sup>11</sup>

Sommer M et al, Progress has been made in recent years to bring attention to the challenges faced by school-aged girls around managing menstruation in educational settings that lack adequate physical environments and social support in low- and middle-income countries. To create enabling environment for adolescent girls in government education institutions political will is necessary.<sup>12</sup>

Daniel N et al, in their study, good menstrual hygiene management practice is low among in school adolescent girls. Place of residence, maternal educational level, discussion about menstrual issue with parent, and having knowledge about menstruation were factors associated with good menstrual management practice. Stakeholders should give appropriate awareness and health education related to menstrual hygiene for adolescent girls at all levels.<sup>13</sup>

Nnennaya EU et al, the study found that 207 (69.7%) of respondents had good knowledge about menstruation while 171 (57.58%) had good menstrual hygiene management. Knowledge was significantly associated with good menstrual hygiene management. In our study awareness about ASHA (55%) was found among sanitary

napkin users.<sup>14</sup>

Ahmed S et al, conclusions in their study, they observed that over two-thirds of the study participants were engaged in good menstrual hygiene practices, while 40% of them reported menstrual-related school absenteeism. their study also found evidence that the age of the school girls was associated with their menstrual hygiene management practices. They recommend further research on the impact of menstruation and its management on the academic performance of adolescent school girls. Efforts are also required to develop the capacity of teachers to teach menstrual hygiene education. In our present study, 62.9% of adolescent girls using sanitary napkin are school dropouts during menstruation.<sup>15</sup>

Belayneh Z, Mekuriaw B. et al in their study to assess the knowledge and menstrual hygiene practice among adolescent school girls in southern Ethiopia. Majority of adolescent school girls had poor knowledge regarding menstruation and their hygienic practices are incorrect. This demonstrates a need to design acceptable awareness creation and advocacy programs to improve the knowledge and promote safe hygienic practice of adolescent school girls during menstruation.<sup>16</sup>

Parent C, Tetu C et al is the first French study on menstrual hygiene products. It showed that traditional sanitary protection was still the most widely used, but there was a growing awareness among patients about the products they used and their potential health risks as well as the consequences for the environment. Patients wanted to receive information on the subject from health professionals as well as manufacturers in order to be able to choose the product deemed the most suitable and in which they have confidence.<sup>17</sup>

Kaur R et al Menstruation and menstrual practices still face many social, cultural, and religious restrictions which are a big barrier in the path of menstrual hygiene management. In many parts of the country especially in rural areas girls are not prepared and aware about menstruation so they face many difficulties and challenges at home, schools, and work places. While reviewing literature, we found that little, inaccurate, or incomplete knowledge about menstruation is a great hindrance in the path of personal and menstrual hygiene management. Girls and women have very less or no knowledge about reproductive tract infections caused due to ignorance of personal hygiene during menstruation time. In rural areas, women do not have access to sanitary products or they know very little about the types and method of using them or are unable to afford such products due to high cost. So, they mostly rely on reusable cloth pads which they wash and use again.<sup>18</sup>

Ha MAT et al, although there are some cases of sanitary pad use, still menstrual hygiene management is unhealthy in most cases. The continuous supply of sanitary pads at affordable cost, change in existing social norms about

menstruation, proper education, information, and services are essential for achieving health-related SDG goals in both rural and urban areas of Bangladesh.<sup>19</sup>

Rossouw L et al, menstrual hygiene management and health is increasingly gaining policy importance in a bid to promote dignity, gender equality and reproductive health. Effective and adequate menstrual hygiene management requires women and girls to have access to their menstrual health materials and products of choice, but also extends into having private, clean and safe spaces for using these materials. The paper provides empirical evidence of the inequality in menstrual hygiene management in Kinshasa (DRC), Ethiopia, Ghana, Kenya, Rajasthan (India), Indonesia, Nigeria and Uganda using concentration indices and decomposition methods. There is consistent evidence of wealth-related inequality in the conditions of menstrual hygiene management spaces as well as access to sanitary pads across all countries. Wealth, education, the rural-urban divide and infrastructural limitations of the household are major contributors to these inequalities. While wealth is identified as one of the key drivers of unequal access to menstrual hygiene management, other socio-economic, environmental and household factors require urgent policy attention. This specifically includes the lack of safe MHM spaces which threaten the health and dignity of women and girls.<sup>20</sup>

## 6. Strengths and Limitations at the Study

Similar studies else ware, particularly in India and other developing countries, strengthened our study with similar observations i.e., poverty, lack of motivation, intersectoral coordination, necessary infrastructure for privacy, sanitation standards appear to be bottle necks for widespread usage of sanitary napkin in the schools.

The study is limited to only one section of adolescent girls in the community, that too, in a selected school run by state Govt. Though most of the adolescent girls in the ZP High school are from weaker section colonies, we do not know about the menstrual hygiene practice of other girls in the community. Though the results of the study cannot be extended to the target population, creation of awareness in the community, availability of sanitary napkin on nominal price with the ASHA worker will result in immediate positive outcome.

## 7. Conclusions

Regular purchase of sanitary napkins from private medical stores by BPL families is certainly costly affair. Availability of sanitary napkins, at nominal cost from health worker may not always be possible because of lack of stock, non-availability of health worker, even when available, beneficiary may not have chance to meet health functionary to avail the opportunity. There is high chance of default and

go back traditional method. Consistent efforts are required from AFHCs and ASHA worker to popularise the usage of sanitary napkins and ASHA should take initiative to provide them at nominal cost. Education department should take initiative to provide dedicated room near female toilets to change the pads and regular disposal with the assistance of local health authorities.

## 8. Source of Funding

Nil.

## 9. Conflict of Interest

Nil.

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