

## WOMENA SUMMARY<sup>1</sup>

**Q1: Do girls miss school because of menstruation?** ‘One in ten girls in sub-Saharan Africa misses school during their period’. This statement has not been substantiated, but empirical evidence from low- and middle-income countries has accumulated, confirming a negative effect at varying levels (from less than 10 to more than 50 percent absence during menstruation). One study from Uganda found more than half of the students reported missing 1-3 days of school per period. On the other hand, another study from Nepal showed little absence.

**Q2: Do girls participate less in school activities when they menstruate?** Researchers suggest that, beyond school **absenteeism**, class **participation** may give a better sense of the negative effect of menstruation on girls’ educational attainment. For example, one study from Uganda indicated 64.7 percent of girls were afraid to stand in class to answer questions, fearing classmates might ridicule them if they leaked blood or smelled. In India, a study found 70 percent of girls reporting difficulty to concentrate in class during menstruation.

**Q3: Why is menstruation a problem?** Menstruation is a normal process, but it can become a problem: a lack of menstrual **products**, (reported to be the main barrier for 73.7 percent of schoolgirls in South Sudan), of adequate **toilets** or **water** and waste **disposal** (less than half of upper secondary school in sub-Saharan Africa have access to basic handwashing facilities), **Menstrual pain and discomfort**: (71 percent of girls in a study in Uganda reported pain and discomfort as the main reasons they missed school). Girls around the world report on feelings of **shame, fear, stigma, and uncleanliness**. A lack of **education** about menstruation for girls, and of a **supportive environment** (parents, teachers, policy makers) are documented.

**Q4: Can interventions make a difference?** A small number of studies suggest menstrual health management interventions can have positive effects. Most interventions provide **products** and girls’ **education**. For example, a study from Uganda indicated that girls provided with **pads** and/or **education** experienced 17 percent less drop in **attendance** than the control group. Researchers suggest there is a need to study broader, and 'softer', results: e.g. on pain management, stigma, knowledge, supportive environments (incl. males). Pilot studies by organisations like WoMena and partners include pain management techniques, and engage communities. One study in Uganda found that the percentage of girls who have discussed menstruation with their families increased (from 'taboo' before the intervention to 94 percent). Words frequently associated with menstruation change from 'fear' or 'shame' to 'freely' ('now I can bicycle to school freely'). These feasibility studies may be helpful to identify factors which are important in their own right, as well as being preconditions in achieving educational goals.

Education and age at first sex are key drivers of fertility decrease. Education about MHM can be an entry point for broader education on reproductive health, helping postpone first sex.

This is the best evidence we could find. Comments are warmly welcome! (please write [andisheh.jahangir@womensnetwork.org](mailto:andisheh.jahangir@womensnetwork.org))

<sup>1</sup> The FAQ was developed by WoMena (researchers Anna Bezruki, S. Tellier, Marianne Tellier, and Jennifer Rasanathan, reviewers Janie Hampton, World Menstrual Network, Helen Maria Lynn, Women's Environmental Network, Lene Blegvad, MA.

WoMena receives many questions from the women and girls we reach out to, from our trainers and from our partners. Therefore, we have created a series titled “WoMena FAQs” where we address these questions and answer them based on the best available scientific literature, consultation with experts, health authority guidelines and manufacturer advice.

Attention to Menstrual Health Management (MHM) has grown rapidly over the last decade. The focus has broadened over that period - from a strict ‘hygiene’ focus on products, water and sanitation<sup>2</sup> (Biran et al. 2012) to a recognition that a broader ‘health’ focus might be needed, including social values<sup>3</sup> (Roeckel 2019). One difficulty is that studies to date are very heterogeneous in design, for example using different metrics to define and measure ‘miss school’ (e.g. missing any days during their period, missing all 4-5 days, missing part-day, or other) and using different methodologies (e.g. reporting by girls or outsider observation), making comparison difficult. It may be that ‘miss school’ is not a reliable indicator until it is better defined. Thus, it is perhaps not surprising that evidence is as yet limited. Researchers are proposing there be a shift from ‘hardware’ oriented design: from a focus on products, water and sanitation to more ‘software’ approach: knowledge, attitudes, feelings (Phillips-Howard et al. 2016, Sommer et al. 2019).

Conclusions for programming therefore remain tentative, and we need to look at many types of ‘evidence’. The ‘evidence’ presented in this review is mostly academic and grey literature, but powerful and consistent testimonials given by girls, their parents, teachers and policy makers that inadequate MHM is a significant problem preventing girls from achieving educational goals also make an impression.

Study strength varies, and we have not attempted to rank them.

### **Q1. What evidence is there that girls miss school during menstruation?**

The widely cited claim that ‘One in ten girls in sub-Saharan Africa misses school during their period’ appears to have originated with models by UNICEF, and before that the World Bank in 2005: *‘if a girl misses 4 days of school every 4 weeks due to her period, she will miss 10 to 20 percent of her school days’* (World Bank 2005; Tjon a Ten 2007 quoted in Oster and Thornton 2011). It has been repeatedly questioned, as it is based on modelling rather than empirical data

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<sup>2</sup> ‘Good menstrual hygiene management (MHM) is defined as being able to use a clean and dry menstrual management material, either a locally made or mass manufactured pad/tampon or a cup, which is changed at least once per day for the duration of a menstrual period and being able to use soap and water for body hygiene’ (Biran 2012).

<sup>3</sup> ‘accurate and timely knowledge, available, safe, and affordable materials, informed and comfortable professionals, referral and access to health services, sanitation and washing facilities, positive social norms, safe and hygienic disposal and advocacy and policy’ (UNESCO, quoted in Roeckel 2019)

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(Tellier 2012, Hennegan et al, 2016, Tellier 2018)<sup>4</sup>. However, there is a growing body of literature based on empirical data. This WoMena review identified more than 45 studies, conducted across 18 low- and middle-income countries, of which 25 quantified absenteeism in percentage terms. Three found less than 10 percent excess absenteeism, 12 found between 10-49 percent, and ten studies found more than 50% excess absenteeism during periods. Thus, the slogan may actually be an underestimate - we do not yet know for sure.

For example, one study of several countries found that in Zimbabwe all surveyed girls reported missing school during menstruation, with 62 percent of girls missing school for 1-2 days per month, another 28 percent missing 2-4 days, and 10 percent 4 or more days per month (Tamiru et al. 2014). The same study found that, on average, half of the female students surveyed in Uganda missed 1-3 days of school per month due to menstruation (Tamiru et al. 2014).

The conclusion at this point would seem to be that girls are missing school because of menstruation, and this is widespread across many countries and localities. The levels reported vary greatly. Given that there are no overarching studies to date, and methodologies vary, it is not clear whether variations are due to differences in locales or methodologies - probably both. The programmatic conclusion at this point, to our mind, must be that there is a commanding necessity of finding a common metric and methodology before absenteeism can be considered a reliable indicator, but at this point, the evidence from many different sources indicate that absenteeism is high and constitutes a significant problem for girls and their environments.

### **Q2. What evidence is there that girls are participating less in school activities during menstruation?**

Numerous studies have found that, in addition to missing entire or partial school days, girls also participate less in class and experience reduced concentration during menstruation (El-Gilany, Badawi, and El-Fedaway 2005; Grant, Lloyd, and Mensch 2013; Boosey, Prestwich, and Deave 2014; Gultie, Hailu and Workineh 2014; Tegegne and Sisay 2014; Jothy and Kalaiselv 2012; Konapur and Nagaraj 2014; NestBuilders International 2012; Tamiru et al. 2014 and 2015; Wanja 2014; Wong 2011; WaterAid 2009; Caruso et al. 2013).

For example, a study in Uganda found that 64.7 percent of girls avoided standing in class to answer questions during their period, and 51 percent of girls reported having trouble concentrating in class during menstruation (Hennegan et al. 2016). Corroborating this, in Sierra Leone, 26.8 percent of girls “strongly agreed” with the question, “You don’t like to stand up in class when on your period?” (NestBuilders International 2012).

Two studies in Ethiopia found that nearly 41 and nearly 60 percent of girls, respectively, reported that menstruation interfered with their academic performance (Gultie, Hailu and

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<sup>4</sup> Questions have been raised about the methodology of the studies and their comparability. We distinguish between models and empirical data. (M. Tellier correspondance with UNICEF 2012). That does not mean the models are wrong. For the high estimates, concerns have been raised that girls may report higher absenteeism than the real situation. For the low estimates, one study in Cameroon found that while only 4.1 percent of girls reported missing entire school days, many more reported leaving school early (12 percent) or missing a lesson (16.1 percent) (UN Women and WSSCC 2015). Both Thakre et al. (2011) and WaterAid (2009) investigated absenteeism due to cultural restrictions and reported rates of 5.7 and 3.4 percent, respectively. If the question was expanded to absenteeism for any reason, this number may be higher, particularly given the evidence from other studies showing that cultural reasons are relatively less common cause of absences overall.

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Workineh 2014; Tegegne and Sisay 2014). This was even higher in India, where nearly 70 percent of girls found it difficult to concentrate in class during menstruation (Konapur and Nagaraj 2014).

**Q3. What are the reported reasons menstruation causes missing school or participating less?**

Menstruation is a natural and healthy process, but it can become a problem where menstruators do not have the means to manage it. Research to date suggests that there are multiple, interrelated factors which contribute to girls either missing school or participating less in school activities during menstruation.

These include lack of menstrual hygiene products; inadequate school sanitation facilities; physical pain, lack of education about MHM; discomfort, shame, stigma, and embarrassment; cultural and religious restrictions.

**Lack of menstrual hygiene products** There are many different types of products that girls use, and usage rates vary based on multiple factors, including where girls live and family income. Some girls use extra pieces of cloth or wear multiple layers of underwear or clothing, while others use reusable or disposable sanitary pads or menstrual cups. Some are homemade, some commercial. Many of these require that girls have knickers (underwear), which is not always the case (Tamiru et al. 2015).

The majority of teachers think the availability of sanitary pads significantly affects girls’ performance in school, with a study in Kenya indicating 71.4 percent believing it does so to a “very great extent” (Njue and Muthaa 2015). Indeed, lack of menstrual hygiene products was reported to be the main barrier to school attendance during menstruation for 73.7 percent of schoolgirls in South Sudan (Tamiru et al. 2014). Girls tend to express dissatisfaction with using pieces of cloth to absorb menstrual blood – as cloth tends to leak and may, if dried improperly, cause irritation (Caruso et al. 2013; Pillitteri, 2012). We refer to WoMena’s FAQ on infection for a more detailed analysis of possible links between MHM products and practices and infection, and what is known about the opinions of different stakeholders (WoMena, 2018). A study in Malawi found that 95 percent of girls used cloth most of the time and in a priority list workshop, girls most frequently requested disposable sanitary pads, water, an incinerator for pads, and soap (Pillitteri 2012).

**Pain and discomfort** have been repeatedly identified as having a negative effect on both attendance and participation in class (Boosey, Prestwich and Deave 2014; Konapur and Nagaraj 2014; Khan 2012; Miiro et al. 2018; Tamiru et al. 2014; Tegegne and Sisay 2014; Rani, Sharma and Singh 2015; Wanja 2014; WaterAid 2009; Wong 2011; El-Gilany, Badawi, and El-Fedaway 2005; Zegeye, Megabiaw, and Mulu 2009). For example, 71 percent of girls in a study in Uganda said that pain and discomfort were the primary reasons they missed school during menstruation (Crofts 2010). Similarly, Jothy and Kalaiselv (2012) found that 73.3 percent of schoolgirls who missed school during menstruation said they missed school because of pain.

**Inadequate water and sanitation facilities** figure high in girls’ reported reasons for missing school. Sanitation facilities in schools lacking clean latrines or toilets, lacking privacy for changing menstrual hygiene products (e.g., separate latrines for girls and boys or a lack of locks on the doors), lacking water and/or soap for cleaning, and/or lacking a way to (discreetly) dispose of menstrual hygiene products have all been implicated (Abanyie, Anang and Ampadu 2016; Boosey, Prestwich and Deave 2014; Long et al. 2013; Miiró et al. 2018; Tamiru et al. 2014; WaterAid, 2009). In a multi-country study by SNV Netherlands Development Organisation “the lack of a private place to change” was the primary reason for not going to school during menstruation for 56.6 percent of girls (Tamiru et al. 2014). In sub-Saharan Africa, less than half of upper secondary schools have access to basic hand washing facilities (UN, 2019).

**Stigma, shame and embarrassment** are implicated in these studies as both contributing and overarching factors to reduced participation in school (Caruso et al. 2013; Long et al. 2013; Khan 2012; Miiró et al. 2018). In India, when asked for reasons for absenteeism during menstruation, 53.4 percent of girls reported shame as a reason (Jothy and Kalaiselv 2012; Tellier and Hyttel 2018). Many of the reasons that girls give for missing school, and explaining why they feel shame – including a lack of privacy for changing and fear of bleeding through clothing – are related to the shame and embarrassment that result from public knowledge of their menstrual status. Both schoolgirls and adults think that girls miss school or participate less in class during menstruation out of a fear of staining clothes (Abanyie, Anang and Ampadu 2016; Boosey, Prestwich and Deave 2014; Long et al. 2013; NestBuilders International 2012; Tegegne and Sisay 2014).

**Explicit cultural and religious restrictions** are sometimes also a factor in absenteeism. Two studies – one in Nepal and one in India – looked explicitly at absence due to cultural restrictions, and both reported fewer than 6 percent of girls staying out of school during menstruation for cultural or religious reasons (Thakre et al. 2011; WaterAid 2009). Similarly, three studies found that under a third of menstruation-related absences were attributed to cultural practices (Jothy and Kalaiselv 2012; Khan 2012; Udayar, Kruthika and Devi 2016), while other causes of absence, such as pain or a lack of a clean water supply at school, were substantially more common (Jothy and Kalaiselv 2012; Khan 2012).

**Q4: Can interventions make a difference?**

Two studies - one in Kenya and one in Nepal - on the impact of providing menstrual cups to girls found no statistically significant improvement in school attendance (Oster and Thornton 2010; Philips-Howard et al. 2016). In both cases, there was very low reported absenteeism due to menstruation prior to the intervention, leaving little possibility that an intervention might improve attendance. However, there is growing evidence on what works.

Providing reusable sanitary pads has been found to be associated with at least a short-term increase in attendance (Wilson, Reeve, and Pitt 2014; Mucherah and Thomas 2017), as has provision of both reusable pads and puberty education (Appollis 2014; Scott et al. 2009; Montgomery et al. 2012). One study provided reusable pads, education, or both, and compared this to a control group which received nothing. In this particular population, while attendance declined across all study arms over a two-year follow-up period, the control group

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(which received nothing) experienced a 17 percent greater drop in attendance than the intervention arms (Montgomery et al. 2016).

Education alone, or in concert with MHM product provision of pads, has been shown, over time, to lead to similar declines in absenteeism as just provision of sanitary pads (Scott et al. 2009; Montgomery 2012). The researchers theorized that opening up “discussion of this taboo subject” may have “fostered improved peer and other relations making the school environment more supportive” allowing education to be as effective as pads and education (Montgomery et al. 2012). For this reason, education alone may be as effective as providing MHM products.

Qualitative research by Mason et al. (2015) examining provision of commercially-produced, disposable sanitary pads or menstrual cups against a control group found that girls using cloth expressed more concerns than girls using pads or menstrual cups about leaking and being teased by others; they also reported staying away from school during menstruation. Both girls and parents reported that girls who had received pads or menstrual cups had improvements in school attendance, and girls reported having greater concentration in class (Mason et al. 2015). In addition, one study found an association between WASH interventions and increased attendance for girls (Freeman et al. 2012).

Interventions that provide menstrual hygiene products and/or education may also change perceptions of stigma and feelings of shame surrounding menstruation, but evidence of this to date is mixed. While a pilot study by Montgomery et al. (2012) found that provision of reusable pads was associated with decreased feelings of shame and insecurity, no such significant difference was replicated in the expanded trial (Montgomery et al. 2016).

### **Q5: How does WoMena’s work address the linkage between menstruation and education?**

WoMena’s approach has been broad (an ‘ecological model’ as described by Dahlberg and Krug, 2002; Roenitzsch 2015)., addressing the above range of reasons. It includes providing menstrual **products** (cups/reusable pads and addressing the local **water and sanitation/disposal** situation in collaboration with with the local community. Beyond product distribution, **education and engagement** of girls is central, including the issue of pain management (e.g. providing hot water bottles). Recognising the damaging effects of **shame**, WoMena works to develop a supportive environment, e.g. training local volunteers who can support and mentorship in a **sustainable** manner, in particular including males - both school children and men (e.g. being named ‘male ambassadors’; and interacting with public institutions, such as Ministries of Education or Health, as well as international organisations.

Some results include: high continued use of products, diminished shame (one study in Uganda indicated that the percentage of girls reporting having discussed MHM with their families went from being ‘taboo’ (no-one discussed) to 94 percent. Strikingly, before the intervention girls repeatedly often mention that they feel **‘fearful’** about MHM; six months later they report going about their lives, including bicycling to school, **‘freely’** (e.g. Refstrup, 2015; Zabell, 2016). Girls who participated in a recent Ruby Cup trial with WoMena reported increased feelings of agency - the cup provided them with greater mobility and freedom of movement, as well as increased confidence (CARE International & WoMena Uganda, 2018).

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WoMena studies aim at seeing the feasibility of approaches which are preconditions for school attendance, as well as purposes in themselves. This needs more investment than merely distributing products, but also has wider possible positive implications.

For example, education about MHM can be an entry point for broader reproductive health education (Abbott et al 2012, Tellier et al., 2018, CARE International & WoMena Uganda, 2018). Studies to date indicate that broader reproductive and sexuality education in turn contributes to later sexual debut and fewer sexual partners, improving the odds of higher educational attainment (UNESCO, 2018).

There is also much literature indicating that girls' education and age at first sex are key drivers of fertility decrease - that is, completing secondary school has a major effect on reducing fertility levels (Ariho & Nzabona, 2019).

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