

Module one

Menstrual hygiene – the basics

This module will cover...

- 1.1 Why considering menstrual hygiene is important for all
- 1.2 What is menstruation?
- 1.3 Cultural and religious beliefs, social norms and myths on menstrual hygiene
- 1.4 Girls' first experiences of menstruation
- 1.5 Girls' experiences of menstrual hygiene in school and their impact
- 1.6 Health problems related to menstrual hygiene
- 1.7 How women and girls can keep themselves healthy during their menstrual period

Part of *Menstrual hygiene matters; A resource for improving menstrual hygiene around the world*, written by Sarah House, Thérèse Mahon and Sue Cavill (2012). The full version can be downloaded from www.wateraid.org/mhm.



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1.1 Why considering menstrual hygiene is important for all

Globally, approximately 52% of the female population (26% of the total population) is of reproductive age¹. Most of these women and girls will menstruate each month for between two and seven days. Menstruation is a natural part of the reproductive cycle, in which blood is lost through the vagina. However, in most parts of the world, it remains taboo and is rarely talked about. As a result, the practical challenges of menstrual hygiene are made even more difficult by various socio-cultural factors.

To manage menstruation hygienically, it is essential that women and girls have access to water and sanitation. They need somewhere private to change sanitary cloths or pads; clean water for washing their hands and used cloths; and facilities for safely disposing of used materials or a place

to dry them if reusable. There is also a need for both men and women to have a greater awareness of menstrual hygiene. Currently, cultural practices and taboos around menstruation impact negatively on the lives of women and girls, and reinforce gender inequities and exclusion.

Refer to [Toolkit T1.1.2](#) to see how menstrual hygiene relates to the existing Hygiene Improvement Framework (HIF).

Menstrual hygiene has been largely neglected by the water, sanitation and hygiene (WASH) sector and others focusing on sexual and reproductive health, and education. As a result, millions of women and girls continue to be denied their rights to WASH, health, education, dignity and gender equity. If the situation does not change, it may not be possible for development programmes to achieve their goals.

A cycle of neglect

Lack of involvement in decision-making

Women and girls are often excluded from decision-making and management in development and emergency relief programmes. At the household level, they generally have little control over whether they have access to a private latrine or money to spend on sanitary materials. Even when gender inequalities are addressed, deeply embedded power relations and cultural taboos persist; most people, and men in particular, find menstrual hygiene a difficult subject to talk about. As a result of these issues, WASH interventions often fail to address the needs of women and girls.

Lack of information and awareness

Young girls often grow up with limited knowledge of menstruation because their mothers and other women shy away from discussing the issues with them. Adult women may themselves not be aware of the biological facts or good hygienic practices, instead passing on cultural taboos and restrictions to be observed. Men and boys typically know even less, but it is important for them to understand menstrual hygiene so they can support their wives, daughters, mothers, students, employees and peers. In the development sector, there is a lack of systematic studies analysing the impact of menstrual hygiene and resources for sharing best practice. This resource aims to address the latter.

Lack of access to products and facilities

Women and girls often find menstrual hygiene difficult due to a lack of access to appropriate sanitary protection products or facilities (eg a private space with a safe disposal method for used cloths or pads and a water supply for washing hands and sanitary materials).

Lack of social support

Taboos surrounding menstruation exclude women and girls from many aspects of social and cultural life as well as menstrual hygiene services. Such taboos include not being able to touch animals, water points, or food that others will eat, and exclusion from religious rituals, the family home and sanitation facilities. As a result, women and girls are often denied access to water and sanitation when they need it most.

Impact on education

Many schools do not support adolescent girls or female teachers in managing menstrual hygiene with dignity. Inadequate water and sanitation facilities make managing menstruation very difficult, and poor sanitary protection materials can result in bloodstained clothes causing stress and embarrassment. Teachers (and male members of staff in particular) can be unaware of girls' needs, in some cases refusing to let them visit the latrine. As a result, girls have been reported to miss school during their menstrual periods or even drop out completely. With studies² linking child survival

What menstrual hygiene challenges do women and girls face in your experience?

What impact does this have on their education, work, family life and general wellbeing?

more closely to their mother's education level than their poverty level, factors that reduce educational opportunities for girls potentially have wide ranging implications.

Impact on health

Menstruation is a natural process; however, if not properly managed it can result in health problems. Reports have suggested links between poor menstrual hygiene and urinary or reproductive tract infections and other illnesses. Further research and robust scientific evidence are needed in this area. The impact of poor menstrual hygiene on the psycho-social wellbeing of women and girls (eg stress levels, fear and embarrassment, and social exclusion during menstruation) should also be considered.

Impact on sustainability

Neglecting menstrual hygiene in WASH programmes could also have a negative effect on sustainability. Failing to provide disposal facilities for used sanitary pads or cloths can result in a significant solid waste issue, with latrines becoming blocked and pits filling quickly. Failure to provide appropriate menstrual hygiene facilities at home or school could prevent WASH services being used as intended.

Additional challenges in emergencies

Women and girls face particular challenges in emergency situations, where they may be forced to

live in close proximity to male relatives or strangers. Their usual coping mechanisms for obtaining sanitary protection materials, bathing with privacy, and washing or disposing of menstrual materials are disturbed. In some cases, conflict restricts their movement and makes it difficult to collect water or find somewhere to manage menstruation safely and with dignity. With little or no money to buy soap and non-food items such as buckets and bowls, it is impossible to maintain personal hygiene or wash and dry sanitary materials properly.

Additional challenges for girls and women in vulnerable, marginalised or special circumstances

Marginalised women and girls, such as those who are homeless or living with illnesses like HIV, face multiple layers of exclusion that affect their daily lives. Homeless women and girls are often unable to obtain hygienic sanitary materials or access water and somewhere to bathe. As a result, they cannot manage menstruation with privacy, sometimes resorting to washing and using sanitary cloths taken from refuse tips³. Those with disabilities face additional accessibility barriers to accessing WASH facilities due to limited consideration of their needs in the design process. Carers of people with disabilities or HIV/AIDS do not always have the appropriate knowledge to provide menstrual hygiene support.

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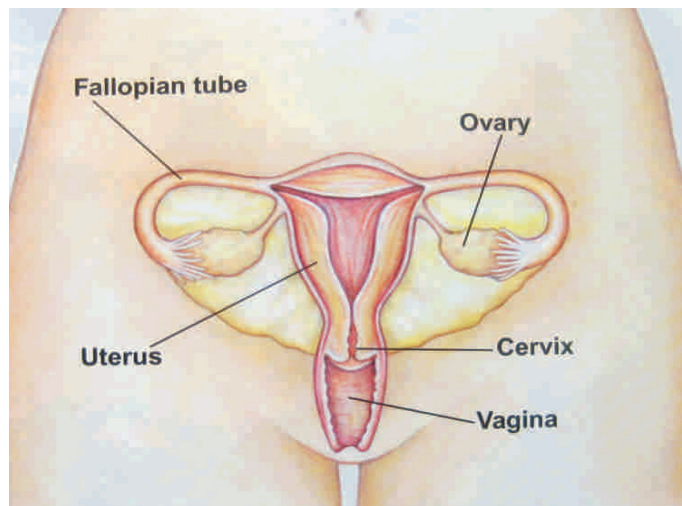
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1.2 What is menstruation?

Girls typically start to menstruate ('the time of menarche') during puberty or adolescence, typically between the ages of ten and 19⁴. At this time, they experience physical changes (eg growing breasts, wider hips and body hair) and emotional changes due to hormones. Menstruation continues until they reach menopause, when menstruation ends, usually between their late forties and mid fifties⁵. Menstruation is also sometimes known as 'menses' or described as a 'menstrual period'.

The female reproductive system

The menstrual cycle is usually around 28 days but can vary from 21 to 35 days. Each cycle involves the release of an egg (ovulation) which moves into the uterus through the fallopian tubes. Tissue and blood start to line the walls of the uterus for fertilisation. If the egg is not fertilised, the lining of the uterus is shed through the vagina along with blood. The bleeding generally lasts between two and seven days, with some lighter flow and some heavier flow days. The cycle is often irregular for the first year or two after menstruation begins.



The female reproductive system⁶

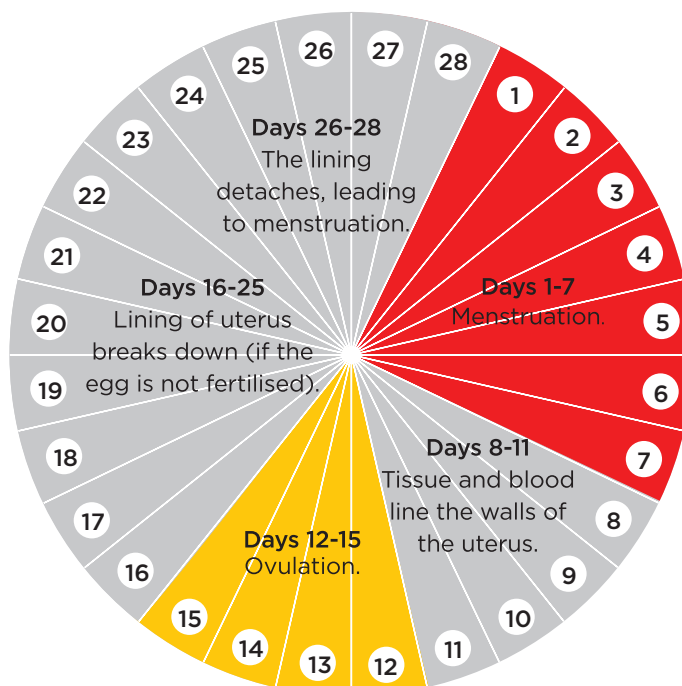
The menstrual cycle

Most women and girls suffer from period pains such as abdominal cramps, nausea, fatigue, feeling faint, headaches, back ache and general discomfort. They can also experience emotional and psychological changes (eg heightened feelings of sadness, irritability or anger) due to changing hormones. This varies from person to person and can change significantly over time.

Toolkit T1.3.1 provides a table of basic questions and answers on menstrual hygiene.

A natural process

Menstruation is a natural process linked to the reproductive cycle of women and girls. It is not a sickness, but if not properly managed it can result in health problems which can be compounded by social, cultural and religious practices.



The menstrual cycle⁷

1.3 Cultural and religious beliefs, social norms and myths on menstrual hygiene

1.3.1 Cultural beliefs, social norms and myths

Many cultures have beliefs or myths relating to menstruation. Almost always, there are social norms or unwritten rules and practices about managing menstruation and interacting with menstruating women. Most cultures have secret codes and practices around managing periods. Some of these are helpful but others have potentially harmful implications.

Many myths and social norms restrict women and girls' levels of participation in society. This can make their daily lives difficult and limit their freedom. For example, in some cultures, women and girls are told that during their menstrual cycle they should not bathe (or they will become infertile), touch a cow (or it will become infertile), look in a mirror (or it will lose its brightness), or touch a plant (or it will die).

What menstrual hygiene beliefs, norms and myths exist in your context?

Are they helpful or potentially harmful to health and dignity?

Toolkit T1.2.1 provides examples of menstrual hygiene booklets that include information on cultural and religious myths. Refer to **Toolkit T1.3.2** for more on menstruation-related myths.

1.3.2 Religious guidance on menstrual hygiene

Table 1.1 highlights some examples of religious practices related to menstruation. These differ from culture to culture and practitioners should find out what applies in their particular context.

Table 1.1 Examples of religious practices and beliefs related to menstruation

Religion	Practice(s)
Buddhism⁸	In Buddhism, menstruation is seen as a natural bodily process and therefore no restrictions apply. However, some Buddhist temples restrict menstruating women from entering, possibly because of the influence of Hinduism.
Christianity⁹	The Old Testament of the Bible indicates that a menstruating woman is impure, and that most things she touches become unclean. If a man touches her bed during this period he also becomes unclean and has to take a ritual bath. It is also stated that if a woman and man have sexual intercourse during menstruation they will be disowned by the community. However, today, most Christian denominations do not follow any specific rituals or regulations related to menstruation. Some restrictions still exist for particular denominations, such as Russian Orthodox Christians who continue to believe in menstrual taboos. Menstruating women must be secluded during menstruation and are not allowed to attend church services or have contact with men. Coptic Christians in Ethiopia also place restrictions on women during menstruation. Menstruating women are not permitted to enter a church or kiss religious icons.

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Hinduism¹⁰	‘Notions of purity and pollution determine the basis of the caste system, and are central to Hindu culture, including gender relations. Bodily excretions are considered to be polluting, as are human bodies in the process of producing them. All women, regardless of their social caste, incur pollution through the bodily processes of menstruation and childbirth. There are two main ways to achieve purity: by avoiding contact with pollutants, or purifying oneself to remove or absorb the pollution. Water is the most common medium of purification. The protection of water sources from such pollution, particularly running water, which is the physical manifestation of Hindu deities, is therefore a key concern.’¹¹ The way restrictions are practised tends to vary by caste, ethnic grouping or geographical area. For example, one caste may restrict the washing of hair for the first three days of menstruation, and another for seven days. It is common for women not to be allowed to visit a newborn child when menstruating, until after the first 40 days of the child’s life. For at least one caste, a woman is not allowed to wash her hair for the full nine months of pregnancy. Women and girls are not allowed to partake in religious ceremonies or celebrations during menstruation.
Islam¹²	For the entire duration of menstruation, a woman is considered ritually impure. She is supposed to stop certain forms of worship, eg the five daily prayers, fasting during the month of Ramadan (she fasts for an equivalent number of days later) or sitting in a mosque. She is also not allowed to touch the Qur’an (recitation is allowed as long as she does not physically touch the Qur’an and recites it from memory or, a recent adaption, reads it from a computer). She is not allowed to engage in sexual intercourse. After a woman completes her period she is supposed to have a ritual bath before she can resume her religious obligations. This process can include the wearing of a musk/perfume. During menstruation, a woman is allowed to live in the home as usual and to eat and drink with the family. Following menstruation, she can continue to wear clothes that she wore during menstruation as long as there is no blood on them. It is suggested practice for a woman to keep a separate set of clothes for menstruation so her husband will know she is menstruating without them having to talk about it.
Judaism	Jewish law forbids any sexual contact between women and men during the days of menstruation and for the following week, after which a woman has to have a ritual bath or ‘Mikvah’. Today, this tends to only be practised by the most religious. There are restrictions on women and men passing objects between each other and sharing a bed or the same plate. Men are also forbidden from gazing upon a menstruating woman’s clothing or hearing her sing.

1.3.3 Evil spirits, shame and embarrassment

Cultural norms and religious taboos on menstruation are often compounded by traditional associations with evil spirits and shame and embarrassment surrounding sexual reproduction.

Evil spirits, curses and the power of menstrual blood

- In Tanzania, some believe that if a menstrual cloth is seen by others, the owner of the cloth may be cursed¹³.
- In Bangladesh, women bury their cloths to prevent them being used by evil spirits¹⁴.
- In Sierra Leone, it is believed that used sanitary napkins can be used to make someone sterile¹⁵.
- In Nigeria, people who follow the religion of the Celestial Church believe a woman or girl should not touch any juju (charm) during menstruation or it will become ineffective¹⁶.
- In Surinam, menstrual blood is believed to be dangerous, and a malevolent person can do harm to a menstruating woman or girl by using black magic ('wisi'). It is also believed that a woman can use her menstrual blood to impose her will on a man¹⁷.
- Aboriginal female healers treat wounds and bruises with cloths soaked in menstrual blood. They believe this will help the wounds heal quicker and prevent scars being left behind¹⁸.

Shame and embarrassment around menstruation

Sexual reproduction is often a sensitive topic, leading to further shame and embarrassment about menstruation, with negative implications for women and girls. For example, male shop owners may decide not to stock sanitary hygiene products or hide them from view, and girls might not be confident asking for them; mothers may be too embarrassed to talk to their daughters because of the connection with sex and reproduction; and teachers may not be allowed to teach the biological facts.

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1.3.4 Restrictions on women and girls during their menstrual period

Cultural, religious and traditional beliefs lead to a range of restrictions being placed on women and girls during their menstrual period. The following figure details examples of these restrictions in several Asian countries. Similar restrictions are practised in other countries around the world.

Restrictions on girls during their menstrual period in Afghanistan, India, Iran and Nepal¹⁹



Excluded from water sources and toilets during menstruation²⁰

In some communities, women and girls are not allowed to use water sources during menstruation. In communities in Gujarat, India, 91% of girls reported staying away from flowing water. In another study, also in South Asia, 20% of the women interviewed, who had access to toilets, refrained from using them during their periods, partly due to fear of staining the toilet.

Table 1.2 shows the results of a study in India asking women where they manage their menstruation in the absence of a household toilet.

Table 1.2 Location of menstruation management in the absence of a household toilet, India²¹

Location	Number of respondents	Percentage of respondents
Bathing area	109	11%
Open field/outside	638	66%
Cowshed	7	1%
Community toilet	55	6%
Dark room	153	16%

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1.4 Girls' first experiences of menstruation

A girl's first experience of menstruation can be a frightening time. If she does not know about menstruation she can be shocked to see blood coming out of her vagina. She may think she is sick or dying, or believe she has done something wrong and will be punished.

Adult women often feel shy talking about menstruation, so girls are not properly informed about what is happening to their bodies or how to stay healthy and maintain self-esteem. Making factual information available is vital to counter negative menstruation myths and support those with positive impacts. This can be done through the use of booklets for girls and women, and making them also available for boys and men to learn from.

Anonymous case studies from girls in your region, on their first experiences of menstruation and the advice they have for other girls, can be an effective way of sharing information on menstrual hygiene.

Refer to **Toolkit T1.2** for ideas on possible content and styles for menstrual hygiene booklets.

Included in this module are two examples of menstrual hygiene booklets, one from Tanzania (below) and another from Zimbabwe (see **Module 1.7.3**). These booklets have used anonymous case studies from girls on their first experiences of getting their menstrual period and advice they have for other girls.

Story 3

The first day I got my period I was in Standard 6. Because I was at school, I had to tell my very close friend. I wasn't able to tell the teacher because I was very afraid. I cried but my friend encouraged me and told me not to cry. I asked for permission to go home. When I got home, I washed my body. I told myself not to be afraid and I told my mother. She congratulated me but I was amazed because I thought it was something extraordinary. She gave me a lot of advice and I realised it was a normal thing.

For myself, I would like to advise my fellow girls who have not reached this stage that they should not be afraid when this happens because it is a normal thing. If they are afraid, I advise them to get rid of their fear because it is not a sickness. It is not a problem of any kind. It is a natural thing which God wanted us girls and women to have. Even if you have never heard anything about this, or if you have never been taught in school or by your parents or relatives, I want you to learn from me and see that it is a normal thing. If you would like to know more, I advise you to read books and attend seminars or ask your older relatives or even your mother.



Hadithi ya 3

Siku nilipovunja ungo nilikuwa shule. Ilibidi nimweleze rafiki yangu ambaye yeye ni rafiki wa karibu sana. Sikuweza kumwambia mwalimu wangu kwa sababu nilikuwa naogopa sana. Si hofu tu, hata kulia nililia sana lakini rafiki yangu alinipa moyo na kunishauri nisilie. Basi niliomba ruhusa nikarudi nyumbani. Nilipofika nyumbani, nilifanya usafi wa kimwili na kujiweka safi. Nikajikaza kuondoa hofu nikamwambia mama yangu. Alinipongeza lakini ilinibidi nishangae kwa sababu niliona ni kitu cha ajabu sana.

Alinishauri mambo mengi nami pia nikaona ni kitu cha kawaida. Kwa upande wangu napenda kuwashauri wasichana wenzangu ambao hawajafikia hatua hii kuwa wasiwe na hofu jambo hili likiwatokea kwa sababu ni jambo la kawaida. Kama wanakuwa na hofu kuhusu jambo hili nawashauri wasiwe na hofu kabisa kwani si ugonjwa wala si matatizo; ni kitu cha kawaida ambacho Mungu alipenda sisi wasichana na wanawake tuwe hivi. Hata wewe ambaye hujawahi kusikia mahali popote wala hujawahi kufundishwa shuleni au wazazi wako au kwenye ukoo wenu, ninapenda ujifunze kutoka kwangu na uone kwamba ni kitu cha kawaida. Na endapo utapenda kujua zaidi nakushauri usome vitabu na kuhudhuria semina au ukipenda zaidi uwaulize ndugu zako wakubwa au mzazi wako.

1.5 Girls' experiences of menstrual hygiene in school and their impact

The boxes below provides an overview of a selection of research findings from Africa and Asia that document schoolgirls' voiced experiences of menstrual hygiene.

Please note, many of these studies are small scale and have applied different methodologies, so the findings cannot be compared directly, although some common issues can be seen.

For more detail and references for the data refer to **Toolkit T1.3.3.**

Girls' voiced experiences of menstrual hygiene in the school setting

Days missed from school or reduced performance	Pain, embarrassment, shame, fear
95% of girls in Ghana sometimes miss school due to menses. 86% and 53% of girls in Garissa and Nairobi (respectively) in Kenya miss a day or more of school every two months. - In Malawi 7% of girls miss school on heavy days. Over a term, each girl misses 0.8 days. - In Ethiopia 51% of girls miss between one and four days of school per month because of menses. 39% reported reduced performance. - One study from Nepal indicated only 0.4 days were missed over the 180 days of the school year. Another study found only 3.4% of girls did not go to school when menstruating, but over half had been absent at least once due to menstruation.	71% of girls in Iran and 54% of girls in Ethiopia experienced pain in their stomach or back during menses. 48-59% of girls in peri-urban areas and 90% in rural areas of Ghana felt ashamed during their period. 43-60% of girls in peri-urban areas and 95% of girls in rural areas in Ghana experienced embarrassment during their last period. 30% of girls in Malawi had been scared at menarche. - Of those who experienced pain during their menses in Iran, 52% were also nervous during their period.
Menstrual hygiene practices	Knowledge of menstrual hygiene and preference for who provides information
51% of girls in Iran do not take a bath for eight days after the onset of their period. 84% of girls in Afghanistan never wash their genital areas. 80% of girls in Afghanistan and 39% of girls in India use water but no soap for washing their menstrual protection. 30% of girls in Malawi do not use the latrine when menstruating. This was also noted by 20% of women in communities in India. 11% of girls in Ethiopia and 60% of girls in India only change their menstrual cloths once a day.	48% of girls in Iran, 10% in India and 7% in Afghanistan believe menstruation is a disease. 51% of girls in Afghanistan and 82% in Malawi were unaware of menses before menarche. - In Afghanistan, Iran, Kenya and Malawi girls learned about menstruation from their mothers, grandmothers, friends and classmates. - In Ethiopia girls are most comfortable receiving information on menstrual hygiene from a female teacher, their mother, health personnel, friends or sister(s). In Kenya only 12% would be comfortable to receive the information from their mother.

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1.6 Health problems related to menstrual hygiene

This section²³ considers the health issues associated with menstruation as well as the potential risks to health of poor menstrual hygiene management. It should be stressed that there is a lack of evidence on the actual risks to health associated with menstrual hygiene and there is a need for further research, particularly in low income contexts.

The menstrual cycle

There is normal variation in the length of the menstrual cycle, the amount of blood loss and the degree of pain and discomfort experienced by women and girls at different ages during their menstrual cycle.

However, menstruation can also give rise to certain medical conditions, listed in Table 1.3²⁵.

The absence of periods (amenorrhea) is normal:

- During pregnancy.
- During frequent breastfeeding (lactational amenorrhea).
- At the time of menarche (when menstruation first begins).
- When food intake is severely limited.
- Following the menopause when menstruation ceases.

Pain during periods (dysmenorrhea) often has no underlying medical explanation and studies report varying prevalence. A study in New Zealand claimed that menstrual pain was reported by 53% of women aged 16-54 with 12% reporting pain that necessitated missing school or work²⁶.

Challenges to seeking medical help in Bangladesh²⁴

Women and girls in poor families tend not to seek medical help because:

- Over half of all women follow their husband's say on whether to seek treatment.
- A third of women cannot travel alone to a hospital or health centre.
- There is a reluctance to discuss reproductive health issues.

This makes the prevention of infections by hygiene promotion particularly important, especially among those in poorer and less educated families where taboos and inhibitions are at their strongest.

Table 1.3 Medical terms associated with menstruation

Medical term	Definition or main symptom
Menstruation	The shedding of the uterine lining occurring on a regular basis in reproductive-aged females in monthly menstrual cycles.
Pre-menstrual syndrome (PMS)	Consistent and severe pattern of emotional and physical symptoms, such as pain, bloating and mood changes that occur in the latter part of the menstrual cycle.
Irregular cycles	Unpredictable long and short cycles with varying degrees of blood loss. Also known as menstrual irregularities. Can include some of the symptoms listed above.
Menorrhagia	Excessive, very heavy and prolonged bleeding (this can lead to anaemia and be fatal if untreated).
Polymenorrhea	Frequent periods or short cycles (less than 21 days).
Amenorrhea	No bleeding for three or more months.
Oligomenorrhea	Light or infrequent periods (menstrual cycles of 35-90 days).
Dysmenorrhea	Pain, backaches, abdominal pain or cramps during menstruation.
Spotting/inter-menstrual bleeding	Blood loss (even slight) between periods.

Potential risks of poor menstrual hygiene management

It is assumed that the risk of infection (including sexually transmitted infection) is higher than normal during menstruation because the plug of mucus normally found at the opening of the cervix is dislodged and the cervix opens to allow blood to pass out of the body. In theory this creates a pathway for bacteria to travel back into the uterus and pelvic cavity.

In addition, the pH of the vagina is less acidic at this time and this makes yeast infections such as Thrush (Candidiasis) more likely²⁷.

Certain practices are more likely to increase the risk of infection. Using unclean rags, especially if they are inserted into the vagina, can introduce or support the growth of unwanted bacteria that could lead to infection. Some girls and women may roll up sanitary pads and

insert these into the vagina. Prolonged use of the same pad will also increase the risk of infection. Douching (forcing liquid into the vagina) upsets the normal balance of yeast in the vagina and makes infection more likely. Wiping from back to front following defecation or urination causes contamination with harmful anal bacteria, such as *Escherichia coli* (*E.coli*), which can also be transmitted from the rectum to the urinary tract and/or vagina during sex.

The risk of passing on, or in some cases contracting²⁸, blood-borne diseases (eg HIV or Hepatitis B) through unprotected sex is also increased during menstruation. This is because the highest concentrations of HIV and Hepatitis B are found in blood, with lower concentrations found in other body fluids such as semen and vaginal secretions²⁹.

These additional risks mean that ensuring good hygiene during menstruation is very important. However, research on the actual risks to health of different menstrual hygiene practices, particularly in low-income countries, is patchy or absent.

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Table 1.4 Potential risks to health of poor menstrual hygiene

Practice	Health risk
Unclean sanitary pads/materials	Bacteria may cause local infections or travel up the vagina and enter the uterine cavity.
Changing pads infrequently	Wet pads can cause skin irritation which can then become infected if the skin becomes broken.
Insertion of unclean material into vagina	Bacteria potentially have easier access to the cervix and the uterine cavity.
Using highly absorbent tampons during a time of light blood loss	Toxic Shock Syndrome (see right).
Use of tampons when not menstruating (eg to absorb vaginal secretions)	Can lead to vaginal irritation and delay the seeking of medical advice for the cause of unusual vaginal discharge ³⁰ .
Wiping from back to front following urination or defecation	Makes the introduction of bacteria from the bowel into the vagina (or urethra) more likely.
Unprotected sex	Possible increased risk of sexually transmitted infections (see below) or the transmission of HIV or Hepatitis B during menstruation.
Unsafe disposal of used sanitary materials or blood	Risk of infecting others, especially with Hepatitis B (HIV and other Hepatitis viruses do not survive for long outside the body and pose a minimal risk except where there is direct contact with blood just leaving the body).
Frequent douching (forcing liquid into the vagina)	Can facilitate the introduction of bacteria into the uterine cavity ³¹ .
Lack of hand-washing after changing a sanitary towel	Can facilitate the spread of infections such as Hepatitis B or Thrush ³² .

Refer also to [Module 3.3.1](#) for potential health risks through the handling of used sanitary products while caring for a bedbound woman or girl.

Toxic Shock Syndrome

Toxic Shock Syndrome (TSS) can occur in a number of settings, including post partum, from infected skin, surgical interventions or as a result of menstrual hygiene practices – especially the use of tampons. Menstrual-related TSS results from insertion of a fomite (an object or substance that is capable of carrying infectious organisms).

TSS is a rare but serious and sometimes fatal disease. It is caused by a toxin produced by strains of a bacterium known as *Staphylococcus aureus*, which normally lives harmlessly on the skin and in the nose, armpit, groin or vagina of one in three people. In rare cases, these bacteria cause a toxin resulting in TSS in a person who does not have antibodies to the toxin. The risk of TSS is greater in younger than in older people, the acquisition of protective antibodies being a function of age³³.

Infections have been especially linked to the use of high absorbency tampons³⁴.

The signs and symptoms of TSS mimic flu symptoms, normally beginning with a sudden/acute high fever (38°C/100.4°F) and then developing rapidly into other symptoms, often in the course of a few hours. These may include:

- Rash – diffuse macular erythroderma (reddish eruption of bumps and flat discoloured skin).
- Skin desquamation – rash like sunburn with discoloration and skin peeling, especially on palms and soles, one to two weeks after illness onset.
- Hypotension – dizziness, fainting.
- Myalgia (muscle aches).
- Disorientation/alteration in consciousness, confusion.
- Gastro-intestinal symptoms (vomiting, diarrhoea).

Vaginal discharge

Vaginal discharge may be thin and clear, thick and mucous-like, or long and stringy. A discharge that appears cloudy white, and/or yellowish when dry on clothing is normal. The discharge will usually change at different times in the menstrual cycle and for various other reasons, including emotional or sexual arousal, pregnancy and use of oral contraceptive pills.

The following can be a sign of abnormal discharge and could indicate a health problem:

- Discharge accompanied by itching, rash or soreness.
- Persistent increased discharge.
- White, lumpy discharge (like curds).
- Grey/white or yellow/green discharge with a bad smell.

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Infections related to the reproductive tract

Girls and women may be more at risk of infections during menstruation. Some of the common infections associated with the reproductive tract are noted below:

- Bacterial Vaginosis
- Vulvovaginal Candidiasis (Thrush)
- Chlamydia
- Trichomonas Vaginalis
- Gonorrhoea
- Syphilis
- Hepatitis B
- HIV
- Urinary tract infections
- Pelvic Inflammatory Disease
- Vaginitis

While menstruation may make a girl or woman more susceptible to infection, sexually transmitted infections (STIs) only occur through having unprotected sex³⁵. The term reproductive tract infection (RTI) includes sexually and non-sexually transmitted infections.

Some RTIs may also increase the risk of other reproductive health problems. It is considered that the bacteria that cause Bacterial Vaginosis have a possible, but not proven, link with increased vulnerability to HIV. BV is also thought to increase the chance of premature delivery, postpartum infections, and postsurgical complications after abortion or caesarian section³⁶.

Poor menstrual hygiene may, in theory, contribute to infections such as Bacterial Vaginosis, but it is not known if poor menstrual hygiene practice increases the risk of all reproductive tract infections or the risk of reproductive tract infections in different population groups. A study in the Gambia for example, found that Bacterial Vaginosis was 'not associated with any of the factors relating to sexual hygiene practices (vaginal douching, menstrual hygiene and female genital cutting)'³⁷.

While there is no evidence for increased risk of acquisition of chlamydia or gonorrhoea in the lower genital tract during menstruation, if unprotected sex occurs at this time, there may be an increased risk through the increased penetrability of the cervical mucus and movement of menstrual blood back into the uterus. This in turn could lead to a complication of Pelvic Inflammatory Disease and infection of the upper genital tract. Sexual intercourse

during menstruation can also be one possible risk factor for progression of lower genital tract infection to Pelvic Inflammatory Disease³⁸.

Urinary tract infections (UTIs) are bacterial infections that can affect any part of the urinary tract. They can be a symptom of reproductive tract infections. However, there is limited research on the risk of UTI from poor menstrual hygiene practices³⁹.

For further details on RTIs, refer to the tables in [Toolkit T1.3.4](#).

Other conditions sometimes associated with menstruation

In the available literature there are a number of other diseases and conditions that are sometimes associated (not always correctly) with menstruation and menstrual hygiene. These include:

- Endometriosis
- Fibroids
- Ovarian Cancer⁴⁰
- Toxic Shock Syndrome
- Complications due to female genital mutilation/female genital cutting
- Pubic lice and Scabies⁴¹

For further details on diseases and conditions associated with menstruation refer to [Toolkit T1.3.4](#).

For further information on female genital mutilation/female genital cutting refer to [Toolkit T7.3.3](#).

Health risks from sanitary products and materials used for menstruation

Sanitary materials manufactured by large multinationals are usually rigorously tested to ensure they do not cause hypersensitivity reactions. However, girls or women with particularly sensitive skin may experience reactions to menstrual hygiene products, particularly as a result of friction or prolonged contact of moisture with the skin. Some women have allergic reactions to additives added to commercial products to mask odour and/or increase absorbency. Large-scale manufacturers are continually developing their products to increase absorbency and acceptability but the costs of such products may be out of

reach of many women and girls. Locally produced products can often be cheaper and just as acceptable for the majority of women. However, it is in the interest of every manufacturer to ensure that their products are acceptable, and are packaged and sold in hygienic conditions.

Toxic Shock Syndrome has been associated with the use of tampons (particularly high absorbency tampons available in the 1980s)⁴². Not changing a tampon regularly is not believed to be a risk factor for TSS (although it is sometimes noted to be so) but changing a tampon regularly is still recommended as good practice^{43, 44}. TSS risk can be reduced by using a tampon with the lowest absorbency needed to manage the menstrual flow and to interrupt tampon usage by using a sanitary towel from time to time during the period⁴⁵.

Reported incidences of menstruation-related health problems

As with other areas of menstruation, there appears to be a lack of studies that provide evidence on the incidence of menstruation-related health problems.

Three studies that explored the subjective experiences of girls and women noted a variety of perceived health problems associated with menstruation (see Table 1.5 below). More research is needed in this area to determine the actual cause of some of these perceived symptoms and their link to menstruation (if any).

For more details on Toxic Shock Syndrome refer to **Toolkit T1.3.4**.

Refer to **Module 3.2.2** for more details on standards and regulations relating to sanitary pads.

Table 1.5 Subjective symptoms relating to menstruation as reported by girls and women from three countries

Country	Reported problems
Nepal⁴⁶	- Abdominal pain/discomfort – 83% - Breast pain/discomfort – 5% - Excessive bleeding – 8% - Others – 4%
India⁴⁷	Around 14% of women reported suffering from menstrual infections, including white discharge (leucorrhoea), itching/burning, ovaries swelling, and frequent urination.
Ethiopia⁴⁸	74.3% reported having health problems during menstruation: - Backpain – 54.5% - Mood change/irritability/depression – 35.3% - Irregularity – 20.7% - Headache – 15.1% - Excess flow – 14.9% - Sleep disorder – 6%

Further research and information is still needed on:

- The health, social, educational and economic impacts of menstrual hygiene.
- The actual risk to health associated with specific menstrual hygiene practices.
- The frequency of health problems associated with menstruation.
- The link between medical conditions and symptoms experienced by women.

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1.7 How women and girls can keep themselves healthy during their menstrual period

1.7.1 Booklets for girls on adolescence and menstruation

Booklets for girls on menstrual hygiene are available in a number of countries (eg Afghanistan, India, Pakistan, Sierra Leone, Tanzania and Zimbabwe) and new ones are being developed in Cambodia, Ghana, Ethiopia and Uganda. See [Module 9.1](#) for methodologies for researching booklets and obtaining feedback.

Refer to [Toolkit T1.2.1](#) for examples of menstrual hygiene booklets for girls and proposed content.

If available, use the menstrual hygiene booklets already developed for the particular culture, language and ethnic background of the girls. If these books are not available, work with other sectors and organisations to develop a coherent booklet or set of information for girls to be used across programmes.

1.7.2 Booklets for boys on adolescence

While it is not known how much work has been done on educating boys on issues surrounding menstrual hygiene, it is identified as an area that needs greater attention. Information on menstrual hygiene could be integrated into information for boys on adolescence as well as in relation to issues such as sexual and gender-based violence and respecting girls and women.

Dr Marni Sommer of Columbia University, USA, is currently (2011) working to develop a booklet on puberty and adolescence for Tanzanian boys, to complement the booklet developed on menstrual hygiene for girls. Save the Children and partners are also currently involved in developing a booklet for boys in Nepal (2011).

1.7.3 How women and girls can keep themselves healthy during their menstrual period

Table 1.6 provides a simple overview of how women and girls can keep themselves healthy during their menstrual period.

Table 1.6 How women and girls can keep themselves healthy during their menstrual period⁴⁹

'How to' questions	Good practice guidance for girls and women on managing their menstrual period
How to manage your first period?	• Talk to other girls and women, such as your mother, sister, aunt, grandmother, female friend or an older woman in your community. • Don't be afraid. It can be scary to see the blood on your underwear, but it is normal and natural. • If you are at school, tell the matron, a female teacher or a fellow student. • Feel proud! Your body is developing into that of a young woman.
How to capture the blood?	• Place a cloth, pad, cotton or tissue on your underwear. • Never insert the material inside your vagina. • Change the cloth, pad, cotton or tissue every two to six hours or more frequently if you think that the blood flow is getting heavy.
How to dispose of the cloth, pad, cotton or tissue?	• If you are re-using a cloth, put it into a plastic bag until you can wash it with hot water and soap and then dry it in the sunshine or iron it. • If you are using a pad, tissue or cotton, or want to dispose of your cloth, wrap it in paper to make a clean package and put it in the bin so it can be burned later. • If there is no other option, drop it straight in the latrine pit as long as it is not a water seal pour flush pan as this could easily become blocked.
How to keep yourself clean during your period?	• Every day (morning and evening if possible) wash your genitals with soap and water. • Keep unused cloths and pads clean (wrapped in tissue or plastic bag) for further use. • Pat the area dry with a cloth, and put a fresh cloth (such as a kanga, sari or other local cloth), pad, cotton or tissue on your underwear. • Always wipe from front to back after defecation. • Never douche (washing out the vagina with water).
How to manage the stomach pain from your period?	• You can put a bottle with hot water on your stomach area when you are resting. • Try to do some exercises and keep your body active. • You can take painkiller medicines every four to six hours on the most painful days.

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Other ideas for good practice can be found in other menstrual hygiene girls' books from India, East Africa, Sierra Leone and Zimbabwe. The examples below are of pictures being used to communicate good practice.



Pictorial representations of good menstrual hygiene, Sierra Leone⁵⁰



Pictorial representation of managing menstrual pain, Zimbabwe⁵¹

Endnotes

¹ Population Reference Bureau (2011) *The world's women and girls – 2011 data sheet*. Available at: www.prb.org/pdf11/world-women-girls-2011-data-sheet.pdf.

² Gakidou E, Cowling K, Lozano R and Murray CJL (2010) Increased educational attainment and its effect on child mortality in 175 countries between 1970 and 2009: A systematic analysis, *Lancet*, vol 376, pp 959-74.

³ Joshi D and Morgan J (2007) Pavement dwellers' sanitation activities – visible but ignored, *Waterlines*, vol 25, no 3, pp 19-22.

⁴ Zegeye DT, Megabiaw B and Mulu A (2009) Age at menarche and the menstrual pattern of secondary school adolescents in northwest Ethiopia, *BMC Women's Health*, vol 9, no 29. Available at: www.biomedcentral.com/1472-6874/9/29.

⁵ Thomas F, Renaud F, Benefice E, de Meeüs T and Guégan JF (2001) International variability of ages at menarche and menopause: Patterns and main determinants, *Human Biology*, vol 73, no 2, pp 271-290.

⁶ Picture taken from: Kanyemba A (2011) *Growing up at school, a guide to menstrual management for school girls*. Zimbabwe: Water Research Commission, South Africa.

⁷ Based on: UNICEF (no date) *Flow with it, babe! Let's talk about feminine hygiene*. East Africa.

⁸ <http://myperiodblog.wordpress.com/2010/11/19/menstruation-and-religion/> (accessed 31 Dec 2011).

⁹ Ten VTA (2007) *Menstrual hygiene; A neglected concern for the achievement of several Millennium Development Goals*. Europe External Policy Advisors; and Ben-Noun L (2003) What is the biblical attitude towards personal hygiene during vaginal bleeding? *European Journal of Obstetrics and Gynecology and Reproductive Biology*, vol 106, pp 99-101.

¹⁰ Various sources including personal communications.

¹¹ WaterAid (2010) *Menstrual hygiene in South Asia; A neglected issue for WASH (water, sanitation and hygiene) programmes*.

¹² Various personal communications; www.idealislam.com (accessed 22 Sep 2011).

¹³ Sommer M (2010) *Utilising participatory and quantitative methods for effective menstrual hygiene management related policy and planning*. Paper for the UNICEF-GPIA Conference, New York.

¹⁴ UNICEF Bangladesh (2008) *Bangladesh; Tackling menstrual hygiene taboos; Sanitation and hygiene case study no 10*.

¹⁵ Noted in: Ten VTA (2007) *Menstrual hygiene; A neglected concern for the achievement of several Millennium Development Goals*. Europe External Policy Advisors.

¹⁶ Onyegebu N (no date) *Menstruation and menstrual hygiene among women and young females in rural eastern Nigeria*.

¹⁷ Noted in: Ten VTA (2007) *Menstrual hygiene; A neglected concern for the achievement of several Millennium Development Goals*. Europe External Policy Advisors.

¹⁸ Ibid.

¹⁹ Examples from a range of publications documented in: WaterAid (2010) *Menstrual hygiene in South Asia; A neglected issue for WASH (water, sanitation and hygiene) programmes*; from research findings documented in: Ministry of Education and Ministry of Public Health, Islamic Republic of Afghanistan (2010) *Assessment of knowledge, attitude and practice of menstrual health and hygiene in girls schools in Afghanistan*; and from research in: Poureslami M and Osati-Ashtiani F (2005) Attitudes of female adolescents about dysmenorrhoea and menstrual hygiene in Tehran suburbs, *Archives of Iranian Medicine*, vol 5, no 4, pp 219-224.

²⁰ WaterAid (2010) *Menstrual hygiene in South Asia; A neglected issue for WASH (water, sanitation and hygiene) programmes*.

²¹ Fernandes M (2010) *Freedom of mobility: Experiences from villages in the states of Madhya Pradesh and Chhattisgarh, India*. South Asia Hygiene Practitioners' Workshop, Dhaka, Bangladesh.

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²² Sommer M (2009) *Vipindi vya maisha; Growth and changes*. Macmillan Aidan.

²³ This publication is for information only and should not be used for the diagnosis or treatment of medical conditions. WaterAid has used all reasonable care in compiling the information but makes no warranty as to its accuracy. A doctor or other healthcare professional should be consulted for diagnosis and treatment of medical conditions. Specific expert advice was taken to develop and review the sections of this resource relating to health and menstrual hygiene, in particular Module 1 - Section 1.6 and Toolkit 1 - Section 1.3.4. These sections were written by Suzanne Ferron, an independent consultant, registered nurse and registered health visitor, and reviewed by Brad Kerner, Adolescent Reproductive Health Adviser at Save the Children, Dr Penelope Phillips-Howard, Senior Researcher at the Centre for Public Health, Liverpool John Moores University, and Dr Vendela McNamara, Associate Specialist in Sexual Health at University Hospitals Leicester. It was also reviewed by Dr Marni Sommer, Assistant Professor of Socio-Medical Sciences, Columbia University, Julia Rosenbaum, Senior Behaviour Change Specialist, USAID/WASHPlus Project (FHI360), Dr Helen Pankhurst, Senior Adviser, Water Team, CARE.

²⁴ UNICEF Bangladesh (2008) *Bangladesh; Tackling menstrual hygiene taboos; Sanitation and hygiene case study no 10*.

²⁵ In severe cases, help should be sought for these problems from a qualified medical practitioner, as some can be a symptom of a serious illness that needs further investigation. Treatment is available for most conditions.

²⁶ Pullon S, Reinken J and Sparrow M (1988) Prevalence of dysmenorrhoea in Wellington women, *New Zealand Medical Journal*, vol 101, pp 52-54.

²⁷ www.mckinley.illinois.edu/handouts/vaginal_discharge.html.

²⁸ There is no clear evidence that HIV acquisition for women is greater during menstruation, but the risk of HIV positive women passing on the virus during menstruation is greater due to the presence of blood. Some studies have also shown an increase in the shedding of the HIV virus in the reproductive tract just prior to and during menstruation, increasing the likelihood. Reichelderfer PS, Coombes RW, Wright DJ, Cohn J, Burns DN, Cu-Uvin S, Baron PA, Landay AL, Beckner SK, Lewis SR, Kovacs AA (2000) *AIDS*, vol 14,

no 14, pp 2,101-7; and Benki S, Mostad SB, Richardson BA, Mandaliya K, Kreiss JK, Overbaugh J (2004) Cyclic shedding of HIV-1 RNA in cervical secretions during the menstrual cycle, *Journal of Infectious Diseases*, vol 189, no 12, pp 2,192-201.

²⁹ CDC (2010) *STD treatment guidelines; Evidenced based recommendations for the treatment and prevention of STDs*. Available at: www.cdc.gov/std/treatment/2010/default.htm (accessed 20 Oct 2011).

³⁰ Hochwalt A (2012) Personal communication.

³¹ McKee D, Baquero M, Anderson M and Karasz A (2009) Vaginal hygiene and douching: Perspectives of Hispanic men, *Culture, Health and Sexuality*, vol 11, no 2, pp 159-171.

³² Candida overgrowth causes Thrush. Candida is normally present in gut flora and also in the mouth and vagina. Hence a lack of hand-washing after going to the toilet or changing a sanitary towel or tampon could spread infection either to the vagina, urethra or to the mouth of another susceptible person (such as a baby).

³³ Toxic Shock Information Service (no date) *Toxic Shock Syndrome; Know the facts*; and Toxic Shock Information Service (no date) *Toxic Shock Syndrome: A health professional's guide*. Both are available from: www.tssis.com (accessed 22 Feb 2012).

³⁴ Osterholm MT, Davis JP, Gibson RW, Mandel JS, Wintermeyer LA, Helms CM, Forfang JC, Rondeau J and Vergeront JM (1982) Tri-state Toxic-Shock Syndrome study. I. Epidemiologic findings, *Journal of Infectious Diseases*, vol 145, no 4, pp 431-440.

³⁵ Some STIs such as HIV and Hepatitis B can also be transmitted in other ways, such as through sharing intravenous needles. These infections are not normally considered as RTIs.

³⁶ Demba E, Morison L, Van der Loeff MS, Awasana AA, Gooding E, Bailey R, Mayaud P and West B (2005) Bacterial vaginosis, vaginal flora patterns and vaginal hygiene practices in patients presenting with vaginal discharge syndrome in the Gambia, West Africa, *BMC Infectious Diseases*, vol 5, no 12. Available from: www.biomedcentral.com/1471-2334/5/12 (accessed 18 December 2011).

³⁷ Ibid.

³⁸ Ness R et al (2006) *Sexually transmitted disease*; Jossens et al (1996) *Sexually transmitted disease*.

³⁹ Research conducted in the USA found no link between type of menstrual protection (commercially manufactured napkin or tampon) and incidence of UTI. Foxman B and Jen-Wei C (1990) Health behaviour and urinary tract infection in college-aged women, *Journal of Clinical Epidemiology*, vol 43, no 4, pp 329-337.

⁴⁰ It has been suggested that the constant injury and repair caused by ovulation and resulting menstruation may play a part in causing cancer of the ovaries in some women. Casagrande JT, Pike MC, Ross RK, Louie EW, Roy S and Henderson BE (1979) "Incessant ovulation" and ovarian cancer, *Lancet*, vol 28, no 2, pp 170-3.

⁴¹ Transmission is not linked to poor menstrual hygiene but sometimes it is perceived to be connected.

⁴² Parsonnet J, Hansmann MA, Seymour JL, Delaney ML, Dubois AM, Modern PA, Jones MB, Wild JE and Onderdonk AB (2010) Persistence survey of Toxic Shock Syndrome toxin-1 producing *Staphylococcus aureus* and serum antibodies to this superantigen in five groups of menstruating women, *BMC Infectious Diseases*, vol 10, no 249.

⁴³ Toxic Shock Information Service (no date) *Toxic Shock Syndrome; Know the facts*. Available from: www.tssis.com (accessed 22 Feb 2012).

⁴⁴ Osterholm MT, Davis JP, Gibson RW, Mandel JS, Wintermeyer LA, Helms CM, Forfang JC, Rondeau J and Vergeront JM (1982) Tri-state Toxic-Shock Syndrome study. I. Epidemiologic findings, *Journal of Infectious Diseases*, vol 145, no 4, pp 431-440.

⁴⁵ Toxic Shock Information Service (no date) *Toxic Shock Syndrome; Know the facts*. Available from: www.tssis.com (accessed 22 Feb 2012).

⁴⁶ WaterAid in Nepal (2009) *Is menstrual hygiene and management an issue for adolescent school girls?; A comparative study of four schools in different settings in Nepal*.

⁴⁷ WaterAid (2010) *Menstrual hygiene in South Asia; A neglected issue for WASH (water, sanitation and hygiene) programmes*.

⁴⁸ Abera Y (2004) *Menarche, menstruation related problems and practices among adolescent high school girls in Addis Ababa*. MSc thesis.

⁴⁹ Adapted from: Sommer M (2009) *Vipindi vya maisha; Growth and changes*. Macmillan Aidan.

⁵⁰ UNICEF (no date) *Menstrual hygiene; A brief guide for girls*. Sierra Leone.

⁵¹ Kanyemba A (2011) *Growing up at school, A guide to menstrual management for school girls*. Zimbabwe: Water Research Commission, South Africa.