



WASH in Schools Empowers Girls' Education

Proceedings of the Menstrual Hygiene
Management in Schools Virtual
Conference 2013



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Back cover: Students in Sakhua village, Bangladesh, discuss menstrual hygiene management. © UNICEF/BANA2012-00179/Habibul Haque



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●●● Conference Overview

Empowering Girls' Education Through Menstrual Hygiene Management (MHM) and WASH in Schools

There is increasing interest in exploring and addressing the menstrual hygiene management (MHM) barriers facing schoolgirls and female teachers in educational settings. Around the globe, WASH in Schools (WinS) focuses on fostering social inclusion and individual self-respect – and addresses MHM as a key agenda. By offering an alternative to the stigma and marginalization associated with hygiene issues, integrating MHM into WinS empowers all students, and especially encourages girls and female teachers.

Columbia University's Mailman School of Public Health and UNICEF convened the Second Annual Virtual MHM in WinS Conference at UNICEF Headquarters in New York City on 21 November 2013. Building on recommendations from the MHM 2012 virtual conference, the 2013 conference focused on the research tools and instruments being used to explore MHM barriers and practices and to evaluate the interventions being trialed or implemented in various contexts.

The one-day event brought together over 150 participants online, involving a range of water, sanitation and hygiene (WASH) and MHM experts, global health and education researchers, social entrepreneurs and policymakers – from academic institutions, non-governmental organizations, the private sector, advocacy organizations and UNICEF country offices implementing MHM-related activities. Another 30 in-person attendees at UNICEF Headquarters in New York included Columbia University faculty; experts from social entrepreneurial and non-governmental organizations working on MHM-related programming, research or advocacy; and UNICEF Headquarters staff from the WASH, Gender, and Education sections.

Using WebEx, 16 presentations were made from countries around the world, on a wide range of MHM research being conducted in educational settings. The presentations focused on: (1) the tools/instruments utilized to explore MHM requirements of schoolgirls; and (2) the tools/instruments utilized for monitoring MHM interventions for schoolgirls. Presenters responded to questions from online participants about their activities, and in-person experts served as discussants, summarizing the main points and posing key questions about the

Recommendations from the First MHM Virtual Conference

Columbia University's Mailman School of Public Health and UNICEF jointly hosted the first virtual conference on MHM in WinS. The conference provided an opportunity for UNICEF country offices around the world to share MHM in WinS research and practice initiatives and to discuss lessons learned and gaps in the remaining evidence. The conference contributed to raising awareness and interest in addressing MHM in schools, a topic that to date has been relatively taboo.

Three key recommendations emerged from the first virtual MHM in WinS conference:

- Document current MHM practices and barriers that girls face in various contexts.
- Develop guidelines for integration of a minimum package of MHM into existing WASH in Schools programmes.
- Engage with national governments from the very beginning when initiating MHM activities to ensure buy-in and additional support for multi-sectoral involvement.

Definition of menstrual hygiene management (MHM)

Women and adolescent girls use a clean material to absorb or collect menstrual blood, and this material can be changed in privacy as often as necessary for the duration of the menstrual period. MHM includes using soap and water for washing the body as required, and having access to facilities to dispose of used menstrual management materials.



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Women work in the Sathi sanitary napkin manufacturing unit in Bongabari village, West Bengal, India.

research or activities described in the presentations.

All of the presenters generously shared the research tools and instruments they use to explore or monitor and evaluate MHM in WinS interventions around the world. These tools are available at www.unicef.org/wash/schools.

This publication brings together the key elements of the 16 presentations made at the conference. Each MHM project is framed in a case study format. Each case study outlines the context, research methods, tools and instruments used, successes and challenges faced during programme implementation, and makes recommendations for adaptation of the MHM tools used.

There is much more to be learned about the MHM barriers facing schoolgirls and female teachers, and about the most effective interventions to address MHM in WinS. The case studies presented here and the discussions undertaken at the conference provide an excellent starting point to design and strengthen research on MHM through WinS programmes. These case studies will assist WASH in Schools professionals to:

1. Document and disseminate the MHM practices and the MHM barriers girls face in various contexts.
2. Strengthen the outreach and content of WinS programmes by dealing more effectively with MHM issues.

3. Continue to advocate for MHM globally, regionally and locally (i.e., for inclusion of WinS sessions at regional and global meetings and conferences).

Organizing the Second Annual MHM Virtual Conference

- A call was made for presentations to WASH in Schools network members around the world in late spring.
- Paragraphs of interest in participating were submitted by mid-summer, and guidance was issued on presentation outlines.
- 16 presentations were submitted for consideration and review by mid-August.
- Multiple rounds of systematic feedback were provided on content and organization to assure flow of presentations.
- Finalized presentations were submitted by mid-September.
- 16 presentations were made at virtual MHM conference on 21 November 2013.
- Discussion and recommendations from the conference were shared with Global WASH in Schools network in December 2013 meeting in NYC.

●●● Bangladesh and Zambia

Piloting the resource *Menstrual Hygiene Matters*¹ in school settings

Organization/Agency/Country

WaterAid UK, Bangladesh and Zambia and
Emory University, Atlanta, USA

Context

This research commenced in November 2012 and will conclude in December 2014. The research is developing, piloting, monitoring and documenting approaches to addressing MHM in school settings in Bangladesh and Zambia based on relevant modules and toolkits of *Menstrual Hygiene Matters*.

The research will also attempt to fill critical gaps identified in the MHM Briefing Note produced by a roundtable of experts convened by WaterAid and SHARE – in particular, the need to develop clear MHM indicators for measuring education-related outcomes. So far, absenteeism is the only MHM-related outcome that has been measured, and the method for doing so has not been validated. Additional metrics need to be created, based on key outcomes identified by girls themselves.

The aim of piloting is to develop local capacity through adapting and applying the resource book *Menstrual Hygiene Matters* within the country setting. This will be achieved through collaboration with in-country WASH professionals, policy makers, academics, service users and the local private sector. The specific objectives are to:

- Develop and strengthen the practice-based resource by adapting and implementing it in different settings, and thereby also strengthening the evidence based on what works and what doesn't for menstrual hygiene management programmes and policy.
- Provide hands-on training to help build the strategic and technical expertise required in the field to support the development and application of practice and evidence-informed standards for MHM in WASH programme and policy.
- Identify where further capacity development is needed.

- Identify any gaps in the resource and address these through programme innovation and documentation.

The research is being integrated into existing WASH in Schools projects implemented by WaterAid in Bangladesh and Zambia. This paper focuses on experience to date in Bangladesh and mentions the initial experiences in Zambia (since July 2013).

Research methods

The research is being implemented in all 21 schools (10 primary and 11 secondary) in Kalaroa, a small town in Satkhira District, in South West Bangladesh. The total school population covered by the initiative is 7,236, comprising 3,585 boys, 3,438 girls and 213 teachers (139 male and 74 female).

Key steps

1. Research and implementation team identify relevant modules and key tools/approaches based on the priorities, existing experience and tools developed by WaterAid Bangladesh and its local partner Dhaka Ahsania Mission.
2. The researcher/facilitator team develop and deliver training sessions for the implementing team based on modules and project needs.
3. During the inception phase of the projects, formative research is conducted (using tools from the resource – adapted during the workshop) to gather country-specific, MHM-related information and to inform interventions and monitoring indicators (qualitative and quantitative).
4. Baseline measures for the ongoing projects are collected, including MHM measures that have been informed by the formative research.
5. Further modules, tools and approaches are identified from the resource, based on information gathered, and are applied during the intervention stage of the projects as required.

¹ *Menstrual Hygiene Matters: A resource for improving menstrual hygiene around the world*, www.wateraid.org/mhm.



Tamanna, 16, buys sanitary napkins from a store in Dhaka, Bangladesh.

6. Interventions are delivered, monitored and evaluated in each location as planned.
7. Workshops in each country, involving both research/facilitator and implementation teams, review the piloting of the resource and consider how the resource informed the projects. Those involved identify what worked and what gaps remain.
8. Researcher/facilitator teams in all countries meet for a workshop to review the resource piloting and make recommendations for national/sub-national level guidelines.
9. The guidelines and tools are further developed and published.

The project has completed steps 1 to 3, project implementation activities have commenced and the baseline tools and monitoring framework are being developed.

Relevant research tools/instruments

- So far the project has developed the following tools:
Training materials and sessions for developing capacity

to integrate MHM in WASH in Schools projects – MHM the basics, MHM and WASH in Schools, MHM and health, researching MHM, MHM stakeholder analysis.

- Applying inclusive barrier and solution analysis (personal, environmental, institutional and attitudinal barriers) to identify potential interventions for key components (information and awareness, materials and supplies, facilities, policy).
- Situation analysis tools – school observation checklist, survey and Focus Group Discussion guide.
- Teacher training session plan.
- Implementation guideline.
- Baseline tool (draft), Outcome mapping tool (draft).

MHM interventions

The key interventions to date include:

- MHM training workshops with project teams in Bangladesh and Zambia
- Development of action plans for integrating MHM into WASH in Schools projects in Bangladesh and Zambia

- Situation analysis in Kalaroa schools
- Implementation guideline developed for MHM in schools in Kalaroa
- Teacher training delivered to one female teacher from each school in Kalaroa as MHM focal point
- School WASH plan developed by teachers in Kalaroa incorporating MHM
- Individual School WASH plans developed
- Awareness sessions with girls in some schools
- Outcome monitoring parameters identified – these include outcomes relating to girls experiences of MHM (physical, mental and social) and outcomes relating to the attitudes and behaviours of key stakeholders (local government, teachers, school management, parents, girls and boys). Improvement in MHM environment and MHM practice will also be monitored.
- Baseline format developed
- Monitoring tools/instruments
- School survey
- Focus Group Discussion guide
- Individual questionnaire
- Outcome mapping
- Most significant change – before and after case studies
- Process documentation

Monitoring/evaluation period

12 months (November 2013 – November 2014)

Evidence used to influence practice/ programme or policy

The programme is utilizing the resource book *Menstrual Hygiene Matters* as well as other resources and materials, where applicable. By demonstrating how the resource book can be applied and developing additional practical tools (e.g., training materials, implementation guidelines, monitoring tools) the project will encourage other practitioners and policy makers to use the resource book.

Successes and challenges

Successes

- *Menstrual Hygiene Matters* can be easily adapted to training materials – a collection of tools is now available.

- *Menstrual Hygiene Matters* can be used to develop implementation guidelines and project design.
- *Menstrual Hygiene Matters* provides a good basis for monitoring tools but these need significant further development, testing and application.

Challenges

- Providing timely support and sufficient follow-up is difficult at a distance and across languages (remote support from UK and USA to Bangladesh/Zambia).
- Competing priorities of project team when implementing town-wide integrated WASH project can affect time allocated to MHM – particularly time for additional documentation required for research component.
- It is difficult to stop planned activities to allow for refinement of research components, which may affect rigor of research approach.

Recommendations for adaptation of tools/ instruments

- Training tools have been tested and used in several situations and will be published. They need to be translated for non-English language speakers.
- Some of the training tools may be adaptable for participatory exercises with children, communities, schools and other stakeholders.
- Monitoring tools require further testing before recommendations can be made.

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Students discuss menstrual hygiene in Chapai Nawabganj, Bangladesh.

●●● Bolivia, the Philippines, Rwanda, Sierra Leone

Going global – A systematic approach for investigating girls' experiences of menstruation across a range of contexts

Organization/Agency/Country

The Center for Global Safe Water at
Emory University, Atlanta, USA

Context

Emory University and UNICEF collaborated to understand the challenges associated with menstruation across multiple cultural and geographically diverse settings in four countries: Bolivia, the Philippines, Rwanda and Sierra Leone. The goal was to use evidence gained to create a set of recommendations for improving school-based programmes, with particular attention to water, sanitation and hygiene needs.

Research methods

The Socio-Ecological Model was adapted to inform the creation of research tools. The model illustrates that people's behaviours and experiences are the result of contextual factors at multiple levels of influence.

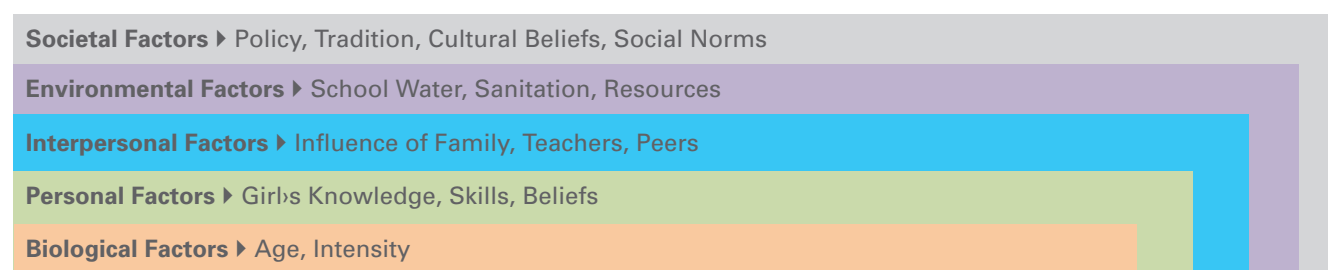
To fully learn about girls' experiences related to menstruation, we explored potential influences at five levels: policy and tradition at the societal level, access to facilities and resources at the environmental level, the influence of peers and family at the interpersonal level, the importance of knowledge and skills at the personal level, and the individual-specific impact of personal menstruation-related symptoms at the biological level (see 'Theoretical Approach' figure).

Several tools were created to capture and understand the potential impact of each level of influence on girls' experiences, including focus group discussions, in-depth interviews, key informant interviews, and observations of school grounds. A variety of participants were engaged to understand multiple perspectives, including boy and girl students, teachers and mothers. Over 550 participants were engaged from June through November 2012 (see 'Data Collection' table).

Data Collection

	Bolivia	Philippines	Rwanda	Sierra Leone
Total Schools Visited	10	13	8	8
FGDS				
Girls in school	12	13	8	8
Girls not in school	0	0	0	2
Boys	5	7	4	0
Mothers	4	2	4	0
Teachers	2	2	2	0
IDIs				
Girls in school	11	24	16	16
Girls not in school	0	0	5	4
KIIs				
Head teachers/teachers	17	20	18	16
Health workers	4	0	0	0
Total Activities Completed	65	63	65	46
Total Participants Involved	157	126	161	113

Theoretical Approach: Multiple levels of influence investigated in order to understand challenges, determinants and identify potential points of intervention





Community women talk to schoolgirls about health and menstrual hygiene as part of a mentoring programme in Makeni, Sierra Leone.

Research tools/instruments

Focus group discussions (FGDs) were carried out with girls, boys and mothers. One FGD with girls was carried out at each school. It focused on the typical experiences at school during girls' menstruation and common practices and beliefs related to menses. FGDs with mothers and boys were carried out to triangulate findings from the discussions with girls and explore how mothers and boys may influence girls' practices, knowledge, behaviour, and sense of support.

In-depth interviews were completed with one or two girls at each school, focusing on girls' personal experiences with menstruation, including management practices at home and at school, what they knew about menstruation, and the sources of their knowledge.

Key informant interviews (KIIs) were conducted with teachers, principals and health workers, investigating hygiene, sanitation, menstrual hygiene education

and menstruation-related challenges experienced at school. The interview content relied on the UNICEF WASH in Schools Monitoring Package and included additional questions specific to our study goals.

School observations of water, sanitation and hygiene facilities were conducted in each school, using a tool adapted directly from the UNICEF WASH in Schools Monitoring Package with additional questions added, as appropriate.

MHM interventions

n/a

Monitoring tools/instruments

The UNICEF WASH on Schools Monitoring Package was adapted to carry out school-level observations.

Monitoring/evaluation period

n/a

Evidence used to influence practice/ programme or policy

Data from each country were analyzed to provide setting-specific recommendations to partners in each country. Full-length reports from each country describe the menstruation-related challenges girls face in school, the impacts of those challenges, and the potential risks to health and education. Determinants of challenges are outlined in depth and inform a final set of site-specific recommendations that can be used by the local UNICEF office, partners and key stakeholders.

Local practitioners, researchers, teachers, and even youth can provide insight about the tools, what words may be substituted, and what additional questions should be considered.

Findings from each country were compared to identify what challenges, impacts, risks and determinants were common across contexts. Findings were used to inform a set of school-based strategies for ameliorating and addressing girls' menstruation-related challenges.

Successes and challenges

The systematic approach to data collection enabled understanding of the full social and physical environment

in which girls experience menstruation. The model and tools enabled comparisons across diverse country and local contexts while allowing country-specific adaptation for cultural and linguistic appropriateness.

The approach and tools have been adapted to additional contexts since their first use in 2012, including further work in other parts of the Philippines and in Mali.

The methods provided very rich data that enabled recommendations to be well informed.

The use of tools requires training facilitators in qualitative methods so that responses from participants will provide sufficient details. An important challenge with the data is that it requires substantial time for proper analysis.

Recommendations for adaptation of tools/ instruments

To adapt tools to new contexts it is imperative to walk through each question and determine how it may be asked in the most culturally appropriate manner. Local practitioners, researchers, teachers, and even youth can provide insight about the tools, what words may be substituted, and what additional questions should be considered.

Piloting the tools and fully reviewing transcribed interviews or discussions is imperative. Piloting allows the research team to understand if certain questions do not work, if they need to be asked in a different manner, and if other approaches are needed. Because tools are primarily qualitative, adaptation of tools (except for the observation tool) is possible throughout the data collection period.

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●●● Burkina Faso and Niger

Menstrual hygiene in schools in two countries of Francophone West Africa

Organization/Agency/Country

UNICEF Burkina Faso and UNICEF Niger

Context

MHM studies and interventions have until now largely focused on Anglophone East Africa, resulting in a significant gap in knowledge and understanding about menstrual hygiene practices in West and Central Francophone Africa. To address this gap, the UNICEF West and Central Africa Regional Office selected the countries of Burkina Faso and Niger as representative sites to conduct case studies to explore MHM knowledge and practices among schoolgirls in the region. The objective was to improve understanding of MHM in the West and Central Africa region and to sharpen WASH and education strategies and programming with respect to MHM. The study aimed to contribute to the growing body of evidence on this neglected area of school WASH that has an important impact on girls' education, health and empowerment.

The study examined issues including:

- Girls' understanding and knowledge of menstruation
- Socio-cultural beliefs and taboos surrounding menstruation
- WASH infrastructure in schools
- Current menstrual hygiene practices in schools
- Puberty and MHM education in schools
- Interpersonal relationships and psycho-social support relevant to MHM
- Translation of an MHM manual into French

As part of the study an MHM guide in English from Sierra Leone was translated into French and field-tested in schools to gauge its appropriateness in Burkina Faso and Niger. The study also examined existing local menstrual hygiene and MHM education materials and gathered recommendations from schoolgirls, teachers and ministry officials.

Research methods

For this research the methods employed included a desk review of existing documentation, the development of research tools to assess key questions, and data collection in the field in Burkina Faso (7-18 May 2013) and Niger (1-11 June 2013).

Data was collected in schools through in-depth interviews (IDIs) and focus group discussions (FGDs) with schoolgirls, interviews with head teachers and female teachers, as well as onsite observations of the infrastructure. In addition, key informant interviews with ministry officials were conducted. The collected data was subjected to both qualitative analysis and quantitative analysis (of survey data).

Six government-supported urban and rural schools per country were selected for the study by the UNICEF country offices in collaboration with the local ministries of education. They were advised to choose schools that already have WASH facilities so that an MHM perspective could offer next steps to further improve the sanitation and hygiene.



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A schoolgirl uses a handwashing facility at a primary school in Burkina Faso.

Research tools/instruments

The main focus of the study was the MHM knowledge and practices of the schoolgirls, with whom semi-structured IDIs were conducted one-on-one. Information on girls' own understanding of MHM and problems and solutions, was also gathered through FGDs. Issues such as cultural beliefs and taboos, interpersonal relationships, psycho-social support and girls' recommendations for better MHM at schools were discussed in small groups of girls. Data was also collected through key informant interviews with educators and onsite observations. Finally, we quantified some data collected via these qualitative methods (e.g., how many or what percentage of girls had received information about menstruation, how many girls can change protection at school, etc.).

The table below summarizes the study design and the research tools used for the data collection.

MHM interventions

n/a

Monitoring tools/instruments

n/a

Monitoring/evaluation period

n/a

Evidence used to influence practice/ programme or policy

Serious challenges need to be addressed before appropriate MHM can become a reality in schools in Burkina Faso and Niger. The findings of the study include:

School WASH facilities are currently inadequate for girls to safely manage their menses. There are not enough water sources and latrine units for students. There is a lack of gender-segregated latrines and handwashing facilities with soap. None of the observed schools made available a changing room/washroom for girls, sanitary protection materials, or disposal for sanitary protection materials. Hence, most of the girls (83 per cent in BF and 77 per cent in Niger) cannot change their sanitary protection at school, which leads to (self-reported) absenteeism during menstruation. Local production of sanitary pads does not exist in Burkina Faso or Niger and imported pads are expensive. The majority of the interviewed girls use pieces of cloth and occasionally absorbent cotton as sanitary protection material.

School children lack knowledge and information on menstruation. Generally, MHM is taught too late, after menarche. The majority of the girls did not know what happened when they experienced menstruation for the first time and were scared (79 per cent in BF and 81 per cent in Niger). There is no education material on MHM available in Burkina Faso and Niger. Hence,

Tools	Description	Sample
Questionnaire / Interview Guide for Schoolgirls (in-depth interview)	Information on girls' own understanding, problems and solutions regarding MHM (i.e., personal knowledge, cultural beliefs, management of menstruation, interpersonal relationships, psycho-social support, and recommendations)	60 girls (30 in each country)
Questionnaire / Interview Guide for Head Teachers (key informant interview)	Gender disaggregated data and information on the current enrolment rates, teaching staff, WASH infrastructure, health and MHM education, guidance and counseling, cultural beliefs, opinions and recommendations regarding MHM	12 head teachers (6 in each country)
Questionnaire / Interview Guide for Female Teachers (key informant interview)	Female teachers' opinions on WASH infrastructure, health education, guidance and counseling, cultural beliefs and recommendations re MHM	12 female teachers (6 in each country)
School Infrastructure Observation Checklist	Information on schools' current WASH and MHM infrastructure	12 schools (6 schools in each country)
Guide for Focus Group Discussion with Girls	Information on girls' knowledge, understanding, problems and solutions regarding MHM, girls' perspectives on taboos related to menses, interpersonal relations, etc.	12 FGDs (one per school, 10 participants in each)
Discussion and pre-testing of the draft MHM booklet in French	Participants' comments on the translated MHM booklet, including opinions about the usefulness and suggestions on how to improve the booklet	60 girls, 12 head teachers, 12 female teachers, relevant ministry officials and UNICEF staff
Interviews with relevant ministry officials (key informant interview)	Background information on the education and WASH situation, policy environment, girls' education, cultural beliefs, teaching and current material on MHM-related issues, local production of sanitary protection materials	At least 1-2 per country, depending on availability



Schoolgirls take part in a focus group discussion on menstrual hygiene management in Niamey, Niger.

all the girls, teachers and education officials found the pre-tested MHM manual in French useful and informative. They all received a copy of the booklet to read and it was later discussed in FGDs.

Menstruation affects girls' participation and performance at school. The majority of the girls (83 per cent in BF and 68 per cent in Niger) feel shy or stressed at school during menstruation and participate less due to shame, fatigue or pain. Psycho-social support for menstruating girls at school is lacking. Girls would prefer to discuss menstruation with other girls or female teachers at school. However, there is a general lack of female teachers in both countries, especially at the secondary school level and in hard-to-reach areas, and some schools do not have any female teachers. Menstruation remains a taboo, and menstruating women are still often considered "dirty" in both countries. Negative socio-cultural beliefs may lead to forced seclusion and stigma. Indeed, half of the girls said that there are activities and places that are forbidden to them during menstruation.

Recommendations

At the regional level:

- Share the study and tools with other country offices.
- Develop a practical MHM checklist for schools and integrate it into WASH in Schools monitoring.
- Publish and distribute an MHM manual in French. Pre-test it to take into consideration local cultural beliefs and sensibilities.

At the country level:

- Ensure cross-sectoral collaboration: education, gender, health, protection, WASH, community development and C4D.
- Integrate and mainstream MHM in national strategies, guidelines and monitoring.
- Ensure adequate, gender-segregated school WASH facilities.

For better MHM, schools should also have a place to wash/change for girls, sanitary protection materials, and a discrete disposal unit.

- Encourage production of local, low-cost and ecological sanitary pads.
- Advocate for the integration of MHM in the curriculum and promote MHM teaching before the age of puberty.
- Support teacher training on MHM and gender-sensitive teaching practices.
- Continue to advocate for female teachers.
- Encourage student clubs for peer-to-peer support and sensitization.
- Engage communities and cultural leaders, both men and women: involve PTAs, SMCs, and Mothers' Associations in MHM initiatives (e.g., "hygiene kit" including sanitary protection materials and painkillers for schools).

Successes and challenges

The data collection went well and the response rate was excellent. During the focus group discussions, many girls in both Burkina Faso and Niger said that this was the very first time they discussed openly issues related to MHM. However, there are a few limitations of the study. Since this is a qualitative study with a limited sample size, the results cannot necessarily be extrapolated to populations other than those who participated in the study. It is clear that the data gathered from six schools in two countries is not sufficient to make any region-wide generalizations.

Despite the limited number of schools, responses from 60 girls in Burkina Faso and Niger provide rich information on current MHM knowledge and practices. The girls shared their ideas and opinions openly. However, it is important to note that girls' responses from Burkina Faso and Niger cannot be compared without bearing in mind their different ages and levels of education. The interviews were conducted in primary schools in

Burkina Faso and in junior secondary schools (collèges) in Niger. The age ranges of the interviewed girls were 10-17 years in Burkina Faso and 15-19 years in Niger. The average age of the participating girls in Burkina Faso was 14.2 years and in Niger 16.8 years. In general, older girls were less shy about discussing MHM than younger girls, especially in semi-urban or urban settings.

In Burkina Faso, two of the pre-selected schools had to be changed during the data collection due to lack of adolescent/menstruating girls. In those cases, other government-supported primary schools nearby were chosen. Only 10 female teachers were interviewed in total since there were no female teachers in one of the schools in Burkina Faso and in one of the schools in Niger. Due to the long distances between the selected schools and the limited time, it was not possible to conduct focus group discussions in each school, as planned. Regarding future studies, it is important to note that the end of the school year is not an ideal time to conduct data collection in schools as some schools may already have finished teaching.

Recommendations for adaptation of tools/instruments

The IDI questionnaires, key informant questionnaires and FGD guides worked well and the response rate was excellent. School interviews were conducted in collaboration with local government female education officials who interpreted the questions from French into local languages when needed. Their knowledge of local languages and sensibilities were crucial to the success of the interviews and FDGs. Together with the consultant they told the girls that issues related to menstruation can be discussed freely among women.

It was important to choose the participating girls discreetly and assure all the participants of confidentiality. Moreover, it was crucial to explain the purpose of the study to all the participants and take some time to “break the ice” since menstruation remains a sensitive subject. Before starting the interviews and focus group discussions, the consultant and female education officials took time to present themselves, the study, and encourage the girls to feel free to discuss this issue that affects all the world’s women. The local female education officials said that they were mothers and aunts who discuss the issue with their own children. The girls were told that their own ideas were very important and will help create better hygiene in schools.

A warm and encouraging atmosphere was created by smiles and reassuring words during the discussions. Sometimes, even with local officials, it seemed useful to emphasize the health aspects of good MHM to engage the participants in the discussion. All the participants were told that they have the right not to respond to certain questions and or to end the interview at any time. With this encouragement, girls were sharing their experiences and opinions quite openly.

It is important to take local cultural beliefs and sensibilities into consideration.

For future studies, more time and several data collectors for the field research would be needed to increase the number of participating schools and girls. It would also be relevant to observe the actual hygiene practices and behaviour in schools such as WASH practices, participation in classrooms, and interactions with peers and teachers. Moreover, it is important to use similar age sampling to enable comparison of the results between different countries.

It is important to take local cultural beliefs and sensibilities into consideration. For example in Burkina Faso, the advice to burn dirty sanitary protection materials (when they can no longer be used) had to be removed from the draft manual before pre-testing it at schools because of a common cultural belief in Burkina Faso that burning female sanitary materials causes infertility. In this case, the advice to burn sanitary cloths might have been too shocking, and its inclusion might have prevented other important messages from reaching the intended audience. Moreover, alternative methods for hygienic disposal should be explained in the manual, taking into consideration local sensibilities. (In Niger, the advice to burn dirty sanitary protection materials did not cause any problem.)

Participants in the study emphasized that community sensitization and training for teachers would be needed to improve the level of MHM knowledge among schoolgirls, teachers and caretakers. Furthermore, several participants underlined that MHM issues should also be discussed with boys and men.

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●●● India

Exploring menstrual hygiene management in schools of West Bengal

Organization/Agency/Country

Water For People, Sanhita Gender Resource Centre, Kolkata, India

Context

This research involved two studies conducted in West Bengal schools by Water For People (India), a non-profit funding agency, and Sanhita Gender Resource Centre. Water For People supports local NGOs in the implementation of WASH interventions in schools, and works with the government's Total Sanitation Programme in four districts of West Bengal, India. Sanhita Gender Resource Centre is committed to an overall vision of gender justice and gender equity. Working in West Bengal, the Sanhita aims to increase the capacity of young women as change makers, capable of taking charge of their reproductive and sexual health.

Aiming to promote better menstrual hygiene practices among schoolgirls, a pilot study was conducted by Water For People in 2008 to understand current practices and available infrastructure in schools.

In 2011, Sanhita Gender Resource Centre undertook a three-year programme for awareness- raising on menstrual hygiene practices, implemented at schools and health check-up camps, in partnership with Sister Nivedita Kalyan Samity, a local NGO of Bankura district, one of the poorest districts in West Bengal. The programme included a two-phase evaluation component that assessed schoolgirls' knowledge about MHM prior to dissemination of relevant messaging, then assessed their knowledge following the messaging campaign. Based on the study's findings, Sanhita redesigned their implementation strategy for their awareness-raising programme, which continued over the next two years, and also designed a hygiene promotion module to be implemented in other schools of the district.

Through these studies, it was possible to explore in the West Bengal context:

- Knowledge, attitudes and practices relevant to menstrual hygiene among schoolgirls
- How water and sanitation infrastructure in

schools enables or hinders hygienic practices

- Schoolgirls' access to information about menstruation
- Menstruation management practices, coping mechanisms and problems faced
- Social and cultural issues that influence menstruation management.

Research methods

This qualitative research relied on participatory methods of enquiry that involved girl students in secondary and high schools, teachers (both male and female) and mothers.

Water For People's pilot study and WASH interventions

Setting: 20 schools in South district and 24 in the Parganas and East Medinipur districts, in partnership with 5 local NGOs

Sample size: 650 high-schoolgirls (13-19 years old), 86 teachers (both men and women), 270 mothers

Sanhita's study and action research

Setting: 10 schools in the Bankura district of West Bengal

Sample size: 100-350 girls in grades 8 and above participated per school. These included 10 to 15 girls who were selected randomly from each class to participate in Focus Group Discussions and undergo health checks.

Research tools/instruments

Cameras: Cameras were provided to schoolgirls to document menstrual hygiene practices (including what is used to hold menstrual blood, washing and disposing of cloth and/or sanitary pads, drying and storing reused cloth, etc.).

Youth engineers: Sessions were organized in schools to encourage girls to design toilets based on their needs.

School visits, focus group discussions, in-depth interviews: These methods were employed with students, teachers and mothers' committees.

MHM interventions

Both studies were followed up by pilot interventions by the respective organizations. The Water for People pilot intervention was implemented in 4 districts, and Sanhita continued in the schools where the survey described above was conducted. The following are highlights of the intervention activities:

- Promoted gender-sensitive sanitation in schools by providing evidence demonstrating the need to enhance the existing WASH programmes in schools.
- Developed and disseminated a module for awareness-building on MHM and advocated for its mainstreaming in diverse government programmes.
- Influenced government sanitation programming to converge resources to promote WASH facilities in schools.
- WASH infrastructure in schools was redesigned to incorporate facilities for MHM. Toilets for girls included a changing room with a vent that was connected to an incinerator where menstrual waste could be disposed of and destroyed hygienically. Sanitary towels were stocked in schools and were available for purchase at a low price.
- Conducted health check-up camps to identify menstrual hygiene practices among students and referred complex cases to local health-care centres.

Monitoring tools/instruments

n/a

Monitoring/evaluation period

n/a

Evidence used to influence practice/ programme or policy

Infrastructure and equipment introduced in response to the study findings were adopted by the NGO partners of Water For People in the schools by some of the district administrations. This was especially true of the low-cost incinerators and MHM-friendly toilet designs.

- School WASH infrastructure was installed with convergence of funds from government Education, Health and Sanitation departments with at least 20 per cent contribution from the local communities.



Schoolgirls in Tamil Nadu, India attend a class on menstrual hygiene.

- A common set of 'messages for MHM' was designed in coordination with government health workers in the local language (Bengali) to ensure homogeneity of awareness programmes and information disseminated.

Successes and challenges

Success included greater awareness about the issue and recognition of the need for addressing the associated challenges, as well as advances made toward breaking the silence around menstruation and creating a healthy atmosphere for intervention. Nonetheless, this was a micro-initiative, which needs to be replicated and scaled up.

Recommendations for adaptation of tools/instruments

Tools should be kept simple and participatory. As such, they can easily be used by any organization for similar initiatives.

Photography is very useful, as demonstrated in a workshop carried out as part of the study. Schoolgirls came and talked to the audience (including government representatives and NGOs) about their experiences. They presented photos, and the exercise not only produced useful documentation but helped break inhibitions about the subject so that the girls were more willing to discuss the issue openly.

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●●● India

Translating silence into action – Progress on policy and practice in menstrual hygiene management

Organization/Agency/Country

The Water Supply and Sanitation Collaborative Council (WSSCC), Geneva, Switzerland

Context

WSSCC's five-year medium-term Strategic Plan (2012-2016) places equity at the centre of its work and a measurable outcome to be achieved. WSSCC has adopted a dual approach to equity that includes: i) situational and context-specific disadvantages (covering excluded communities or groups, and ii) cross-cutting universal disadvantages linked to sanitation, hygiene and water services by gender, age and physical ability.

WSSCC has spearheaded the issue of MHM at global, regional and national levels. Globally, WSSCC was an active member of the Equity and Non Discrimination (END) working group convened by the Joint Monitoring Programme (JMP) of WHO and UNICEF and led by the Special Rapporteur on Water and Sanitation. END met to develop meaningful post-2015 goals and targets based on the lessons from the MDGs. WSSCC proposed a "lifecycle approach," which promotes human health and well-being from birth through old age. The female lifecycle includes puberty, menstruation, pregnancy and childbirth; at each stage, women have particular water, sanitation and hygiene needs. The proposed post-2015 targets and goals for WASH globally clearly recognize the need to provide and monitor safe and adequate MHM facilities in public institutions, including health clinics, schools, transport hubs and markets.

At regional levels, the issue of MHM is systematically gaining traction. In 2011, the South Asia Conference on Sanitation IV (SACOSAN) resulted in the Colombo Declaration, committing ministers from eight South Asian countries to action on MHM. WSSCC was at the forefront of the advocacy that led to this commitment. In October 2013, SACOSAN V reviewed progress in MHM and renewed its commitment to MHM beyond schools. Research commissioned by WSSCC and conducted by FANSA between SACOSAN IV and V

formed the backdrop to a sub-theme on equity and inclusion and the material for a film – all of which include strong pieces on MHM. WSSCC is also looking at policies on subsidies and the costs of including MHM in facilities in the South Asian region.

At AfricaSan III in Rwanda in 2011, WSSCC convened an equity and inclusion session in partnership with WaterAid. Together with UNICEF, the Water and Sanitation Programme of the World Bank (WSP) and WaterAid, WSSCC supported the inclusion of equity in the eThekweni Declaration in March 2013. WSSCC organized an equity and inclusion workshop focused on MHM in Dakar in September 2012 for 15 mainly francophone countries across West and Central Africa. In early 2014, partners will adapt the MHM Lab approach (see below) in Africa to ensure efficient adaptation of advocacy and training materials to suit the local context.

Research methods

WSSCC designed, developed and successfully delivered a novel approach to improving policy and practice in MHM. WSSCC achieved this by adding MHM to the Nirmal Bharat Yatra, a carnival organized by WASH United and Quicksand that took place across five states in India (Maharashtra, Madhya Pradesh, Rajasthan, Uttar Pradesh and Bihar) from 2 October to 19 November 2012.

The Yatra had three important messages – ending open defecation, washing hands with soap and water at critical times, and managing menstruation with pride, safety and dignity. WSSCC conceptualized, designed, managed and delivered the MHM component, reaching over 12,000 women and girls at the Yatra grounds and over a thousand students and teachers in schools in the Yatra districts.

Action research rather than traditional academic research was undertaken at the Yatra. Each stop of the Yatra started with two days of teacher training and school visits where discussion groups were held with girls and teachers (both male and female) and preliminary data were gathered from girls who had reached puberty. Preliminary data were gathered from girls in their households, at

schools and on-site at the Yatra locations. Follow-up surveys were administered in all of these locations.

Highlights of the intervention:

- Focus group discussions (approximately 10 people per group) on menstrual hygiene were conducted in 28 schools with over 1000 girls and 100 boys. WSSCC also collected preliminary primary data from 747 participants, primarily girls aged 9 to 18 and young women.
- 228 teachers, both male and female, received training in MHM through awareness-building workshops.
- 50 NGO partners took part in an intensive training-of-trainer session in Gorakhpur, Uttar Pradesh.
- 3,000 women and girls were trained by Goonj in making their own sanitary napkin, and in how to store, wash, dry and dispose of cloth napkins safely.
- Over 1,600 girls and women made and wore a 28-bead bracelet depicting the menstrual cycle and took

a pledge to break the silence around menstruation.

- The MHM team met district magistrates, collectors and the media at district and state levels to advocate for MHM. The WSSCC Programme Manager addressed state platforms in India, reinforcing her address at the national launch.

WSSCC also brought the issue of menstruation onto the radar of a host of government and non-governmental partners, consultants, trainers and journalists, reaching 230 million people in India via media messages in 400 print articles and TV broadcasts.

Research tools/instruments

- Research assistants and translators
- Awareness-building workshop materials, including visual aids
- Yatra tent for female-only space



Trainers discuss menstrual hygiene in the safe environment of a woman-only tent during a WASH Yatra in Wardha district, Maharashtra, India.

- Personnel to maintain private space
- Bead-making accessories
- Pad-making equipment
- MS Excel for data storage
- Facilitators and trainers

GPRS (General packet radio service)-enabled e-tablets were used to collect preliminary questionnaire data, including demographics and socio-economic data such as:

- Date of capture
- Longitude/Latitude/Altitude (geographical location)
- Age group
- Religion
- Level of education

The questionnaire also asked girls and young women about their knowledge and perceptions of menstruation, how they managed their monthly flows (hygiene, pain management and material use, reuse and disposal), barriers and opportunities to improving practice and how to inform and advocate with friends and peers.

MHM interventions

The MHM team at Yatra worked in and around the MHM Lab, taking hundreds of women and girls who visited through a systematic loop of activities. The aim was to break the silence and taboos. This was done through small group discussions with visual aids and preliminary data gathered through questionnaires and entered into e-tablets to better understand beliefs and practices. The intervention also included back and forth discussion and an opportunity to educate all participants in better hygiene and menstrual management. This was followed by a training session on how to make low-cost, hygienic, re-usable pads and how to dispose of them.

Monitoring tools/instruments

Follow-up surveys were administered to girls and young women at the same locations as the baseline surveys (i.e., households, schools, and Yatra locations) to determine and document change.

Monitoring/evaluation period

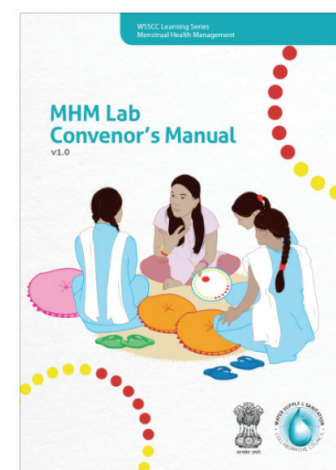
The Yatra follow-up evaluation was conducted from 8 November to 4 December 2012.

Type of evidence used to influence practice/ programme or policy

The MHM Lab Manual is designed to help practitioners organize an MHM Lab event that brings menstrual hygiene out of the shadows. It uses simple yet effective approaches to address this taboo issue at scale and across diverse geographies and cultural contexts. The MHM Lab's aim is to transform menstruation into a matter of pride and help women and girls stop suffering in silence. By enabling safe and hygienic MHM, as well as safe reuse and/or

disposal of menstrual hygiene products, the Lab allows women and girls to regain control of a basic but fundamental part of their well-being. Creating a welcoming yet efficient workshop venue where large numbers of participants can be engaged meaningfully, but within a short timeframe, is a practical necessity for any Lab event.

It is also important



to be imaginative and create a stimulating training session within a holistic, highly visual and interactive space for sharing and learning.

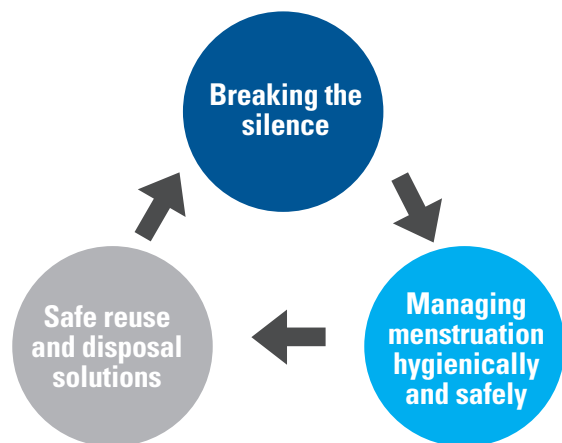
Each Lab runs for a minimum of three hours and is divided into three sections:

Breaking the silence – fostering the understanding that menstruation is a fact of life, and a distinct biological attribute that women should be proud of, not ashamed of. Girls should be encouraged to talk about and discuss this biological phenomenon in an informed and positive manner to prepare them emotionally and physically for the onset of menstruation and their monthly menstrual periods.

Managing menstruation hygienically and safely – ensuring adequate water, cleansing and washing materials and private spaces for managing menstrual flows hygienically and privately, and with dignity, in the home and in public spaces.

Safe reuse and disposal solutions – ensuring mechanisms for safe reuse, collection and disposal of menstrual waste in an environmentally safe manner. WSSCC is replicating the MHM Lab approach for wider use across

South Asia and testing in Africa. The “pop-up lab” developed in collaboration with a creative agency is lighter, easier to transport, easy to assemble and can be run as a stand-alone initiative in schools, clinics, markets, fairs, development fairs, conferences and events.



Successes and challenges

Successes

- *Tablet survey* provided an understanding of knowledge levels and practices.
- *Focus group discussions* helped group members learn facts about menstruation.
- *Make your own napkin workshops* run by partner organization Goonj demonstrated how to make sanitary pads at home to manage menstruation hygienically.
- *Make the bracelet workshops* and taking the pledge to break the silence encouraged girls and women to feel proud, not ashamed of menstruation.

Challenges

- The key message from teachers, development workers, health workers and women and girls is that menstruation is taboo.
- There is a need for a holistic approach that captures all the important dimensions of this issue that affects about 355 million women and girls in India and almost a billion women globally.
- Training in MHM is affected by the taboos and lack of upbeat messaging.

Recommendations for adaptation of tools/instruments

- Advocacy on MHM is needed among policy-makers at national, state, district and provincial levels, and among UN agencies, NGOs and training institutes
- Develop capacity on MHM.
- Promote education and awareness of MHM.

Practitioners who are interested in adapting this approach should commit to presenting the comprehensive rights-based lifecycle approach with all three pillars (Breaking the Silence, Managing Menstruation Hygienically, and Safe Reuse and Disposal Solutions). This is key to the sustainability of MHM behaviour change at scale. It is also imperative that practitioners base their interventions in a culturally appropriate context, which can only be accomplished working with the assistance of partners and facilitators in-country.

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●●● Kenya

CES Canada Pad Project in western Kenya

Organization/Agency/Country

Community Education Services Canada, Barrie, Canada and Kakamega, western Kenya

Context

Provision of health care services to secondary school female youth (aged 13-17 years) enrolled in schools in Kakamega that receive CES sponsorship. Many of these youth have been orphaned by the HIV/AIDS pandemic. CES operates in 22 schools and the goal is to involve all secondary school female students who have been orphaned.

Research methods

Delivery of anonymous surveys to 807 female students at seven CES-sponsored schools: Kakamega

Muslim Secondary School, Shikoti Girls' Secondary School, St. Patrick's Ikonyero Secondary School, Eshitari Secondary School, Inbinzo Girls' Secondary School, Ematiha Secondary School and Namundera Secondary School. These schools are among the 22 schools that CES has supported for the past ten years through the sponsorship of high-achieving students. Some of these schools are boarding schools.

The seven schools are a representative sample of the schools CES supports: specifically, Kakamega Muslim represents schools in the city of Kakamega; Ikonyero and Ibinzo represent schools close to the city; Eshitari, Ematiha and Namundera represent schools in rural areas; Shikoti represents boarding schools; and Ibinzo and Shikoti represent all-girl schools.

Surveys were delivered by CES volunteers in a safe,



Girls at Sulemeti High School in Kakamega, Kenya, are encouraged to be independent and creative. The school has a sanitary towel donation programme.

female-only environment. Each student filled out her own survey in English. A total of 807 surveys were completed, 698 of which were completed correctly and included in the analysis. Following completion of the survey, students had an opportunity to ask questions. This often led to open discussions about female health, sexuality and menstruation. The girls were eager to ask questions and hear answers. Discussions further illuminated their level of knowledge in these areas.

Research tools/instruments

Research tools include a survey to establish baseline data, ongoing discussions with students each term led by CES volunteers, and continual follow-up to ascertain the success of the project.

The surveys showed that of the students at day schools who miss school due to their menstrual cycle, 70 per cent miss an average of 3 or more days every month. Thus, if girls are missing school, they are missing a lot of school. The surveys also showed that of the students at boarding schools who miss school due to their menstrual cycle, 96 per cent miss, on average, 1 or more days per month, with 66 per cent missing an average of 3 or more days per month. Though the problem may exist on a smaller scale at boarding schools, it is still a critical issue that needs to be addressed.

MHM interventions

Once a year, 6 packages of reusable pads are given to every female student in all 22 CES-sponsored schools. The students at these schools are aged 13-20 years.

There are currently 120 students in the PAD Project. Packages are accompanied by two pairs of undergarments as well as buckets and soap for cleaning the pads.

The distribution of supplies is coupled with a session (approximately 2 hours) with a Kenyan female health professional. During these sessions, students listen to talks on the female anatomy, hygiene and sexual health; time is allotted for questions and answers.

These sessions allow the girls not only to learn about themselves and their bodies but to access the necessary materials to support health and hygiene during their menstrual cycles for the next 4 months.

Monitoring tools/instruments

Survey Given to Female Students

1. Have you ever missed school due to your menstrual cycle?	Yes or No
2. If yes, how many days do you usually (on average) miss per month due to your menstrual cycle?	0 1 2 3 4 4+
3. During your menstrual cycle do you use (pick all that you use):	a. Sanitary pads b. Rags c. Other
4. Are you able to regularly afford sanitary pads?	Yes or No
5. Have you ever experienced infection from the use of rags or other home-made feminine sanitary products?	Yes or No
6. Are there any other issues that you experience during your menstrual cycle?	

Length of monitoring/evaluation period

One year and renewed annually since 2010

Evidence used to influence practice/ programme or policy

Girls in Kenya face many challenges. When researchers arrived in Kakamega in August 2009 they did not know the full scope of girls' difficulties surrounding menstruation and female health and hygiene, and learned about them through discussions with the principal of Shikoti Girls' Secondary School. Most female students are not able to afford sanitary pads and use other means that are less comfortable and less hygienic. Many miss a few days of school each month because they are too uncomfortable and/or embarrassed to attend. Even if they attend school, they are often distracted and fail to pay attention to their lessons. Girls and young women should be able to practice good hygiene and be comfortable during their menstrual cycle, and not be forced to miss school or be preoccupied while in school.

Successes and challenges

Successes

100 female youth received health education and training as well as reusable pads. In addition, the cost was reasonable

at \$6 per student annually. Pads were purchased locally, thus benefitting the local community. Students' grades have increased due to better attendance at school.

Reusable sanitary pads may be more environmentally friendly, but many areas lack access to clean water.

Challenges

To compound the problem of not having access to sanitary pads, many girls have no idea what is going on in their bodies during puberty. The topic is taboo. Parents hope that teachers will talk about menstruation at school, and teachers hope parents will discuss it at home. Females are left confused and scared every month, wondering what is normal and what might require medical attention. Too nervous to talk to anyone about their fears and questions, they silently wonder about them and sit uncomfortably in the back of class. During open discussion with these girls, basic feminine hygiene questions were brought up. Many girls asked, "Am I normal?" It has been a challenge to think about solutions to the problem of inaccessibility to sanitary products in this context of lack of understanding and openness but at least the girls have been inquisitive during the information sessions with health professionals. For example, here are some student comments:

- "Please lend us more books so as to understand more about the menstrual cycle."
- "I wish someone to give me guidance like those that you gave us this day."
- "Please try to help us so that we can know how to keep ourselves during menstruation."

Information sessions with health professionals were not as useful when teachers were present, since students did not speak and ask questions as freely. It would be helpful if teachers discussed these matters with their students but that would require a change in curriculum and a willingness on the part of teachers to discuss matters outside their comfort zone.

A challenge associated with the survey method is compiling enough baseline data to assure accuracy. Although there are many female students at CES-sponsored schools, it can be a challenge to get them to fill out the surveys. Ensuring that students

understand each survey question is difficult. Moreover, students' lack of knowledge about the subject matter makes administering the surveys time-consuming.

Recommendations for adaptation of tools/instruments

Access to products will help girls feel more comfortable and maintain their normal routine during their menstrual cycle. Sanitary products will also reduce the incidence of infection and other discomforts the girls face every month. Many students do not own a pair of usable underwear – giving them a few pairs at the beginning of every school year makes them better able to stay healthy and confident during their menstrual periods. Hiring local women to make the pads with sewing machines works well and is cost-effective.

Although reusable sanitary pads may be more environmentally friendly, many areas lack access to clean water. Few schools have septic tanks and running water – a few have wells and about 50 per cent require students to bring in water for both drinking and sanitation purposes. Without safe water and even the means to buy proper soap, reusable pads are in danger of not being cleaned properly, not unlike the rags the girls are currently using. Reusable pads also require an open air area to dry after being washed, which is problematic given the stigma and taboos associated with menstruation. The buckets distributed for cleaning have lids to create some privacy and reduce odour, for these reasons.

The next step will be to devise ways to measure the success of the programme aside from anecdotal evidence. At a minimum, during the next information session with the community health nurse, a new survey should be distributed to evaluate the programme and address new and ongoing needs. Additionally, the aim is to expand the programme through fundraising efforts to encompass all female students attending CES-sponsored schools.

In terms of the research methodology, a survey to identify needs and gather information about feminine hygiene practices is recommended. It is important that the surveys be anonymous, especially since they are administered by female volunteers whom the students do not know very well. The students in this study have a very good rapport with the community health nurses and it is recommended that they conduct any future surveys.

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●●● Kenya

Menstrual solutions for adolescent schoolgirls in western Kenya – An acceptability, feasibility and safety study

Organization/Agency/Country

Liverpool School of Tropical Medicine (UK) in partnership with Kenya Medical Research Institute/Centers for Disease Control and Prevention (KEMRI/CDC) Research and Public Health Collaboration, Safe Water and AIDS Project, Kisumu, Kenya; Ministry of Health, Kenya

Context

Qualitative studies describe the difficulties schoolgirls in low- and middle-income (LMIC) countries face in managing their menstruation. Girls use a range of items, including cloth, cotton, wool, paper and grass, but they report that the use of these materials may result in leaking, unpleasant odours and discomfort. Sanitary pads are preferred, but their cost is prohibitive. Poor menstrual management is widely reported to be responsible for school absenteeism. However, many environmental, social and personal factors can facilitate girls' retention in school. The quality of water, sanitation and hygiene (WASH) in schools appears to be one such factor. Nonetheless, few studies have examined the role of alternative menstrual hygiene solutions on schoolgirls' health, well-being, school experience or retention in school.

Previous studies examining the use of menstrual hygiene products, such as sanitary pads and menstrual cups, have measured self-reported uptake and self-reported days of absence from school. Findings have been inconsistent, in part due to the studies' reliance on self-reported use of products and because they have been unable to take into account the additional factors that potentially influence school attendance. Further studies are thus required to better characterize the behaviours under study, the school and home environment (including WASH and socio-economic status), and other social factors that influence schoolgirls' health, well-being and schooling experience. Moreover, data are required at baseline and during follow-up to measure comparability between intervention and control groups and to control for differences between 'study arms' (where interviewees are assigned to different interventions – in this case, the three 'study arms' were menstrual cups, sanitary pads or usual practice).

To capture environmental, social, personal, schooling and biological data requires an array of survey tools, using a variety of methodological approaches. The design, development, testing and refinement of such tools are outside the scope of many studies. This is further complicated by the need to access girls at home and at school to understand their socio-economic and environmental context and to gather key data, such as the reason for school drop-out. The KEMRI/CDC Research and Public Health Collaboration in western Kenya is uniquely situated to facilitate this, with a research infrastructure supporting demographic, epidemiological, social science, clinical and laboratory-based studies. Their health and demographic surveillance system (HDSS), located in a rural Kenyan population, routinely generates household-level data.

The research team was awarded a UK Medical Research Council (MRC)/UK Department for International Development (DfID)/Wellcome Trust grant through the Joint Global Health Trials scheme to examine the acceptability, feasibility and safety of alternative menstrual hygiene solutions for rural Kenyan primary schoolgirls.

Research methods

Design: A cluster randomized controlled 3-arm 'proof of concept' feasibility study was conducted among 750 primary schoolgirls, aged 14 to 16 years, in grade levels 5 to 7 (including follow-up throughout grade 8), in 30 schools in rural western Kenya. This mixed-methods study is nested within the HDSS, which facilitates full characterization of participants and allows evaluation of reasons for loss to follow-up (e.g., due to migration or school drop-out) at household level. School is the unit of randomization and schoolgirls are the unit of assessment.

Preparatory methods: Sixty-two primary schools in one of the three HDSS study locations underwent a cross-sectional WASH survey at baseline. Thirty schools were selected based on WASH eligibility criteria. Representatives from these schools attended a randomization ceremony and participated in the randomization process to define to which study arm their



Girls in rural western Kenya were taught to use netbook computers for use as survey tools.

school would be allocated. Parent and pupil meetings were held to discuss the study prior to obtaining informed written parental consent at home and participant assent at school. Information included clinical signs of toxic shock syndrome and how to rapidly access care.

Enrolment: Enrolled girls fulfilled eligibility criteria of target grade level, age and resident status, had experienced three or more menses, and had no disability preventing participation. Parental consent and girls' assent were required. Girls were taught to use survey tools (including netbook computers) and received training for the use of a menstrual hygiene intervention (including written materials on menstrual cup use and care), depending on the study arm to which they were assigned.

Intervention and follow-up: Intervention materials were provided by nurses after baseline screening (see below), and girls were followed up at school over a full academic year. School focal point teachers assist with communication between nurse visits. HDSS village reporters visit houses of girls who have stopped attending school to document reasons for loss to follow-up from the study. Unannounced visits each school term by a WASH team documented, observed and reported school WASH parameters and produced headcounts of pupils present on the day. Retrospective reviews of school registers from the day of the unannounced visit, plus additional cross-school time-points generate presence and absence of pupils. Baseline and follow-

up focus group studies have been undertaken among participant girls, parents and teachers in each of the three study arms, with a minimum of two focus groups per arm, before, during and at the end of the study.

Research tools/instruments

Enrolment form: Survey form recording eligibility criteria, linked with HDSS household files to verify residency status and parental consent.

Study log: Ongoing register of consents, assents, enrolment, intervention provision, withdrawals, school transfers, loss to follow-ups and other events impacting study; contains separate sections updating the number of each of the forms (listed below) completed, and the number of laboratory tests conducted.

Girls' baseline confidential survey: Collects data on strategies used for MHM, family members and home life, absenteeism from school and reasons, lifestyle choices, including self (and school friends') alcohol and cigarette consumption, sexual and reproductive experiences, enjoyment of school, and work commitments outside school.

Girls' routine survey: Absenteeism from school (and reasons) in previous month and during recent menstruation, menstrual problems, and use of menstrual hygiene products.

Pediatric Quality of Life Inventory (PedsQL) well-being survey: Standardized well-being screening tool; one generic tool has 7 items providing a general well-being overview. A second more detailed survey instrument covers 23 items on school experience, personal feelings, physical status and friendships.

Menstrual calendars: Comprise (a) a calendar month page, where girls circle dates of menstruation, note absence from school and report dates of school missed and reasons for absence; (b) individual pages for each day of recent menstruation, where girls record menstrual experience, product used and any problems.

School nurse baseline and routine screening: Documents previous menstrual cycle, problems encountered, use of menstrual hygiene products and time taken off from school. Nurses screen symptomatically for reproductive tract infections.

School nurse menstrual cup form: Viability check of physical condition of cups, including smell,

colour, structural integrity and tail size.

School WASH survey: Records school informant-reported and survey team-observed WASH indicators, including availability of latrines, water and handwashing soap, as well as privacy of facilities for menstruating girls and space available for changing and cleaning. Also records headcount of children present at school at time of unannounced visit.

Home WASH survey: Records informant and survey team-observed WASH indicators, including availability of latrines, water, handwashing soap, as well as types of menstrual products used by female inhabitants.

School registry: Matrix checklist of all pupils to mark their status as marked on school registers.

Laboratory logs: Confidential laboratory-confirmed diagnoses of reproductive tract infections are recorded on logs and linked with girls' ID numbers to ensure clinical follow-up. HIV testing and counselling of participants is also recorded. A log of the results of staph aureus screening was used to randomly select a sample of girls to evaluate the prevalence of toxic shock syndrome toxin among girls in each study arm with a positive swab. A log of mooncup replacements facilitates sampling of cups to test bacterial growth in swatches of cups used for specified time periods.

Focus group guides: Provide outline of dialogue and probes of key issues, which are further developed iteratively to capture emergent themes.

Log of all costs: Ongoing spreadsheet aggregating research and community costs incurred.

MHM Interventions

Non-arm, cross-school interventions

- Puberty education is provided pre-intervention (after baseline focus groups are complete) to all girls in all target classes, before baseline screening.
- Powdered soap is provided to all schools to facilitate handwashing with soapy water.
- All girls are provided with individual bars of handwashing soap each screening session (approximately monthly).

Interventions for specific randomization arms

- Menstrual cups: Girls receive one mooncup each for

the duration of the study (menstrual cups can last up to 10 years). These silicone bell receptacles are inserted into the vaginal canal, collect menstrual flow, and are emptied and reinserted. Time between emptying varies and this detail has been captured in the menstrual calendars. Washing after emptying is not necessary but cleansing after menstruation finishes is required. Girls are taught to wash their hands before insertion and removal and to boil their cup for full cleansing after each menstruation, before storing in a cloth bag between periods. Girls are instructed not to share cups but are questioned privately as to whether they have done so. Screening questions (nurse and girls' surveys) have generated data on these behaviours. Girls are required to report dropped cups to their nurse who instructs on how to proceed with replacement if necessary.

- Sanitary pads: Girls receive 2 packs (16 pads) of a common brand pad per period. Girls are questioned (nurse and girls' surveys) on the number of pads used. Girls are requested not to share pads but are questioned privately as to whether they have done so.
- Usual practice: Girls receive small stationery items (i.e., pencils) each period. Girls are questioned on what traditional materials (such as cloth and bedding, but also includes pads if they have been bought) they have used each month.

Monitoring tools/instruments

The feasibility study required the capture of a wide variety of social, behavioural, environmental and health data. The type of instruments used to capture information in this study have been chosen to facilitate research in dispersed rural schools, with the capacity to capture repeat measures for longitudinal follow-up, and linkage with HDSS identifiers to enable home visits if required.

- Survey tools have predominantly been designed to capture information using robust field netbook computers. Survey questionnaires are designed first on paper, translated and back-translated for consistency and language checks, pilot tested and amended, then developed as a computer-based form. Girls were taught how to use netbook-based forms prior to baseline screening.
- Each nurse team has two to three netbook computers for use in her study schools. These are used to record the school nurses' baseline and routine screening tool, girls' baseline confidential survey, girls' baseline and routine surveys, and baseline

and quarterly PEDSQL well-being surveys.

- The WASH team separately have netbooks for their baseline and follow-up school surveys, and for their WASH home surveys. Data are downloaded from the field netbooks onto the central server at KEMRI/CDC research offices.
- Girls' self-completed menstrual calendars are paper-based. At nurse follow-up girls submit their previous calendar, which supports recall during nurse screening, and receive new calendars for the following month. Calendars are then shipped to the KEMRI/CDC research office for scanning into a computer-generated data file for separate analysis.
- Focus group instruments are standard paper-based study guides used by the trained study moderator. Handwritten notes are taken by a trained note-taker with backup from a tape recording of the discussion. The recordings are transcribed verbatim and translated word for word into English prior to data analysis.

Monitoring/evaluation period

- The study was originally designed to last 18 months, with 12 months' monitoring/evaluation of girls and their use of menstrual hygiene products. However, school strikes compromised the timeframe, and our study received a no-cost extension to continue for three more months. This maximizes the number of participants who will have been monitored throughout one full academic school year.
- Focus groups are conducted among participants, teachers and parents/community, at baseline and at two time-points during the intervention.
- Nurses visit their allocated schools weekly to monitor individual participants, aiming to screen each girl at least twice (ideally monthly) per term. Girls complete their own netbook survey at the same nurse screening session.
- Unannounced visits to evaluate school WASH and perform headcounts took place at baseline and have continued at least once per term, over 18 months. Retrospective school registry checks are performed at the end of each term.
- Girls complete menstrual calendars each month.
- PEDSQL well-being surveys were conducted at baseline and continue at quarterly intervals throughout the study.

Evidence used to influence practice/ programme or policy

By the end of the study researchers anticipate generating data on:

- The provision of menstrual cups to schoolgirls and whether they are a cost-effective and safe alternative to traditional practices or expensive branded and environmentally unsustainable sanitary pads.
- Issues around the provision of branded disposable sanitary pads for schoolgirls (as this is currently the planned policy of Kenya and other governments and is the policy already being rolled out in India).
- The ability of schools to maintain WASH for girls' menstrual hygiene needs, and girls' personal experiences of WASH in school.
- The unmet sexual and reproductive health needs of schoolgirls and their relationship to girls' menstrual needs.
- The types of routine monitoring data required to examine the safety and efficacy of MHM for girls in schools.

Successes and challenges

Successes

Participation at school level: Goodwill of the community, ministries, school staff, parents and participants facilitated the study's successful implementation. No schools withdrew.

Participation at individual level: Parental refusal and withdrawal was minimal; screening data were collected per protocol, including laboratory-based components, following standard operating procedures.

Ability to use survey instruments: Participants learned how to use netbooks and were able to complete forms using this technology. The quality of responses will be compared with paper-based responses (such as the calendar), face-to-face questioning by nurses, and other objective information, for example, from school registers, and physical checks of changes to the mooncups after use.

Use of menstrual cups: Despite the funding agency having reservations about conducting a formal trial on an insertable product for acceptability, use and safety reasons, the refusal rate among parents and participants was low and the usage of menstrual cups

has been documented. Qualitative data suggest that menstrual cups are both acceptable and preferable to alternative methods of menstrual hygiene management for some girls and their parents.

Challenges

Rural dispersed population: The study covers an area of 500 km.² Nurses were required to cover all 3 arms of the study, with some schools at a considerable distance from each other. Vehicles could not be allocated per nurse so nurses were taught to drive motor bikes, with compulsory refresher courses to maximize their safety. Some nurses had minor accidents, the motor bikes brought challenges for carrying equipment, and some netbooks were damaged.

School screening: Schools closed for holidays; there were also school strikes and election closures. On a school-to-school basis schools closed for events such as sports days, and screening could not take place around exam time. Nurses had to adapt their hours of work particularly for final year participants as some girls could not leave class to meet with them for screening. Use of mobile phones facilitated communications.

Sample size: The numbers of girls reaching menarche and experiencing three menses at primary schools was less than estimated due to younger pupils following the introduction of free school fees. The number of schools was increased from 15 to 30 and rolling enrolment was allowed in order to capture girls once they experienced their third menses.

Reasons for participant loss: Defining loss due to endpoints (school drop-out, pregnancy, withdrawal) in contrast to loss due to migration (school transfer, moved elsewhere) has required house-to-house verification for each participant, which has been time-consuming.

Use of menstrual cups: Considerable effort was required to ensure information was widely distributed

to parents and participants with a strong interface to allow questioning and dialogue, including with regard to rare severe events such as toxic shock syndrome. Numerous qualitative and quantitative data points were generated throughout the study, with rapid appraisal of data to monitor acceptability, use and safety. Screening was detailed and repeated frequently. An infrastructure was developed to maximize capture of potential toxic shock syndrome and required good communication with participant homes, schools, nurses and health facilities in this rural dispersed population.

Recommendations for adaptation of tools/instruments

The instruments used can be pared down for future research, as evidence demonstrates which data points are relevant and which are less relevant. Some ways of questioning were found to be less successful, for example, hypothetical questions and questions with dual scenarios. Duplicate questions asked directly to participants and through nurse screening were invaluable to identify where girls are hesitant to provide facts in face-to-face screening with adults. This added substantially to the screening time, however, and such duplication could be reduced in future studies. Questioning participants on the same issue but in different ways also generated information on which methods of questioning are more successful.

The use of netbooks was successful, but netbook security, maintenance and adaptation of questions (which requires removing the netbook from the field for updating) could be improved.

Requests have been made to utilize the study's information sheets and guides for use of menstrual cups. The researchers would first like to ask participants who are now experienced users to help improve the guides.

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●●● Kenya

Situating menstrual hygiene management as a point of intervention to increase retention in school and knowledge of sexual and reproductive health

Organization/Agency/Country

Huru International, New York, USA and Nairobi, Kenya

Context

A number of situations affect menstruating girls and put them at risk. These situations include:

- family living conditions
- perceptions of menstruation among peers and family
- girls' knowledge about menstruation
- lack of a support system at home and in school
- incorrect or limited information about HIV/AIDs

Research methods

Sample sizes varied, ranging from 500 to 2,000 students, depending on the size of the project. Two hundred schools participated (n=200). The schools included both primary and secondary schools from various parts of Kenya. The research methods included questionnaires and focus group discussions.

Samples for the various studies comprised schoolgirls aged 10 to 21 years, with a mean age of 13.29 years. They were in various grades, ranging from grade 4 to 12, with a mean of grade 7.

Relevant research tools/instruments

Questionnaires – both self-administered and with the aid of research assistants – covered the following areas:

- Bio-data (a girl's name, age, whether she has reached menarche, the name of her school and her parents'/guardians' names)
- School grade
- Ability to access sanitary wear
- Retention in school during menses
- Factors that cause absenteeism during menses

- Level of HIV knowledge
- Risk perceptions among beneficiaries
- Self-esteem
- Primary communication tendency (the person a girl communicates with most, especially when she is experiencing problems or challenges)

MHM interventions

- Provision of reusable sanitary pads
- Training on menstruation, hygiene, HIV and sexuality education
- Referrals (Toll Free Youth Hotline and local facilities offering voluntary counseling and testing services)

Type of monitoring tools/instruments

Baseline and end line questionnaires, quality assurance visits, and question and answer method were used.

Monitoring/evaluation period

6 months

Evidence used to influence practice/ programme or policy

The research has established:

- The diverse ways girls have adapted to manage menstrual flow
- The wide range of factors that lead to absenteeism from school during menstruation and to the lack of sanitary wear
- The preferred communication tendencies among girls
- Girls' risk perceptions, and how perceptions have or have not influenced their behaviour



Girls at a school in Kenya receive Huru kits that include reusable sanitary pads as well as information and resources essential to sexual and reproductive health.

Successes and challenges

Due to the ages of the participants, data could only be collected on topics authorized by the authorities. Prior to data collection, appointments were required with school heads, the purpose of data collection had to be communicated, and consent had to be sought from the teachers in charge.

Recommendations for adaptation of tools/instruments

Tools should evaluate more than the provision of

basics such as sanitary wear. Tools should evaluate other aspects of MHM interventions, including:

- Provision of girls' underwear, soap and/or other hygiene products
- Strategies to clear up myths about menstruation among beneficiaries, peers, family and communities and to create family and peer support for girls during menses
- Improvements to sanitation facilities in schools and living conditions at home

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●●● Mali

Menstrual hygiene management in schools – Exploring knowledge and materials

Organization/Agency/Country

Center for Global Safe Water, Emory University,
Atlanta, USA

Context

Emory University, in partnership with UNICEF and Save the Children, is undertaking a qualitative study on MHM in schools in Mali. The primary goals of the research are to:

- Highlight the unique challenges faced by girls in urban and rural settings in Mali in order to assist the development of future WASH interventions.
- Gather formative information on the challenges of current MHM products, and explore the feasibility and cultural appropriateness of several MHM solutions to inform a trial to be conducted by Save the Children.

- Understand girls' knowledge of puberty and menstruation in order to offer recommendations for the development of educational materials.

Research methods

Research will take place in two regions of Mali. Four schools will be selected in each region, covering both urban and rural settings. In each school researchers will conduct one focus group discussion (FGD) with up to 6 girls and in-depth interviews with 4 girls. Girls will be between the ages of 13 and 17 years and in fifth to seventh grade. Respondents from the three main ethnic groups (Bambara, Peuhl and Senoufo) that make up 80 per cent of the population of Mali will be included. FGDs with up to 6 mothers from each school and key informant interviews with teachers will also be conducted.



These girls from the N'Tibougou school hygiene club take turns with the boys washing school latrines in Gongasso, Mali.

Research tools/instruments

The focus group discussion guides are adapted from the guides used in the UNICEF/Emory multi-country study. Key adaptations to these research tools include a focus on both girls' and mothers' knowledge of puberty, as well as exploration of the level of information and preparation girls had before the onset of their menses.

The study tools include an interactive exercise where girls are given samples of the menstrual hygiene materials they report using, including cloth, pads and other materials that emerge during piloting, to facilitate a discussion of the advantages and barriers to using each product. Researchers will also present three alternate products during both girls' and mothers' FGDs: Diva cups, Makapads and Afripads. Researchers will explain how each one is used, give the groups the opportunity to examine them and facilitate a discussion around perceived benefits, problems and cultural acceptability.

MHM interventions

n/a

Monitoring tools/instruments

n/a

Monitoring/evaluation period

n/a

Evidence used to influence practice/ programme or policy

Data from the study will be used to present a picture of the material and social challenges that girls face in managing menstruation while in school, as well as any gaps between girls' actual and desired level of information to help them prepare for and manage the onset of their menses. Study partners will use this information to advocate for sufficient WASH services at schools and increased puberty and menstruation education, both with the government and other stakeholders.

Successes and challenges

n/a

Recommendations for adaptation of tools/instruments

n/a

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●●● Nepal

Knowledge, attitude and practice of menstrual hygiene management among out-of-school adolescent girls in Saptari District

Organization/Agency/Country

Nepal Fertility Care Centre (NFCC), Kathmandu, Nepal

Context

This pilot project was implemented to better understand menstrual hygiene management (MHM) needs in a non-formal education programme implemented by UNICEF Nepal for out-of school adolescent girls from disadvantaged groups in Saptari, a rural district in the Eastern Terai.

Research methods

Baseline and endline surveys were conducted to assess MHM and Sexual Reproductive Health (SRH) awareness. Although the pilot was not a formal research study, the baseline and endline data helped researchers understand the knowledge, attitudes and practices prior to and after implementation of the pilot.

The baseline sample size was 55 girls. The sample comprised girls who were attending non-formal education classes at the Global Academy of Tourism and Hospitality Education (GATE) centres and who were “willing” to answer the questionnaire. The endline sample size was 90 girls. It comprised all girls who were trained as “community change agents” during the pilot project. All girls were adolescents (14 to 18 years of age). The difference in the baseline and endline numbers is a clear indication of the success of the pilot. Following the training, the 90 adolescent girls were more comfortable speaking about SRH and MHM.

Research tools/instruments

Questionnaires and focus group discussions were the primary tools used to measure girls’ knowledge of MHM and SRH. The same tools were used for the baseline assessment and for the endline survey.

MHM interventions

Forty-five GATE centres in 15 village development committees (VDCs) of Saptari District were selected

as pilot project sites. The girls attending these non-formal centres were out-of-school adolescent girls from disadvantaged groups or marginalized communities. A baseline survey was conducted in these centres exclusively among those girls willing to participate. From these girls, two girls exhibiting leadership skills were selected by supervisors from each centre to participate in the “community change agents” training. During the training, 90 adolescent girls from the 45 centres were educated on sexual and reproductive health with a focus on MHM. The girls were also taught how to stitch reusable sanitary napkins and how to speak about SRH and MHM with their peers. A final component of the training focused on basic business skills. Following the training, the girls returned to their homes and were monitored by the project field officer. All trained girls were included in the endline survey to assess the change in their knowledge, attitudes and practices as well as the impact of the training on their personal lives.

Monitoring tools/instruments

A system of active monitoring was in place. Regular field visits by the designated field officer individually or in conjunction with the education program supervisors were conducted. Formal field reports with programmatic and monitoring updates were submitted on a monthly basis. The beneficiaries’ assessment was conducted at the end of the pilot to understand its impact on the lives of adolescent girls; the assessment was an important part of the endline survey.

Monitoring/evaluation period

Six months

Evidence used to influence practice/ programme or policy

The key findings of the pilot were:

- The need for community level MHM programmes targeting adolescent girls and women.
- The need to make menstrual hygiene products



Adolescent girls and women in Afghanistan offer feedback on the usefulness of hygiene kits.

available, accessible and affordable for adolescent girls and women in Nepal.

- The need for assistance and support in setting up of small-scale sanitary napkin manufacturing businesses at the community level.

The findings have been shared with stakeholders in relevant Government departments as well as the donor community in Nepal.

Successes and challenges

Successes

- The integration of the pilot into an existing program removed start-up problems.
- Nesting the pilot into the education program ensured acceptability from the community.
- The success of the pilot has ensured expansion of the project to more VDCs within Saptari District as well as two neighbouring districts, Rautahat and Dhanusha.

Challenges

- The limited time frame and budget prevented adequate liaison with family and community stakeholders.
- It was difficult for adolescent girls to start small-scale manufacturing businesses due to financial and personal constraints despite exhibiting a strong interest and motivation to do so.

- The MHM challenges related to WASH included the absence of toilets and running water, which are integral to ensuring acceptable menstrual management.

Recommendations for adaptation of tools/instruments

While this project was not a research study, tools that could be adapted to other settings include:

1. Questionnaire – A basic qualitative questionnaire covering knowledge, attitude and practices related to MHM and SRH was developed. This questionnaire was used as the primary tool to gauge the change in level of awareness and uptake of recommended good practices among out-of-school adolescent girls.
2. Focus group discussion – A keyword guide was used to facilitate the focus group discussion conducted with girls who were studying at the GATE centres. The Focus Group Discussion focused on knowledge, attitude and practices on MHM and SRH.
3. Sexual and Reproductive Health (SRH) Kit – The SRH Kit was an important tool used by each newly inducted community change agent to use while educating their peers on MHM/SRH. The SRH Kit consists of samples of locally available reproductive health products.

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Organization/Agency/Country

UNICEF Country Office, Kathmandu, Nepal

Context

The UNICEF Country Office in Nepal and the Department of Education (DoE) were funded to assess the current status of water, sanitation and hygiene (WASH) in 45 Nepalese schools. This WASH in Schools Situation Baseline Analysis covered both primary and secondary schools, with MHM issues a focus of the assessment in secondary schools (n=18).

The DoE school hygiene education packages have included MHM since 2011. In addition, hygiene education packages cover topics such as handwashing with soap and water, sanitation and hygiene activities in schools, including peer-to-peer education and monitoring of hygiene-related activities in schools by children. Nevertheless, most school sanitation programmes do not properly address the MHM of adolescent girls in schools. In most schools, girls remain uncomfortable using toilets during their menstruation. Hardware facilities in schools are not very girl-sensitive and there are very few incinerators/sanitary pad waste bins. The DoE has developed gender-friendly latrine designs, but most toilets do not have locks to ensure privacy. Also some toilets do not have high enough walls to ensure privacy, so girls end up not using toilets for defecation or to change cloths or sanitary napkins.

Women and girls need to change their sanitary napkins three or four times a day during menstruation, especially during the first three days of a period. The vast majority of women and girls in Nepal use rags, which are usually torn from old saris, known as taloo, instead of sanitary towels/napkins. Rags are washed and used several times. There is no private place to change and clean them and often girls need to walk far from their homes to wash them properly. A culture of shame and embarrassment surrounding menstruation forces girls to seek well-hidden places even in their homes to dry the rags. These places are often damp, dark and unhealthy.

Research methods

This study was based on primary and secondary data. A

total of 45 sample schools (27 primary and 18 secondary) were included in the study from three districts: Dolakha, Doti and Sunsari. Primary data were collected via observation, questionnaires, interviews and focus group discussions. Students, head teachers, health teachers, female teachers, School Management Committee members, Parent Teacher Association members, Resource Persons (who work under the DoE to facilitate and monitor different education indicators) and DoE officers served as informants. Secondary data was drawn from a review of curriculum, textbooks and policy documents.

District sampling: For data collection from the field, three districts were sampled, representing the three ecological regions of the country (mountain, hillside and Terai/plain). Sampling was conducted in consultation with the Thematic Working Group of the DoE. No MHM study to date examines how the Terai, mountainous and hilly districts differ on social norms related to MHM. Generally MHM is considered strictly taboo in all Nepali regions. But it is commonly known that the two highest castes, Brahmins and Chhetri, are the strictest for women during their menstruation. Menstruating women are kept in separate rooms or in cattle sheds in rural areas. They have no mobility and have no right to come out even to eat, so food is mostly passed or thrown to them by family members.

School sampling: A total of 15 schools were sampled from each of the selected districts, representing different geographical locations within the district. This selection was done in consultation with the District Education Office (DEO) of the respective district, and the sample schools were visited with the support of an assistant assigned by the concerned DEO. Both the Basic (primary/lower secondary) and Secondary (higher secondary school) categories were covered in the sample schools, as presented in the table below.

Distribution of schools sampled for field visit

School level	Doti	Dolakha	Sunsari	Total
Basic (primary/lower secondary)	9	9	9	27
Secondary (higher secondary)	6	6	6	18
Total	15	15	15	45



Nepali schoolgirl

Relevant research tools/instruments

The research tools were developed in consultation with the WASH Thematic Working Group under the DoE. They were pre-tested in a school at Champadevi, Kirtipur, Kathmandu in order to assess the extent to which they were comprehensible for the informants (particularly the students). In pre-testing, students were comfortable responding to the tools and had no difficulty understanding the phrasing of the questions. After pre-testing, the tools were finalized for application in the field. The following tools were applied during the fieldwork:

Questionnaires

- *Questionnaire for female teachers* included sanitation, hygiene and menstrual health practices (45 female teachers were interviewed).
- *Questionnaire for health teachers* included knowledge and practice related to water, sanitation and hygiene, and teaching of this content.
- *Questionnaire for students* included knowledge and practices related to hygiene and sanitation among students (396 students participated in the survey, 180 of them from secondary schools).

Observation check-list

This tool was used to identify the situation and quality of existing WASH facilities in schools, including girl-friendly toilets, urinals and the situation of water supply.

- A *survey form* was used to record boys' and

girls' absence from school, as per the record of school attendance.

- *Photographing* was used to determine the existing situation of WASH facilities available in schools.

Interviews

- *School Management Committees/Parent Teacher Association representatives* were interviewed regarding their perceptions of existing WASH in schools.
- *Head Teachers* were interviewed to understand the operation and maintenance of WASH facilities in school.

Focus Group Discussions

- *FGDs with girls who had begun menstruation* were held to learn the practices of menstrual hygiene-sanitation in school and in their personal life.
- *FGDs with child club members* were held to learn the situation of water, cleanliness and use of toilets and urinals, and overall management of sanitation in school.

MHM interventions

n/a

Type of monitoring tools/instruments

n/a

Length of monitoring/evaluation period

The length of the study was 4 months.

Type of evidence used to influence practice/programme or policy

Recommendations were made to the government through the Annual Strategic Integrated Programme (ASIP) in Nepal at the national level. The ASIP is a strategic development plan to eliminate poverty in the country. It focuses on the school-based education of marginalized ethnic groups/castes and deprived women/girls in Nepal. Recommendations made through ASIP are reviewed by government and development stakeholders during biannual School Sector Reform Plan meetings.

The primary findings included:

- Government policies and plans have given high priority to the provision of WASH facilities in schools, with a



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Nepali girls discuss menstrual hygiene management.

special focus on gender-friendly needs, but in reality 99 per cent of girls' toilets are not suitable for MHM in most schools due to the lack of water supply, wash basin soap, and a pad disposal chamber.

- School health education curricula and textbooks have provided opportunities for schools to conduct health education activities focusing on the sanitation and hygiene behaviours of students. However, most school teachers are not trained on life-skills/practical hygiene and sanitation promotion.
- 53 per cent of girls sometimes change the sanitary pad/clothes in school toilets and take it home in plastic bags. The other 47 per cent of girls throw dirty pads in the river or bush.
- Girls have a tendency not to use toilets/urinals for urination during their menstruation due to fear of leaving blood marks on the pans.

Successes and challenges

Successes

The main success of this study was identifying girls' major MHM challenges in schools for the WASH in Schools governmental and non-governmental stakeholders. MHM issues for schoolgirls were discussed in the WASH in Schools Technical Working Group, chaired by the DoE, and MHM issues were later integrated into the agenda at the 2013-2014 ASIP. MHM in schools was included in the School and Health Network

package to address issues relevant to adolescent girls with Health and Education sector specialists.

Challenges

With regard to the study, there was a lack of a clear selection methodology for schools, particularly one that takes into account the challenges faced by various ethnic groups, castes and urban/rural youth. Moreover, most schools in Nepal are not gender-friendly and not well sustained in terms of operation and maintenance. Soap consumables are very rarely donated by the government, and the provision of water in schools is a challenge in Nepal. Therefore, even if MHM issues in schools are addressed at the policy level, there will likely remain a significant gap between policy and practice.

Recommendations for adaptation of tools/instruments

For future studies, we recommend that researchers undertake a stratified sampling methodology of targeted schools to sample geographic, ethnic and socio-economic groups that might have different MHM practices. Also, we recommend ensuring government stakeholders are actively involved in the design of the research tools in order to promote acceptance of the findings. Ideally, MHM indicators should be included among general EMIS WASH in Schools indicators of the DoE.

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●●● Pakistan

Taking action on menstrual hygiene management research findings under Pakistan Approach to Total Sanitation (PATS)

Organization/Agency/Country

UNICEF Pakistan

Context

UNICEF Pakistan is implementing the Sanitation Programme at Scale in Pakistan (SPSP)-Rural, under the Pakistan Approach to Total Sanitation (PATS), which has helped more than 7 million people to achieve Open Defecation Free status since October 2010. To support the school WASH activities under the PATS programme, UNICEF Pakistan conducted a research study in 2012 on MHM among adolescent schoolgirls. The study had two distinct components – a review of secondary literature and primary data collection at schools in five districts. The study concluded that there is an urgent need to focus on the MHM needs of girls in schools, since poor MHM not only affects girls' dignity but has an impact on their learning ability. Findings demonstrated that MHM is not a priority, which in turn has a negative effect on adolescent girls' well-being. The cloth material used by adolescent girls as sanitary napkins is often unhygienic and WASH facilities in schools are not conducive to MHM. It was also found that the onset of menstruation poses multiple challenges for schoolgirls: many are uneducated about how to manage menstruation; many do not have the support or resources in schools to cope; and many reduce their participation in school or leave school altogether owing to the lack of facilities, water, and soap.

A more structured dialogue with teachers, parents, and communities was initiated to discuss how to address the problem, especially within schools. The study also sought to identify specific interventions, such as the construction of WASH facilities that support MHM for adolescent girls.

Following the 2012 study, an advanced MHM study, including action research in six schools, was carried out by UNICEF Pakistan from July to November 2013. The objective was to better understand the impact of menstruation on the education of girls so that PATS programme activities could integrate MHM into their design. MHM is a social issue that cannot be addressed by working only in schools. Thus, the follow-up study also

examines girls' sense of self-efficacy and confidence when managing menstruation en route to and in the school setting; community awareness of MHM barriers faced by girls in schools and at home; and the role of communities in enabling girls to undertake MHM.

Research methods

Advanced MHM study and action research is being carried out in six all-girl high schools in the rural areas of two culturally distinct provinces of Pakistan. Each school has 300 to 700 girl students in grades 6 to 10 between the ages of 12 and 15. This study seeks to understand the MHM-related attitudes, knowledge, and practices of these adolescent girls, specifically, how these different domains are shaped by societal/ cultural norms, environmental factors, social influences, personal perceptions, and personal biology.

Using an in-depth qualitative approach, the study asks girls to recommend intervention strategies tailored to specific cultural and environmental contexts. Based on the findings of this research, a basic package of MHM interventions will be developed and implemented as part of School Led Total Sanitation (SLTS) activities.

The study utilizes a theoretical and methodological approach that UNICEF has used in different countries, including Bolivia, Philippines, Rwanda, and Sierra Leone. An in-depth analysis across two Pakistani settings will reveal school-specific challenges and inform the development of school-based approaches suitable for implementation throughout Pakistan.

Relevant research tools/instruments

A qualitative research approach is being used. The sample used for the study was purposive and qualitative. Two different research methods – Focus Group Discussions (FGDs) and In-depth Interviews (IDIs) – are being used to collect data among different types of respondents. FGDs are being conducted with the girls in school and with their mothers living in the vicinity of the selected schools. IDIs are being conducted with

teachers, female sanitary workers (Ayas) at schools, School Management Committee (SMC) members, and relevant government officials. In addition to FGDs and IDIs, observation checklists are being used to observe latrines and other MHM-related facilities in the schools.

MHM interventions

The study will contribute by refining details for the design of the following likely interventions:

- Establishing and strengthening WASH clubs in schools with MHM mainstreaming.
- Integrating MHM facilities for schoolgirls within existing WASH facilities.
- Developing and institutionalizing mechanisms in schools for improving access to information on MHM.
- Supporting and developing the capacity of entrepreneurs to manufacture and sell low-cost sanitary napkins in schools.

Monitoring tools/instruments

A monitoring tool will be developed for personnel responsible for MHM facilities in schools, including government officials, to ensure the sustainability of MHM interventions introduced in the schools. The monitoring tool will be a basic checklist, which can easily be integrated into existing school monitoring systems. A draft checklist has already been developed.



Girls at a UNICEF-supported school in Gari Habibullah in Pakistan-administered Kashmir demonstrate proper handwashing technique.

Monitoring/evaluation period

n/a

Evidence used to influence practice/ programme or policy

The qualitative data from this study provide an overview of the current policy, planning, infrastructure, and support available for MHM among adolescent girls in schools and their communities in Pakistan. The findings also identify windows of opportunity to improve the current situation. Specifically, the study provides insight into current MHM-related knowledge, attitudes, and practices of adolescent girls in schools, offering cues for how to create appropriate messages and design effective MHM communication programmes for these girls. Evidence-based communication materials informed by this study will be used for advocacy.

Successes and challenges

The research is ongoing, and data has been collected from only one of the two sites, so successes have yet to be identified. It is expected that this study will generate new knowledge, which will be used to take practical action.

In Pakistani culture, all aspects of menstruation are considered taboo subjects. Although MHM is a shared phenomenon among women, secrecy is maintained even among female members in the same household, as well as among peers and teachers in schools. Major challenges will include how to make practical recommendations based on the study results; and how to bring MHM-related issues into the public domain, where all discussions about policy, planning, and management are dominated by men.

Another expected challenge is how to customize adolescent-girl-friendly water and sanitation facilities in schools so that they are sustainable and readily

utilized. Two additional anticipated challenges include the operation and maintenance of such facilities by duty bearers, and the sustainability of mechanisms for ensuring access to low-cost MHM-related supplies.

Recommendations for adaptation of tools/instruments

1. Pose the same question to different key respondents (e.g., mothers, girls, members of the School Management Committee, male/female sanitary workers [Ayas], and teachers) to get in-depth information for the purposes of triangulation.
2. Extract maximum information through active listening.
3. Form purposive FDGs, especially by grade.
4. Ask participants in FDGs to propose solutions to problems they face.
5. Elicit girls' preferences by showing them actual MHM-related items (such as sanitary materials).
6. Use good facilitation and show pictures of different facial expressions to elicit engagement from girls in FDGs.
7. Use local language and local expressions.
8. Talk to adolescent girls about a favorite TV series to build rapport with them.
9. Do not ask a school teacher or head teacher to supervise discussion because it diminishes the chance for discussion.
10. Do not interview a member of the School Management Committee (e.g., a parent) in the presence of a teacher, because the committee member often feels obliged to praise the teacher and school.

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●●● Philippines

Qualitative research to identify challenges to MHM among schoolgirls in metro-Manila and South Central Mindanao

Organization/Agency/Country

Save the Children in partnership with Emory University, Atlanta, USA

Context

Formative research undertaken by Emory University and UNICEF in the Philippines in 2012 identified various challenges related to girls' management of menstruation in schools and demonstrated that practices and beliefs have an impact on girls' participation in school. This research was conducted in Masbate in the Visayas island group, as well as in one school in Manila.

Save the Children partnered with Emory University in 2013 to undertake similar research in two other locales on the islands of Luzon and Mindanao. The schools selected for this second round of research were in areas where Save the Children is engaged in programming. The schools selected offered samples that included 1) populations living in urban slums of Metro Manila in Luzon and 2) Muslim and Indigenous Peoples (IP) populations of South Central Mindanao. The second round of research in 2013 was conducted to inform Save the Children's interventions in schools and communities in Metro Manila and South Central Mindanao.

Research methods

The 2013 research involved a qualitative study and similar methods to those employed in the 2012 research. Six schools were purposively sampled for the research, including two elementary schools and one high school in Caloocan in Metro Manila and two elementary and one high school in the Sultan Kudarat, Bagumbayan and Tboli municipalities of South Central Mindanao.

In each of the six schools, focused groups discussions (FGDs) with up to eight girls (ages 11-16) who had begun menstruating took place. Six in-depth interviews (IDIs) with girls, across the three schools in South Central Mindanao, were also conducted as an iterative step. In each school, FGDs with up to eight boys also took place. In each school, key informant interviews (KIIs) with school

teachers were carried out one-on-one to allow teachers to share their personal experiences and opinions. IDIs, FGDs and KIIs in schools were digitally recorded and transcribed for analysis. Teachers who had adequate knowledge of school facilities and systems facilitated surveys of school facilities in each school. Separate FGDs with students' fathers and mothers were carried out in groups of up to six participants in one location in South Central Mindanao. Five Save the Children staff from Metro Manila and three from South Central Mindanao were also interviewed.

Research tools/instruments

Qualitative research tools developed by Emory University for the 2012 research were reviewed, piloted and adjusted to ensure key information on domains of interest was collected, as follows:

- For the girls' IDIs and FGDs, the domains of interest were girls' practices and attitudes regarding menstruation; resources for managing menstruation, including school WASH facilities; the support they had; and recommendations for addressing challenges.
- In the boys' FGDs, the domains of interest included information on school WASH facilities, their knowledge and attitudes about menstruation; social norms; and perception of girls' experience.
- Tools for the teachers' KIIs assessed local beliefs and practices; opinions on school facilities; curriculum that addressed menstrual hygiene or puberty; teacher capacity and comfort with menstrual/ puberty education; and opinions on addressing menstrual hygiene in schools.
- The guide for the mothers' FGDs included questions on experience and management of menstruation; mothers' understanding of their daughters' experience; social attitudes and beliefs; and recommendations for school programmes. They also included how mothers spoke to all their children about menstruation, not just girls, as the transmission of knowledge to boys was also important.
- Facilities observations focused on WASH facilities, and tools for this were adapted from the *UNICEF*

WASH in Schools Monitoring Package, 2011. The observation tool included a closer look at waste management after observing that many schools practiced waste segregation and that it might have an impact on how girls dealt with disposing of menstrual materials. The observations also included information about the location of toilets, as this influenced use and access for both boys and girls.

New tools developed for this research included the fathers' FGD guide and a questionnaire for Save the Children staff:

- The FDG guide for fathers included questions on fathers' knowledge and attitudes to menstruation; their understanding of their wives' and daughters' experience; and recommendations for school programmes. The tool guides for fathers also assessed how fathers spoke to their children about menstruation and included how men communicated with their partners about menstruation.
- The questionnaire for Save the Children staff included questions on services provided to girls; their needs; and opportunities in the Save the Children programme to address girls' menstrual hygiene management challenges.

The data was analyzed to identify challenges around the four pillars of Save the Children's school-based health and nutrition programme, including 1) skills-based health education, 2) school-based delivery of health services (access of materials and consumables), 3) safe school environment and physical facilities, and 4) community support and the school health and nutrition policy.

MHM interventions

n/a

Monitoring tools/instruments

n/a

Monitoring/evaluation period

Research and analysis was carried out between May and August 2013.

Evidence used to influence practice/ programme or policy

Findings related to skills-based health education revealed that girls do not receive comprehensive information

on managing menstruation at home or in school. Biological and hygiene information is often confused with cultural beliefs and practices. Teachers do not have the training or resources to adequately teach on the subject of menstruation and adolescence.

Biological and hygiene information is often confused with cultural beliefs and practices.

Schools lack the space, funding and resources for health services or to adequately stock or staff clinics, thus denying girls access to pain medicines for cramps or headaches associated with menstruation, or for iron supplements or space to rest. In Manila, sanitary napkins are not available in schools. Lack of affordable and accessible menstrual management options that provide adequate protection from leaks affects girls' concentration, sociality and attendance in schools. Limited hygiene management can cause issues with odor.

School environments lack clean, functional, sex-segregated toilets where girls can manage menstrual hygiene with privacy and dignity. Lack of systems for operation and maintenance of facilities contributed to non-functional toilets and unreliable water supply. Stigma and teasing related to menstruation cause girls stress, embarrassment and shame, impacting social health, participation and attendance.

With regards to community support, teachers were found to be crucial for addressing issues around menstrual hygiene in schools. However, they felt ill prepared to talk to students about menstrual hygiene without support from a health worker or nurse. Parent-teacher association members are interested in helping students learn about puberty and menstruation. Similarly, the government education department expressed interest in supporting schools.

While there were many similarities in the challenges experienced by girls in South Central Mindanao and Manila, some key differences were found. In Mindanao, there was a much lower toilet-to-student ratio, but fewer sex-segregated toilets than in Manila. Girls in Mindanao were more easily able to access sanitary napkins at school, the preferred method of menstrual management in school, but girls in both areas faced barriers because of



Most schools in the Philippines lack clean, sex-segregated toilets where girls can manage menstrual hygiene with privacy and dignity. These schoolgirls are from Santo Nino Elementary School in Tanauan.

affordability. Girls were willing to wear homemade cloths in their homes, but less likely to attend schools when these were their only option for menstrual management.

Culture was a source of other key differences. Muslim girls had to wash their menstrual management materials before disposing of them (sanitary napkins) or using them again (homemade clothes). T'boli and Muslim beliefs pointed to more stringent restrictions for girls, including reduced interaction with boys and strong taboos against men seeing any materials associated with menstruation.

Successes and challenges

The research successfully identified challenges faced by school girls in Metro Manila and South Central Mindanao, using tools from the formative research. These findings will be used by Save the Children to advocate for addressing the needs of menstruating girls in schools in Caloocan and South Central Mindanao. In addition, it will inform Save the Children's interventions in schools in these areas.

As the study involved in-depth qualitative data collection in a local dialect, which was then translated into English, the research team was limited with regard to the number of schools that it could sample in the timeframe between

May and August 2013. A total of seven schools were visited and six full sets of data were included in the data analysis. In Metro Manila, no parent interviews or FGDs were completed due to time constraints. Moreover, national-level interviews with members of the government departments of education and health and of the private sector were originally planned but could not be undertaken due to time limitations. This resulted in limited triangulation of information beyond the school, Save the Children and the community. National-level interviews will contribute to efforts to identify existing resources in the education system, in Save the Children, and in the community that can serve as a foundation for programming and ensuring community involvement. Greater and more focused investment is anticipated from results-sharing with stakeholders in the schools.

Recommendations for adaptation of tools/instruments

The facilities observational tool could be adapted to better assess the location of toilets and handwashing stations, as well as to assess whether handwashing stations are available or if students rely on water in the toilet both to flush and wash their hands. Surveys/key informant interviews with teachers should include a look at lesson plans or teachers' guides to assess actual lessons being taught on menstruation rather than simply relying on self-reporting. This requires more cooperation from schools and could be accomplished by leaving a survey with teachers during the initial reach-out to schools. A review of lesson plans would also provide a formal evidence base on resources of teaching tools that are being used and would assist adaptations for future use by the Department of Education and other authorities.

In addition, the research tools could focus more on how schools address bullying associated with puberty and life changes signaled by menarche and what participants think should be done to address it. Understanding policies and practices related to this will also better inform future adaptations to programming.

Finally, given the in-depth nature of the research, in future, questions included under the domains of interest should be prioritized based on local contexts so that the research teams are able to address them within their particular time constraints.

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●●● South Africa

Menstrual hygiene management practices in three high schools of eThekweni Municipality – An exploratory study

Organization/Agency/Country

Pollution Research Group, University of KwaZulu-Natal, Durban, South Africa and

Program for Appropriate Technology in Health (PATH), Seattle, USA

Context

There is a growing interest in exploring the impact of menstrual hygiene management (MHM) on sanitation systems in low-income countries, and the linkages between MHM and sanitation (Kjellén, et al., 2011). Under a grant led by Dr. Vivian Hoffmann from the University of Maryland, multiple partners including PATH, Stockholm Environment Institute (SEI) and the University of KwaZulu-Natal (UKZN) collaborated in researching the intersection of MHM and sanitation systems in both South Africa and India from 2011 to 2013. Studies have shown that inappropriate disposal of sanitary products can result in failure of sanitation systems, such as blockages of pipes (Bharadwaj and Patkar, 2004). A global survey on management of sanitation systems conducted by SEI found that menstrual waste is a key contributor to failures in waterborne sanitation systems (Kjellén et al., 2011). This in turn accounts for a considerable increase in operation and maintenance costs of sanitation facilities with significant implications for developing regions. In addition to understanding the impact of MHM on sanitation systems, issues of safety, privacy and cleanliness linked to managing schoolgirls' menstrual periods affect women's interactions with sanitation systems (Moe and Rheingans, 2006). Although some progress has been made in this direction, there is a knowledge gap in issues of how school sanitation systems have an impact on menstruation and hygiene behaviour of young girls. This is compounded by the fact that sanitation facilities in schools often do not address the MHM needs of the female learners (Nahar and Ahmed, 2006).

Within South Africa a sub-study involving schools was led by UKZN in collaboration with PATH. The eThekweni Municipality within KwaZulu-Natal province of South Africa was keen to work alongside the research partners

in order to understand how sanitation systems were or were not addressing the needs of female users, especially during menstruation. The eThekweni Water and Sanitation (EWS) Unit was also in the process of assessing school-based sanitation. The operation and maintenance responsibilities for these systems were being considered to shift from the Department of Education to EWS. EWS was keen to learn alongside the researchers to ensure that they implement the most appropriate, female-friendly modifications to the schools within their municipality. As a result, the researchers wanted to learn from the schoolgirls themselves about their experiences, while also documenting key insights from school personnel and the conditions of the school latrines prior to transition to EWS.

Overall, the purpose of this study was to document secondary schoolgirls' experiences and practices around MHM and to assess the need for improvements in disposal options in eThekweni Municipality of South Africa.

Research methods

This research featured a cross-sectional study to explore and document menstrual hygiene practices of girls aged between 13 and 20 years in three rural high schools of eThekweni Municipality in KwaZulu-Natal Province, South Africa. Thirty-three students who had reached menarche (onset of menstruation) participated from each school, which resulted in a total of 99 female students who participated in the survey. A probability sample was undertaken among girls in three high schools with different types of sanitation facilities: pit latrines, ventilated improved pit latrines, and flush toilets. The survey was implemented through a mobile phone platform technology. Three school personnel participated in in-depth interviews that were structured but permitted open-ended responses. The in-depth interviews were audio recorded to capture direct quotes. Observational data (observation checklist with photo documentation) was collected at the sanitation facilities of the three schools.

Research tools/instruments

Survey for schoolgirls via Mobenzi mobile phone hardware



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An emphasis on waste disposal options is key, especially when schools shift from latrines to flush toilets, which often become clogged with newspapers and sanitary materials.

and analytical software (n=99 respondents): The Mobenzi platform facilitates the translation of a questionnaire into a Java application, which can be downloaded on mobile phones used by fieldworkers administering the survey. The survey questionnaire was developed through a comprehensive review of previous WASH studies to establish relevant variables. The questionnaire included the following sections: WASH conditions in respondents' households and at school; availability of menstrual hygiene products at school; management of menstrual period during school time; and reported school attendance during menstruation. Upon completion of the survey, the data were automatically sent to a web console, which allowed the researcher to monitor and analyze data in real time. Data on the web were exported to Microsoft Excel spreadsheets. These were coded and analyzed with the Statistical Package for the Social Sciences (SPSS) version 19.0. Descriptive statistics were used to describe some of the general characteristics of respondents as well as some of the variables explored by the research.

In-depth interview guide for school staff (n=3 respondents): The interview included participant's type of work, knowledge around menstrual hygiene, persons who have influenced his or her knowledge, perceptions of risk from bodily fluids, knowledge of disposal methods, experiences with sanitation systems and failure modes, responses to menstrual products, responses to potential interventions, and opinion on the overall topics discussed.

Observation checklist including a photo documentation guide (n=3 schools): The observation checklist captured information about location, condition of facility infrastructure and supplies/consumables.

MHM interventions undertaken

n/a

Monitoring tools/instruments

n/a (The study was an exploratory study of girls' experiences and not a monitoring study.)

Monitoring/evaluation period

Introduction to school administrators, interviews with school staff, training on tools, survey implementation with Mobenzi mobile phones, and observational assessments of sanitation facilities all occurred in a period of approximately three weeks.

Evidence used to influence practice/ programme or policy

All of the findings are being shared by UKZN through collaboration with and dissemination to EWS. Examples of evidence and recommended practices are as follows:

- One third of 99 respondents reported missing school during menstruation, which was typically one day during a menstruation period. Fear of having an accident and/or showing blood during school was the primary reason for missing school, followed by physical pain and discomfort. Tiredness, lack of sanitary products, and fear that others may suspect the student is menstruating were other factors noted by the respondents. Schools aiming to implement MHM-friendly practices may thus need to target: 1) needs for quality MHM products to prevent leakage, 2) provision/access of pain medicine distributed by school nurses, and 3) dissemination of education/awareness to both girls and boys about menstruation/reproductive health and the impacts of bullying.
- Mothers and school teachers were the most often cited source of information about menstruation to the 99 respondents of the mobile phone survey. However, friends and then sisters and mothers were the most cited as the girls' confidantes. Hence, programmes need to ensure that both household members and school educators have

access to correct information about menstruation.

- Observations of facilities and inclusion of photo documentation allowed the researchers to understand the conditions that girls were referencing during their survey interviews. The photos provided insights about the sanitation conditions as well as evidence for assessing any contradictions or response bias. For example, of the 99 respondents 47.9 per cent responded that they disposed of their sanitary pads in the toilet trash bins. However, during the observations at all three schools, none of the schools had disposal bins. Hence, the girls' responses may reflect a desired disposal method, but their school sanitation facilities did not provide the appropriate means of disposal.
- The mobile phone survey also revealed that when girls talked to their primary informant regarding menstruation knowledge, most (53 per cent) learned about 'why I menstruate,' while only 6 per cent learned 'how/where to dispose' of sanitary materials/products. The conditions within the sanitation facilities reflected the challenges of poor solid waste disposal and insufficient provision of basic hygiene materials. None of the schools provided soap or toilet paper to the students. School administrators and higher level decision-makers need to visit school sanitation facilities unannounced and speak with both students and janitorial staff in order to understand the challenges faced by students. Furthermore, the facility assessments revealed a high prevalence of clogged flush toilets, which were caused by inappropriate disposal of materials such as newspaper (alternative to toilet paper) and sanitary materials/products into the toilets. The schools with flush toilets were more prone to having dysfunctional toilets than the dry toilets. Hence, schools need to consider the user behaviour, disposal practices and potential system failures. The challenges may be more pronounced for schools when shifting from dry latrines to wet/flush toilets. Overall, schools aiming to provide MHM-friendly sanitary facilities will need to ensure pairing appropriate behaviour change education with the provision of supplies, infrastructure and services. As noted in interviews conducted separately from this school study, both the eThekweni Department of Solid Waste and EWS were considered trusted sources of information regarding disposal practices. Hence, EWS is well positioned to co-develop appropriate disposal and hygiene messaging for MHM within schools. Inputs regarding messaging could be sought from schoolgirls, school health teachers and janitorial personnel.

Successes and challenges

One of the primary successes was that the mobile phone technology enabled young girls to answer questions in an anonymous fashion, which lowered their levels of anxiety. The technology was also well received by the school administrators who are tasked with protecting the privacy and well-being of their student body. Hence, the hardware served as a quality research tool for providing additional protection of the human subjects.

The use of the sanitation facility assessment (especially photo documentation) provided a rich understanding of context, while the female user surveys at each school provided an extensive understanding of the experiences of young girls that cannot be expressed easily during a structured interview. We recommend pairing these methods. The detailed data can also be referenced later (after the site visit) for additional review, capture of findings and dissemination of results. A photo can be worth a thousand words.

MHM presents unique challenges for schoolgirls in the study areas. The challenges include the scant provision of menstrual hygiene products, lack of knowledge of MHM, and inadequate water and sanitation facilities in schools. The consequence of these inadequacies is that students miss school days during menstruation. The findings of this study corroborate other studies, which show that learners miss school days when they are menstruating (Mabunda and Reitumetsi, 2012). Other concerns such as fear of accidentally showing blood and physical pain and discomfort are the major reasons for absenteeism among study participants. This study's findings suggest the need for developing new approaches to help learners cope with challenges during their menstrual period. It also found that inadequate sanitation facilities are contributing to poor MHM behaviours among study participants.

Recommendations for adaptation of tools/instruments

All of the tools could be simplified and/or shortened. This assessment was carried out in only three schools, which has enabled researchers to critique their own tools. Some questions were more relevant than others, while other questions could be revised to ensure clarity of intent/purpose. The part of the tool that discussed the use of rags/clothes as sanitary protection had little relevance to this study population. This section could be significantly shortened in future studies in this study area.

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Girls walk to their new toilets at Shirichena Primary School in Mhondoro district, 60 km south of Harare, Zimbabwe. The school is supported by UNICEF through the Child Friendly Schools initiative.

●●● Zambia

Investigating perceptions of and barriers to menstrual hygiene management

Organization/Agency/Country

World Vision Zambia, Lusaka, Zambia

Context

Menstrual hygiene management (MHM) is a major issue affecting the health and educational achievement of women and girls of reproductive age. This exploratory study seeks to understand the barriers to and perceptions of MHM throughout Zambia to address the health and sanitation needs of women and girls. The findings of this study will shape World Vision Zambia's (WV Zambia) inclusion of MHM in future WASH programme activities.

Research methods

Interviews and focus groups were conducted in Southern Zambia (Choma), Northern Zambia (Kasama) and Central Zambia (Chongwe). Female students (older than 12 and having reached puberty), male students (in grades eight and nine), teachers, and Sanitation, Hygiene and Nutrition (SHN) coordinators were interviewed at schools. Parents and community hygiene promoters (CHPs) were interviewed in the community. A total of 306 persons were interviewed, including 126 girls, 42 boys, 41 teachers (9 of whom were SHN coordinators), and 97 parents and CHPs. Six interview guides were created after extensive review of the literature on MHM and consultation with girls in the community. Females and males were interviewed separately, and interviews were conducted with local translators, audio-recorded and later transcribed. Qualitative data analysis was conducted to identify key themes about knowledge, practices, beliefs, and challenges related to MHM. A review of WV Zambia's WASH programme activities was also carried out. Recommendations to improve MHM activities were developed based on interview and focus group findings.

Research tools/instruments

Separate interview guides were developed for boys, girls, parents, teachers, and SHN coordinators. Data were collected on the following:

- community perceptions
- personal awareness
- access to supplies
- MHM practices
- impacts of MHM on girls' education and social, community and household activities
- health-related issues
- beliefs about menstruation.

MHM interventions

n/a

Type of monitoring tools/instruments

n/a

Length of monitoring/evaluation period

n/a

Evidence used to influence practice/ programme or policy

The information gathered in this study can be used to influence how girls are educated on MHM in school. Evidence suggests that MHM education would be more effective if it were targeted more specifically to girls and communicated more often. Community hygiene promoters can also be equipped to improve MHM education throughout the community.

Successes and challenges

Challenges

- Use of different interpreters (understanding, ease with the topic, familiarity with the questions)
- Short duration of the study meant there was limited geographical reach
- Initial discomfort of interviewees



Female students wash their hands with soap and water at Dima Guranda Primary School in Sebeta District, Ethiopia.

Strengths

- First study of its kind for WV Zambia, providing an opportunity to understand MHM perceptions and barriers firsthand
- Involving local ministry of education and health officials reinforced the importance of the study
- Working through community hygiene promoters increased participation in interviews and interest in the subject
- Opportunity for community voices to be heard/share importance of MHM
- Interview process raised awareness and interest in improved dialogue between girls, parents and teachers
- Inspired confidence in girls by providing them an opportunity to discuss their MHM experiences

Recommendations for adaptation of tools/instruments

Findings demonstrated the need for resources (including

emergency supplies for management of menstruation and bathing facilities in schools) and an overall desire to educate girls and women in the community about MHM. Findings also showed a discrepancy between girls' knowledge base and the information reportedly taught in schools by teachers. The lack of knowledge about MHM, community support, and supplies contribute to school absenteeism, unhealthy MHM practices, and feelings of shame among girls about menstruation.

These findings are the basis for several recommendations. To improve the ability of women and girls to practice MHM, WV Zambia's WASH activities should be extended to include sensitising women to MHM, increasing gender-specific discussions within schools, and creating mentoring relationships for schoolgirls to ensure that they receive accurate knowledge and gain MHM skills. Emergency supplies should be made available to schoolgirls and secure, private bathing facilities should be constructed near toilets to allow for improved MHM at school.

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●●● Zambia

Menstrual hygiene management among girls in primary schools and its effect on school attendance

Organization/Agency/Country

SNV Netherlands Development Organization,
Zambia (on behalf of the National Technical
Working Group on WASH in Schools)

Context

The Zambian Government's 2011 progress report on the Millennium Development Goals, developed with support from the United Nations Development Programme (UNDP), revealed that while progress on many of the MDGs is on track, the must be accelerated to achieve all the MDGs by 2015. The Ministry of Education has intensified implementation of "Educating Our Future" and efforts to increase primary school enrolment have been successful. However, this has also placed a heavy burden on school infrastructure, especially water, sanitation and hygiene facilities, since expenditures on WASH in Schools is often afforded a lower priority status than classroom or staff needs. Inadequate WASH infrastructure has affected girls more than boys. In most schools, girls' attendance becomes less consistent after the fifth grade. One contributing factor to girls' poor attendance is poor menstrual hygiene management (MHM), as most girls are not able to safely and hygienically manage menstruation while at school.

To respond to this challenge the Ministry of Education in Zambia and its partners – UNICEF, USAID, SNV Netherlands Development Organization, WaterAid, the Ministry of Local Government and Housing and the Non-Governmental Organization Coordinating Committee (NGOCC) – formed a WASH in Schools Technical Working Group (TWG). The pilot study on MHM is one of the TWG's first interventions, with the aim of exploring major challenges facing adolescent schoolgirls with regard to MHM and its effect on girls' school attendance and performance. Findings from the pilot study will be used to implement a full scale MHM study in 2014. The findings will also form the basis to develop relevant strategies to improve the situation. The research will be carried out in 15 schools, in 5 districts across 4 provinces. The research will be led by the Ministry of Education in consultation

with the Ministries of Health and Local Government and Housing and jointly funded by UNICEF, SNV and WaterAid.

Statement of the Problem

According to the 2007 Educational Statistical Bulletin, the percentage of girls in grades 1-9 who drop out of school is 2.7per cent, while that of boys is 1.9per cent. Evidence also suggests that boys' secondary school completion rate is higher than it is for girls. In addition to social, economic and cultural issues such as early marriage, unwanted teenage pregnancy, and generally high levels of poverty that require girls to join the workforce, insufficient water and sanitation facilities in schools are also a key factor contributing to adolescent girls dropping out of schools. Most girls find it difficult to manage their menstruation in environments without water supply and convenient sanitation facilities, such as washrooms and sanitary disposal points. Furthermore, sanitation and hygiene education in schools in general focuses more on theory and knowledge than on promoting behavioral change. The subject of menstruation and puberty hygiene is rarely discussed at home or at school. There are some ad-hoc arrangements for reproductive health and hygiene management for girls observed in some schools, but this has not been promoted across the country as a part of the school curriculum. This is a barrier to young schoolgirls' access to essential information about puberty hygiene, resulting in some incorrect perceptions about menstruation. These coupled with inadequate support for MHM in schools has led to absence from schools and eventual drop-outs.

Justification

The Ministry of Education Management Information System estimates that only 29 per cent of schools in Zambia met the WHO recommended pupil/toilet ratio of 40 boys per toilet while only 9 per cent met the recommended ratio of 25 girls per toilet (2008). A July 2012 School WASH mapping undertaken in 30 schools conducted by SNV in 3 districts in Northern Province also revealed that the average pupils per drop-hole ratio is 90-100; only 50 per cent of the schools visited had

adequate water for handwashing. This poses a challenge to the promotion of a healthy school and learning environment, especially for girls. MHM has for a long time been under-prioritized in planning and budgeting by policy and decision-makers as well as other development agencies. Zambia has no supportive policy on MHM particularly for schoolgirls. This has resulted in lack of standard designs that take into account MHM needs of girls. It is common to find toilets without lockable doors to assure privacy and no provisions for washing or materials for cleaning. Lack of MHM supplies and lack of information, education and communication (IEC) materials on MHM have contributed to most girls' not managing menstruation safely and hygienically.

Objectives

The overall objective is to find out the challenges schoolgirls face to hygienically manage menstruation both at school and in the home and its effects on school attendance and learning.

The specific objectives are to:

- Identify menstrual hygiene practices among schoolgirls and their effects on girls' school attendance and learning.
- Analyze social and cultural issues relating to menstruation and their effect on girls' school attendance.
- Find out if water facilities are easily accessible within the school and sufficient for MHM purposes.
- Find out whether the school sanitary facilities for girls are adequate and girl-friendly.
- Establish the extent to which water supply and sanitary facilities affect girls' MHM management.
- Establish the extent to which facilities such as toilets and handwashing facilities and materials such as sanitary pads, anal cleaning materials and soap are a factor in adolescent girls' MHM and school attendance.

Research methods

The research methodology will combine both qualitative and quantitative data collection techniques to elucidate the challenges and impact of MHM on the school participation and performance of adolescent girls. Views will be sought at district and school levels regarding the status of MHM and the challenges girls face in the participating schools. The schools have been purposefully sampled in

collaboration with officers from the Government of Zambia District Education Board Secretaries Offices (DEBS). The unit of sampling and analysis are the targeted schools in the 5 districts of Mpika, Nyimba, Chibombo, Kapiri Mposhi and Samfya in Northern, Central, Eastern and Luapula Provinces of Zambia in 15 schools (3 schools per district).

Randomization techniques will be employed in sampling respondents for each category. For girl pupils, a sampling interval will be determined by dividing the total number of girl pupils of 13 years and above with the targeted number. A total number of 60 pupils (4 per school) will be interviewed and fifteen (15) focus group discussions will be conducted with 10 pupils per school and key informant interviews will be conducted involving 1 female parent and 1 female teacher per school and five (5) district officials from Local Authorities, Ministry of Health, Ministry of Community Development, an NGO and District Education Board. A total of 35 key informant interviews will thus be conducted.

Research tools/instruments

Individual interviews with girls: Interviews with girls involve a questionnaire administered by trained research assistants in a strictly confidential manner and with informed consent. The interview will focus on knowledge regarding MHM, MHM practices and attitudes (KAP) and how these are influenced by social and cultural factors. The responses will be anonymous, the respondents will not be required to write down their names or provide any kind of identification information. Questionnaires will be encrypted on tablets (mobile phones) and will be used as data collection tools.

Focus Group Discussions: Focus group discussions will be held to validate information collected through the quantitative survey and to collect in-depth stories and experiences of girls on menstruation in the school context. A checklist of questions to collect information from sampled girls has been developed for this purpose.

Field Observations: These will focus on observing the water and sanitation facilities at schools, documented via an observation form, with close attention to types of designs, their friendliness to girls (i.e. presence of lockable toilet doors and washrooms, disposal points for used sanitary wear and for both waste water and solid waste), access by disabled children, the level of cleanliness, presence/absence of cleaning and cleansing materials, and location.

Key Informant Interviews: With teachers, the focus will be on teaching and learning relevant to hygiene, availability/non availability of education materials about hygiene, including menstrual hygiene, teaching methods and teaching experiences with adolescent girls. With parents, the focus will be on how they communicate about sexuality and reproduction with their adolescent girls, how often, barriers, and enabling factors. With district staff the research will focus on information relevant to planning and budgeting for WASH in schools, monitoring, and school inspections.

MHM interventions

The research is aimed at providing guidance on effective interventions that would address the needs of girls in schools. For example, UNICEF provides integrated toilets with washrooms at schools, while SNV promotes the use of reusable sanitary pads by schoolgirls in selected schools in Northern Zambia. This promotes demand for the product and supports entrepreneurial approaches to supplying reusable sanitary pads to schoolgirls.

Monitoring tools/instruments

There are currently no monitoring tools developed. On-site, on spot visits to schools are however conducted and girls are interviewed on their experiences during monitoring visits to schools. Development of monitoring tools is planned after the research is completed that would be utilized in future interventions.

Monitoring/evaluation period

This will fit into the standard monitoring period for schools.

Evidence used to influence practice/ programme or policy

The extremely low toilet/pupil ratio in schools and how this ratio affects the experience of puberty for girls in schools will facilitate increased advocacy for WASH in schools at both the district and national levels.

- a. As a result of awareness created, we have noted that for the first time WASH in schools was included in the national water and sanitation annual sector reviews and has been included in the national sanitation and hygiene component of the Government of Zambia National Rural Water Supply and Sanitation Programme. This is the Government programme that aims to achieve

the MDG targets on water and sanitation in a more coordinated and accountable manner.

- b. Evidence on MHM will be available once this research is completed on 31 October 2013 to guide further advocacy and other stakeholder interventions on MHM.

Successes and challenges

Successes

- Zambia has galvanized stakeholder commitment to improving WASH in schools, particularly MHM. This research, for example, while coordinated by SNV, is being implemented by a Technical Working Group that includes key ministries relevant to WASH in schools, including Ministry of Education, Ministry of Health and Ministry of Local Government and Housing.
- Advocacy for girl-friendly WASH facilities is increasing, especially following the development of WASH in schools interim standards by the WASH in schools stakeholders.
- Promotion of reusable sanitary pads provides a good opportunity for exploring other low cost sanitation solutions in schools.

Challenges

- Water and sanitation facilities in schools remain far from adequate in the country for both girls and boys, making it difficult to prioritize the provision of girl-friendly WASH services.
- The standard public sector-approved designs for school toilets are not cost effective for most partners, contributing to the widening gap between classrooms constructed and toilets provided.
- There is still silence on the subject of MHM due to cultural barriers. Discussions pertaining to menstruation are still taboo.
- National evidence/information on MHM in schools remains inadequate.

Recommendations for adaptation of tools/ instruments

To be determined after the research is completed.

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MENSTRUAL HYGIENE MANAGEMENT CASE STUDIES

Bangladesh and Zambia: Piloting the resource *Menstrual Hygiene Matters* in school settings

Bolivia, the Philippines, Rwanda, Sierra Leone: Going global – A systematic approach for investigating girls' experiences of menstruation across a range of contexts

Burkina Faso and Niger: Menstrual hygiene in schools in two countries of Francophone West Africa

India: Exploring menstrual hygiene management in schools of West Bengal

India: Translating silence into action – Progress on policy and practice in menstrual hygiene management

Kenya: CES Canada Pad Project in western Kenya

Kenya: Menstrual solutions for adolescent schoolgirls in western Kenya – An acceptability, feasibility and safety study

Kenya: Situating menstrual hygiene management as a point of intervention to increase retention in school and knowledge of sexual and reproductive health

Mali: Menstrual hygiene management in schools – Exploring knowledge and materials

Nepal: Knowledge, attitude and practice of menstrual hygiene management among out-of-school adolescent girls in Saptari District

Nepal: Menstrual hygiene management among adolescent schoolgirls

Pakistan: Taking action on menstrual hygiene management research findings under Pakistan Approach to Total Sanitation (PATS)

Philippines: Qualitative research to identify challenges to menstrual hygiene management among schoolgirls in metro-Manila and South Central Mindanao

South Africa: Menstrual hygiene management practices in three high schools of eThekweni Municipality – An exploratory study

Zambia: Investigating perceptions of and barriers to menstrual hygiene management

Zambia: Menstrual hygiene management among girls in primary schools and its effect on school attendance

For more information on menstrual hygiene management as part of WASH in Schools programmes, contact Murat Sahin at UNICEF, msahin@unicef.org, or Marni Sommer at Columbia University, ms2778@columbia.edu.