Baseline study on level of awareness among the school teachers, students and health service providers in rural area regarding importance of hygiene and sanitation

Final Report

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Acronyms

CC	Community Clinic
CHCP	Community Health Care Promoter
FGD	Focus Group Discussion
FWC	Family Welfare Centre
HPNSDP	Health Population and Nutrition Sector Development Programme
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
KII	Key Informant Interview
MICS	Multiple Indicator Cluster Survey
NGO	Non Government Organization
SACMO	Sub Assistant Community Medical Officer
SMC	School Management Committee
UHC	Upazila Health Complex
UH&FPO	Upazila Health and Family Planning Officer
WASH	Water, Sanitation and Hygiene

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Executive summary

WaterAid Bangladesh has recently launched a project with the purpose of supporting the achievement of the objectives related to Essential Services Delivery OP (OP # 2) of Health Population and Nutrition Sector Development Programme (HPNSDP 2011–2016) by strengthening and influencing health sectoral capacity on hygiene promotion. The project implements in three districts i.e. Gaibandha, Panchagarh and Takurgaon in Rangpur Division for a period of ten months aiming to increase awareness on importance of hygiene and sanitation among the health service providers and school teachers at Union and Upazila level. In order to understand the present situation a baseline study is needed to be carried out in the project areas. The study findings will help to establish a benchmark to assess the project outcomes.

A cross sectional study was carried out in three intervention districts. Both quantitative and qualitative methods were applied to collect data. Samples were selected following two stage sampling technique. In the first stage five Upazilas (out of ten) from these three districts were selected by simple random sampling technique. Finally in the same way six unions were selected from each selected Upazila for school and health facility survey. The study focused at institutions for data collection. Questionnaire survey, FGD, KII and observation methods were employed in the baseline survey. The study covered 30 primary and secondary schools and 64 health facilities including upazila health complex, family welfare centres and community clinics. Data collection was conducted between 12th May and 22nd May 2015.

The study findings revealed that teachers possessed slightly better knowledge on hand washing than that of students. Almost all of the teachers and students could say handwashing is needed after defecation and before eating their meal. But both teachers and students had poor knowledge on handwashing after cleaning child's faeces, before feeding child and before cooking food. Findings also revealed that there is no significant difference on handwashing knowledge between boys and girls. However, there is slight difference on handwashing knowledge between male and female teachers. NGOs, television, text book, parents, bill board etc. were reported as source of information.

Students' handwashing practice at critical times was explored in this study. Only 25% of them used soap or detergent during school time to wash hands while 64% of them used soap or detergent to wash hands after defection. Still a considerable number of students do not use soap for hand washing after defecation. Handwashing practice was less among students at home though it was a bit high at schools. Unavailability of water and soap, ignorance and financial constraints were the main causes of not practicing handwashing at home.

It was found that teachers are not aware on menstrual hygiene. Only 17% of them used to take class on menstrual hygiene. Co-education, shyness, traditional beliefs, lack of friendly attitudes between teachers and students were reported as major barriers to discuss about menstrual hygiene in the class room.

Findings show that almost all schools had latrines of any kind and 67% of them had slab latrine with water seal connected to safe tank. However, more than half of the schools did not have separate latrines for boys and girls while 43% of the schools did not have separate latrines for teachers. Regarding cleanliness of latrine, overall 55.2% of the latrines were found clean. The latrines that were used by boys and girls separately were found unclean. Only 35.7% of boy's latrine and 42.9% of girl's latrines were found clean. Scarcity of water, cleaning detergent and

lack of awareness among students and teachers were reported main barriers for cleaning the latrines. Availability of menstrual hygiene facility at schools was quite unsatisfactory. No school was found with this facility during survey. Qualitative findings shows that girls are facing difficulties and they have to be absent in school due to lack of menstrual sanitation facilities at schools.

Around 87% of the schools had hand washing facilities inside or near latrine. Tube well (47.2%) was cited as the main hand washing arrangement followed by bucket/pitcher/jug (33.3%). In 73% schools, water was available in hand washing places. Only soap was found at hand washing places in 31% schools. The study team conducted an observation to see the overall cleanliness of the school including classroom. Findings revealed that 70% of the schools had dustbin where it was available at all class rooms in 33.3% schools. SMC performed some activities on handwashing and hygiene in 27% schools.

Seventy two percent of the students were found to have their nail cut on the day of survey. Still about 24% student's nail was found uncut. While observing cleanliness of nail, most of them were found clean (72%). The study team found food vendors were available at 60% schools. Among them 72.2% vendors keep all foods uncovered.

One of the objectives of this study was to understand knowledge on handwashing among health service providers. Health care providers were much aware on handwashing after defecation before and eating food but they were not aware on handwashing after cleaning child's faeces and before cooking food. Apart from 1.6% health centres, all of them had latrine of any kind and among them 75% had slab latrine with water seal connected to safe tank. However, around 5% of the health centres had pit latrine. Findings show that all of the latrines were found unclean in 25% health centres. Apart from few health centres (7.8%), all of them had handwashing facilities. The main handwashing facilities include bucket, pitcher, jug and tube well. The study revealed that both water and soap was available at 23% health centres while nothing was found at around 30% health centres. Dustbin for disposing waste was seen in 72% health centres. The main arrangements for disposal of the waste include basket, cartoon, specific place, dustbin and container. It was also found that in most health centres waste is burned out (78.3%).

An observation was carried out at the health centres to see the current handwashing practice of health service providers during treatment. Findings show that 75% of them did not wash hands before treatment is provided. Only around 20% of them washed hands after treatment of some patients.

Findings reveal that around 54% of health providers gave advice on cleanliness to some patients. The advices that were frequently given to patients include 'always remain neat and clean', 'keep your clothes clean' and 'take food after washing hands with soap'. Similarly, around half of the providers did not provide any advice about handwashing and diarrhea while another half of them provided it to some patients.

The study recommends to introduce a concerted effort to aware students, teachers and health service providers on hygienic behaviour involving all concerned stakeholders. It is necessary to increase the level of awareness on handwashing among students and teachers. Also, it is required to develop a safe/well structured handwashing arrangement with necessary materials in the school. The study also recommends that knowledge regarding menstrual hygiene for girl students need to be improved; at the same time menstrual hygiene management facility should be established in girl schools. Awareness about cleanliness of sanitation facilities in health complex or centres should also be increased.

CHAPTER ONE
INTRODUCTION AND METHODOLOGY

1.1 Introduction

WaterAid Bangladesh has recently launched a project with the purpose of supporting the achievement of the objectives related to Essential Services Delivery OP (OP # 2) of Health Population and Nutrition Sector Development Programme (HPNSDP 2011–2016) by strengthening and influencing health sectoral capacity on hygiene promotion. The project works for building the capacity and enhancing commitment of the health professionals from grassroots to national level and other relevant stakeholders on hygiene promotion as well as raising awareness on National Hygiene Promotion Strategy for Water supply and Sanitation in Bangladesh. The intervention will also make effort to simulate hygiene priority, practice and promotion in healthcare facilities and schools.

The project implements in three districts i.e. Gaibandha, Panchagarh and Takurgaon in Rangpur Division for a period of ten months. It is anticipated that the intervention will be able to increase awareness on importance of hygiene and sanitation among the health service providers and school teachers at Union and Upazila level. The project will also contribute to improve sanitation and hygiene facilities at health and education institutes and thus will help in changing behaviour of the students and health service providers. In order to understand the present situation a baseline study is needed to be carried out in the project areas. The study findings will help to establish a benchmark to assess the project outcomes.

1.2 Objectives of the study

The broad objective of the study is to understand present level of awareness on importance of hygiene and sanitation among the school teachers, students and health service providers in intervention areas.

The specific objectives of the study are in the following.

1. To measure knowledge and awareness of school teachers and students regarding hand washing at critical times.
2. To understand the present practice of the students regarding hand washing at critical times.
3. To know to what extent the school teachers are aware of the need of menstrual hygiene facilities for the girl students at school.
4. To know what proportion of schools are presently providing improved sanitation facilities and menstrual hygiene management facilities at school.
5. To understand level of knowledge and awareness of health service providers at healthcare facilities in Upazila and Union i.e. Upazila Health Complex (UHC), Family Welfare Centre (FWC) and Community Clinic (CC) on importance of hygiene.

6. To assess present situation of improved sanitation and hygiene practice at UHCs, FWCs and CCs.

1.3 Development of study tools and instrument

A set of draft study instruments has been developed in consultation with the concerned officials of WaterAid Bangladesh, covering all issues of interest and was finalized after field-testing with necessary changes and approval.

1.4 Training

A 2-days long training program was organized for Research Assistants on quantitative data collection while one day training was organized on qualitative data collection. Training consisted of lectures, classroom practices, group discussions and role playing. All draft questionnaires and checklists were pre-tested in rural areas of Munshiganj.

1.5 Study Methodology and sample design

It was a cross sectional study to get an understanding of present level of awareness among the school teachers, students and health service providers in intervention areas about the necessity of hygiene and sanitation. The study covered all three intervention districts. Both quantitative and qualitative approaches were applied in this study. In surveys samples were selected following two stage sampling technique. In the first stage five Upazilas (out of ten) from these three districts were selected by simple random sampling technique. Finally in the same way six unions were selected from each selected Upazila for school and health facility survey.

The study focused at institutions for data collection. Questionnaire survey and observation methods were employed in the baseline survey.

The study dealt with the following for collecting data:

1. Primary and secondary schools under intervention
2. School teachers
3. Students
4. Healthcare facilities i.e. UHCs, FWCs and CCs
5. Health service providers at those facilities

For survey, six schools from six selected unions were identified through simple random sampling. Thus thirty schools were included in the study for facility observation. In these schools ninety teachers were targeted but 89 teachers were interviewed successfully. In similar manner 148 students were interviewed and got response from sticker diary survey in targeted 150 students. Students were selected from class five, six and seven. Again among the five students of each school one of the students was selected randomly for observing hand washing practice at household. Thus thirty students were included in the study for structured observation.

The survey covered 64 health facilities from targeted sixty five healthcare facilities in study Upazilas. These were five UHCs, 29 FWCs and 30 CCs (one in each selected Union). One FWC

was not available in Borobari union of Baliadangi, Thakurgaon district. Sanitation and hand washing arrangement in those facilities were observed. Altogether 123 health service providers were interviewed among targeted 135 in these facilities. In some community clinics only one service provider (CHCP) was available and two service providers could not be interviewed in those clinics. In some cases health assistants were informed and invited to the clinic for interview.

In qualitative study, a team consisting of 2 research assistants was deployed in the field for data collection. The team conducted 9 FGDs with teacher and student segregated by gender. FGDs with these groups are assumed to provide enough information about their status and the underlying reasons for that and their needs and constraints and other relevant issues. 3 key informant interviews (KIIs) with head teacher, upazila health and family planning officer (UH&FPO), sub assistant community medical officer (SACMO) and health care providers were conducted to measure the views, comments, opinion etc. regarding status of the educational institute and health complex/centre. All of the participants of qualitative study were chosen purposively. Table 1.1 gives an overview of samples covered and data collection method.

Table 1.1: Overview of study population, data collection method and sample size

Study population	Data collection method	Sample covered	Instrument
Primary and secondary school	Facility observation	30 schools (6 in each Upazila)	Observation checklist
School teacher	Survey	89 teachers in 30 school	Survey questionnaire
Students	Survey	148 students from 30 schools	Survey questionnaire & Sticker diary
Students	Observation	30 students (1 student in each school)	Observation checklist
Healthcare facilities	Facility observation	5 UHC in 5 Upazilas 29 FWCs 30 CCs (6 CCs in each Upazila)	Observation checklist
Health service providers	Survey	15 providers in UHC (3 in each UHC) 58 providers in FWC (2 in each FWC) 50 providers in CC (2 in each CC)	Survey questionnaire
Teachers and students	FGD	9 with teachers and students	FGD checklist
Health care providers and teachers	KII	3 with health care providers and teachers	Checklist

1.6 Data collection activity

Before data collection verbal informed consent was taken from the targeted respondent of school teacher, student, household member of student and health service provider for participation in the study. Training of research assistant was conducted in 9th and 10th May 2015. Data collection was conducted between 12th May and 22nd May 2015.

1.7 Data management and data analysis

Final editing and consistency checking of filled-up questionnaires and checklists were done in Dhaka by some trained data processing personnel. Computerization of quantitative data was done using MS Access software by some experienced entry personnel. Quantitative data analysis was done using SPSS for Windows and different uni-variate and bi-variate tables were produced to address the indicators as per the study objectives. On the other hand, qualitative data was analyzed manually using content analysis technique. Responses were analyzed by arranging them in the general categories. After the responses are arranged, the different positions or opinions were identified. The analysts summarized the various opinions and synthesized the themes.

CHAPTER TWO
DEMOGRAPHIC INFORMATION

2.1 Demographic information of school

Table 2.1 shows the distribution of teacher in the schools. The average number of teachers was recorded as 8.1 while number of male teachers was more than that of female teachers (4.7 vs. 3.4). Slightly over 73% of the schools had teachers up to 10. Only 7% schools had more than 15 teachers. Table 2.2 depicts the distribution of students in schools. The average number of students was recorded as 352. The average number of boys was found more than that of girls (191 vs. 161). Out of 30 schools, about 57% had students up to 300 and 43% of them had students above 300.

Table 2.1: Distribution of teacher in the schools

Number of teacher	Percent		
	Male Teacher	Female Teacher	Total Teacher
Upto 5	76.7	86.7	36.7
6 – 10	10.0	13.3	36.7
11 – 15	6.7	0	20.0
Above 15	6.7	0	6.7
Average (mean)	4.7	3.4	8.1
n (No. of school)	30	30	30

Table 2.2: Distribution of students in the schools

Number of student	Percent		
	Boy	Girls	Total
Up to 50	3.3	3.3	0.0
51 – 100	23.3	23.3	3.3
101 – 200	43.3	53.3	23.3
201 – 300	16.7	13.3	30.0
Above 300	13.3	6.7	43.3
Average (mean)	191.63	161.57	352.00
n (No. of school)	30	30	30

CHAPTER THREE
HYGIENE AND SANITATION SITUATION

3.1 Knowledge on handwashing among students and teachers

Knowledge on handwashing among students and teachers is portrayed in table 3.1 and 3.2 respectively. Findings shows that teachers possessed slightly better knowledge on hand washing than that of students. Almost all of the teachers and students could say handwashing is needed after defecation and before eating their meal (95%-100%). But both teachers and students had poor knowledge on handwashing after cleaning child's faeces, before feeding child and before cooking food (1% to 11%). Similarly, both teachers and students were asked why handwashing at critical times is important. Remain free from diseases (51.1%), not to be attacked with diarrhea (26.1%), remain neat and clean (19.3%) were mostly cited by teachers. On the other hand, remain free from diseases (65.2%), and remain free from worms (29.8%) were frequently cited by students. Findings also revealed that there is no significant difference on handwashing knowledge between boys and girls. However, there is slight difference on handwashing knowledge between male and female teachers.

Table 3.1: Knowledge on handwashing among students

Characteristics	Student (%)		
	Boy	Girl	Total
Knowledge about handwashing at critical times			
After defecation	95.9	94.7	95.3
After cleaning child's faeces	1.4	0.0	0.7
Before eating	95.9	100.0	98.0
Before cooking	0.0	2.7	1.4
Before feeding child	1.4	2.7	2.0
n	73	75	148
Knowledge about importance of handwashing at critical times			
Remain free from diseases	64.3	66.2	65.2
Not to be attacked with diarrhea	4.3	4.2	4.3
To remain neat and clean	8.6	8.5	8.5
Remain from germs and diseases	14.3	9.9	12.1
Remain free from worms	22.9	36.6	29.8
To remove bad smell	2.9	1.4	2.1
n	70	71	141

Table 3.2: Knowledge on handwashing among teachers

Characteristics	Teacher (%)		
	Male	Female	Total
Knowledge about handwashing at critical times			
After defecation	100.0	97.8	98.9
After cleaning child's faeces	7.0	6.5	6.7
Before eating	100.0	100.0	100.0
Before cooking	7.0	15.2	11.2
Before feeding child	9.3	10.9	10.1
n	43	46	89
Knowledge about importance of handwashing at critical times			
Remain free from diseases	55.8	46.7	51.1
Not to be attacked with diarrhea	32.6	20.0	26.1
To remain neat and clean	16.3	22.2	19.3
Remain from germs and diseases	11.6	15.6	13.6
Remain free from worms	0.0	6.7	3.4
To remove bad smell	0.0	2.2	1.1
n	43	45	88

Qualitative interviews with students revealed that they got handwashing messages from various sources. These include NGOs (e.g. Hunger Project), television, text book, parents. They also got information from teachers, handwashing day and other people. Some students mentioned that they received this information when life boy program was arranged at primary school. However, the teachers reported that they heard about hand washing mainly from TV, billboard and text book.

3.2 Students' handwashing practice at critical times

3.2.1. Student handwashing practice at schools

The study tried to explore the handwashing practice of students at both schools and households. Table 3.3 shows student's handwashing practices at schools. Findings revealed that 25% of them used soap or detergent during school time to wash hands on the day of survey or the day before survey. The self-reported data shows that 64% of the students used soap or detergent to wash hands after defection. Still a considerable number of students do not use soap for hand washing after defecation. Likewise, all the students take foods without washing hands with soap or detergent. Only near about one third of them wash hands with soap after playing. Very few of them washed hands with soap or detergent after taking meal or tiffin (2.6%) and after cleaning of school room or classroom (5.1%).

Table 3.3: Handwashing practice of the students in the school

Characteristics	Percent
Student ever used soap or detergent in the school the day of survey or the day before survey (for any purpose)	
Yes	25.0
No	75.0
n	148

Characteristics	Percent
Time of handwashing in the school (self-reported multiple responses)	
After defecation	64.1
Before taking tiffin	0.0
After taking tiffin	2.6
After playing	30.8
After cleaning of school room/classroom	5.1
n	39

3.2.2. Student handwashing practice at home

Handwashing practice of students at their home was physically observed during data collection. Table 3.4 shows that more than half of the students washed their hands with soap after defecation at home on the day of survey. About 23% of them washed hands without soap while another 23% did not washed hands after defecation. A majority of them washed their face without soap after get up from bed in the morning while only 7% of them washed with soap. Twenty three percent students did not wash face at all. It is worth mentioned that still around two third of the students do not wash hand before taking breakfast. About 37% of them washed hand with only water before taking breakfast. Almost all of the students did not wash hands after taking meal.

Table 3.4: Students handwashing practices on the day of survey

Handwashing practice	Percent			No. of student
	With soap	Without soap	Not handwash	
Washing hand and face after get up from bed in the morning	6.7	70.0	23.3	30
After defecation	53.3	23.3	23.3	30
Before taking breakfast	0.0	36.7	63.3	30
After breakfast	0.0	3.3	96.7	30

The qualitative study also aimed to understand why handwashing practice is less among students at home though it was a bit high at schools. The students pointed out some factors that contributed to low practice at home. The main factors that were mentioned by the students are:

- Both water and soap are available at schools but at home they are not available.
- At home soap and water are kept in separate places as a result children do not use soap while are wash hands.
- Many adult members of the family do not use soap and are not interested to keep soap at latrine.
- At home people do not keep soaps at home as rats take the soap away.
- In schools teachers say about using soap but no one at home say about it.
- At schools children follow others who use soaps.
- People cannot afford soap at home due to financial constraints.

3.3 Teacher's awareness on the need of menstrual hygiene facilities at school

The teachers were also asked if they took any class about menstrual hygiene. Table 3.5 depicts that only 17% of the teachers used to take class on menstrual hygiene.

Table 3.5: Teacher's awareness on the need of menstrual hygiene facilities at school

Teacher take class about menstrual hygiene	Percent
Yes	16.9
No	83.1
n	89

Qualitative interviews with teachers revealed that there are some factors that hinder teachers to discuss about menstruation with girls. According to them as most of the schools have co-education system, both teachers and students feel shy to discuss about it. Sometimes boys laugh at the issue. Some teachers said that traditionally there is lack of friendly attitudes between teachers and students. It was seen that teachers consider it as an extra job and they are keen to complete the main syllabus and do not want to give attention on this issue. So, menstrual issue is not given priority as the academic issue is given. Some teachers mentioned that as there is no direction from the higher authority for discussing this issue in the class, they try to avoid it. It is interesting to note that still some teachers believe that this issue should not be discussed in the class room rather family members such as grandmother, elder sister, daughter in law should teach girls at home. Findings also show that some teachers intentionally try to avoid taking session on menstruation. They mentioned that guardian might have misconception towards us if they take class about this issue.

In spite of having some barriers, some teachers gave importance to ensure menstrual hygiene facilities in the schools. They suggested to arrange training for the teachers on this issues so that they can create environment to discuss with students. Other teachers said that creating friendly attitudes and arranging separate class about menstrual hygiene can ensure free discussion about this issue. Some teachers suggested that this discussion should be done by female teachers. The role of head master was considered as very critical in this regard and if he/she asks other teachers to take session on this issue then teachers must comply with this.

3.4. Sanitation and menstrual hygiene management facilities at school

3.4.1. Availability of toilet facility at schools

Table 3.6 shows that among 30 schools, 67% had slab latrine with water seal connected to safe tank. The other latrine included slab latrine with water seal connected to unsafe tank (13.3%), slab latrine with broken water seal connected to safe or unsafe tank (13.3%) and flush with unsafe hole or tank (3.3%). At secondary schools, all of the latrines were slab latrine with water seal connected to safe tank while it was only 56.6% at primary schools. It is worth mentioned that around 3% of the schools did not have any latrine at school compound. The study also tried to understand whether there was separate latrine arrangement for male and female students and teachers. Table 3.7 shows that more than half of the schools did not have separate latrines for boys and girls while 43% of the schools did not have separate latrines for teachers. One third of the schools had at least one latrine for both boys and girls separately. Around one fourth of

schools had at least one latrine for boys and girls separately. Very few schools had arrangement for 2-3 latrines for boys, girls and teachers separately.

Table 3.6: Toilet facility in the school

Toilet facility	Percent		
	Primary	Secondary	Total
Flush with unsafe hole/tank	4.3	0.0	3.3
Slab latrine with water seal connected to safe tank	56.5	100.0	66.7
Slab latrine with water seal connected to unsafe tank	17.4	0.0	13.3
Slab latrine with broken water seal connected to safe tank	8.7	0.0	6.7
Slab latrine with broken water seal connected to unsafe tank	8.7	0.0	6.7
No latrine	4.3	0.0	3.3
n	23	7	30

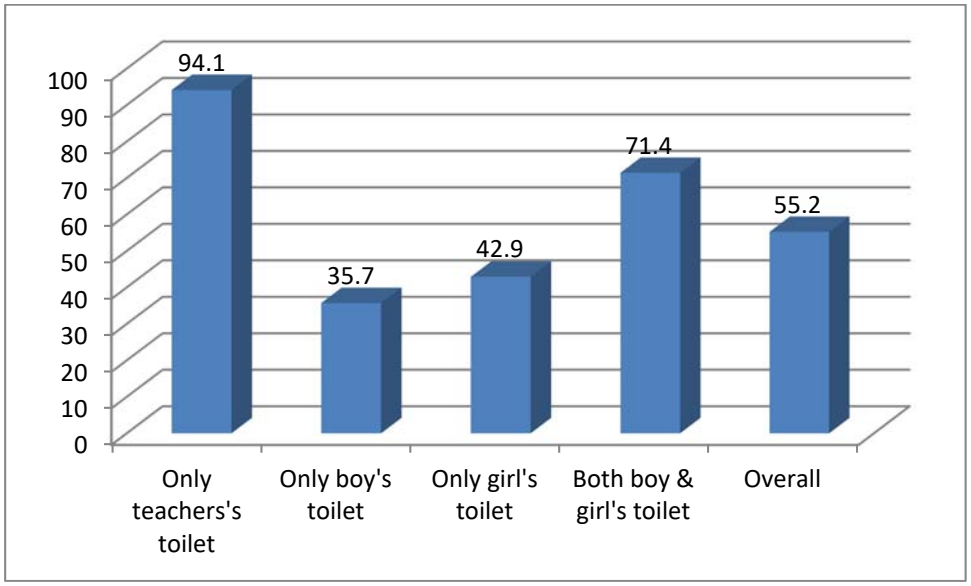
Table 3.7: Distribution of toilet facilities for students and teachers in the school

Number of latrine	Percent		
	Only Teacher	Only Boy or Girl	Both boy & girl
No latrine	43.3	53.3	50.0
1	46.7	26.7	33.3
2	10.0	16.7	10.0
3 and above	0.0	3.3	6.7
n	30	30	30

3.4.2. Cleanliness of latrine at schools

Figure 3.1 illustrates the cleanliness of latrine for students and teachers at schools. It shows that overall 55.2% of the latrines were found clean during the survey. Most of the latrines (94.1%) used by teachers were found clean while 71.1% of the latrines used by both boys and girls were found clean. The latrines that were used by boys and girls separately were found unclean. Only 35.7% of boy's latrine and 42.9% of girl's latrines were found clean.

Figure 3.1: Cleanliness of latrine at schools



In qualitative study, the team tried to understand the reasons of not keeping latrines clean. Below are some reasons that were mentioned by both teachers and students:

- There are many students in the school but latrines are cleaned once a week.
- Usually latrines are cleaned by only water. Detergent is not used regularly as many schools cannot afford it. Sometimes detergent is used once every three months.
- In most schools there are only one cleaner but it is not possible to clean so many latrines by one cleaner.
- In some schools teachers are not interested to clean latrine.
- Latrines cannot be cleaned due to scarcity of water
- Latrines remain open as a result outsiders use the latrine and make it unclean
- Adequate water is not used after use of latrines
- Students are not aware on how to keep latrines clean.

3.4.3. Available menstrual hygiene facility at schools

The study team conducted an observation at toilets of schools to see whether there was any facility for menstrual hygiene (see table 3.8). No latrine was found with this facility during survey. The study team also carried out a cross validation about this facility by asking the school teachers. Most of them (94%) mentioned that there was no arrangement for menstrual hygiene facility at toilets. A very negligible portion of them (2%) said that napkins are supplied to female students while 3% of them said that separate latrine are arranged for female students.

Table 3.8: Menstrual hygiene facility at schools

Characteristics	Percent
Menstrual facility at toilets in the school (observed)	
Yes	0.0
No	100.0
n	30
Type of menstrual hygiene facility in the school (Teacher reported)	
No arrangement	94.4
Napkins are supplied to girl student	2.2
Separate latrine for girl student	3.4
Separate common room for girl student	2.2
n	89

In qualitative study both teachers and girls were asked what kind of problems the girls faced due to unavailability of menstrual hygiene facility at the schools. The main problems that were mentioned by them are:

- In many cases, girls cannot come to schools for the first three days of menstruation
- Girls' attendance in the class is usually less due to menstruation
- Since there is no facility at schools, cannot change their sanitary napkins. They have to wait until school is closed. Sometimes they go to neighbouring house to change the pad which is not comfortable to them

The teachers and girls were also asked how they managed these problems. It was found that they take some measures to overcome the problems as mentioned below:

- If a girl has menstruation, the teacher ask her to leave school as early as possible
- If the problem is serious (e.g. if a girl has bleeding), the teachers send her to neighbouring house for rest or wear sanitary napkin/pad.
- Few girls can assume the time of period and keep the pad with them and use it.

3.4.4. Availability of water facility at school

Availability of drinking water of school is portrayed in table 3.9. Data reveals that 70% of the schools had shallow tube well followed by 27% deep tube well. Only 3% of schools had submersible pump within school compound, which was donated and installed by local NGO.

Table 3.9: Availability of water facility in the school

Type of source	Available source of drinking water (%)
	Observed
No source or teacher/student bring with them	0.0
Tap (submersible pump within school compound)	3.3
Deep tube well	26.7
Shallow tube well	70.0
Pond	0.0
Public tap	0.0
n	30

3.4.5. Hand washing facilities at schools

Hand washing facilities at schools is portrayed in table 3.10. Data shows that around 87% of the schools had hand washing facilities inside or near latrine. Tube well (47.2%) was cited as the main hand washing arrangement followed by bucket/pitcher/jug (33.3%). In 73% schools, water was available in hand washing places. Only soap was found at hand washing places in 31% schools. In 69% schools, nothing was found for hand washing. The study also found that in 27% schools, both soap and water were available in hand washing place.

Table 3.10: Handwashing facilities in the school

Characteristics	Percent
Handwashing place inside/near latrine	
Yes	86.7
No	13.3
n	30
Type of handwashing arrangement (Multiple responses)	
Tube-well	47.2
Tap with running water	11.1
Tap with basin and running water	8.3
Water in bucket/pitcher/jug	33.3
n	26

Characteristics	Percent
Water is available in the hand washing place	
Yes	73.1
No	26.9
n	26
Type of soap or cleaning agent in the hand washing place (Multiple responses)	
Nothing	69.2
Bar soap	30.8
n	26
Both soap and water available in hand washing place	
Yes	26.9
No	73.1
n	26

3.4.6. Cleanliness of the schools

The study team conducted an observation to see the overall cleanliness of the school including classroom. Findings revealed that 70% of the schools had dustbin where it was available at all class rooms in 33.3% schools (table 3.11). Around 38.1% schools had dustbin in few classrooms. Findings also revealed that school surrounding was seen clean in 76.7% schools. It is interesting to note that primary schools were found more clean than secondary schools.

Table 3.11: Cleanliness in the school

Characteristics	School (%)		
Schools have dustbin	**Primary**	**Secondary**	**Total**
Yes	73.9	57.1	70.0
No	26.1	42.9	30.0
n	23	7	30
Dustbin available in the classroom			
All the classroom	41.2	0.0	33.3
A few classroom	29.4	75.0	38.1
None of the classroom	29.4	25.0	28.6
n	17	4	21
Cleanliness in the school surrounding			
Yes	78.3	71.4	76.7
No	21.7	28.6	23.3
n	23	7	30

3.4.7. Hand washing awareness activities performed by SMC and teachers

School Management Committee (SMC) and teachers along with students initiated awareness activities related to hand washing and hygiene. Table 3.12 shows that in 27% schools, SMC performed some activities on handwashing and hygiene. Observance of handwashing day (37.5%) was predominantly performed by SMC followed by rally and soap distribution (25% each). However, teachers were found more active in performing activities related to handwashing and hygiene than SMC. For example, in 37% schools teachers along with students

performed handwashing and hygiene activities. They were mainly involved in teaching how to wash hands with soaps (36.4%) and observing hand washing day (27.3%). Some teachers reported that BRAC has a WASH related project in the school in some areas.

Table 3.12: Hand washing awareness activities performed by SMC and teachers in the school

Characteristics	Percent
Activities related to hand washing and hygiene performed SMC	
Yes	26.7
No	73.3
n	30
Type of activities taken (Multiple response)	
Observed handwashing day	37.5
Organized rally	25.0
National day observed	12.5
Distributed soap	25.0
Leaflet distributed	12.5
Teach how to wash hands with soap and ash	12.5
n	10
Activities related to hand washing and hygiene performed teachers	
Yes	36.7
No	63.3
n	30
Type of activities (Multiple response)	
Observed handwashing day	27.3
Organized rally	18.2
Poster distributed	9.1
Arranged campaign with student for Lifebuoy	18.2
Teach how to wash hand with soap	36.4
n	11

3.4.8. Student personal hygiene practice

Data on student's personal hygiene is shown in table 3.13. Seventy two percent of the students were found to have their nail cut on the day of survey. Still about 24% student's nail was found uncut. While observing cleanliness of nail, most of them were found clean (72%) but around 28% of them are found unclean.

Table 3.13: Information on student's personal hygiene

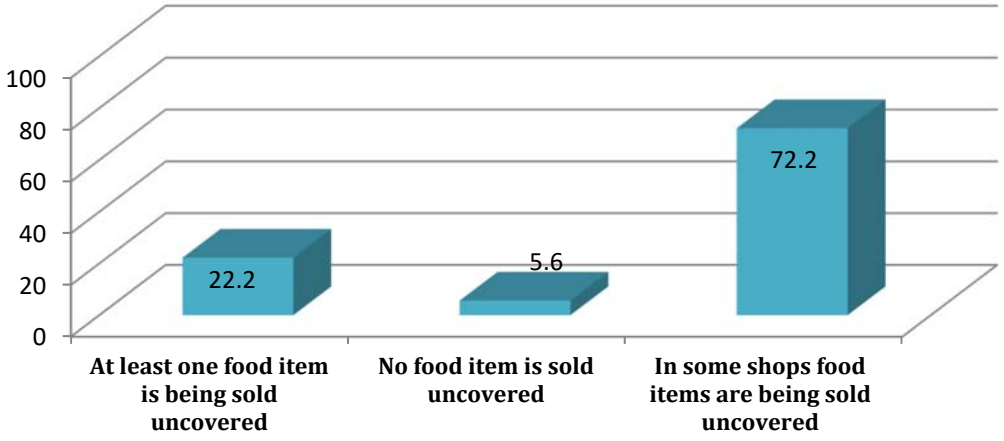
Characteristics	Percent
Student cut their nail	
Yes, all fingers	72.3
Yes, few fingers	4.1
No	23.6
n	148

Characteristics	Percent
Cleanliness of nail	
Yes	72.3
No	27.7
n	148

3.4.9. Availability of food vendors nearby school

Figure 3.2 illustrates the availability of food vendors nearby school and how they presented foods. The study team found food vendors were available at 60% schools. Among them 72.2% vendors keep all foods uncovered while 22.2% of them keep at least one food uncovered. Only 5.6% of them keep it covered. Qualitative findings revealed that usually pickles (*achar),* catchup *(chatni),* dried chickpea *(sola vaja),* dried coconut, guava are kept open while *chanachur,* dried rice *(muri),* juice, biscuits, nuts and chips are kept in packet or pots.

Figure 3.2: Modality of preserving food items near the school



3.5. Sanitation facilities at student's households

3.5.1. Availability of toilet facility at students' household

Table 3.14 depicts types of toilet which are available at student's households. In this study, 30 student's households were visited to see the toilet they had. Findings show that around 53% of the household latrines were hygienic while 47% of them were found unhygienic. More than half of the households pit latrines. Among them 20% was uncovered while around 27% had water seal and slab. About 20% households had slab latrine with water seal connected to safe hole while 17% had slab latrine with broken water seal connected to safe hole.

Table 3.14: Toilet facility in the students' household

Toilet facility	Percent
Slab latrine with water seal connected to safe hole	20.0
Slab latrine with broken water seal connected to safe hole	16.7
Slab latrine with broken water seal connected to unsafe hole	10.0
Pit latrine with water seal and slab	26.7
Pit latrine with slab and covered	6.7
Pit latrine with slab but uncovered	20.0
Hygienic latrine	**53.3**
Unhygienic latrine	**46.7**
n	30

3.5.2. Hand washing facilities at student's household

Hand washing facilities at student's household were portrayed in table 3.15. Hand washing place was found inside or near latrine at 50% households. Of those, around 93% of the households had tube well for hand washing near or inside latrine followed by water in bucket/pitcher/jug (33.3%). The other sources include tap (6.7%). Bar soap was found at 53% latrines on the day of survey while powder soap was found at 13% latrines. Forty percent households did not have anything for hand washing facilities at its latrines. Data also shows that both soap and water in hand washing place in latrine was found in 47% households.

Table 3.15: Hand washing facilities at student's household

Characteristics	Percent
Handwashing place inside or near latrine	
Yes	50.0
No	50.0
n	30
Place of hand-washing in the household (Multiple responses)	
Tube-well	93.3
Tap	6.7
Water in bucket/pitcher/jug	33.3
n	15
Type of soap available in the hand washing point (Multiple responses)	
Nothing	40.0
Bar soap	53.3
Powder soap	13.3
n	15
Presence of both soap and water in handwashing place in latrine	
Yes	46.7
No	53.3
n	15

3.6. Knowledge and awareness of health service providers at healthcare facilities on importance of hygiene

The study aimed to understand knowledge on handwashing among health service providers (see table 3.16). After defecation (99.2%), before eating food (98.4%) and before feeding child (27.6%) were mentioned as critical time of handwashing by most of the providers. Interestingly, handwashing after cleaning child's faeces and before cooking food were mentioned by only few providers. While asking the importance of handwashing, providers frequently mentioned "to remain free from diseases" (90.2%). The other responses include "not to be attacked with diarrhea" (29.5%) and "remain free from worms" (13.1%). Finding also shows that female health care providers possessed more knowledge on handwashing than that of male counterpart.

Table 3.16: Knowledge of health service provider about handwashing at critical times

Characteristics	Service Provider (%)		
	Male	Female	Total
Knowledge about handwashing at critical time			
After defecation	98.3	100.0	99.2
After cleaning child's faeces	6.9	12.3	9.8
Before eating	96.6	100.0	98.4
Before cooking	1.7	10.8	6.5
Before feeding child	19.0	35.4	27.6
n	58	65	123
Knowledge about importance of handwashing at critical time			
Remain free from diseases	91.2	89.2	90.2
Not to be attacked with diarrhea	21.1	36.9	29.5
Remain free from worms	7.0	18.5	13.1
Remain neat and clean	1.8	6.2	4.1
To protect malnutrition of children	1.8	0.0	0.8
n	57	65	122

3.7. Present situation of improved sanitation and hygiene practice at UHCs, FWCs and CCs

3.7.1. Availability of toilet facility at health centres

Information on latrine at health centre is shown in table 3.17. Out of 64 health centres, 75% had slab latrine with water seal connected to safe tank followed by flush with unsafe hole/tank (11%). Among three types of facilities, 80% (4 out of 5) of the Upazila Health Complex (UHC) had slab latrine with water seal connected to safe tank. But it is interesting to note that 20% of UHCs (2 out of 5) had flush with unsafe hole/tank which is the highest among all types of health facilities. Around 5% of the health centres had pit latrines with water seal and slab while only 2% centres had no latrine. The percentage of pit latrines was highest in community clinics (10%). The study also tried to know how many latrines there were in a health centres. Data shows that near about half of the health centres had 2-4 latrines followed by 40% of them had only one latrine. Out of 64 health centres only 9% had more than 5 latrines.

Table 3.17: Toilet facility in the health centre

Characteristics	Percent			
	UHC	UH&FWC	CC	Total
Latrine facility				
Flush with unsafe hole/tank	20.0	17.2	3.3	10.9
Slab latrine with water seal connected to safe tank	80.0	72.4	76.7	75.0
Slab latrine with water seal connected to unsafe tank	0.0	3.4	0.0	1.6
Slab latrine with broken water seal connected to safe tank	0.0	0.0	6.7	3.1
Slab latrine with broken water seal connected to unsafe tank	0.0	3.4	3.3	3.1
Pit latrine with water seal and slab	0.0	0.0	10.0	4.7
No latrine	0.0	3.4	0.0	1.6
n	5	29	30	64

Characteristics	Percent			
	UHC	UH&FWC	CC	Total
Number of latrine in the complex or centre for patient				
No toilet	0.0	3.4	0.0	1.6
1	0.0	17.2	70.0	40.6
2 – 4	0.0	75.9	30.0	48.4
5 and above	100.0	3.4	0.0	9.4
n	5	29	30	64

3.7.2. Cleanliness of latrine at health centres

In order to see the cleanliness, the study team observed the toilets at health centres and recorded accordingly. It was seen that in 53% cases, the latrines were found neat and clean while in 22% centres, few of the latrines were neat and clean. In community clinics 63.3% of latrines were found neat and clean while it was 51.7% at FWC. In 80% upazila health complex, few latrines were found neat and clean. Nonetheless, all of the latrines were found unclean in 25% health centres. In qualitative study the health care providers were asked why the latrines were not cleaned regularly and not maintained properly. The main reasons were reported as below:

- There is no assigned persons in the health centres to clean the latrine rather health care providers have to clean it.
- The supply of cleaning detergent (e.g. harpic) and other materials such as brush is not regular.
- It was common that tubewell of health centres remain nonfunctional for a long time as a result adequate water is not found for cleaning the latrine.
- Every day one latrine is used by around 40-50 persons and among them many people do not use commode for defecation.
- Those patients who come from the villages do not use enough water after latrine use.
- Sewerage system is not built properly as a result toilets lines get blocked.
- There is iron in every tubewell installed in community clinics. For this reason, water pots and even commode of latrines get red and seems dirty.

Table 3.18: Cleanliness of latrine at health centres

Cleanliness of toilet in the complex or centre for patients	Percent			
	UHC	FWC	CC	Total
Yes, all the latrines are neat and clean	0.0	51.7	63.3	53.1
A few of the latrines are neat and clean	80.0	24.1	10.0	21.9
All the latrines are unclean	20.0	24.1	26.7	25.0
n	5	29	30	64

3.7.3. Source of drinking water facility at health centres

Source of drinking water at health centre is portrayed in table 3.19. Data revealed that 70.3% of the health facilities had shallow tube well followed by 15.6% deep tube well for drinking water. The use of shallow tubewell water was highest among FWC 72.4%. 9.4% of the health facilities

used public tap for drinking water while around 2% of facilities had no water source and it was highest among FWCs (3.4%).

Table 3.19: Source of drinking water facility in the health centre

Water source	Percent			
	UHC	FWC	CC	Total
No source	0.0	3.4	0.0	1.6
Tap	20.0	3.4	0.0	3.1
Deep tubewell	20.0	20.7	10.0	15.6
Shallow tubewell	60.0	72.4	70.0	70.3
Public tap	0.0	0.0	20.0	9.4
n	5	29	30	64

3.7.4. Hand washing facilities at health centres

Table 3.20 illustrates the hand washing arrangement in the health centres. Water in bucket/pitcher/jug (53.1%) and tube well (48.4%) were found the main hand washing facilities at hospitals. The other facilities included tap with basin and running water (14.1%) and tap with running water (9.4%)[1]. About 8% of the health centres did not have any arrangement of hand washing and it was highest in community clinics (13.3%). The study revealed that both water and soap was available at 23% health centres and it was highest at upazila health complex (60%). Only water was found at 47% health centres. The study team found nothing at around 30% health centres.

Table 3.20: Handwashing arrangement in the health centre

Characteristics	Percent			
Handwashing facility (Multiple responses)	**UHC**	**FWC**	**CC**	**Total**
Tube-well	0.0	55.2	50.0	48.4
Tap with running water	80.0	6.9	0.0	9.4
Tap with basin and running water	60.0	17.2	3.3	14.1
Water in bucket/pitcher/jug	20.0	48.3	60.0	53.1
No arrangement	0.0	3.4	13.3	7.8
n	5	29	30	64
Availability of Soap and water in handwashing place at health centre				
Only water	40.0	44.8	43.3	46.9
Water and soap	60.0	24.1	30.0	23.4
Nothing	0.0	31.0	26.7	29.7
n	5	29	30	64

3.7.5. Cleanliness and waste disposal system of health centre

Table 3.21 presents cleanliness and waste disposal system in the health centres. Findings revealed that dustbin for disposing waste was seen in 72% health centres during survey. The main arrangements for disposal of the waste include basket/cartoon or specific place (47%) followed by specific dustbin or container (28.6%). In some health centres garbage are taken

[1] Tap with running water refers to functional tap.

away and thrown into a specific place (20.4%). It was also found that in most health centres waste is burned out (78.3%). The other ways of waste disposal include burring in landfills (11%). However, in some hospitals (11%), waste is just dumped and nothing is done. The study team tried to understand whether there was any dedicated manpower for waste disposal in the health centres. Findings shows that dedicated persons were available in 61% hospitals. It is noted that waste is disposed daily in almost all health centres (95%). The health care providers were also asked why there is no dustbin or waste disposal arrangement in their health centres. The health care providers pointed out some reasons as follow:

- The supply of safety box to dispose medical waste is not adequate. In some health centres, there is safety box but it is not functional.
- There is no arrangement of waste disposal in health centres.

Table 3.21: Cleanliness and wastage disposal system in the health centre

Characteristics	Percent
Dustbin/ waste disposal arrangement available in the centre	
Yes	71.9
No	28.1
n	64
Type of dustbin/arrangement	
Specific dustbin/container	28.6
Basket/cartoon/specific place	46.9
Garbage are taken away and thrown into a specific place	20.4
Others	4.1
n	46
Waste disposal facility in the health centre	
Burned out	78.3
Buried in landfills	10.9
Do nothing	10.9
n	46
Manpower available for waste disposal in the health centre	
Yes	60.9
No	39.1
n	64
Frequency of waste disposal	
Daily	94.9
2-3 days	5.1
n	39

3.7.6. Handwashing practice of health care provider

The study team carried out an observation at the health centres to see the current handwashing practice of health service providers during treatment. Table 3.22 shows that 75% of them did not washed hands before treatment is provided. Only around 20% of them wash hands after treatment of some patients while few providers (9%) washed hands before treatment of some

patients. More than half of the providers who washed hands during treatment used soap while 34% of them used only water. Only 12% providers used hands with Hexisol.

Table 3.22: Information on handwashing practice of health service provider during treatment

Characteristics	Percent
Wash hand during treatment of patient	
Yes, before treatment of each patient	1.7
Yes, after treatment of each patient	0.8
Before treatment of some patients	9.1
After treatment of some patients	19.8
Never washed	75.2
n	123
Washed hands by-	
Only water	34.4
Soap	53.1
Hexisol	12.5
n	32

3.7.7 Health care providers' advice to patient on cleanliness and handwashing

Table 3.23 presents the data on advice given to patients by health service providers during treatment about cleanliness and handwashing. Findings reveal that around 54% of them gave advice on cleanliness to some patients while 44% did not say anything. The advices that were frequently given to patients include 'always remain neat and clean' (67%), 'keep your clothes clean' (26%) and 'take food after washing hands with soap' (21%). Similarly, around half of the providers did not provide any advice about handwashing and diarrhea while another half of them provided it to some patients. 'Should take oral saline till loose motion stops' (50%), and 'always remain neat and clean' (26%) were mostly mentioned by the providers. The other advice included 'drink safe water' (18%), 'not to take stale or rotten food' (18%) and 'take food after washing hands with soap' (18%).

Table 3.23: Information on advice given to patient by health service providers during treatment about cleanliness and handwashing (through observation)

Characteristics	Percent
Advice given to patient about cleanliness	
Tell all the patient	1.7
Tell sometimes/some patients	53.7
Never told	44.6
n	121
Type of advice given	
Always remain neat and clean	66.7
Keep your clothes clean	25.8
Take food after washing hands with soap	21.2
Drink safe water	13.6

Characteristics	Percent
Always clean nails and cut hair	9.1
Not to take stale or rotten food	4.5
Wear sandal during latrine use	3.0
Wash hands with soap after defecation	1.5
Others	3.0
n	66
Advice given to patient about handwashing and diarrhea	
Tell all the patient	2.5
Tell sometimes/some patients	47.1
Never told	50.4
n	121
Type of advice given	
Should take oral saline till loose motion stops	50.0
Always remain neat and clean	25.9
Drink safe water	18.5
Not to take stale or rotten food	18.5
Take food after washing hands with soap	18.5
Always cover food	9.3
Clean you nail regularly	9.3
Drink boiled water	5.6
Wash your hands with soap before taking a newborn baby	1.9
Others	9.4
n	54

3.8. Use of Sticker Dairy in assessing student's handwashing practice at home

Handwashing practice of students at their home was captured through a sticker dairy[2]. Handwashing practice on three days was collected. Students' handwashing practice in last three days of survey is portrayed in table 3.24. Findings revealed that students used to wash hands with or without soap for a wide range of event. Handwashing with soap at some critical events was seen satisfactory. For example, handwashing after defecation at school and home (89%-94%), before taking breakfast, lunch and dinner (66%-76%). However, handwashing with soap before taking snacks or tiffin at home and school was seen slightly lower than that of lunch and dinner. Many students still wash hands only with water and do not wash hands before taking snacks outside school.

[2]A sticker diary was followed with the selected 5 students in each school. Sticker diary is a pictorial book containing 10 items with three options – only water, wash with water and soap, and do not wash hand for three days. Student put sticker against appropriate option for applicable events every day. They returned the sticker diary to data collector after 3 days.

Table 3.24: Students handwashing practices in three days of survey

Behaviour of handwashing	1st day			2nd day			3rd day		
	Only water	With soap	Not handwash	Only water	With soap	Not handwash	Only water	With soap	Not handwash
Washing hand and face after get up from bed in the morning	47.3	52.0	0.7	35.1	64.2	0.7	35.4	64.6	0.0
After defecation at home	5.4	93.2	1.4	7.5	91.8	0.7	5.5	94.5	0.0
Before taking breakfast	32.9	66.4	0.7	30.3	69.0	0.7	29.7	68.3	2.1
Before taking tiffin in school	40.7	54.8	4.4	42.2	53.1	4.7	36.9	57.4	5.7
Before taking snacks outside of school	40.8	36.9	22.3	43.2	37.3	19.5	39.5	41.2	19.3
After defecation in the school	10.4	89.6	0.0	5.8	94.2	0.0	5.2	94.0	0.9
Before taking launch at home	24.5	75.5	0.0	27.2	72.8	0.0	23.1	75.5	1.4
Before taking snacks in afternoon	34.5	60.6	4.9	35.7	60.0	4.3	35.7	58.6	5.7
Before taking dinner at home	32.4	66.2	1.4	34.2	65.8	0.0	31.0	68.3	0.7
Before serving food to anybody	34.6	60.8	4.6	33.6	60.3	6.1	28.1	61.7	10.2
n		148			148			148	

3.8.1 Limitations of sticker dairy

The handwashing practice on the day of survey was collected from the students and it was self-reported. The students were asked what they did for handwashing at critical times. Findings shows that only that 25% of them used soap or detergent for any event during school time to wash hands on the day of survey which is quite low than the data obtained from sticker dairy. Similarly, self-reported data shows that at home around 53.3% students washed their hands with soap after defecation at home on the day of survey. On the other hand, three days data through sticker dairy revealed that more than 90% of the students washed hands with soap after defecation. This situation is also prevailed for other critical times of handwashing. Considering the above situation, the study team tried to explore the reasons of this huge discrepancy. The team mentioned the following factors that are assumed to hinder for getting authentic data through sticker dairy:

- Orientation on sticker dairy was too short. The investigators were outsider and it was very difficult to motivate the students for authentic information regarding sanitation and hygiene.
- As students brought the stickers to their home, they showed the cards at home and discuss about it with family members. They might be biased by their family members for inserting the stickers.
- The sticker dairy was provided to only selected students, not to all students. As a result, other students who did not get it were very much curious to see it. However, this dairy was seen by all students and in many cases stickers were put on the dairy based on the discussion among students rather considering the real situation of individual student.
- Since this dairy was given to students for three days, they had huge time to discuss about this dairy with others and to be biased by them.
- Some students thought that they might be awarded if they could show maximum use of water and soap.

Considering the above mentioned limitations, some suggestions are given below to overcome:

- Students should not allowed to bring the dairy to their home rather dairy should be kept and filled up at the schools.
- The purpose of the sticker diary should be clearly explained and students should be encouraged to give authentic information.

CHAPTER FOUR
DISCUSSION AND CONCLUSION

This base line study aimed to understand present level of awareness on importance of hygiene and sanitation among the school teachers, students and health service providers. In order to get the baseline information on different indicators the study was conducted in WaterAid program areas in three selected districts: Gaibandha, Ponchogor and Thakurgaon. The information provided by this study is believed to be helpful for developing implementation strategy of the project. However, below is the brief discussion on the findings on specific issues/indicators of this study.

Findings reveal that tube well was the main source of drinking water at schools, health centres and student's household. Availability of tube well water at schools and health centres were 70% each respectively. All of the student's households used tube well for drinking water. A study conducted by icddr,b found that 91% of urban households and 80% of rural households used tubewell for improved drinking water [1]. In most schools, slab latrine with water seal connected to safe tank was seen. Again icddr,b study found that majority of school toilets have improved facilities (84%) with sanitary pit and septic tank. The number of separate toilets arrangement for boys and girls is still inadequate. More than half of the schools did not have separate latrines for boys and girls. It was found that almost all of the health centres had toilets and slab latrine with water seal connected to safe tank was seen in 75% health centres. Student households are far away from using improved or hygienic toilets. Many households are using unhygienic latrine including pit latrine. It is interesting to note that the latrines that are used by students are seen unclean. But the latrines that are used by teachers are seen clean. Ensuring menstrual hygiene facility at schools is critical for female students. Unfortunately no school had this facility. This issue needs to be taken care of by the school management committee and teachers. The condition of cleanliness of health centre's toilets is not satisfactory. Around half of the latrines were found unclean to some extent.

In most schools there was hand washing facilities either inside latrine or near latrine. In 73% schools, water was available in hand washing places. Soaps were found at hand washing places in only 31% schools. Another study suggested that the capacity of water storage, easy usability and maintenance and quality of materials helps the acceptability and feasibility of specific hand washing [2]. Likewise, almost all health centres had hand washing facilities. About 30% health centres, there was not water or soap for handwashing. In half of the latrines of households, there was no arrangement for handwashing. A study explored 40% households had hand washing location for post defecation use with water and soap.

The study shows that waste is disposed daily in almost all health centres (95%). Dustbin for disposing waste was seen in 72% health centres. School Management Committee (SMC) and teachers along with students initiated awareness activities related to hand washing and hygiene. In 27% schools, SMC performed some activities on handwashing and hygiene. However, teachers were found more active in performing activities related to handwashing and

hygiene than SMC. In 60% schools, there were food vendors who sells uncovered food and the students are more likely to get sick by taking food from these vendors.

The study found that teachers possessed slightly better knowledge on hand washing than that of students. Almost all of the teachers and students could say handwashing is needed after defecation and before eating their meal (95%-100%). Almost similar kind of result found in another research where 93% students had knowledge on washing hands with soap after defecation and 86% had knowledge about washing hand before eating [1]. But another research suggested that hand washing with soap is not common in low income countries because there are certain barriers like high cost of soap. That study also found in structured observation in 11 low income countries including Bangladesh that the rate of washing hands with soap is very low (17%) [3]. Both teachers and students had poor knowledge on handwashing after cleaning child's faeces, before feeding child and before cooking food (1% to 11%).

One of the objectives of this study is to explore the hand washing practice of students at both schools and households. Findings show that still no one of the students do not use soap or detergent to wash hands before taking meal and near about half of them do not use soap or detergent to wash hands after defecation. Another research tells that certain gap between perception and practice of hand washing with soap can result in lower rate of hand washing before taking food [4]. Personal hygiene practice especially cutting and clean nails were found satisfactory among schools students.

This baseline study tried to explore whether health service providers washed hands during treatment. Interestingly, majority of them (75%) did not wash hands when treatment was provided to a patient which is unexpected. Service providers should be aware about the importance of hand washing. It was also found that half of the service providers do not give any advice to the patients on hand washing, cleanliness and diarrheal disease.

The study recommends to introduce a concerted effort to aware students, teachers and health service providers on hygienic behaviour involving all concerned stakeholders. It is necessary to increase the level of awareness on handwashing among students and teachers. Also, it is required to develop a safe/well structured handwashing arrangement with necessary materials in the school. The study also recommends that knowledge regarding menstrual hygiene for girl students need to be improved; at the same time menstrual hygiene management facility should be established in girl schools. Awareness about cleanliness of sanitation facilities in health complex or centres should also be increased.

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