

School menstrual hygiene management in Malawi: More than toilets



WaterAid/Kirtunde Akhweve

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Thank you to everybody in WaterAid in Malawi and London, as well as Sanitation and Hygiene Applied Research for Equity (SHARE) for their support. This study would not have been possible without the courage of schoolgirls and women in Malawi, many of whom spoke out for the first time.

This briefing note summarises a Master of Science thesis project for Cranfield University, UK, carried out by Sally Piper Pillitteri in 2011. The views are those of the author and may not reflect those of WaterAid.

Front cover image: Sally Piper Pillitteri

Sexual initiation ceremony dance, Malawi

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Acronyms and abbreviations

CDSS	Community day secondary school
CRECCOM	Creative Centre for Community Mobilisation
DFID	Department for International Development (UK Government aid)
FAWEMA	Forum for African Women Educationalists in Malawi
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
MHM	Menstrual hygiene management
MDG	Millennium Development Goals
MoEST	Ministry of Education, Science and Technology
NGO	Non governmental organisation
PGWS	Participatory group workshop
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
WASH	Water, sanitation and hygiene
WHO	World Health Organisation

The conversion rate used in this report is 100 Malawian kwacha (MWK) for \$0.65.
<http://www.xe.com/>

1 Introduction

This study answers a call from WaterAid (2009) for 'evidence from the field' that provides data on menstrual hygiene management (MHM) for school age girls in Malawi.

In the summer of 2011, the author carried out a pilot study in Malawi around MHM in five secondary schools. The main objectives were:

- To develop participatory methods of research with a focus group of eight adolescent girls per school.
- To understand girls' voiced experiences around managing menstrual issues at secondary school and to determine girls' needs.

Participatory group workshops, together with a questionnaire, semi-structured interviews, a literature review and observations are here presented to WaterAid with a view to determining one or several recommendations for improved MHM in Malawian schools.

2 Background

2.1 Malawi facts

Landlocked Malawi, to the west of Tanzania, is a small country in southern Africa. It has a rapidly growing population of just over 15 million, over half of which is under 20 years old.

HIV prevalence among 15-24 year olds in 2007 was 2.4% for males and 8.4% for females (UNAIDS, 2008). Over 70% of Malawi's inhabitants live on less than US \$1.25 a day and the under five mortality rate in 2006 was 120 per 1,000 live births and the life expectancy at birth in 2009 was 54 years. In 2008, the total adult literacy rate was 73% and just over half of the population used improved sanitation facilities (UNICEF, 2009).

The official language in schools and government offices is English, with Chichewa being widely spoken in the Central Region, where this study took place. Most of the population is Christian, while about a tenth practices Islam (UN Statistics, 2001).

2.2 The education system in Malawi

Education in Malawi is organised by the Ministry of Education, Science and Technology (MoEST). Primary school starts at age six and has been free since 1994.

Poorly-resourced schools, inexperienced teachers and overcrowded classes maintain low academic performance and high failure rates in the Primary School Leaving Certificate, a prerequisite of secondary school entry (Khozi, 2008; UNESCO, 2010). Children may repeat classes, so for some girls their first menstruation occurs when they are still at primary school. A poor sanitation structure, few female teachers and society's attitude to girls' education, ensures that just 37% of girls finish primary school (UNESCO, 2010; Maluwa-Banda, 2004).

Only 23% of primary schools have sanitation of 'acceptable quality and quantity', with 81% lacking hand-washing facilities (MoEST, 2009). No country statistics are available for secondary school sanitation. According to Khozi, (2008) only 13% of 14-17 year olds go on to secondary school. This study chose girls from national boarding secondary schools and community day secondary schools, commonly called CDSS. Drop-out rates in secondary schools are lower than primary, but 3.1% of girls leave because they become pregnant.

2.3 Summary of menstrual health management

Poor menstrual health management (MHM) in schools has been shown to cause adolescent girls worry and humiliation, contribute to monthly absenteeism and lead to poor performance in schools (UNICEF, 2010; WaterAid, 2009; Lidonde, 2005).

UNICEF (2010) stresses the importance of school toilets which are built to accommodate menstruating girls' specific needs for privacy, space, washing facilities and correct disposal or cleaning of menstrual pads. An environment where these hygienic needs are met can lead to improved dignity and attendance, thus improving girls' education and consequently the development of a country.

Sommer (2010) suggests that acquaintance with a country's beliefs around menstruation and providing girls with correct information about puberty are important elements in a holistic school MHM package.

Ignorance about menstrual issues is prevalent not only amongst schoolgirls but also in organisations and communities. Some ethnic groups in certain areas of Malawi pay a man called a *fisi* to have sexual intercourse with a girl who has started menstruating, in order to sexually initiate her (Kamlongera, 2007; Munthali and Zulu, 2007). Girls may consequently stop going to school.

2.4 Study site, population and approach

Inspection visits, questionnaires, focus group discussions and participatory group workshops were carried out in a total of seven schools in and around the capital, Lilongwe (see Figure 1):

- Two national urban secondary boarding schools.
- Two peri-urban community day secondary schools (CDSS) on the outskirts of Lilongwe.
- One rural CDSS.
- One rural day primary school (inspection visit only).
- One co-ed CDSS in Liwonde (inspection visit).

Secondary schools were preferred because they would:

- Have a higher level of education.
- Be more articulate at expressing themselves than girls in primary schools.
- Have already experienced menstruation and be able to share their understanding.
- Theoretically attend a school with a sanitation infrastructure.
- Possibly be conscious of menstrual-related products available in the capital.



Figure 1: Map of Malawi
<http://data.un.org/>

The methodology was divided into three main approaches (see Table 1). Questionnaires were distributed to 134 girls and 104 were completed. Up to seven participatory group workshops (PGWS) were carried out with girls aged between 14

and 21, all in the third year of secondary school. Poor education and communication skills in two rural schools proved problematic.

For the 40 girls in the PGWS, it was the first time that menstrual management had been discussed with them. Their quotes are labelled with the school code and participant number, eg A.1.

Ten semi-structured interviews were arranged in country with government ministries, community-based organisations, national and international non-governmental organisations, aid agencies and secondary school heads.

Table 1:

Questionnaire for 104 schoolgirls, seven participatory workshops and 10 semi-structured interviews	
What?	Why?
Questionnaire	Collected baseline MHM indicators in five secondary schools.
Toilet observation walk	Focused on facilities for MHM and debating problems and needs.
Making a map of school toilets	Group mapping of shortfalls of MHM, which raised awareness.
Toilet drawing	Non-verbal expression of the perfect toilet. Was inconclusive as girls preferred writing.
List of priorities for better school MHM	Created group thinking, debate, lists and voting of MHM priorities in schools.
Writing first menstrual experience	Insight into cultural practices and beliefs.
Anonymous puberty questions and answers	Highlighted MHM ignorance, exchanged experiences and empowered girls.
Writing a puberty curriculum	Discovered girls' need for correct information about puberty.
Semi-structured interviews	Triangulated information, ascertained policies and challenges.

3 Findings and recommendations

Three recurring themes emerged from the participatory sessions, questionnaires and semi-structured interviews:

- 1 Sanitation facilities and infrastructure.
- 2 Cultural beliefs around menstruation.
- 3 Knowledge and education.

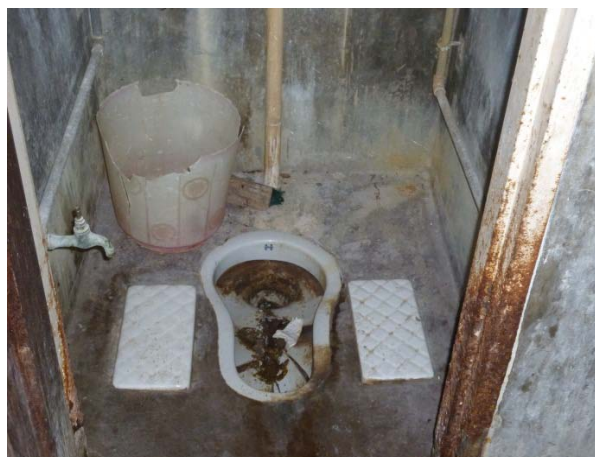
3.1 Sanitation facilities, infrastructure and available resources

Interviewees considered sanitation facilities in secondary schools to be better than at primary level. However, no official report currently exists for WASH facilities in secondary schools. All schools visited had at least one toilet; the two boarding schools had more, but not all were in working order.

The facilities and infrastructure observed for this study were inadequate in every establishment (see Appendix). With the exception of one urban secondary school, all schools failed to meet the World Health Organisation suggested toilet/student ratio of 1:30 (WHO, 2010). A co-educational secondary school in the south had only one pit latrine for 485 staff and students. An insufficient toilet/student ratio contributed to overuse, filthy conditions and a consequent return to open defecation around schools, or absenteeism in order to use a home toilet.

In urban schools, where the National Sanitation Policy's directive is that all schools connected to piped water are to have flush toilets (MoEST, 2009), water had often been cut off. These toilets were blocked with faecal matter, sanitary pads or newspaper as there was no toilet tissue in any school (images 1 and 2). Maintenance was poor or absent entirely. Girls were responsible for cleaning, which was often given as a punishment, but they had no training or materials. All toilets smelt strongly of faeces, with flies and mosquitoes were prevalent. Girls said they did not want to use them when menstruating.

“Nobody cares about the toilets here. We have no doors and no water. It is better to stay at home when you menstruate.” C.1



Images 1 and 2: Dirty toilet, no water, no door

Designs were poor, sometimes roofless or badly built using dry bricks and prone to collapsing in the rainy season. Boarding school toilets had no lights and doors were narrow, lacked locks or were too small to provide privacy. In community day secondary school (CDSS), doors had either been stolen or were intentionally absent in an attempt to avoid theft. Girls said the bush was more private.

Curtis (2010) has proven the massive health impact of reducing diarrhoeal and respiratory disease through hand-washing with soap. Soap was unavailable at all schools and hand-washing was rarely practiced. Sinks were available in boarding schools, but taps were broken or stolen. In other schools, water for hand-washing was not provided at all, or transporting it from distant boreholes was considered too time-consuming by the students. They reported frequent diarrhoea.

“We go to the toilet, and then we eat with shit or blood on our hands.” C.2

For most girls, menstrual hygiene protection was inadequate. In the questionnaire and participatory group workshop, 95% said that they used reusable menstrual cloths all or some of the time, as they could not afford to buy disposable pads regularly, or were unable to find them in local shops.

A sanitary cloth was a rag from old clothes, folded into a pad and looped about a string around the waist. Most girls kept this in place with underpants, but girls from the rural schools said that they could not afford underwear, which was confirmed by interviewees.

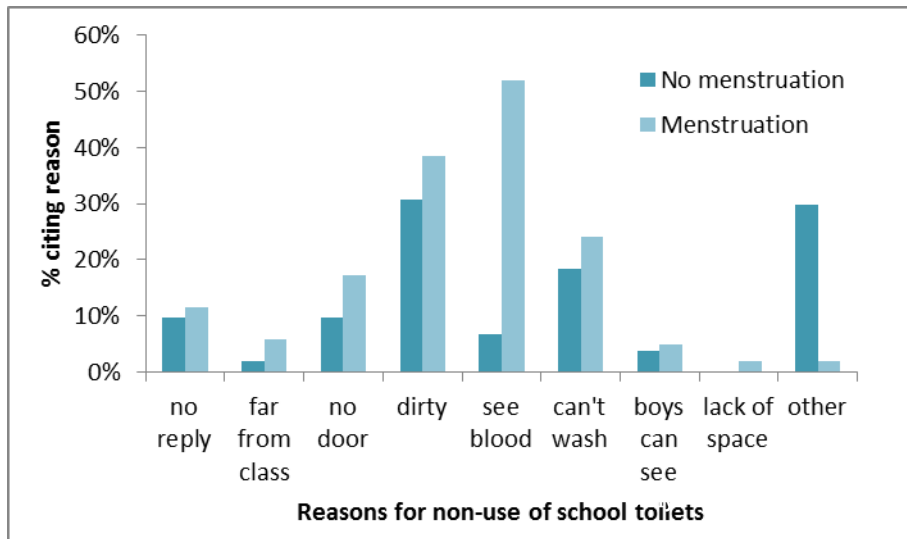
Girls reported multiple problems with menstrual cloths smelling or falling out at school. Boys consistently taunted them, shouting that they had ‘killed a chicken’. Menstrual cloths were bulky, rapidly became soaked through, caused rashes and could be seen through uniforms bringing the girls ‘shame’. In establishments where girls sat on the floor, they were afraid to get up for fear of a leak and stayed there until everybody else had departed. They missed school on their heaviest day or went home when their cloth was soaked through.

Day girls estimated a loss of one to three school days per menstrual period. In boarding school, girls had to attend classes but left lessons to wash and change in the dormitory, drying their cloths under their beds. They often wore them damp which caused itching, possibly due to mould, and hated the smell. Inability to concentrate on lessons due to anxiety about leaking and smelling was a perpetual worry for all girls.

There were also no private facilities for body washing. The open-plan showers in boarding schools were unpopular, even when they could be used, though lack of water often prevented this. Girls got up at four in the morning to shower and wash menstrual cloths before anybody could see. They were rarely washed correctly due to lack of water and soap. About half of the PGWS participants said that they would wash themselves at school if there was a tap inside the cubicle but the rest feared people knowing they were menstruating if they were seen using a ‘special toilet’. Girls dreaded anyone seeing their menstrual blood in the toilet. Even when menstruating, 5% of girls used the bush; with 25% admitting to using outside at other

times, rather than unsuitable or dirty school toilets. Multiple answers for not using the toilet were possible (see Figure 2).

Figure 2: Reasons for not using toilets by 104 schoolgirls.



Girls believed that cheap, disposable pads could help them better manage menstruation at school because they were more absorbent, comfortable and eliminated the need for washing. They suggested a price of 100-150 kwacha for 10 pads (£0.38-58; www.xe.com).

For the girls who wore one-use sanitary pads, however, disposal was awkward. In Lilongwe, only one school had a brick incinerator; another had an open pit full of used pads, which were regularly removed by dogs and crows. CDSS staff and girls had never heard of incinerators. Staff, ignorant of their students' needs, maintained that girls were fine with menstrual cloths so did not need incinerators, which was not the girls' view. Bins for soiled disposal pads were lacking, even in the boarding schools, where girls kept blood-soaked pads under their beds and discarded them when unobserved.

Although pain was not the focus of the study in Malawi, it featured in all girls' discussions and was certainly a contributory factor to absenteeism. Some believed that menstrual pain was caused by witchcraft. Other girls said they could not afford painkillers but several did not use analgesia as they believed it would make them sterile, so they preferred to stay home instead. More than half the girls were off school for one or two hours when they had their menstrual period, taking time out for body washing, changing stained skirts, pain control and general malaise; 15% were absent for more than three days (see Figure 3).

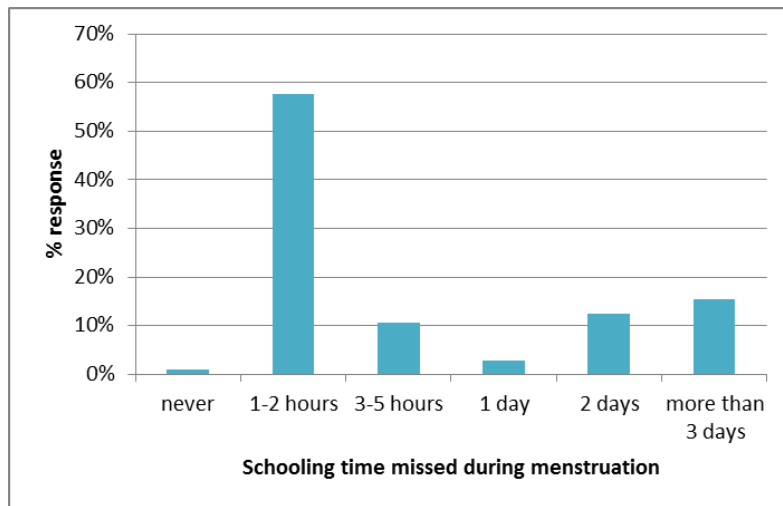


Figure 3: School time missed during menstruation for 104 girls

Menstrual hygiene issues were accountable for 12 to 36 days of absence annually per girl. When their cloths leaked at school, most girls left class to change, then returned to lessons. However, 11% went home and stayed home and 7% said they didn't come to school at all on heavy days.

“I only have one uniform, so when I stain my skirt I go home and stay there until my skirt is dry.” C.4

They gave illness as an excuse to teachers, whatever the cause. In the MHM questionnaire, 104 girls had missed school because of menstrual issues for a total of 85 days in the current term. Malaria was responsible for 81 days of non-attendance (see Figure 4).

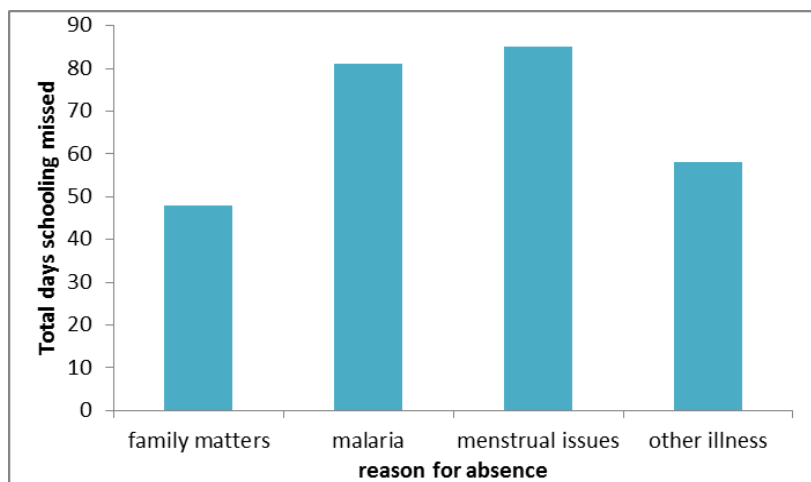


Figure 4: Total days of school missed in the last term by 104 girls, with reasons indicated

Girls' choices for easier menstrual management at school were expressed in the priority list workshop. Disposable sanitary pads were their first request, followed by water and an incinerator for sanitary pads, then soap. These basic hygiene requirements were consistently unavailable in every school. 'Other' requested features were: lights, a place to wash menstrual cloths, cleaning materials, toilet doors, locks, toilet paper, underwear and a sick bay (see Figure 5). The desire for coherent information about menstrual issues, through a Girl Club or similar, was given the same importance as pain relief.

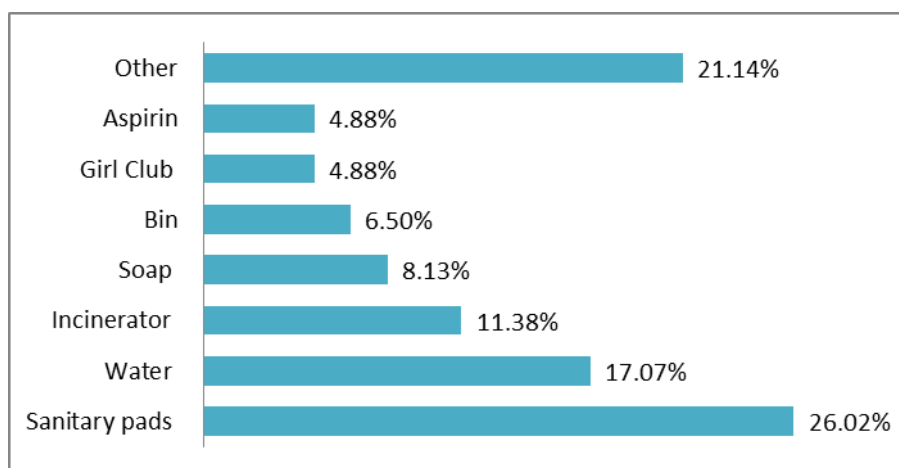


Figure 5: Girls' priorities for improving MHM at school

3.2 Beliefs and cultural practices around menstruation

“We need to stop these myths around menstruation.” (MoEST)

Certain Malawian rituals around puberty have a considerable impact on girls' perception of sexual maturity. When a girl begins menstruation, she tells a female relative; rarely her mother for fear that 'she will die'. Girls said that their aunts told them about the menstrual cloth. Their elders, who had not gone to school, believed it was adequate for protection. Girls were to wash frequently but when they could not meet this standard at school they felt dirty, said a Water and Sanitation Network spokesperson. They also had to bathe separately from parents, stop playing with non-menstruating friends and not talk to boys. In some ethnic groups, arrangements were made for sexual initiation by a man called a 'fisi' (2:1).

According to the Forum of African Women Educationalists in Malawi (FAWEMA), a girl's first menstrual period was seen as readiness for marriage by many communities, even in girls as young as 11. None of the girls in the PGWS admitted to participation in initiation rituals, but 20% of those in the questionnaire agreed that starting menstruation was the end of childhood, which meant that girls suddenly lost all their non-menstruating friends.

“I was so sad, I loved my childhood. I just cried and cried.” B.4

Menstruation is seen as 'strictly secret', a belief echoed in reports from Tanzania (Sommer, 2009a). In some cases this silence had led to enormous anxiety, confirmed by head teachers and expressed through girls' menstrual stories. Although some girls were happy at the onset of menstruation, most were sad, scared or embarrassed, which could be attributed in part to their ignorance of body changes at puberty.

“It was the worst day of my life. I thought maybe I would die.” B.1

The Creative Centre for Community Mobilisation (CRECCOM) reports that in some ethnic groups, initiated boys have sex to prove that they are men. Myths around sexual practices were prevalent in the co-educational schools, where boys put considerable pressure on girls to participate in sexual intercourse. They argued that vitamins in sperm made a girl's hips develop or rubbing breasts made them bigger (FAWEMA, Water and Sanitation Network).

Ill-informed about reproductive health, girls were often seduced into a relationship by a boy maintaining that first time intercourse was safe, or that they could indulge in sex nine times without fear of pregnancy. Alarm that condoms had been laced with HIV/AIDS virus was brought up by girls in the workshops. In 2004, nearly a tenth of young women in Malawi, between the ages of 15-19 had become pregnant (WHO, 2004).

“Boys ask me to be in relationships with them and I am uneasy and feel I am in hot soup. It is hard not to crack.” D.1

More than a quarter of girls questioned said that menstruation was the elimination of bad blood and less than half that it was a natural process. Girls in one school asked if putting methylated spirits in their vaginas would stop excessive bleeding. Of the 104 girls questioned, more than half dreaded anyone seeing their menstrual blood in the toilet and a third never used the school toilets when menstruating, either waiting until they went home, using the bush or not coming to school.

“My mother told me I would die if I showed anybody the blood.” B.3

“If someone sees my blood in the toilet she can use witchcraft to poison me.” B.2

Girls who wore washable cloths hid them, often in unhygienic places. It was only when trust had been established with the researcher that terror about cloths being used for witchcraft was vocalised. Girls would not wash their menstrual cloths at school, nor dry them outside in the sun; for fear that people who had a grudge would take these cloths to a witchdoctor. The girls believed that the resulting sorcery could result in non-stop menstruation for a year, sterility or even death.

“Some might say she has been bewitched when she bleeds too much.” A.4

When asked what could be done, PGWS girls said that giving them disposable pads would ensure, 'nobody knows who the pad belongs to'. CDSS and rural girls wanted disposable pads because they had no water, soap or a 'special place to wash cloths'. They were hesitant that they would ever wash a menstrual cloth at school 'because of people stealing it to kill you'.

3.3 Awareness and knowledge

According to a UNICEF spokesperson, sexual education was a challenge. 'Boys laugh at girls then the teacher stops.' The 'Life Skills' book used in the second year of secondary school mentions 'menstruation begins' as its contribution to adolescent body changes. Informants reported that health clubs exist in schools but rarely function, as leaders are unavailable.

Furthermore, various non governmental organisations (NGOs) who supported these clubs had different hygiene agendas, which confused students. CRECCOM emphasised the importance of adolescent workshops for both sexes, due to boys' initiation beliefs. In their puberty curriculum essays, PGWS girls suggested support at school from age 10, before a girl started menstruation.

"The best thing to do is to put puberty courses in schools. It would be nice in primary school. The teachers should do this in a loving manner and not so girls are embarrassed in front of boys. Sometimes boys just humiliate us. We should learn about menstruation separately." A.2

Physical and verbal bullying was observed frequently at schools and was one of the FGWS girls' main grievances.



Image 3: Handmade sanitary pad

"Boys make you feel ashamed. They are rough with us and go into our bags and would see our cloths if we brought them to school." C.6

"I would never wash my cloth at school because of the boys. We need somewhere where boys never go." D.2

One of CRECCOM's activities is to collaborate with the FAWEMA and UNICEF, teaching Mother Groups about puberty, who in turn train communities. These groups of 12 mothers, who are active in over 500 primary and some secondary schools, run programmes called

Tuseme to empower girls to overcome limitations traditionally forced on them by gender. They are also energetic in proposing girl-friendly sanitation. In a Centre of Excellence secondary school in Liwonde (Southern Region), they are trialing a homemade, washable, cotton sanitary pad, which is made at school and doubles as underwear (see Image 3). Social mobilisation and education in the villages by



Image 4: Workshop in a rural CDSS.

CRECCOM meant that girls could launder and dry their sanitary pads without fear of them being used for witchcraft.

Males were generally unaware about menstruation and pads, causing problems when girls had to ask male relatives for money to buy them. Some NGOs proposed social marketing of pads in rural areas, such as the 'Sani Marts' run by women in Bangladesh (Nahar and Ahmed, 2006). Many families, however, could still not afford the current price of disposable pads and the home-made cloth pad had been welcomed by girls and communities in Liwonde.

Ministries and stakeholders had to be aware that poor MHM was a contributory factor to girls' absenteeism, and then create procedures (Water and Sanitation Network). However, some policies backfire. The Child Friendly School Policy (MoEST, 2008) 3.1.1, suggests that 'pupils are not seated by sex in the classroom'. Women interviewed thought this had negative impacts on menstruating girls: "they dare not stand up. They are between two boys, they have leaked and they smell and it is all they can think about".

The UK Department for International Development's (DFID) toilet programme in Malawi is to facilitate achievement of Millennium Development Goal 3 (UN MDG, 2010), as educated young women can then contribute to other development goals. For MoEST, however, it took more than toilets to boost girls' attendance after puberty. They also required information and advice on how to cope with menstruation. There was scant evidence of psychological support for adolescents in the schools visited. One interviewed girl said:

“Guidance and support at school is more important than anything. There is nobody to talk to. When we have problems we just run from class and go home.” C.5

MoEST believed that ‘health and jobs’ revolved around girls’ access to education, which was a worry when they were menstruating. Addressing their difficulties, through awareness and training, was vital not only for the girls but for the larger public and indeed the country. Advocacy for MHM in Malawi is hampered, as no coordinating body presently exists for WASH in schools programmes.

“Menstrual hygiene management looks small but it is a huge challenge for girls in schools.” (MoEST)

4 Recommendations

Despite its small size, the sample group for this study was nevertheless representative of Malawian young women from all three regions and both major religions. All girls had started menstruation and experienced difficulties in dealing with it at school. It was the first time they had ever been able to express their requirements. MHM problems could be expected to be exacerbated in poorer rural areas of Malawi.

4.1 Information

Girls’ knowledge of the emotional upheaval of adolescence and of their own reproductive health was negligible; Aniebue et al (2009) maintain that MHM is an essential part of health education. This ignorance contributed to an inability to manage their menstruation at school, being prey to sexual aggression and male bullying, as well as apathy around intolerable toilet facilities.

It is crucial that for further interventions any facilitator be female, as over 90% of girls would not work with a male. Maturity, ease and enthusiasm for talking about reproductive health are definite advantages in stimulating girls and informants to communicate about MHM. Girls were keen for more information and requested a Girl Friendly Club at school. Having read the two puberty booklets brought by the researcher (Sommer, 2009; Meredith, 2006), all wanted similar material to be freely available. Sommer’s ‘Growth and Change’ specific to Tanzania, is in the process of being distributed to primary schoolgirls in that country. A comparable book specifically aimed at Malawian schoolgirls could be a solution.

4.2 Male aggression

Schoolgirls in Malawi would say the same as those in Uganda:

“Teach us the correct facts and educate the boys,” (SSHE, 2011).

Integrating MHM into compulsory hygiene promotion, in both primary and secondary schools, with separate sessions for girls and boys, could contribute to behaviour changes and provide psychological support for both sexes. A core group of travelling puberty educators, trained to explain adolescence to boys and girls could intervene in schools and also be a valuable addition to FAWEMA's *Tuseme* workshops.

“They need to know what is happening to each other; boys contribute so much to the girl dropout rate by their behaviour.” (MoEST)

4.3 Menstrual hygiene sanitary protection

A solution must be found for suitable, cheap, sanitary protection. The donation of free 'Sanitary Pads for Africa' (2011), not only generates a culture of dependency but is neither financially nor environmentally sustainable. Disposal of waste is a huge issue in Malawi. An ecological disposal system developed by Akarsu (2011) from KAIST University, Korea consists of biodegradable pads with adjustable underwear, called padBack; a low-cost option requiring no electricity. This could lead to a social enterprise similar to SHE (2011) in Rwanda.

Incinerators are of little use if girls continue to use washable cloths, in which case, the availability of water and soap in every school toilet, together with social mobilisation, are vital. The reusable pads piloted by FAWEMA in Liwonde could be trialed, evaluated and monitored. More sophisticated reusable pads have been developed very successfully in Uganda by Afripad (<http://afripads.com/>).

4.4 Toilets and hand-washing

There is an urgent need for girl-friendly toilet designs with locks, space, private washing areas and a place for washing, drying and/ or disposal of soiled sanitary protection, as well as solutions for theft. UNICEF (2006) recommends involving girls and the community in planning gender-suitable facilities, which gives a sense of ownership, leading to improved maintenance. This must be implemented and carried out regularly by communities and NGOs.

The lamentable lack of hand-washing facilities and soap needs to be urgently addressed. In the interim, schools could be made aware of simple hand-washing tools using plastic bottles, called 'tippy taps' (Westra, 2009) which use a bar of soap tied to the tap bar. Diarrhoeal disease and girls' inability to wash themselves during menstruation are contributory factors to absenteeism. More community awareness and sensitisation has to take place, with the 'special room' becoming a normal part of sanitation infrastructure.

4.5 Pain

Adequate, affordable, pain control should be available at all schools. Girls informed about the menstrual process will also be more capable of managing pain (Aniebue et al, 2009).

4.6 Traditional beliefs

The issues of unsafe traditional practices and witchcraft are problematic for an outsider. Awareness of the specific cultural beliefs in the country is invaluable. Community organisations, such as CRECCOM and FAWEMA, working with social mobilisation, should be supported financially and institutionally in their time-consuming and essential work around puberty and initiation rites.

4.7 Partners and policy-makers

Menstrual hygiene knowledge and awareness should be imparted to schools, communities, NGOs, government offices, policy-makers, donors and any organisation concerned with girls' education. Methods to improve menstrual issues can only be implemented when everybody dares to say 'menstruation'. MHM should be on every WASH agenda, not only in Malawi but globally, and NGOs should include it in all school programmes as a priority. As noted, the production of a puberty booklet specific to Malawi could be a starting point in a coordinated and cohesive MHM school package.

5 Discussion of findings

The difficulties in addressing MHM in Malawi are similar to those in other low-income countries. The 'interrelationship between health, education, water and sanitation' (WaterAid, 2007), is now recognised but action remains overdue by policy-makers. Education and infrastructure have to work together for menstrual hygiene management. But by ignoring cultural beliefs and girls' expressed needs, the WASH sector is failing to adopt an integrated approach to MHM in schools. In order for a nation to practice gender equity and provide dignity for half its population, MHM in schools should be a priority on every school curriculum, enabling young women to enjoy a complete education, and thus fully contribute to a country's development.

In Malawi, girls' requirements around menstrual hygiene management were to:

- Listen to what girls want.
- Provide information on reproductive health and on how to manage menstruation.
- Stop bullying and sexual exploitation of girls by males.
- Make available sanitary pads and environmentally suitable disposal.

- Construct girl-friendly toilets with structured and regular cleaning and maintenance.
- Arrange appropriate analgesics.
- Modify traditional beliefs and practices.
- Raise awareness about MHM needs amongst partners and policy-makers.
- Coordinate information and methods.

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Appendix: Sanitation facilities at all schools

SCHOOL	A	B	C	D	E	F	G
Type	Urban Girls' boarding	Co-ed Boarding	Peri-urban CDSS	Peri-urban CDSS	Rural CDSS	Rural Primary	Urban CDSS
Number of teachers	42	36	15	7	6	7	35
Number of pupils	670	647	250	357	220	493	450
Number of girls	519	281	130	147	98	253	200
Age range of girls	12 to 20	12 to 20	12 to 21	13 to 21	14 to 21	6 to 21	12 to 21
Girls toilets at school	12	6	2	2	2	2	1
School toilets broken	6	6	2	0	0	0	12
Girls' dormitory toilets	20	20	n/a	n/a	n/a	n/a	n/a
Dormitory toilets broken	5	11	n/a	n/a	n/a	n/a	n/a
Ratio girls for 1 toilet	25	31.2	65	73	49	126.5	200
Door on toilet	Too small	Yes	no	no	Yes	Yes	Yes
Locks on doors	Yes	no	no	no	no	no	no
Girls used bush not toilet	Yes	Yes	Yes	Yes	no	Yes	Yes
Bin for sanitary waste	no	no	no	no	no	no	no
Incinerator for sanitary pads	Yes	Pit	no	no	no	no	no
Toilet paper	no	no	no	no	no	no	no
Soap for HW in toilet	no	no	no	no	no	no	no
Water normally for HW at school	Yes	Yes	bucket sometimes	tap sometimes	no	Yes	Mains broken
Water available day of visit	no	no	no	no	no	Yes	no
N° taps in dorm/school	80	64	0	1	0	0	1
Percentage of taps broken	50%	62%	n/a	0	n/a	n/a	100%
Ratio pupil per working tap	16	12	0	357	0	0	0
Borehole distance or mains water	Mains	Mains	700m	Mains	700m	50m	700m