



# EXPLORING PREFERENCES, HYGIENIC USE AND DISPOSAL OF MENSTRUAL MATERIALS AMONG ADOLESCENT GIRLS

Findings from a study in Gaya, Kanker, Dindori  
and Hyderabad

This publication was developed by the United Nations Population Fund (UNFPA) in collaboration with WaterAid India.

The United Nations Population Fund (UNFPA) is the United Nations sexual and reproductive health agency. The organization is guided by the mission to deliver a world where every pregnancy is wanted, every childbirth is safe and every young person's potential is fulfilled. UNFPA calls for the realization of reproductive rights for all and supports access to a wide range of sexual and reproductive health services – including voluntary family planning, maternal health care and comprehensive sexuality education.

WaterAid India (Jal Seva Charitable Foundation) is part of the global WaterAid network which seeks to improve access to clean water, decent toilets and good hygiene for everyone, everywhere.

This report was authored by Anjali Singhania and Arundati Muralidharan, WaterAid India

Date: November 2021

# **EXPLORING PREFERENCES, HYGIENIC USE AND DISPOSAL OF MENSTRUAL MATERIALS AMONG ADOLESCENT GIRLS**

**Findings from a study in Gaya, Kanker, Dindori  
and Hyderabad**







# Contents

Executive Summary	6
<b>1. Introduction</b>	<b>9</b>
2.1 Aim and objectives	10
2.2 Sampling and data collection	10
<b>2. Methodology</b>	<b>10</b>
<b>3. Findings: Overview of girls participating in the study</b>	<b>14</b>
3.1 Demographic profile	14
<b>4. Awareness of menstruation related process and adolescent girls' support systems</b>	<b>19</b>
4.1 Awareness of menstruation, menstrual cycle and menstrual hygiene	19
4.2 Influencers and support systems for adolescent girls	22
4.3 School absenteeism and menstruation	23
4.4 Direct Benefit Transfer Scheme for sanitary pads in Bihar	24
<b>5. Menstrual hygiene materials: usage patterns, preferences and disposal</b>	<b>25</b>
5.1 Menstrual hygiene materials usage patterns and perceptions of hygiene	25
5.2 Cloth pad usage	29
5.3 Sanitary pad usage and disposal	34
<b>6. Implications of study findings for the intervention</b>	<b>40</b>
6.1 Key takeaways from the survey	40
6.2 Recommendations for menstrual health and hygiene interventions with adolescents	41
Annexure 1	43
Annexure 2	45



# Executive Summary

## Introduction and methodology

The United Nations Population Fund (UNFPA) and WaterAid India (WAI) are collaborating for a two-year project (2020-2022) on strengthening menstrual health and hygiene management among adolescent girls in six States (Bihar, Chhattisgarh, Madhya Pradesh, Odisha, Rajasthan and Telangana). One of the project components is to develop and implement interventions on informed product choice and menstrual waste management in selected gram panchayats in three districts (Gaya in Bihar, Dindori in Madhya Pradesh, Kanker in Chhattisgarh), and in ten urban slums in Hyderabad district project locations.

WaterAid and partners conducted a quantitative survey with 1168 adolescent girls across the four-project locations to:

- ⦿ Assess awareness of menstruation, menstrual cycle and menstrual hygiene
- ⦿ Understand access to and usage of menstrual hygiene materials
- ⦿ Understand product maintenance and disposal practices

- ⦿ Explore preferences for menstrual materials and waste disposal solutions in the future

These insights were used to frame the informed product choice intervention with girls, and potential menstrual waste management solutions to be implemented in rural and urban communities.

The findings from this study emphasized the need for promoting choice with regard to menstrual hygiene materials, supporting hygienic use of menstrual materials, and for developing context appropriate disposal solutions.

## Key findings include:

### Awareness of menstruation, menstrual cycle and menstrual hygiene

Adolescent girls' knowledge of menstruation was overwhelmingly poor, with many having limited understanding of how and why menstruation occurred. Overall, only 12.0% of respondents knew about menstruation

before reaching menarche. In rural areas a higher percentage of girls (15.0%) were aware of menstruation before reaching menarche than urban adolescents (1.0%). About one-fifth (19.0%) of adolescents were aware of the menstrual cycle, with greater knowledge among urban adolescents. Girls who participated in this survey also displayed limited understanding on the process of menstruation and relatedly, the source of menstrual blood.

### **Influencers and support systems for adolescent girls**

Mothers were an important support for adolescents with 94.0% girls sharing that they were comfortable speaking with them about menstruation. Close to half of the girls (46.0%) shared that their peers were their confidants. A lower proportion of adolescent girls considered frontline workers (13.0%), teachers (10.0%) as sources of information and support.

### **Menstrual problems**

During menses, 26.0% girls experienced backache, and 21.0% had menstrual cramps, albeit manageable menstrual cramps (not severe). Girls often experienced a combination of premenstrual and menstrual symptoms such as menstrual cramps, back pain, fatigue, lack of appetite. Few girls reported more serious symptoms, for instance, 7.0% girls experienced heavy bleeding, 3.0% had irregular menstruation and 1.0% had scanty bleeding.

### **School absenteeism and menstruation**

Thirty two percent of school-going girls reported that they sometimes missed school, and 11.0% always missed school days during every menstrual period. However, 57.0% girls shared that they never remained absent from school during menses. A slightly higher proportion (52.0%) of girls from urban slums sometimes or always missed school, while only 38.0% of rural school going girls sometimes or always remained absent from school during menstruation.

### **Menstrual hygiene materials: Usage patterns**

The survey found that 56.0% girls used sanitary pads and 44.0% used cloth pads as their primary menstrual absorbent<sup>1</sup>, with considerable variations within rural areas, and between rural and urban project locations. The remote tribal location (Dindori, Madhya Pradesh) saw high use of cloth pads among girls (93.0%) due to low exposure and access to sanitary pads in this distant location. In contrast, almost all girls from urban slums used disposable sanitary pads (98.0%). The other two rural locations showed mixed used patterns, with 19.0% girls using both cloth pads and sanitary pads during menses. The practice of “mixed use” was found in Gaya and Kanker (29.0% and 34.0% of girls respectively). Among those practicing mixed use, 55.0% of sanitary pad users took cloth pads as their secondary material, and 45.0% of cloth pad users used sanitary pads as their secondary material.

### **Perceived benefits and challenges of menstrual hygiene materials**

Girls’ use of menstrual absorbents was guided by what they perceived to be easy to use, comfortable and secure. Sixty percent of girls using cloth pads did not face any difficulties in accessing and using pads, while 44.0% expressed some challenges with sanitary pads. Challenges with cloth pads included difficulty getting cloth to make pads, difficulty washing pads, and limited protection from leakage. Sanitary pads were expensive, difficult to access at times, and embarrassing to purchase.

### **Hygienic use of cloth pads and sanitary pads**

The survey found that cloth pad users typically changed pads two or three times a day, and needed 2-4 cloths to manage the menstrual period every month. Seventy percent of cloth pads users washed, dried and reused their cloth pads, while 29.0% discarded them

---

<sup>1</sup> Primary menstrual absorbent means the material that girls most often use during menses.

after single use. Most girls (80.0%) washed menstrual cloth with soap and water, while 23.0% used harsh disinfectants (like bleaching powder). Just 10.0% of girls dried their cloth in the open and 21.0% girls always dried menstrual cloth in direct sunlight.

Among sanitary pad users, 61.0% girls needed just 6-8 pads to manage their menses over 4-7 days. However, two-thirds (67.0%) reported changing their pad every 2-5 hours. Girls' responses on the number of pads required for a period may be indicative of actual practice while their responses for the number of hours a single pad is used may be reflective of their knowledge and desire to provide an appropriate answer.

### **Disposal practices – Cloth pads and Sanitary pads**

Cloth pad disposal varied across project locations. The most common method of discarding cloth pads was by burial, found among 47.0%, followed by discarding in the open. Disposal practices of sanitary pads varied across regions as well, shaped by socio-cultural norms. Although 41.0% of all girls threw pads with household waste, this was mainly due to 86.0% of girls from Hyderabad who followed this practice. Burial of pads was common among sanitary pad users in rural areas. Burning of sanitary pads was not common practice, except in Kanker, where 50.0% of girls burned their pads.







# 1 Introduction

The United Nations Population Fund (UNFPA) and WaterAid India (WAI) are collaborating for a two-year project on strengthening menstrual health and hygiene management (MHM) among adolescent girls in six States- Bihar, Madhya Pradesh, Odisha, Rajasthan, Chhattisgarh and Telangana. One of the project components is to develop and implement interventions on informed product choice and menstrual waste management in selected gram panchayats in three districts (Gaya [Bihar], Dindori [Madhya Pradesh], Kanker [Chhattisgarh], and in ten urban slums of Hyderabad [Telangana]).

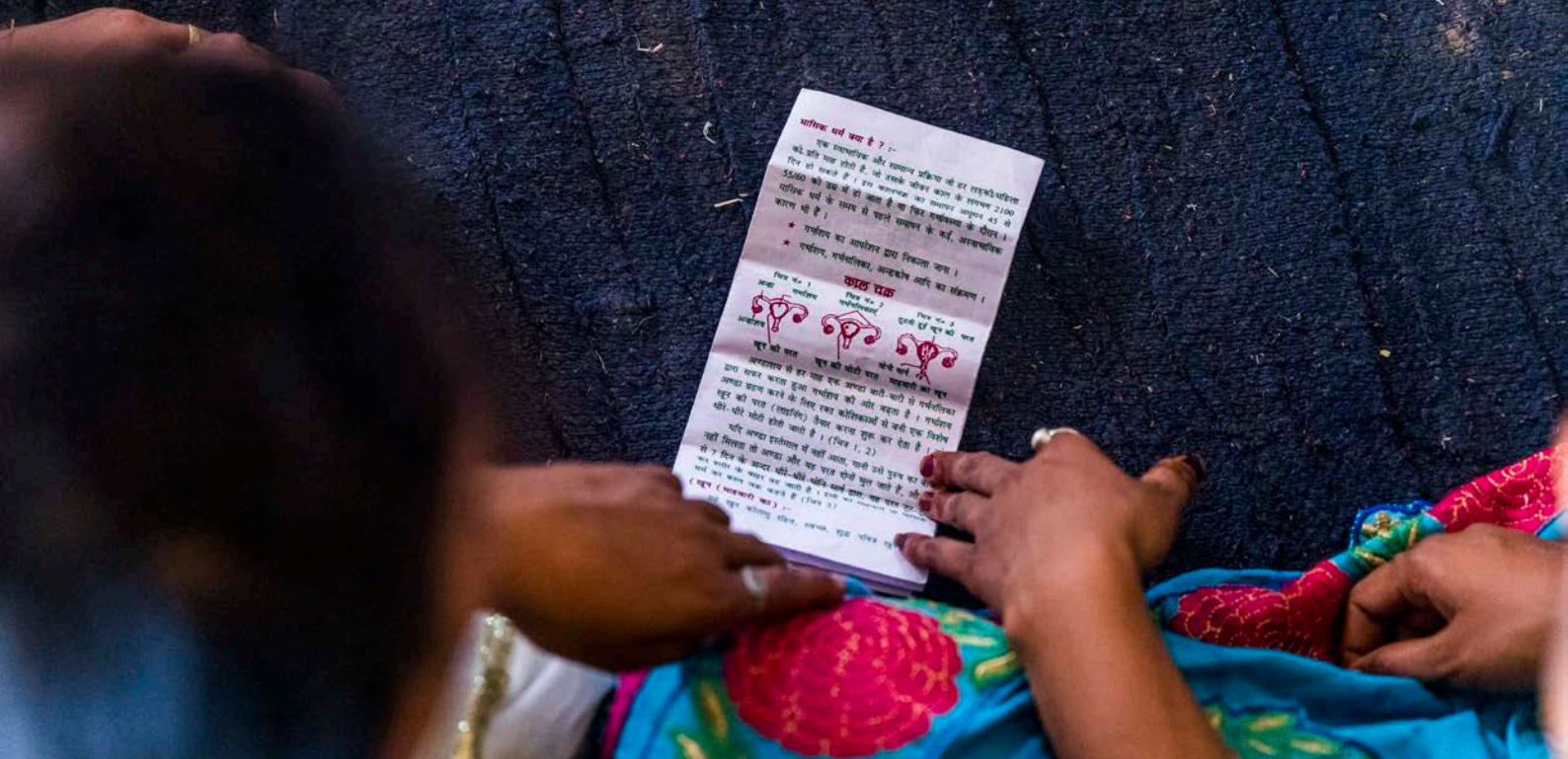
Previous studies on menstrual hygiene among adolescents have shown low levels of awareness, mixed use of menstrual absorbents, and poor disposal practices. A systematic review by Van Eijk and colleagues (2016) analysed data from 138 studies on menstrual hygiene among adolescent girls in India, and presents the most comprehensive picture of menstrual hygiene in India till date<sup>2</sup>. This review

found that 52.0% the girls (pooled prevalence [pp]<sup>3</sup>) were unaware of menstruation prior to menarche. Further, only 23.0% knew that the uterus was the source of menstrual bleeding, and only 55.0% considered menstruation as normal, highlighting the need for continued efforts to increase awareness on menstruation and menstrual hygiene. Mothers were the primary source of information (pp= 52.0%) across rural, urban and slum areas, followed by peers, health workers and teachers (pp = 27.0%, 18.0% and 12.0% respectively). Commercial sanitary pad use was more common among urban girls (pp = 67.0%) compared to girls living in slums (pp= 43.0%) and rural girls (pp = 32.0%). In urban settings (slum and non-slum areas), girls discarded pads with routine household waste and in the open, while girls from rural areas were found to throw pads in the open, bury them, and discard with household waste. Menstruating girls experienced many restrictions (pp= 87.0%), especially for religious activities (pp =67.0%), and a quarter reported missing school during periods.

<sup>2</sup> van Eijk AM, Sivakami M, Thakkar MB, et al. Menstrual hygiene management among adolescent girls in India: a systematic review and meta-analysis. *BMJ Open* 2016;6: e010290. doi:10.1136/ bmjopen-2015-010290

<sup>3</sup> Pooled prevalence is a statistical technique for combining the results of multiple studies, and is typically done when reporting results from meta analyses.





## 2 Methodology

### 2.1 Aim and objectives

WAI and partners conducted a detailed quantitative survey with a sample of 1168 adolescent girls across the four project locations to (i) assess their awareness of menstruation, menstrual cycle and menstrual hygiene, (ii) understand preference, access to and usage of menstrual hygiene materials, and (iii) maintenance and waste disposal practices. These insights informed the development of an intervention on informed product choice for adolescent girls in the project locations, and the development of potential menstrual waste management solutions. The survey findings can also serve as a baseline to assess improvements in the knowledge, attitudes and practices of adolescent girls over time, and as a result of the interventions.

Each of the four project locations presented different geographic and socio-cultural contexts; the diversity in the chosen sites provided rich insights into the different lived realities and experiences of girls. For instance, in Gaya, the Scheduled Caste community

was predominant; Dindori represented tribal communities; Kanker had a mix of both Scheduled Caste and Scheduled Tribe communities; and Hyderabad presented dense urban slum context.

The survey explored the following areas of inquiry:

1. Practices and preferences related to access and hygienic use of menstrual materials
2. Practices and preferences related to disposal of used menstrual materials
3. Knowledge of menstruation, menstrual hygiene and perception of menstrual absorbents
4. Influencers and support systems available to girls
5. Menstrual hygiene among girls with disabilities

### 2.2 Sampling and data collection

#### Sampling

Prior to conducting the survey, an extensive mapping exercise was carried out in all four

**Table 1: Number of survey respondents**

District, State	Total number of girls mapped	Number of girls surveyed (% of total mapped)	Rural-urban (% of total survey sample)
Gaya, Bihar	1009	307 (30.4%)	Rural: 865 (74.1%)
Kanker, Chhattisgarh	509	305 (59.9%)	
Dindori, Madhya Pradesh	744	253 (34.0%)	
Hyderabad, Telangana	1117	303 (27.1%)	Urban: 303 (25.9%)
<b>Total</b>	<b>3379</b>	<b>1168 (34.6%)</b>	

project locations, that identified the total number of adolescent girls aged 10-19 years. The sample for this survey was selected from the mapping data, ensuring adequate representation of girls based on relevant socio-demographic variables (e.g., caste, educational status). Table 1 presents the total number of girls mapped and the number of girls who participated in the survey. The sampling criteria used is in Annexure 1.

Adolescent girls between the age group of 10-19 years who had attained menarche and had

been menstruating for at least one year were eligible for participation in the study. Girls who had not attained menarche or those who had recently started to menstruate were excluded as they would not have been able to respond to questions on usage of menstrual materials and disposal practices.

### Data collection

A survey questionnaire was developed and administered to capture relevant insights. The survey had seven sections (Table 2).

**Table 2: Survey questionnaire sections**

Section	Section title	Brief description
1	Introduction and informed consent	Survey introduction Consent from parent and girl
2	Respondent details	Socio-demographic details of respondent (e.g., educational attainment, school enrolment, employment status of parents, access to sanitation facilities at home)
3	Product use and preferences	This section asked questions about access to, use of and preference for menstrual hygiene products, and the challenges faced, including questions on hygienic use of products.
4	Disposal practices	This section explored how adolescent girls dispose used products, preferences for disposal method (if any), and challenges faced
5	Knowledge and attitudes	This section sought to understand levels of awareness around menstruation, menstrual hygiene, product use, and disposal.
6	MHM and disability	This section asked questions about challenges faced by girls with disabilities
7	Closure	Closure of survey, thanking respondent Emphasis on key messages related to COVID-19 prevention

Questions on knowledge and attitudes (section 5) were asked after the questions on product use and preferences and disposal practices (sections 3 and 4) as WAI's previous experiences of conducting Knowledge Attitude and Practice (KAP) studies on Water, Sanitation and Hygiene (WASH) have found that respondents are more likely to change their responses if knowledge questions are asked before practice questions. Thus, in order to control for such bias (to the extent possible) questions on knowledge were administered after questions on practices. Data on menstrual hygiene management and disability was also collected, however, the responses were very limited<sup>4</sup> to permit any meaningful analysis.

The questionnaire contained close ended questions with both multiple choice and single choice response<sup>5</sup> options. The questionnaire was first developed in English and subsequently translated to Hindi and Telegu. All versions of the questionnaire are available on mWater<sup>6</sup>.

The survey was conducted by WAI and four implementing partners (Annexure 2). Investigators were selected from the community and were trained to administer the questionnaire to girls. Selection criteria for investigators included the following:

- ⊙ Familiarity with community in which survey was conducted
- ⊙ Known to partner staff and have worked with them for surveys on WASH
- ⊙ Familiarity with and comfortable using mWater, the digital data collection platform
- ⊙ Completed 12 standard, and fluent in Hindi or Telegu
- ⊙ Understanding of menstrual hygiene management and sensitivities while discussing related issues with adolescent girls
- ⊙ Provided support or were involved in mapping adolescent girls in the community
- ⊙ Preference for female investigators

Investigators from each region (mostly women) were trained separately. They first received training on menstrual health and hygiene, and on the different types of menstrual hygiene materials, access and use, as well as disposal. This was followed by training on the questionnaire and use of the mWater application.

The survey was conducted through in-person interviews, and data was directly entered on mWater. Each survey took 30-35 mins to complete, and a maximum of six surveys were conducted each day by an investigator. Data collection was conducted between 20 February and 30 March 2021. The WAI project team reviewed the data at the end of each day and provided feedback in case of any errors of missing data. The project team visited all four sites (Gaya, Kanker, Dindori, and Hyderabad) during initial data collection to provide support.

### **Interactions with girls, mothers and other stakeholders**

When the WAI project team conducted field visits for the survey in Hyderabad, Kanker and Gaya, they interacted with girls after the survey, as well as with mothers, auxiliary nurse midwives (ANM), ASHA workers, *mitanins* (in Chhattisgarh), anganwadi workers, Swachhagrahis (in Chhattisgarh), Jeevikas and Sevikas (in Gaya), block and district officials, to get a wider understanding of issues relevant for MHM. Field notes from these interactions were maintained by the WAI project team.

### **Data analysis**

After completion of data collection, the WAI study lead and co-lead reviewed the data for each region, and worked with partner teams and investigators to correct any errors. The data was exported into Microsoft Excel for further analysis. The data was analysed by project location, rural-urban location, age of adolescent girls, and by mother's education

<sup>4</sup> Only one respondent had a physical disability and responded to the question. Other respondents did not know of girls with disabilities, and were unable to answer the questions in this section.

<sup>5</sup> Questions with single choice response option refers to questions for which only one response was to be selected. These included but were not limited to Yes/No responses.

<sup>6</sup> mWater is a free data management platform to collect data related to WASH.





status. Data on menstrual material usage and disposal was further analysed by type of user – exclusive cloth pad users, exclusive sanitary pad users, and mixed users (those who used both cloth and sanitary pads). The data analysis found no correlation between mothers' educational status and girls' knowledge on menstruation or usage of products, and hence findings are not presented by mother's education status. Further, a much higher proportion of girls in the survey belonged to the older adolescent age group (15-19 years) than the younger adolescent age group (10-14 years), and few differences were noted between the age groups. Hence, findings disaggregated by age are not presented here.

Insights from qualitative interactions with community stakeholders are presented to provide explanations for some findings or trends.

### **Presentation of findings**

Findings are presented in terms of proportions of girls. Variations by region, rural-urban residence, and by type of user are also presented. Graphs and tables are used to visually represent the results and findings .

### **Informed consent and confidentiality**

All participants were informed about the purpose and theme of the study. Additionally, informed verbal consent from both

adolescent girls and either of their parents was sought before proceeding with the survey. Girls were informed that they could terminate the survey at any point if they were uncomfortable. Girls' names were not recorded in the survey - the survey only captured the name of the gram panchayat and village (for urban areas), and district and slum (for Hyderabad). None of the girls or their parents declined participation or left the survey mid-way.

### **Limitation of the study**

The survey was based on self-reporting, and no other verification measures were used to validate or triangulate study findings. Although the investigators made every effort to ensure girls felt safe and administered the questionnaire without the presence of male members, mothers/other female family members were present, and may have influenced the responses given. Further, menstruation is seen as a private issue, often with numerous taboos. Lastly, girls who have had some exposure to menstrual hygiene management education sessions may have responded based on knowledge, and not necessarily their practice.

Given the role of mothers, a separate survey or qualitative study with mothers would have provided important insights into menstrual hygiene product usage patterns and disposal practices.



### 3

## Findings: Overview of girls participating in the study

### 3.1 Demographic profile

#### Religion, caste, and age

Across all project locations, 88.0% of respondents were Hindu, 11.0% were Muslim, and just 1.0% were Christian. With regard to caste, 37.0% of all respondents were from Scheduled Tribes, 27.0% from Scheduled Castes, 20.0% from general caste, and 15.0% from Other Backward

Castes. Significant variations in caste were noted between project locations, with Gaya having the highest proportion of Scheduled Caste respondents (81.0%), Dindori with the greatest Scheduled Tribe population (91.0%), and Hyderabad with the most respondents from the general caste category (78.0%). Table 3 presents religion and caste profile of respondents by project location.

**Table 3: Demographic profile of respondents by religion and caste**

Demographic profile (n=1168)		Total (%)	Gaya (%)	Dindori (%)	Kanker (%)	Hyderabad (%)
Religion	Hindu	88	93	99	100	61
	Muslim	11	6	0	0	36
	Christian	1	0.5	1	0	2
	other	0	0.5	0	0	0
	TOTAL	100	100	100	100	100
Caste	Scheduled Caste (SC)	27	81			20
	Scheduled Tribe (ST)	37		91	66	2
	Other Backward Caste (OBC)	15	19	9	34	
	General	20				78
	TOTAL	100	100	100	100	100

Approximately two-thirds (67.0%) of respondents were aged 15-19 years, while one-third were younger adolescents aged 10-14 years<sup>7</sup>.

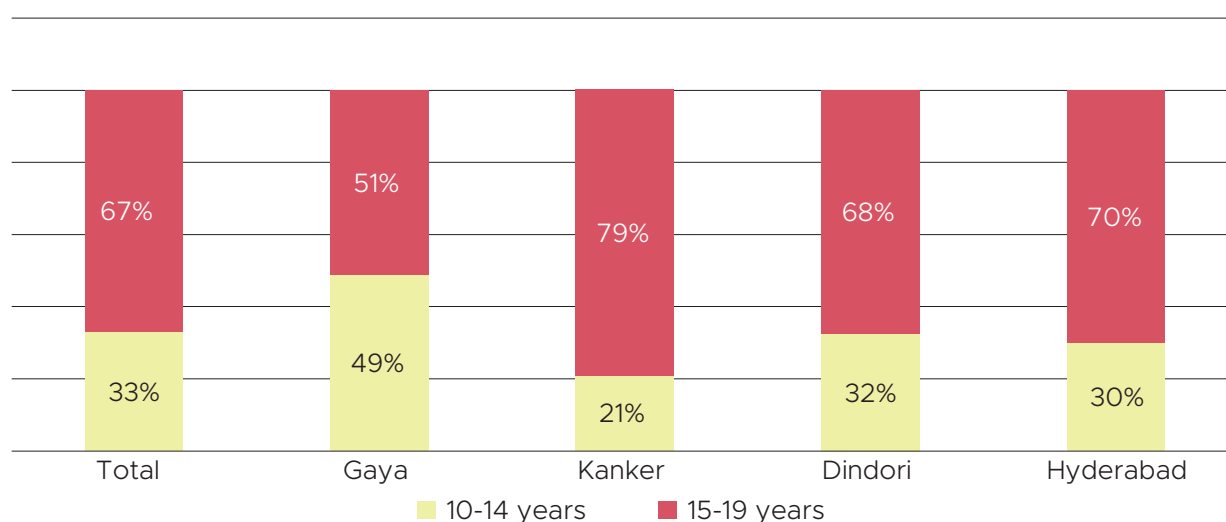
### Education status and level of schooling

The survey found that 75.0% of girls were enrolled and attending school, 14.0% had discontinued education, 8.0% were enrolled but not attending school, and 2.0% had never been to school. Figure 2 indicates some differences between rural and urban areas in terms of enrolment, with the urban location (i.e., Hyderabad slums) having higher proportion of girls currently enrolled in school

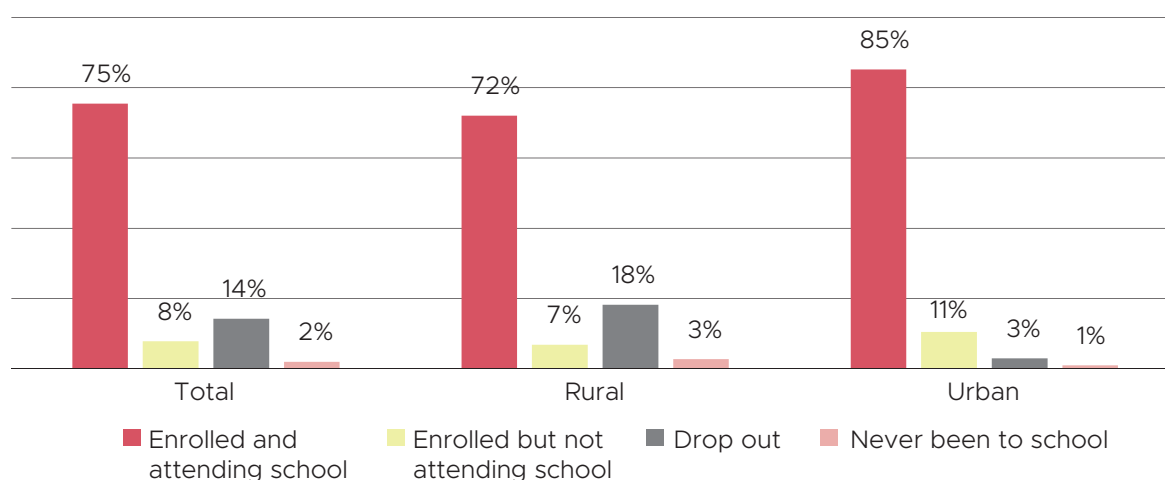
compared to the rural locations (Kanker, Gaya and Dindori). The rural locations had a higher proportion of girls who had discontinued education compared to the urban location<sup>8</sup>.

Of the respondents who were either enrolled and attending school, or enrolled but not attending school, 94.0% were attending/enrolled in regular schools and 6.0% were attending/enrolled in a residential school (either Ashramshala or KGBV). Dindori had the highest proportion of girls enrolled in residential schools, a common practice for this remote tribal location.

**Figure 1: Age profile of respondents (% of adolescent girls)**



**Figure 2: School enrolment Status**



<sup>7</sup> The higher proportion of older adolescents is due to the inclusion criteria of interviewing only girls who had attained menarche and had been menstruating for at least one year.

<sup>8</sup> Girls may have discontinued education temporarily due to the COVID pandemic induced school closures and lack of online education.

**Figure 3: Level of schooling (% of adolescent girls)**

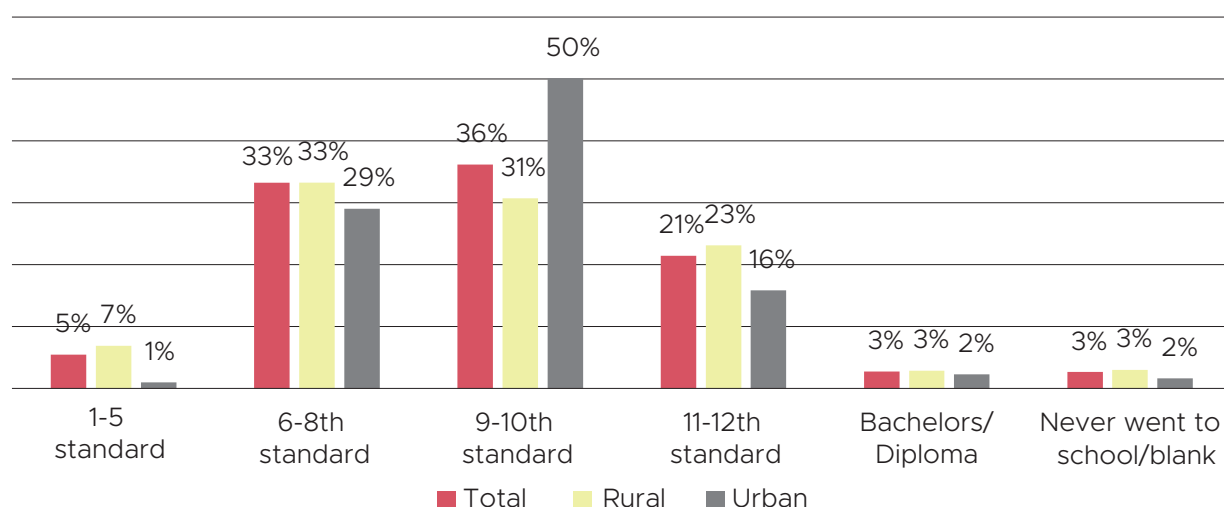


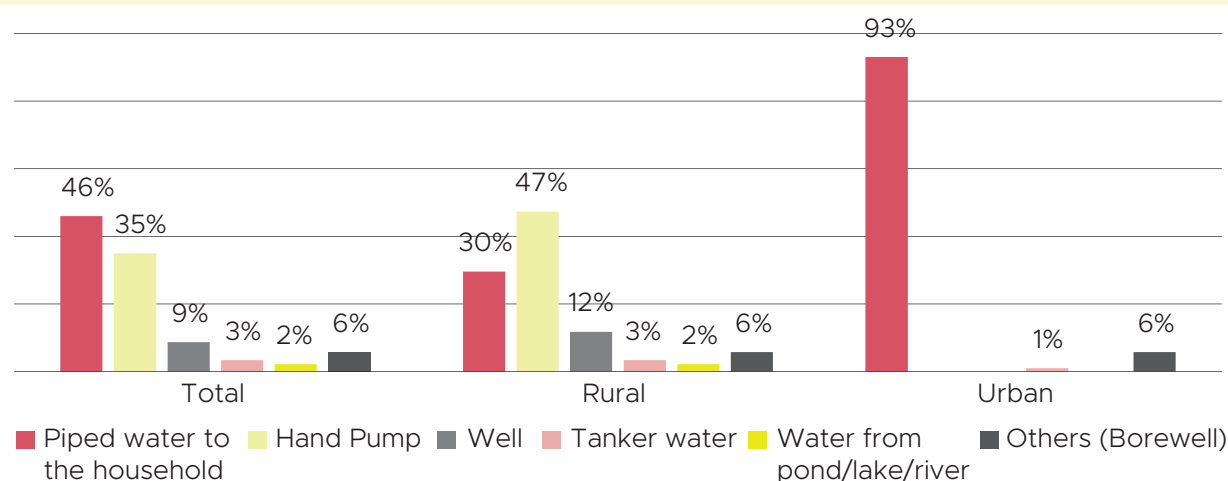
Figure 3 showcases the level of schooling of survey respondents. More than half were in Grades 6-10, 21.0% were in Grades 11-12, and just 5.0% were still in primary school (Grades 1-5).

### Household water source

A vast majority of girls (91.0%) reported having access to water in 30 minutes<sup>9</sup> or less, with 10.0 % girls in the urban area and 8.0% in rural areas not being able to access water within a 30 minute

round trip. Figure 4 shows household water source across regions; 46.0% of the respondents had piped water connection to their homes, 35.0% had access to hand pumps, and 9.0 % used wells. In the urban area, 93.0 % of the respondents had piped water connection, followed by 6.0 % who used borewells and 1.0% using tanker water. In contrast, 30.0% of respondents had piped water connection and 47.0% drew water from hand pumps in rural areas.

**Figure 4: Source of water for the household (% of adolescent girls)**



<sup>9</sup> Sustainable Development Goal 6.1 targets on achieving universal and equitable access to safe and affordable drinking water for all and Joint Monitoring Programme (JMP) is the official monitoring agency for this. In order to meet the criteria for a safely managed drinking water service, JMP lays down that people must use an improved source meeting three criteria: it should be accessible on premises; water should be available when needed; and water supplied should be free of contamination. If the improved source does not meet any one of these criteria but a round trip to collect water takes 30 minutes or less, then it will be classified as a basic drinking water service.



Access to piped water within the household premises was highest in Hyderabad (93.0%), followed by Kanker (44.0%). In Gaya, 64.0% used handpumps, and in Dindori, 42.0% were dependent on handpumps for daily water supply.

### Access to toilets at home and in school

Eighty two percent of adolescent girls

surveyed had a toilet in their homes, with a striking 16.0% reporting no toilet facilities at home. Urban-rural differences do exist with 95.0% of urban girls having access to household toilets compared to 77.0% of rural girls. In rural areas, specifically Dindori, a notable percentage of respondents (21.0%) did not have a household toilet.

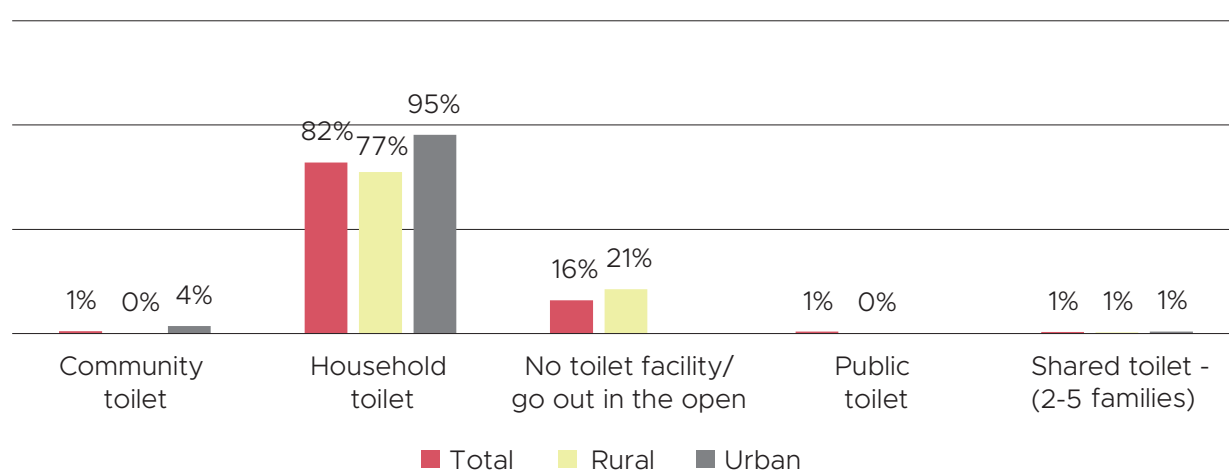
**Table 4: Source of household water by region**

Source of household water (% of girls)	Total (%)	Gaya (%)	Kanker (%)	Dindori (%)	Hyderabad (%)
Piped water to the household	46	32	44	9	93
Hand Pump	35	63	36	42	-
Well	9	0	0	40	-
Tanker water	3	1	7	2	1
Water from pond/lake/river	1	0	-	7	-
Others (Borewell, shared/bataya tap)	6	4	13	-	6
TOTAL	100	100	100	100	100

**Table 5: access to toilet facility by region (% of adolescent girls)**

Type of toilet at home (% of adolescent girls)	Total	Gaya	Kanker	Dindori	Hyderabad
Community toilet	1			1	4
Household toilet	82	69	99	62	95
No toilet facility/go out in the open	15	31		36	
Public toilet	1			0	
Shared toilet - (2-5 families)	1		1	1	1
Others (has household toilet but does not use it)	0			0	
TOTAL	100	100	100	100	100

**Figure 5: Access to toilets (% of adolescent girls)**



Many girls (70.5%) were able to change menstrual materials in the household toilet, with 84.0% noting that having a toilet at home eased menstrual hygiene practices, and 64.0% reporting that the lack of household toilet challenged menstrual hygiene practices.

Of girls enrolled and attending school or enrolled but not attending school, 94.0% shared that their school had separate toilet facilities for girls. Almost half of the respondents (49.0%) were able to change their menstrual materials in school toilets, 29.0% found it difficult to do so, and 22.0% reported that they never changed their menstrual absorbent in school.

Interactions with girls in Hyderabad, Kanker and Gaya found that many girls did not use school toilets in general or did not feel the need to use school toilets during

menstruation. One reason for this is that girls often changed their menstrual absorbents twice a day, once in the morning and once at night, and hence, there was no need to change in school. Discussions with some of the respondents and mothers of Manpur block in Gaya also revealed very low usage of school toilets due to various reasons. Firstly, school toilets were often dirty and rarely cleaned. Secondly, toilet stalls either lacked water or water was available outside of the toilet, making it inconvenient to clean the toilet after use. Some girls further shared that their homes were only 2-3 kilometres away from the school and they preferred to come home after giving attendance to use the household toilet either to defecate or to change menstrual materials. Girls from Hyderabad slums also reported low usage of school toilet due to unavailability of water inside school toilets, especially during summer months.



## 4

# Awareness of menstruation related process and adolescent girls' support systems

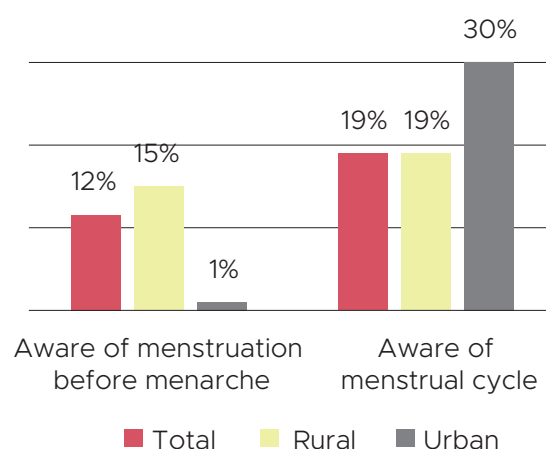
## 4.1 Awareness of menstruation, menstrual cycle and menstrual hygiene

Adolescent girls' knowledge of menstruation was overwhelmingly poor, with many having limited understanding of how and why menstruation occurred. In this section, findings are not presented by region as analyses found little regional variation (particularly across the three rural locations) in awareness levels and other related variables explored in the survey. Data are disaggregated by rural-urban contexts.

Overall, only 12% of respondents knew about menstruation before reaching menarche. In rural areas a higher percentage of girls (15.0%) were aware of menstruation before reaching menarche than urban adolescents (1.0%), though the reasons for this are unclear from informal discussions. About one-fifth (19.0%) of adolescents were aware of the menstrual cycle, with greater knowledge among urban adolescents

(Figure 6). The data was analysed to see if there is any association between mothers' educational levels and girls' knowledge on the physiology of menstruation; however, the analysis showed that mother's education had little bearing on girls' awareness of menstruation.

**Figure 6: Awareness of menstruation and menstrual cycle (% of girls)**



**Table 6: Knowledge of what menstruation is and source of menstrual blood (% of adolescent girls)**

		Total	Rural	Urban
<b>Knowledge of what menstruation is (% adolescent girls)</b>	Process in which the uterine lining shed	1	2	-
	Discharge of dirty blood	17	15	20
	Discharge of heat from the body	2	-	7
	Something only girls experience	5	5	2
	Sign of sickness	-	-	-
	Don't know	75	76	71
	Other	-	1	-
	TOTAL	100	100	100
<b>Knowledge of the source of menstrual blood (% of adolescent girls)</b>	Stomach	9	11	5
	Uterus	11	14	-
	From all over the body	2	3	1
	Bladder	15	4	47
	Don't know	62	67	47
	Other	1	1	-
	TOTAL	100	100	100

In line with findings from other studies in India<sup>1</sup>, girls who participated in this survey also displayed limited understanding on the process of menstruation and relatedly, the source of menstrual blood, with little difference between rural girls and urban girls (Table 6).

Paradoxically, while respondents were largely unaware of the what menstruation was, and the source of menstrual blood, 80.0% of adolescent girls correctly reported that menstruation was typically experienced once a month, with 80.0 % girls also aware that the average duration of menstrual bleeding was 3-7 days. Our interactions with girls, community stakeholders, and the investigators suggest that these findings may be less reflective of knowledge levels, and more indicative of girls' personal experience of menstruation.

Hygienic use of cloth or sanitary pads is a key component of menstrual hygiene. The data in Table 7 and Table 8 presents the results by *user type* (i.e., girls who only or exclusively use sanitary pads, girls who are exclusive cloth pad users, and mixed users, who use both). While more cloth users (exclusive cloth users and mixed users) reported that clean cotton cloth pads should be used for menstruation compared to sanitary pad users, they did not have markedly higher levels of knowledge with regard to other aspects of hygienic management. Similarly, significant differences in awareness of hygienic use of sanitary pads between sanitary pads users and cloth users were noted only for indicators related to the use of good quality pads and frequent changing of pads during the day.



**Table 7: Awareness of hygienic use of cloth pads (% of adolescent girls)**

Hygienic use of cloth pad (% of adolescent girls)	Exclusive sanitary pad users (%)	Exclusive cloth pad users (%)	Mixed users (%)
Use clean cloth/clean stitched cloth pad	20	78	62
Use clean cotton cloth, not synthetic cloth	11	22	18
Soak in water and then wash with soap	9	13	13
Wash with soap and normal temperature water	12	26	15
Wash with soap and hot water	2	8	5
Wash with disinfectant/antiseptic solution	5	4	6
Dry in sun	13	34	15
Store cloth in a safe place	9	20	15
Change pad regularly during the day	3	5	13
Throw cloth pad after single use	4	2	13
Bathe daily	15	47	25
Wash your genitals	2	10	8
Don't Know	53	6	11

*\*this was a multiple choice question, therefore the total is not provided*

**Table 8: Awareness of hygienic use of sanitary pads (% of adolescent girls)**

Hygienic use of sanitary pad (% of adolescent girls)	Exclusive sanitary pad users (%)	Exclusive cloth pad users (%)	Girls who use both (%)
Use good quality pads	56	23	47
Store pads in a safe place	27	17	40
Change pad regularly during the day	31	7	18
Throw cloth pad after single use	10	6	12
Bathe daily	30	22	23
Wash your genitals	6	9	8
Do not use pads for more than 6 hours	12	9	21
Other	0	2	1
Don't Know	16	56	15

*\*this was a multiple choice question, therefore the total is not provided*

## 4.2 Influencers and support systems for adolescent girls

### Confidants for adolescent girls

Mothers were important sources of support for adolescents with 94.0% adolescents sharing that they were comfortable speaking with them about menstruation. Close to half of the girls (46.0%) shared that their peers were their confidants. In line with other studies<sup>1</sup>, just 13.0% and 10.0% adolescent girls considered frontline workers and teachers, respectively, as sources of information and support. When asked who they could turn to with questions about various aspects of menstruation, 94.0% expressed that they could ask their mother, 73.0% said they could ask their friends, and 37.0% felt they could approach frontline workers.

### Topic of discussion with confidants

The most discussed topics with mothers and the peer group were what menstruation is, what to use during menstruation and menstrual pain (Table 9). The study further found that although mothers were the primary support system for adolescents, the information shared by them was restricted

to socio-cultural practices or norms related to menstruation, materials to use to absorb blood, and pain management. Little to no information was shared on menstruation before menarche or even after attaining menarche. Informal interactions with girls and mothers revealed that some mothers told their daughters that all women menstruate to eliminate bad or dirty blood from the body, thus, influencing their daughter's conception of this physiological process. Discussions with girls in Gaya, for instance, found that because of the culture of silence and shame associated with menstruation, some girls refrained from telling their mothers when they attained menarche and tried to manage the periods on their own. Informal discussion with mothers indicated that they hesitated to provide more detailed information as they themselves lacked the knowledge to do so.

Due to limited information on menstruation, girls wanted to know more about menstruation and why only girls and women experienced it, what materials are best to use, and how to address pain and discomfort before and during menses (Table 10).

**Table 9: Topic of discussion on menstruation with mothers and friends (% of adolescent girls)**

Topic of discussion	% discussing with mother	% discussing with friend
What menstruation is	46	34
What to use during menses and how to use products	43	31
Pain/discomfort during menses	35	44
Irregular menses	15	17
Heavy bleeding	17	17
Medicines to take for pain during menses	14	18
Restrictions imposed during menses	15	18
How to discard used products	16	14
Do not discuss	11	29

*\*this was a multiple choice question, therefore the total is not provided*

**Table 10: Question girls have related to menstruation**

Girls require more information on	% of adolescent girls
What menstruation is	34
What to use and how to use products	33
Pain/discomfort	35
Irregular menses	17
Heavy bleeding	19
Medicines for pain relief	19
Restrictions imposed and reasons	23
How to discard products	13
Is menstrual blood impure	9
Why only girls menstruate	14
Till which age do women menstruate	10

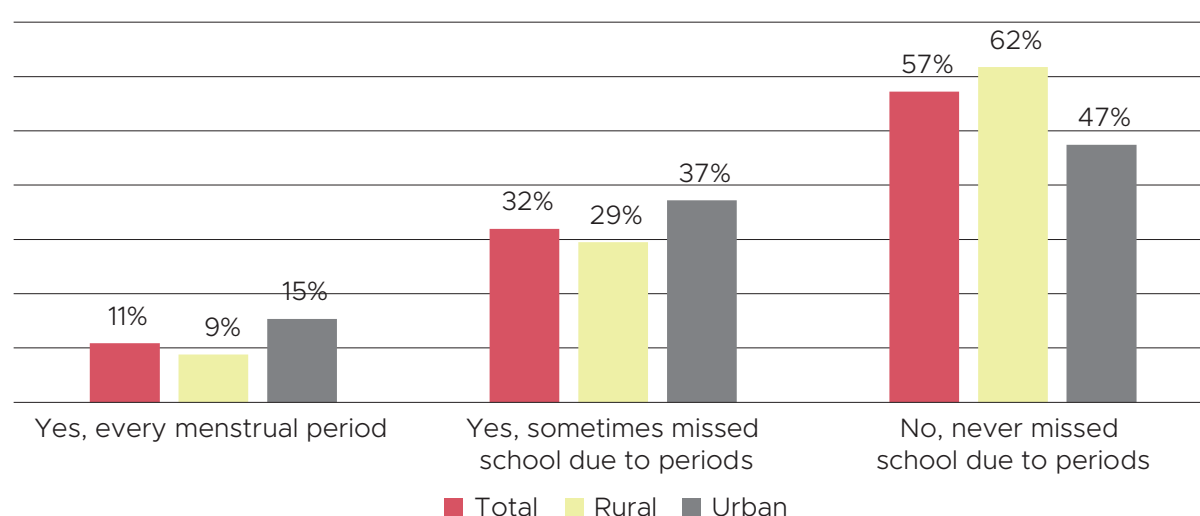
*\*this was a multiple choice question, therefore the total is not provided*

### Menstrual problems

During menses, approximately 26.0% girls experienced backache, 21.0% of girls had menstrual cramps, albeit manageable menstrual cramps (not severe). Girls often experienced a combination of premenstrual and menstrual symptoms such as menstrual cramps, back pain, fatigue, lack of appetite. Few girls reported more serious symptoms, for instance, 7.0% girls experienced heavy bleeding, 3.0% had irregular menstruation and 1.0% had scanty bleeding.

### 4.3 School absenteeism and menstruation

Over one-half of girls (57.0%) shared that they never remained absent from school during menses, with 32.0% sometimes missing school, and 11.0% always missing school days during every menstrual period (Figure 7). A higher proportion of girls from the urban location (52.0%) sometimes or always missed school, while only 38.0 % of rural school going girls sometimes or always remained absent from school during menstruation.

**Figure 7: School absenteeism during menstruation (% of adolescent girls)**

When probed about the number of days missed, 21.0% girls were absent for one day, 10.0% missed two school days, and 6.0% were absent for three school days. The main reasons for absence were painful menses (53.0%), heavy bleeding (27.0%), and difficulties using school toilets during periods (13.0%).

Interactions with girls in Gaya and Kanker revealed that girls often changed absorbents only twice a day and did not change in school or feel the need to use the school toilet when in school. Hence, lack of facilities in school toilets was not the only barrier for some girls in these two locations. In Gaya, girls reported that their schools are located fairly close to their homes, just 2-3 kms away. If the need arose, girls went home from school to use the toilet. During their periods, some girls went to school just to mark their attendance and came back immediately after.

#### **4.4 Direct Benefit Transfer Scheme for sanitary pads in Bihar**

In 2018, the Chief Minister of Bihar launched Mukhya Mantri Kanya Utthan Yojana (MMKUY), with the aim to reduce school absenteeism. One aspect of the scheme was to provide a direct benefit transfer of INR 300 per year to girls' bank accounts to facilitate the purchase of sanitary pads. The survey asked some questions about the scheme to girls in Gaya, and found limited awareness of the scheme, and irregular or lower amount transferred to

the bank account than recommended under the scheme.

Only 5.0% adolescent girls in Manpur block in Gaya (where the survey was conducted) were aware about MMKUY. Community interactions with both mothers and girls who were aware of the scheme found that schools sometimes provided information on the purpose of MMKUY. However, given that the Government of Bihar has several DBT schemes for school going girls (for school uniforms, books, sanitary pads), they were unsure what all the money could be used for.

Of the 5.0% of the girls who were aware of MMKUY, 1.0 % reported monthly bank transfers, and 4.0% received the money annually<sup>10</sup>. Girls who received the money annually said that the transfer occurred only once, and was stopped during the first COVID-19 lockdown in March 2020 and had not resumed due to continued school closures. Girls who reported monthly transfers did not know how many times they received the money. Of girls reporting annual receipt of money, only 1.0% of girls received the full amount of INR 300, and 3.0% shared that they got less than INR 300. Discussions with these girls and their mothers indicated that they received INR 150. These findings should be interpreted with the caveat that girls and mothers were not always clear what the money was to be used for, and may have confused transfers made for other school related purchases with money transferred to purchase sanitary pads.

---

<sup>10</sup> Girls received the money in their bank accounts, as stipulated by the scheme





## 5

# Menstrual hygiene materials: usage patterns, preferences and disposal

This section is divided into three sub sections. 5.1 discusses usage patterns, 5.2 presents details on cloth pad use<sup>11</sup> and disposal, and 5.3 discusses findings on sanitary pad use<sup>12</sup> and disposal.

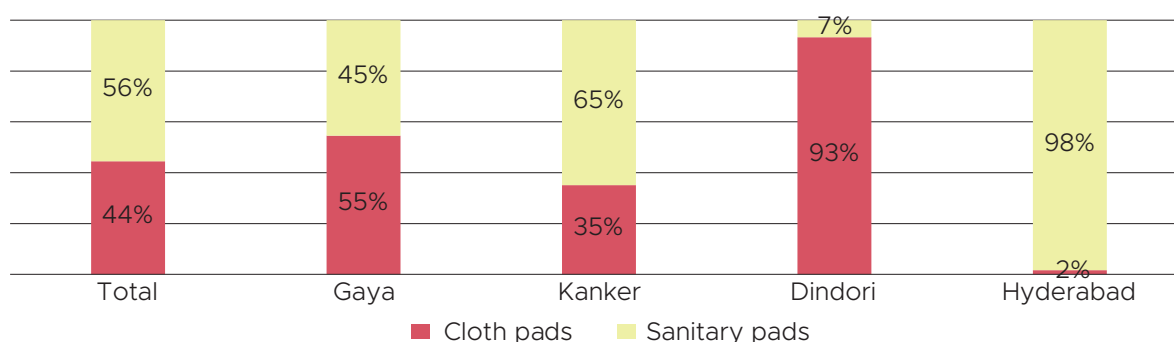
## 5.1 Menstrual hygiene materials usage patterns and perceptions of hygiene

### Usage patterns

More than half of all girls used sanitary

pads (56.0%) and 44.0% used cloth pads as their primary menstrual absorbent<sup>13</sup>, with considerable variations across project locations (Figure 8). In Dindori 93.0% girls used cloth due to low exposure to and limited access to sanitary pads in this remote location. In contrast, almost all girls in the urban slums of Hyderabad used disposable sanitary pads (98.0%). Kanker and Gaya showed mixed used patterns, with girls using both cloth pads and sanitary pads.

**Figure 8: Menstrual hygiene materials use (% of adolescent girls)**



<sup>11</sup> Cloth pads users include all exclusive cloth pad users and those who use both cloth pads and sanitary pads.

<sup>12</sup> Sanitary pad users include all exclusive sanitary pad users and those who use both sanitary pads and cloth pads.

<sup>13</sup> Primary menstrual absorbent means the material that girls most often use during menses.

**Table 11: Mixed use patterns among adolescent girls**

Mixed use (% of adolescent girls)	Total	Gaya	Kanker	Dindori	Hyderabad
Yes	19	29	34	3	1
No	81	71	66	97	99
Total	100	100	100	100	100

Almost one-fifths (19.0%) of girls used two types of menstrual materials or “mixed use”, a trend found in Gaya (29.0%) and Kanker (34.0 %). Among those practicing mixed use, 55.0% of sanitary pad users take cloth pads as their secondary material, and 45.0 % of cloth pad users used sanitary pads as their secondary material.

Adolescents who used two types of materials to manage their menses did so for cost and comfort reasons. Fifty six percent of girls practicing mixed use did so due to the expense of buying sanitary pads. A single pack of six or eight pads was insufficient for a period and girls were often unable to purchase two packets. Twenty one percent of girls using both materials found sanitary pads more convenient when travelling, working or going to school, and found cloth pad comfortable at all other times.

In Gaya and Kanker, some girls felt that sanitary pads soil faster than cloth pads, and some girls feared leakage with cloth pads as they don't attach as firmly to underwear as a sanitary pad. The survey found that many girls used cloth pads at home where mobility is limited and where they may have easier access to WASH facilities, and wear sanitary pads outside of home (Table 12).

On attaining menarche, mothers, sisters/ sisters-in law, or friends told a girl what to use, often based on their own experiences and preferences. A majority (94.0%) shared that they were most influenced by their mothers to use a particular type of menstrual material. Just under half (44.0%) were influenced by another female family member, their sister or sister-in-law, and 33.0% by their friends. Frontline workers and teachers were not noted as important influencers (Table 13).

**Table 12: Patterns of mixed use (% of adolescent girls)**

Mixed use of menstrual hygiene materials	% of adolescent girls
Use sanitary pads in school and cloth pad at home	74
Use sanitary pads when travelling and cloth pads at all other times	18
Use sanitary pads during special occasions, and cloth pads at other times	13

*\*this was a multiple choice question, therefore the total is not provided*

**Table 13: Primary influencers shaping girls' menstrual absorbent preference**

Influencers shaping what materials girls use	% of adolescent girls
Mother	94
Sister/Sister-in-law/other female relatives	44
Friend	33
NGO worker	2
ASHA/ANM, Anganwadi, SHG	10
Teacher	7

*\*this was a multiple choice question, therefore the total is not provided*

<sup>14</sup> The total percentage of girls' primary influencer and the how they are influenced exceed the sum total of 100%. This is because the questions were multiple choice answers and respondents were at liberty to choose all the options that applied.

Influencers, notably mothers, female family members and friends told girls what to use (reported by 61.0 % girls), provided financial support to buy menstrual absorbents (40.0%) or bought the menstrual material for girls (16.0%), and shared information and support on how to use the menstrual absorbent (16.0%).

### Perceived benefits and challenges of menstrual hygiene materials

Girls' use of menstrual absorbents was guided by what they perceived to be easy to use, comfortable and secure. Figure 9 below shows the perceived benefits of cloth and sanitary pads.

With regard to perceived difficulties of using menstrual absorbents, girls noted different hurdles for cloth pads and sanitary pads, highlighted in Table 14.

### Perceptions of hygiene in relation to menstrual hygiene materials

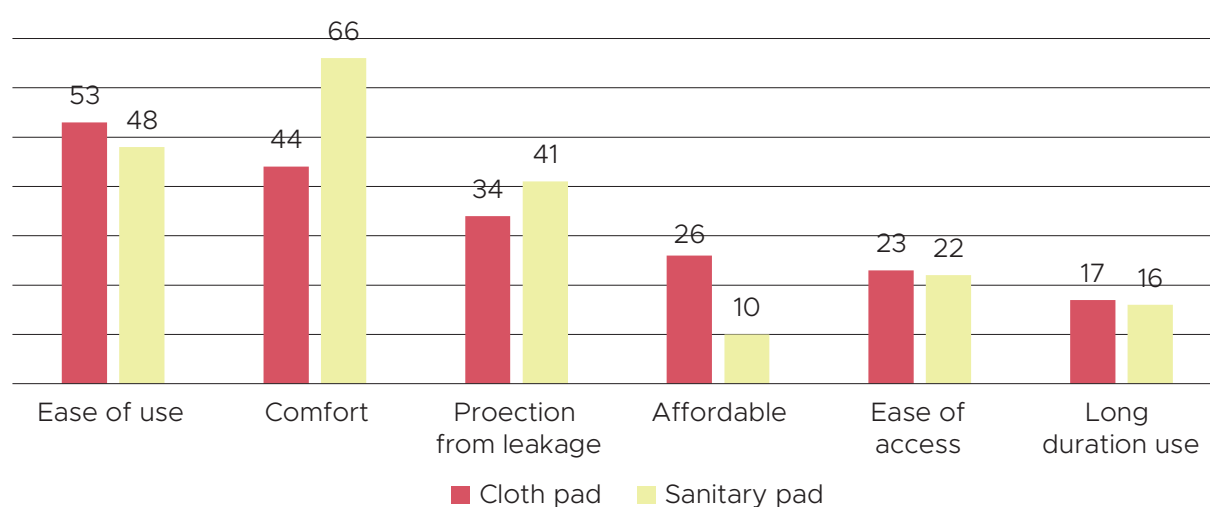
Figure 10 highlights girls' perceptions of hygienic products, presented by girls who only use cloth, only use sanitary pads, and those who use both. Among exclusive cloth users, 53.0% thought cloth was a hygienic option and 46.0% considered sanitary pads to be hygienic. Sanitary pad users overwhelmingly reported sanitary pads as hygienic. More mixed users favoured sanitary pads as hygienic (79.0%) compared to cloth pads (43.0%).

**Table 14: Perceived challenges with menstrual materials (% of adolescent girls)**

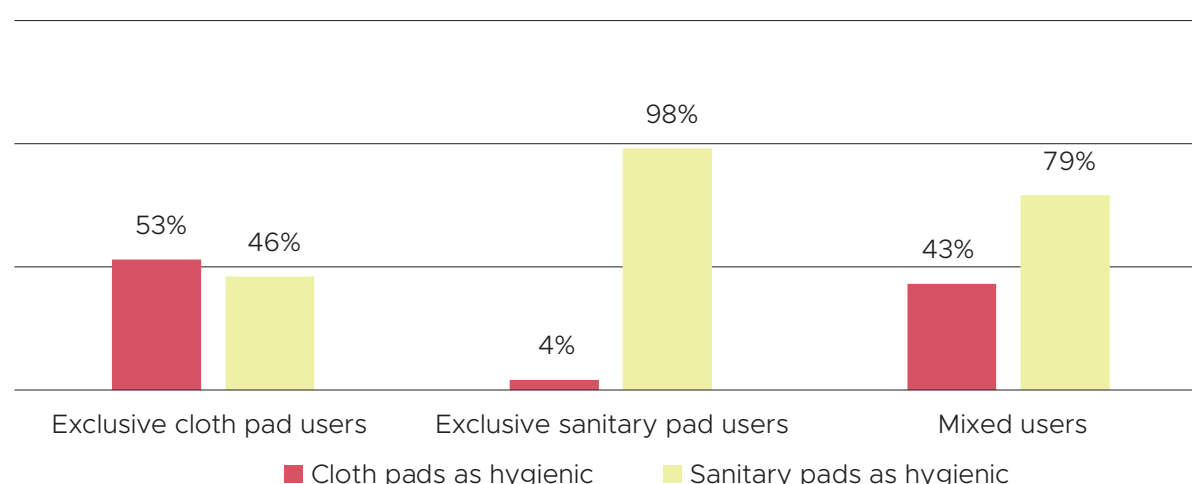
Perceived challenges: Cloth pads (% girls)		Perceived challenges: Sanitary pads (% girls)	
No difficulty faced	60	No difficulty faced	44
Difficulty getting cloth to make pads	25	Expensive	35
Difficulty washing (lack of private space)	17	Difficulty accessing pads at times	29
No protection from leakage	17	Discomfort purchasing pads	21
Difficulty drying (lack of private space)	12	No place to discard pads	4

*\*this was a multiple choice question, therefore the total is not provided*

**Figure 9: Perceived benefits of cloth and sanitary pads (% of adolescent girls)**



**Figure 10: Girls' perceptions of hygienic menstrual materials<sup>14</sup> (% of adolescent girls)**



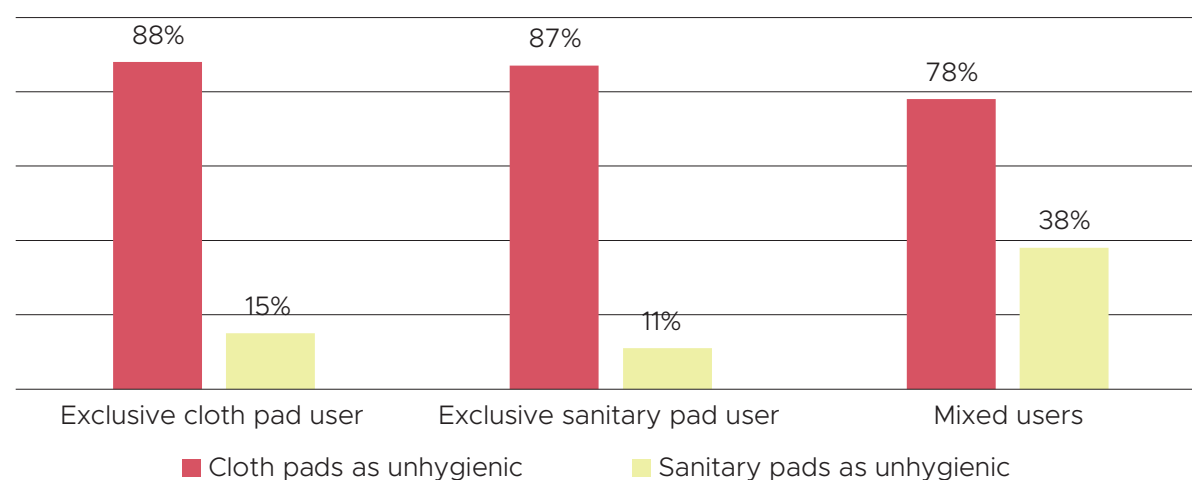
When asked which materials were considered unhygienic, strikingly, a higher proportion of girls considered cloth to be unhygienic compared to sanitary pads. An interesting finding emerged among mixed users, with 38.0% reporting that sanitary pads can be unhygienic (Figure 11). While the exact reasons for this were not explored during the survey, informal discussions suggest that some girls considered poor quality sanitary pads to be unhygienic, and others expressed that when pads are worn for a long duration, they begin to smell and cause genital irritation.

### Preference for menstrual materials for future use

Sixty percent of cloth pad users reported that they would like to continue using cloth pads and were open to new types of cloth pads, 52.0% wanted to use sanitary pads in the future, and 6.0% were open to menstrual cups<sup>16</sup>. Nine percent of cloth pad users were not willing to try any new product.

Among sanitary pad users, only 18.0 % of the respondents were open to cloth pads, 67.0% wanted to continue using sanitary pads, and

**Figure 11: Girls' perceptions of unhygienic menstrual materials (% of adolescent girls)**

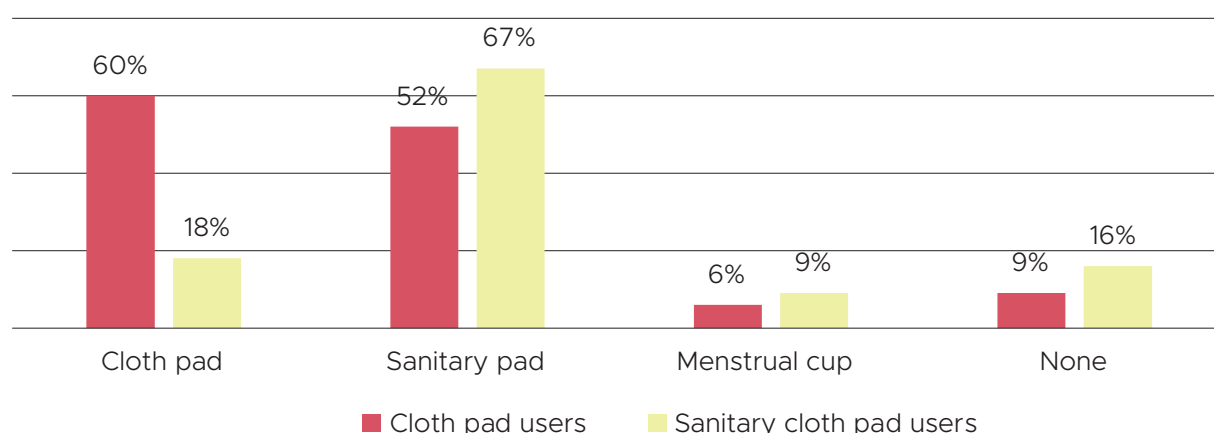


<sup>15</sup> Totals may not add to 100% as girls the question allowed for multiple choice

<sup>16</sup> It is unclear if investigators were able to explain what menstrual cups were and how they were used.



**Figure 12: Expressed preference for menstrual material to try in the future (% of adolescent girls)**



9.0% were willing to try menstrual cups in future<sup>12</sup>. Sixteen percent of sanitary pad users did not want to try any new material.

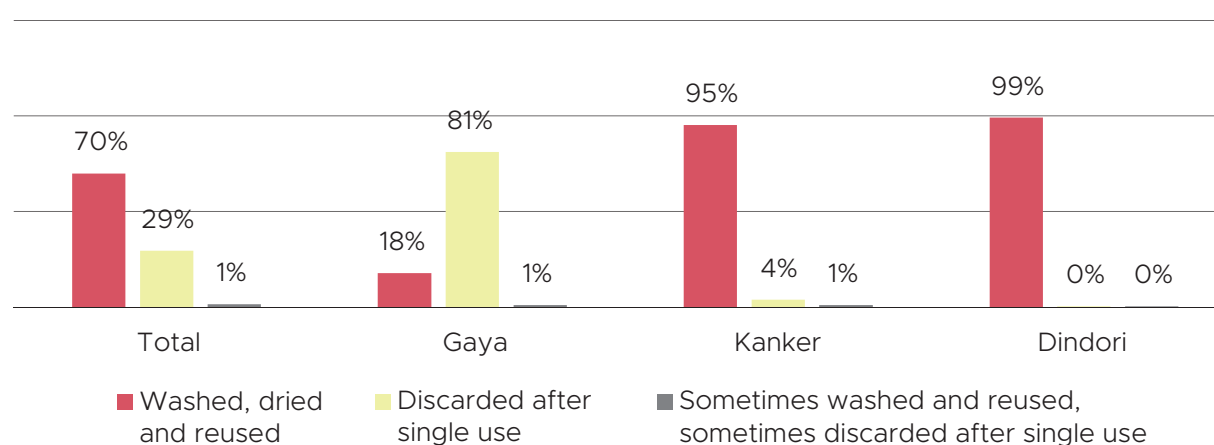
## 5.2 Cloth pad usage

### Usage patterns

Of all cloth pads users, 87.0% used cotton fabric from old cotton *sarees*, *salwar kameez*, and *dupattas* to make their pads, and all used underwear with cloth pads. Most girls found it easy to access cloth, and did not express any difficulty accessing cloth during the COVID-19 lockdown.

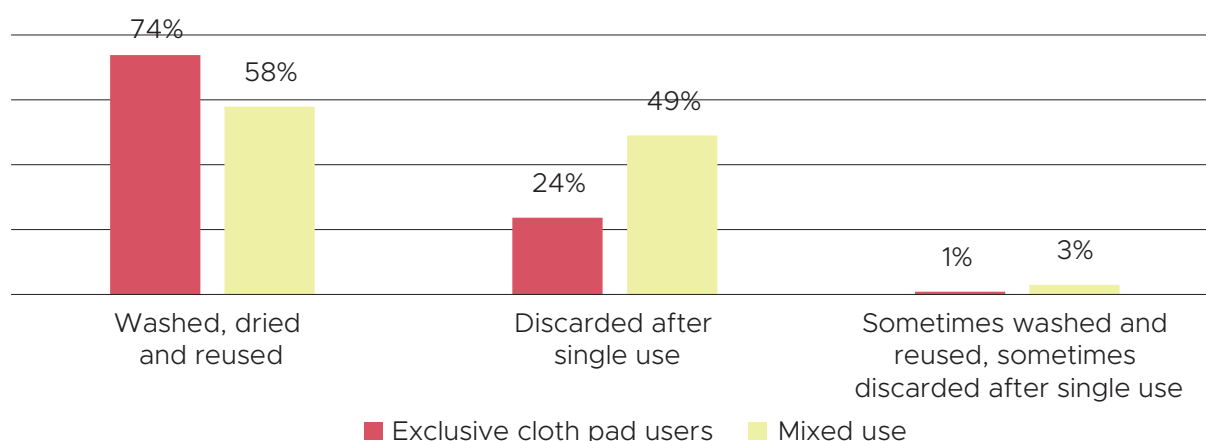
More than two-thirds (70.0%) of girls washed, dried and reused cloth pads; yet these practices differed across the three project locations where cloth was used (Figure 13). In Gaya, 81.0% girls discarded the cloth pad after single use (akin to a sanitary pad), sharing that, they were uncomfortable with washing and drying blood stained cloth<sup>17</sup>. In contrast, 99.0% and 95.0% of girls from Dindori and Kanker respectively, washed, dried and reused cloth pads, and did not express such discomfort with washing menstrual cloth. Across regions, menstrual cloth was not shared among menstruating girls and women in the family.

**Figure 13: Reuse of cloth pads by region (% of adolescent girls)**



<sup>17</sup> Interestingly, some girls who discarded cloth after single use shared that their mothers washed, dried and reused their cloth pads.

**Figure 14: Reuse of cloth pads by exclusive cloth users and mixed users (% of adolescent girls)**



Analysis by exclusive cloth pad users and mixed users found that 74.0 % of exclusive cloth pad users washed, dried and reused the cloth pads, while 58.0% of mixed users did so (Figure 14).

### Hygienic use of cloth pads

The survey posed two questions to ascertain hygienic use among cloth users; one question asked about the number of pads changed in a day, and another question probed for how long

a single cloth pad was used during the day. Table 15 illustrates that cloth pad users typically changed pads two or three times a day, highlighting practices among exclusive cloth users and mixed users.

When asked about the duration of use of a single cloth pad, 35.0% and 38.0% used a cloth pad for 2-3 hours and 4-5 hours respectively. Table 16 presents trends among exclusive cloth users and mixed users.

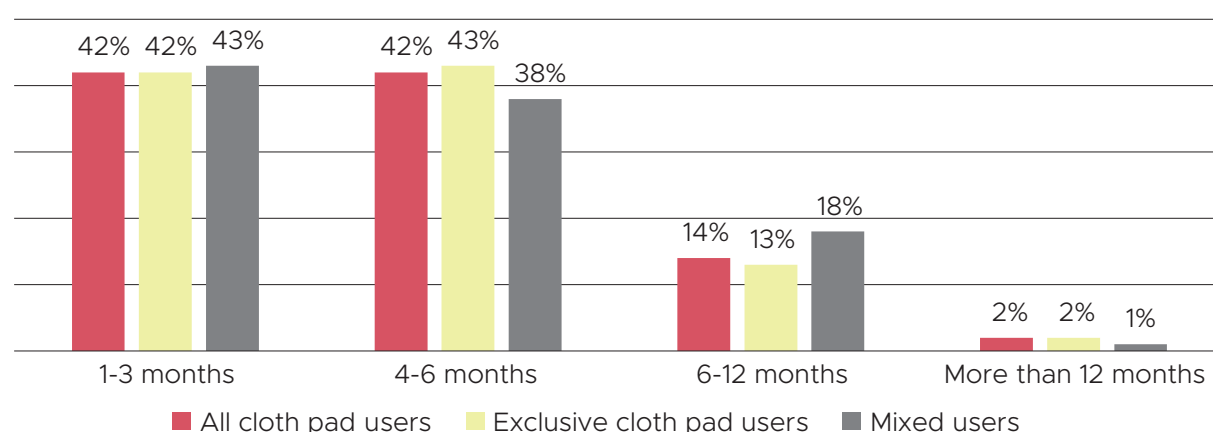
**Table 15: Number of cloth pads changed during the day**

Number of cloth pads changed during the day (% of adolescent girls)	All cloth users	Exclusive cloth users	Mixed users
1	2	3	0
2	46	52	33
3	36	30	50
4	14	13	14
5	1	0	2
6	1	1	1
More than 6	0	1	0
TOTAL	100	100	100

**Table 16: Duration of use of a single cloth pad during a day**

Duration of use of a single cloth pad during the day (% of adolescent girls)	All cloth users	Exclusive cloth pad users	Mixed users
1-2 hours	8	7	10
2-3 hours	35	36	34
4-5 hours	38	37	40
6-hours and more	19	20	16
TOTAL	100	100	100

**Figure 15: Duration of reuse of cloth pads**



The data presented in Table 15 and Table 16 indicate a discrepancy in reporting with regard to hygienic use of cloth pads. Discussions with girls and surveys teams suggests that the responses on the number of pads used in a day is more indicative of actual practice, while responses on the duration of use is reflective of knowledge of how long a pad should be used.

Fifty one percent of girls reported managing their menses with 2 -3 cloth pads, 25.0% required 4-5 cloth pads, and 24.0% used six or more cloth pads per menstrual cycle. Girls changed pads when the cloth felt wet and heavy (reported by 72.0%), when it began to leak (63.0%), when they felt uncomfortable (43.0%), and when the cloth caused some genital irritation (16.0%).

Forty two percent of cloth users used cloth for 1-3 months (approximately for 1-3 menstrual cycles) and 42.0% used the cloth for 4-6 months before discarding them. Little difference was noted across exclusive cloth users and mixed users (Figure 15).

### Menstrual cloth washing and drying practices

Among girls who reused cloth pads, 97.0% washed cloth using normal temperature water, 44.0% soaked the cloth in water before washing, 80% washed cloth with soap/detergent and 8.0% with body soap.

The study found that 23.0% of girls washed their cloth pads using bleaching powder or disinfectants like Dettol or Savlon, believing that such practices disinfected menstrual cloth. Such practices can be detrimental as use of disinfectants and antiseptic solutions soils cloth, and makes the material harsh and uncomfortable to wear. While rare, 2.0% of girls washed their cloth with just water. Girls seem to be misinformed on how best to wash cloth pads to keep them clean.

Drying of cloth pads was suggestive of unhygienic practices. One-fifth of the girls interviewed always dried their menstrual cloth under other clothes and 70.0% sometimes did so. Along the same lines, 8.0% never dried their cloth pad in direct sunlight, and 71.0% sometimes dried their cloth in direct sunlight. Just 10.0% of girls dried their cloth in the open and 21.0% girls always dried menstrual cloth in the sun. In the earlier section, girls did note challenges with washing and drying their cloth pads, and this may explain, to some extent, unsafe drying practices.

### Cloth pad disposal practices and disposal preference

We found that disposal practices and preferences varied across regions. This was a function of different patterns of product usage, as well as socio-cultural norms related to menstruation/menstrual blood that informed disposal practices as well.

**Figure 16: Washing prior to disposal of cloth pads<sup>18</sup>**

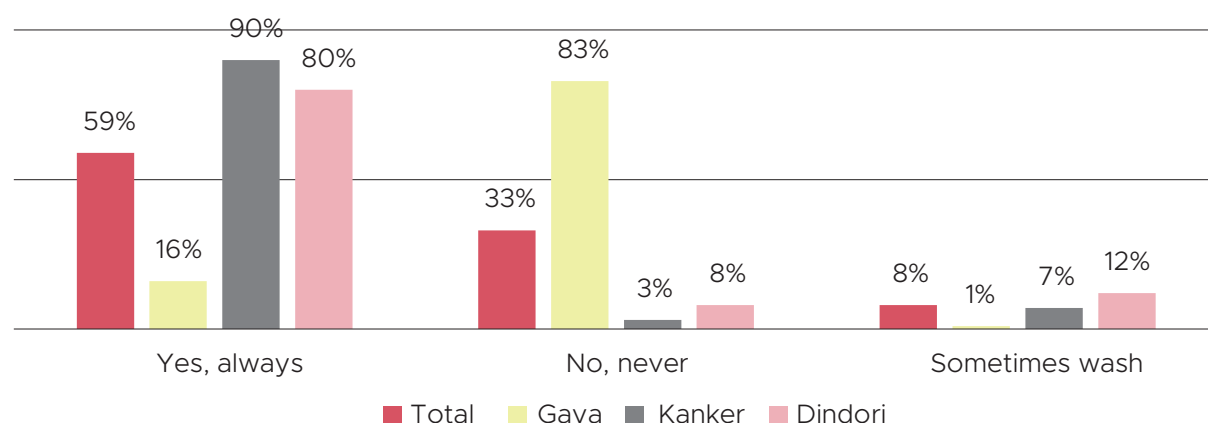
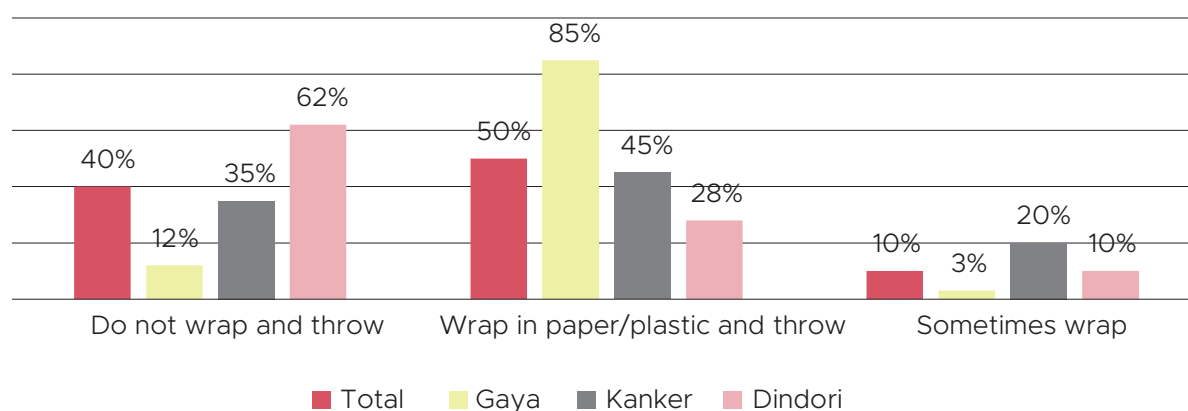


Figure 16 reveals that 59.9% of cloth pad users always washed their cloth pads and 33.0% never washed menstrual cloth before discarding them. Notably, 16.0% girls from Gaya washed cloth pads before discarding, in sharp contrast with 90.0% and 80.0% of girls from Kanker and Dindori respectively who reported always washing their cloth pads before disposal. The driving factors for girls to engage in this practice of washing before disposal were the belief that throwing unwashed pads was unhygienic (51.0%), the perception that the practice will protect

others from seeing the menstrual blood (17.0%), being instructed to wash and discard cloth pads (14.0%), and attempts to conceal what the cloth was used for (11.0%).

When further probed about disposal, the survey found that 50.0% of the girls wrapped the cloth pads in either paper or plastic before disposal, and 40.0% did not wrap the discarded cloth (Figure 17). Regional differences were apparent here as well. For instance, 85.0% of cloth pad users in Gaya wrapped the cloth to be discarded, while

**Figure 17: Wrapping of cloth pads before discarding (% of adolescent girls)<sup>14</sup>**



<sup>18</sup> Data from Hyderabad was not included as only 3 girls used cloth pads



45.0% and 28.0% of girls in Kanker and Dindori respectively did so. Girls wrapped used cloth believing it was unhygienic not to do so (55.0%), to protect others from seeing menstrual blood (23.0%), to conceal what the pad was used for (17.0%) and because they were told to do so (13.0%). Given the findings related to washing of cloth and wrapping of cloth in paper/plastic prior to disposing them, it may be that the higher rates of washing in Kanker and Dindori explained the low rates of wrapping the used cloth before discarding them, and vice versa in Gaya (where the rate of washing used cloth was low).

Table 17 highlights the different disposal practices by project locations. Burying of used cloth pads was common practice in Gaya (77.0%) and Dindori (67.0%). In Kanker

49.0% burned cloth pads with household garbage, and only 31.0% buried menstrual cloth. Of all cloth pad users, 40.0% threw menstrual cloth in the open. In Gaya, some girls from who lived near hilly areas often walked to the hills to throw their pads. While girls preferred a particular disposal method, they adopted other methods based on need and context.

All cloth pads users were asked how they would like to dispose their menstrual cloth and were presented with a few options. Each disposal option was briefly explained by the interviewer. The findings in Table 18 indicate that non-burn solutions were preferred by girls, with the exception of Kanker where 45.0% were open to disposal via incinerator.

**Table 17: Cloth pad - disposal practice (% of adolescent girls)**

Cloth pad disposal practice (% of adolescent girls)	Total	Gaya	Kanker	Dindori	Hyderabad
Bury it	47	77	31	64	-
Throw it in the open	40	17		8	17
Throw it in household garbage/dustbin at home	16	28	17	22	67
Throw it in community/school incinerator	14	0	13	3	17
Throw it in household toilet	7	20	16	5	-
Throw it in the community toilet	1	0	18	1	-
Burn it with household garbage		2	49	18	17

*\*this was a multiple choice question, therefore the total is not provided*

**Table 18: Expressed preference of waste disposal solutions for cloth pads in the future (% of adolescent girls)**

Waste disposal solution	Total	Gaya	Kanker	Dindori
Bury pad in pit with other pads and soil	47	57	26	50
Bury pad in pit with wet waste	22	36	18	14
Bury pad in pit with worms that decompose the waste	22	34	55	1
Burn pad in incinerator	7	5	45	7
None of the above	16	3	1	33

*\*this was a multiple choice question, therefore the total is not provided*

## 5.3 Sanitary pad usage and disposal

Across all four project locations, 56.0% of respondents used sanitary pads, all of whom used underwear with the pads. A vast majority, 83.0%, bought sanitary pads themselves.

### Usage patterns

When girls were asked which sanitary pad brands they used, girls from urban Hyderabad reported using both the Whisper (55.0%) and Stayfree (45.0%), while girls from rural locations, notably Kanker and Gaya used Stayfree, and other lower cost options such as Pro-Ease and Niine<sup>19</sup> (Table 19). Girls from Gaya and Kanker expressed a preference for

Stayfree and Pro-ease as they believed that these *thicker* pads offered more protection.

A striking finding was that more sanitary pad users in urban Hyderabad found it difficult to access sanitary pads (44.0%) compared to girls in the other two rural areas (9.0%). Discussions with girls found that sanitary pad users in Kanker and Gaya often bought pads from their local shops that were fairly accessible to them in the village. In Hyderabad, slums did not have shops, and girls had to step out of the slum to access these products. Mobility of girls in slum areas may be limited (more so during COVID-19), and hence access was challenging.

**Table 19: Brand of sanitary pad used by girls (% of adolescent girls)**

Brand used by adolescent girls (% girls)	Total	Rural	Urban
Whisper	32	17	55
Stayfree	51	56	45
Others (Pro-ease)	10	16	-
Niine	4	6	-
Sofy	2	3	-
Carefree	1	2	-
TOTAL	100	100	100



**Table 20 :Ease of access to sanitary pads (% of adolescent girls)**

Proportion of girls who find it easy to access pad	Total	Rural	Urban
Yes	64	82	39
No	23	9	44
Sometimes	13	9	17
TOTAL	100	100	100

**Table 21: Source of sanitary pads (% of adolescent girls)**

Source of sanitary pads (% of adolescent girls)	Total	Rural	Urban
Local Kirana shop	89	92	83
Medical shop	36	23	55
ANM/ASHA	1	1	1
Anganwadi	1	2	0
SHG	1	1	
School/teacher	2		
Other (hospital)	0	1	1

*\*this was a multiple choice question, therefore the total is not provided*

<sup>19</sup> Whisper pads are costlier than Stayfree pads, while Stayfree and Pro-Ease are comparable. Niine offers regular pads at a slightly lower rate (as per March 2021 MRP).

A majority of adolescents bought sanitary pads either from the local *kirana* shops (89.0%) or from medical shops (36.0%). Table 21 shows where all girls accessed pads in rural and urban areas.

A packet of sanitary pads had 6-7 pads. In rural areas, 62.0% girls reported that they bought one pack a month, which had seven pads. In urban Hyderabad, 63.0% girls from slums shared that they also bought just one pack a month, which typically pack had six pads. This finding is important, as many girls did not buy more than one packet a month, and therefore managed their menses with just 6-7 pads.

Over three-fourths of girls (77.0%) bought a pack of pads for between INR 21 – 40, with 39.0% of girls from Hyderabad spending over INR 40.0 for a pack. This is consistent with the market price of the most used brands – Stayfree and Pro-Ease in rural areas, and Whisper and Stayfree in Hyderabad slums (Table 22).

### Hygienic use of sanitary pads

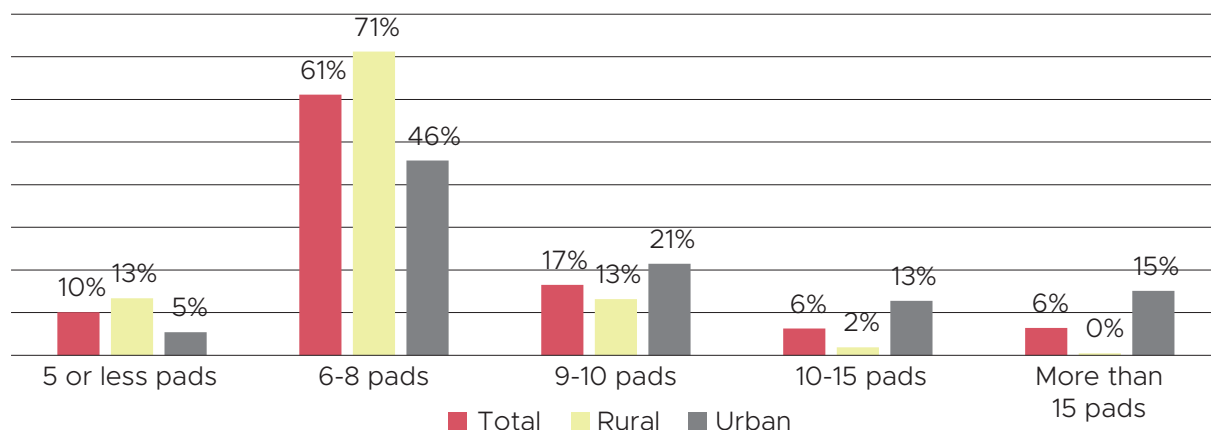
To understand the hygienic use of sanitary pads, questions were explored in two different ways. Figure 18 shows the number of sanitary pads girls required for a menstrual period, and Figure 19 highlights the duration of use of a single sanitary

pad in a day. As seen with cloth pads, the contradiction in these two findings was notable – while 61.0% girls needed just 6-8 pads to manage their menses, two-thirds (67.0%) reported changing their pad every 2-5 hours. If a girl changed pads every five hours, she would require between 3-4 pads per day, and 12-16 pads for a four day cycle. If girls used both sanitary pads and cloth pads, then fewer number of sanitary pads were required during the day. However, in urban areas, where sanitary pad use was prevalent, 67.0% girls using just 6-10 pads is concerning, as it indicates that they possibly changed their pads just twice a day, for a normal three to five day cycle. Analysis of data based on type of sanitary pad user supported this assumption (Figure 20 and Figure 21). Exclusive sanitary pad users did not report requiring more pads on average compared to mixed users, and a higher proportion of exclusive sanitary pad users (29.0 %) wore a pad for six or more hours, compared to the percentage of mixed users who did so (13.0%). Girls' responses on the number of pads required for a period may be indicative of actual practice while their responses for the number of hours a single pad is used may be reflective of their knowledge and desire to provide an appropriate answer.

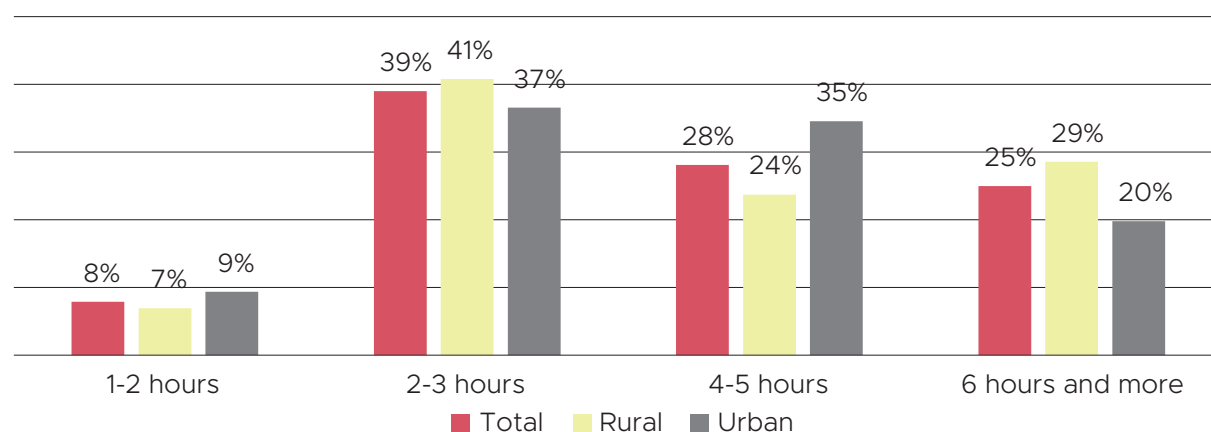
**Table 22: Cost of buying a sanitary packet (% of adolescent girls)**

Cost of sanitary pads			
Cost of one packet	Total girls (%)	Rural girls (%)	Urban girls (%)
INR 10 and less			
INR 11-20	2	4	-
INR 21-40 *	77	91	57
INR 40 and above	18	4	39
Get packet for free	3	0	-
Don't know	1	1	4
TOTAL	100	100	100
* Consistent with the cost of Stayfree and Pro-ease			

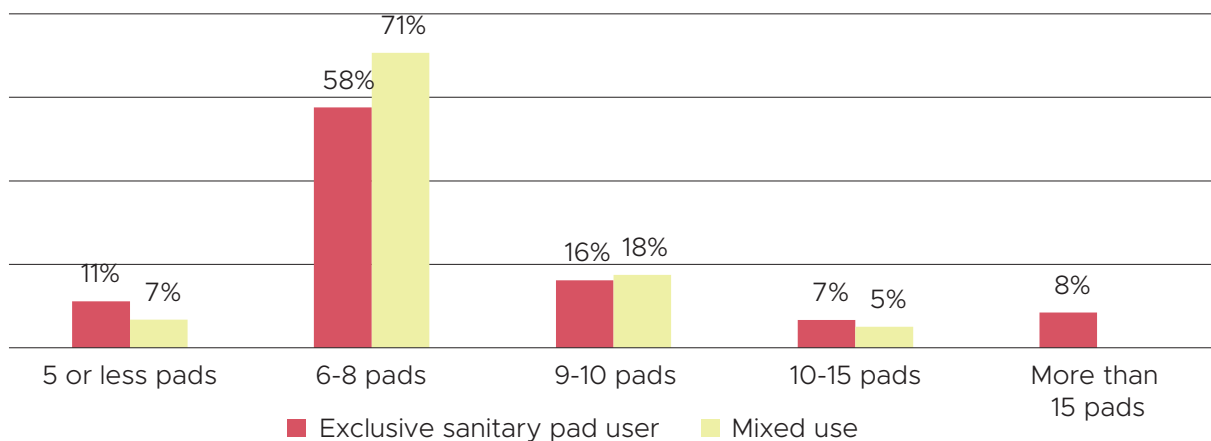
**Figure 18: Number of sanitary pads required for a menstrual cycle (% of adolescent girls)**



**Figure 19: Duration of use of a single sanitary pad in a day (% of adolescent girls)**

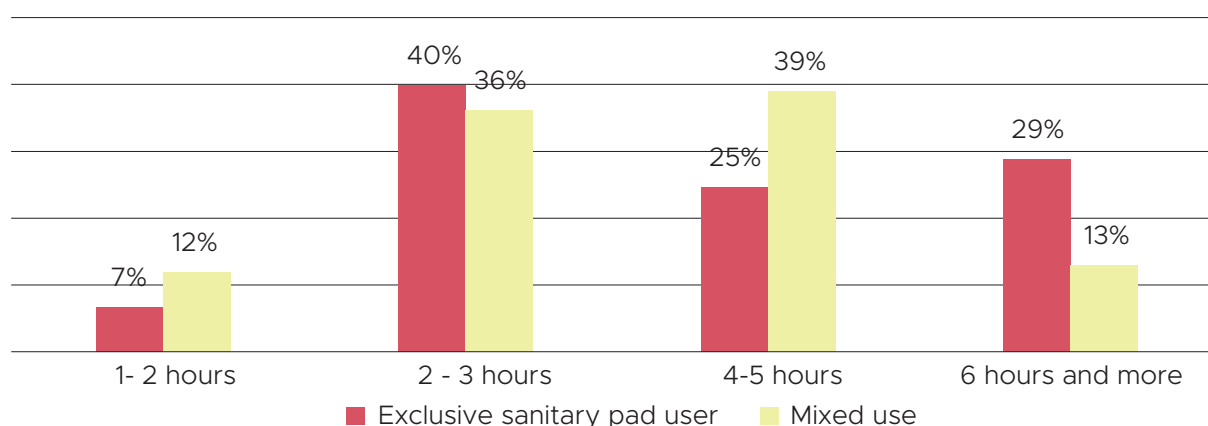


**Figure 20: Number of sanitary pads required for a menstrual cycle by exclusive users and mixed users (% of adolescent girls)**





**Figure 21: Duration of use of a sanitary pad in a day by exclusive users and mixed users (% of adolescent girls)**



Factors that informed changing of pads were similar to what was found for cloth pad use - 57.0% of girls reported changing their sanitary pads when it was about to leak, 51.0% changed when the pad felt wet and heavy, 43.0% when uncomfortable, and 14.0% changed the absorbent when they felt any genital irritation.

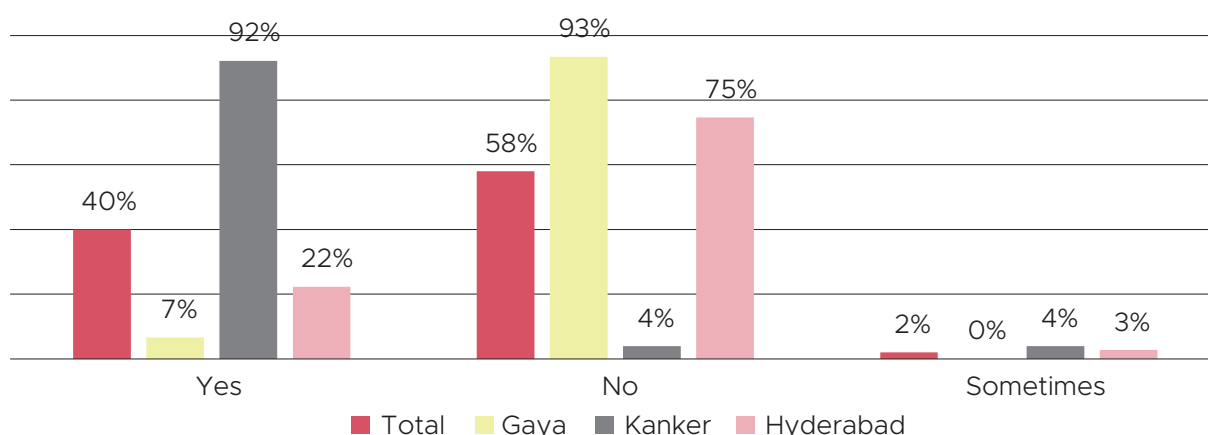
### Sanitary pads – Disposal practices and preferences

Two-fifths of all girls washed their sanitary pads before disposal, a practice more common in Kanker than in other areas (Figure 22). Of all sanitary pad users who washed the pad prior to disposal, 29.0% considered it unhygienic to

discard without washing, 23.0% had been told to do so, 6.0% wanted to conceal what the sanitary pad was used for, and 5.0% of girls wanted to protect others from seeing menstrual blood.

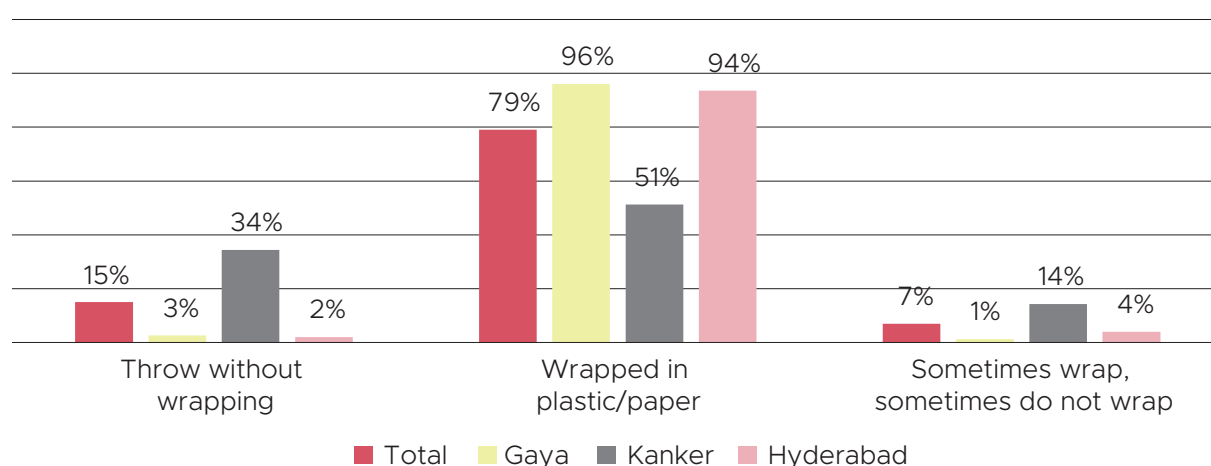
Many girls (79.0%) wrapped sanitary pads prior to disposal, with girls from Gaya<sup>20</sup> and Hyderabad more likely to do so compared to girls from Kanker. Forty two percent of girls wrapped their sanitary pads before disposal as they found it unhygienic not do so, 33.0% were told wrap and throw, 27.0% wanted to hide what the pad was used for, and 22.0% of girls did so to protect others from seeing menstrual blood.

**Figure 22: Washing sanitary pads prior to disposal (% of adolescent girls)**



<sup>20</sup> While cloth users from Gaya did not wash cloth pads prior to disposal, sanitary pads users did so. The reasons for this are unclear despite discussions.

**Figure 23: Wrapping of sanitary pads prior to disposal (% of adolescent girls)**



**Table 23: Disposal practices among girls (% of adolescent girls)**

Sanitary pad disposal practice (% girls)	Total	Gaya	Kanker	Dindori	Hyderabad
Throw it in toilet at home	13	13	13	38	10
Throw it in community toilet	2	-	5	-	1
Throw it in school toilet	1	-	3	-	-
Throw household dustbin	41	7	10	-	86
Throw it in with household garbage	17	34	11	-	13
Throw in common dustbin in community	7	6	4	-	10
Community waste area	8	27	4	-	3
Burn it with household waste	17	1	50	13	-
Burn it in incinerator in school	2	1	4	4	-
Burn it in incinerator in community toilet	-	1	-	-	-
Bury it	30	50	55	42	-
Throw it in the open	2	7	1	-	-

*\*this was a multiple choice question, therefore the total is not provided*

As in the case of cloth pads, disposal practices varied across regions (Table 23). Although 41.0% of all girls were found to throw pads with household waste, this was mainly due to an overwhelming adoption of this practice in urban slum areas in Hyderabad (86.0% girls from Hyderabad reported following this practice). Burial of pads was common among sanitary pad users in Kanker, Gaya and Dindori. In Gaya, 34.0% and 27.0% of girls discarded their pads along with household waste or in a common waste area for the community. Burning of sanitary pads

was not common practice, except in Kanker, where 50.0% of girls reported they burned their pads, consistent with finding from the district with regard to final disposal of cloth pads as well.

When girls were asked their preference with regard to future waste management solutions (Table 24), burial (deep burial and composting) were preferred in Gaya, Dindori, and Kanker; and burn-solutions were acceptable for 60.0% of girls from Kanker. Markedly, 90.0% of girls in Hyderabad did

**Table 24: Expressed preference of waste disposal solutions for sanitary pads in the future (% of adolescent girls)**

Preferred disposal solution for sanitary pads (% girls)	Total	Gaya	Kanker	Dindori	Hyderabad
Burn pad in incinerator	22	9	60	13	1
Bury pad in pit with other pads and soil	34	72	53	58	2
Bury pad in pit with wet waste	19	32	28	13	8
Bury pad in pit with worms that decompose the waste	12	8	17	0	1
None of the above	34	11	1	17	90

*\*this was a multiple choice question, therefore the total is not provided*

not prefer any of the proposed solutions, as these would involve community based waste management of pads. Discussions with girls, mothers and frontline workers in Hyderabad, Kanker, Dindori and Gaya revealed that girls were uncomfortable taking their pads

to another location in the community for disposal, and that they would prefer home based or school based solutions that allowed for discrete disposal. In Hyderabad, stakeholders suggested household waste collection measures.



## 6

# Implications of study findings for the intervention

The survey findings have important implications for an informed product choice approach towards menstrual hygiene and waste management practices and future solutions.

## 6.1 Key takeaways from the survey

The key takeaways that will be addressed through the proposed intervention are briefly summarized below:

1. Knowledge and attitudes
  - ⊙ Girls had low levels of awareness on menstruation, menstrual cycle, and hygiene practices
  - ⊙ Mothers and the peer group were important sources of support and information, but may have lacked adequate and correct knowledge themselves
  - ⊙ Mothers provided information on what materials to use during menses, and communicated social norms to be followed, yet provided little factual inputs and guidance on hygienic management of menses
2. Product use and hygienic management:
  - ⊙ Usage of menstrual materials varied by region based on access to products, access to markets, as well as socio cultural patterns of menstrual material use
  - ⊙ Mixed use of sanitary pads and cloths was fairly common among girls in rural areas
  - ⊙ Sanitary pad use was higher in urban areas and in rural areas that were more “connected” to marketplaces (less remote and cut off from markets)
  - ⊙ Cloth pad use was high in remote areas with poor or very limited linkage with markets
  - ⊙ Hygienic use of sanitary pads and cloth pads was limited – girls typically changed twice a day, or at the most, three times a day
  - ⊙ Girls changed pads only when the pad felt heavy, wet and were about to leak. The concept of hygiene was closely linked with when a pad (cloth or sanitary pad) was no longer able to provide the requisite protection
  - ⊙ Girls perceived sanitary pads to be a more hygienic option compared to cloth, even among cloth users and mixed users,



and may be indicative of the type of information that was provided to girls about sanitary pads and cloth pads

- ⊙ Cloth pads were washed, but not dried appropriately. In some areas, cloth pads were discarded after single use
- ⊙ Many girls did not change pads in school, as they often changed just twice a day (in the morning and in the evening). Lack of functional toilets in schools was a barrier to changing materials in these institutions

### 3. Disposal of used products

- ⊙ Varied patterns of disposal were noted across areas, informed by socio-cultural beliefs about menstrual blood, with no overarching preference for any single method of disposal
- ⊙ Discrete disposal was preferred, and girls reported washing cloth pads, and wrapping sanitary pads and used cloth prior to disposal
- ⊙ Social norms around disposal shaped disposal patterns, hence girls from several project locations expressed discomfort with burning of used materials. However, some communities (e.g., communities from Kanker in this study) were comfortable with burning
- ⊙ Burial and open throwing emerged as common practices in rural locations
- ⊙ Disposal with routine household waste was a common practice in urban locations

### 4. Product and disposal preferences:

- ⊙ Girls had a clear preference for menstrual materials that were comfortable, offered protection from leakage, and could be used for a long duration. Ease of access to products and cost were also considerations for sanitary pads
- ⊙ Girls expressed a preference for sanitary pads in the future, and some were open to trying new types of cloth pads
- ⊙ Girls were open to deep burial solutions, and in some locations, incinerator solutions
- ⊙ Girls preferred home based solutions, institution based solutions, but were not comfortable with community based solutions that required taking used

materials to a common place for disposal and further management

### 5. Contextual nuances:

- ⊙ Given the diversity of the four project locations in which the study was conducted, the results offered insights into menstrual hygiene practices among girls per se, and also into how perceptions and practices differed based on socio-cultural and geographic contexts. For instance, in Kanker and Gaya, girls engaged in mixed use of menstrual materials. However, girls in Gaya threw cloth pads after single use, while girls from Kanker washed and reused cloth pads. Similarly, in most areas, girls were uncomfortable with burning menstrual cloth and sanitary pads, but in Kanker, girls were burning their used absorbents, and expressed a preference for burn solutions for both types of materials in the future. While formulating a common approach, contextual nuances must be kept in mind while supporting girls to make relevant choices for product use and disposal
- ⊙ Interactions with girls highlighted that they had questions related to nutrition, food intake during menstruation, menstrual problems, though this was not probed for in great detail in the survey

## 6.2 Recommendations for menstrual health and hygiene interventions with adolescents

- ⊙ Intervention approaches should incorporate an informed product choice lens, providing information on the range of disposable and reusable menstrual materials, specifying their relative advantages, challenges, and considerations for hygienic use
- ⊙ Interventions should be responsive to contextual nuances with regard to product use and disposal. For instance, in communities with high cloth pad use, girls and women require support for hygienic use of cloth pads. In communities with mixed use, girls and women should be supported for hygienic use of both types of products

- ⊙ Awareness sessions should be promoted to provide comprehensive information on:
  - Puberty, the reproductive system, menstruation and the menstrual cycle
  - The menstrual hygiene product range, covering both disposable sanitary pads and reusable cloth pads
  - Hygienic management of menses, and hygienic use of menstrual materials
  - Hygienic management of reusable cloth pads through proper washing, drying and storage of materials
  - Appropriate disposal solutions ( where to dispose and how to dispose)
- ⊙ Mixed use of menstrual products should be supported as one way to encourage hygienic use, as mixed use can support frequent changing of materials
- ⊙ Communities should be engaged in the selection of disposal and waste management solutions, by offering a mix of home-based, institution-based

and community based disposal solutions that are safe and acceptable. At the very minimum, girls and women to be encouraged to wrap used pads in paper before discarding them in dustbins.

- Communication discouraging unsafe disposal practices (throwing in the open, in water bodies, or in toilets) to be provided
- ⊙ Mothers should be involved in interventions with adolescents, either in joint or separate sessions, and during campaign events focused on menstrual health and hygiene
- ⊙ Interventions should focus on creating peer group support for girls that can reinforce messages, address social norms, support hygienic practices, and share local solutions for the use of menstrual materials and safe disposal
- ⊙ Interventions should consider support for pilots on waste management solutions that can be locally managed and are culturally acceptable

# Annexure 1

This annexure presents the mapping data and the sampling framework for each region based on findings from the mapping.

## Mapping data

Gaya	
Gram Panchayat	Number of girls mapped
Bhore	176
Gare	90
Kaiya	153
Lakhan Pur	151
Shadi Pur	260
Sonaut	179
Total	1009

Kanker	
Gram Panchayat	Number of girls mapped
Aturgaon	117
Dumali	38
Dumarpaani	53
Halba	25
Ichhapur	40
Matwadamodi	57
Palewa	37
Ranidongri	36
Shahwada	54
Total	509

Dindori	
Gram Panchayat	Total No. of Adolescent Girls
Azgar	141
Fitari	146
Banjara	118
Gaura Kanari	113
Ghata	95
Dhurkuta	71
Kiwad	70
Total	754

Hyderabad	
Slum	Number of girls mapped
Anjaiah Nagar	150
Gulshan Nagar	91
Harijanwada	50
Indira Gandhi Puram	78
Indira Nagar 2	133
Kaithalapur	68
Nagamaya Kunta	155
Pandit Nehru Nagar	101
Ranga nagar	150
Rassolpura	141
Total	1117

## Gaya Sampling

Criteria	Sample – (Total - 300)	
<b>Caste</b>	Scheduled Caste - (200 girls)	OBC – (100 girls)
<b>Age</b>	10 – 14 years (70 girls)	10 - 14 years (30 girls)
	15 – 19 years – (130 girls)	15 -19 years (70 girls)
<b>Education Status</b>	Enrolled in school (160 girls)	In school (80 girls)
	Not in school (40 girls)	Not in school (20 girls)

## Kanker Sampling

Criteria	Sample (Total - 300)
<b>Caste</b>	Scheduled Tribe – 200 girls
<b>Participation in Kishori Samoha</b>	Yes – (100 girls)
	No – (100 girls)

## Hyderabad Sampling

Criteria	Sample (Total – 300)	
<b>Religion</b>	Hindu (150 girls )	Muslim (150 girls)
<b>Residential Status in slum</b>	Permanent resident (90 girls)	Permanent resident (60 girls)
		Migrant/temporary – (90 girls)
<b>Age</b>	10 – 14 years – 70	10 – 14 years (70 girls)
	15 – 19 years - 80	15-19 years (80 girls)

## Dindori Sampling

Criteria	Sample (Total - 300)
<b>Education Status</b>	Attempt to sample girls from most GPs or 5 GPs that are representative of all the GPs based on the socio-demographic profile

## Annexure 2

### Organizations involved in the study

#### **From WaterAid India**

Arundati Muralidharan (Study-lead and co-author)  
Anjali Singhanian (Study co-lead and author)  
Divya Chadha  
Amar Prakash  
Chanchal Kumar Modi  
Satyajit Ghosh  
Shaili Jasthi

#### **From Samarthan, Kanker**

Priyanka Dayre  
Devidas Nimje  
Neha Patel  
Shashikala Gawde  
Hemin Yadav  
Hemlata Sahu

#### **From PGVS, Gaya**

Kajal Chourasia  
Pradeep Priyadarshini  
Ashok Kumar Ravidas  
Nilam Kumari  
Arushi Sharma  
Asha Devi  
Prity Kumari

#### **From LEPRASociety**

K Sudheer  
Gadem Sakru Bai  
Vasavi Konkata  
Masarapu Sravanthi  
Gonti Maneesha  
Gonti Malathi

#### **From NIWCYD, Dindori**

Shipra Trivedi  
Vimal Dubey  
Sandhya Kewart  
Geetanjali Sahu  
Neelam Dhurwey  
Jain Singh  
Pitamber Khairwar







