



# Enhancing the Menstrual Experience of Menstruating Adolescents in Mashonaland Central, Zimbabwe: A Qualitative Study

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## ABSTRACT

This study identified the needs of at-risk menstruating adolescents in rural Mashonaland Central, Zimbabwe, regarding menstrual health in order to contribute to enhancing the menstrual experience of at-risk menstruating adolescents. The study used an exploratory qualitative research design. The main data collection method consisted of semi-structured interviews with 11 experts and key informants in menstrual health in Zimbabwe and other low- and middle-income countries. Additionally, five at-risk menstruating adolescents from rural Mashonaland Central were interviewed using a qualitative questionnaire. Through these interviews, the four themes of knowledge, economic environment, physical environment, and confidence, derived from the integrated model of menstrual experience by Hennegan et al. (2019), were analysed to identify the needs of menstruating adolescents regarding menstrual health. The study showed the importance of including the entire ecosystem around the menstruating adolescent. This should be taken into account in any menstrual health intervention aiming to provide education and support. Menstruating adolescents need to have access to a choice-oriented approach in the provision of menstrual products and have access to basic water, sanitation, and hygiene facility standards such as clean water and privacy in gender-segregated lavatories. The study recommends conducting further research in the local contexts of Mashonaland Central, Zimbabwe, and other rural areas, and designing interventions using a bottom-up approach, integrating the target population and community in all steps of designing a menstrual health intervention, taking into account the local environment, cultural beliefs, and context.

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About a quarter of the world's population currently experiences menstruation (Van Eijk et al., 2016). Yet, cultural implications and practices and a lack of resources prevent persons who menstruate from coping with their menstruation with dignity and confidence (Phillips-Howard et al., 2015). This is an issue, especially for menstruating persons in low- and middle-income countries (LMICs) where over 50% of persons who menstruate have inadequate access to menstrual hygiene management (MHM), and in rural areas an even higher proportion is reported (Hennegan & Montgomery, 2016). Due to a lack of resources and finances, their menstrual needs are not met, and they are therefore forced to accept suboptimal care or find alternative ways of accessing MHM materials (Kuhlmann, Henry et al., 2017; Ndlovu & Bhala, 2016; Phillips-Howard et al., 2015). Furthermore, challenges regarding coping with menstrual care with dignity have worsened in LMICs due to a lack of access to water, sanitation and hygiene (WASH) facilities. As a result of poor WASH facilities, persons who menstruate experience more health implications related to menstruation, reproduction, and other sexual health issues (Kuhlmann et al., 2017; Ndlovu & Bhala, 2016; Phillips-Howard et al., 2015).

Moreover, poor MHM increases the gender gap in terms of education (Ndlovu & Bhala, 2016). Persons who menstruate in rural communities are especially vulnerable to absenteeism due to inadequate MHM (Kuhlmann et al., 2017). A study conducted by The Netherlands Development Organization and IRC International Water and Sanitation Centre (2013) at a school in Uganda found that half of the pupils who menstruate would miss one to three school days per month, which makes 8–24 missed school days a year. Similarly, in Ghana, pupils who menstruate can miss up to five days a month due to inadequate access to menstrual products and sanitation facilities at school, as well as the physical discomfort due to the menstruation, such as pain (Dorgbetor, 2015). Despite efforts to promote the importance of girl child education in Zimbabwe, adequate attention to MHM is lacking. Furthermore, menstrual blood and menstrual management are frequently perceived as taboo topics that lead to unhygienic practices and restrictions that further compound health related hazards for menstruating persons, especially in rural communities (Ndlovu & Bhala, 2016).

This issue of MHM and girls' education has been recognised internationally through the global concern for closing the gender gap in education, in which the aim is to keep girls in school and to improve their educational outcomes (Sommer et al., 2015). The focus on the education of girls and women also holds a prominent position in the Sustainable Development Goals (Kuhlmann et al., 2017). MHM is not only important for a healthy menstruation and improved reproductive and sexual health, but also for closing the gender gap in education (Kuhlmann et al., 2017), and therefore relates strongly to Sustainable Development Goals 'Good Health and Well-being', 'Quality Education', 'Gender Equality', and 'Clean Water and Sanitation' (United Nations, 2015).<sup>1</sup>

In the field of MHM, several interventions have been created, and extensive research has been done. However, since the problem is widespread and dependent on a vast variety of factors that differ by geographical area, which is due to varying cultural beliefs and access to WASH facilities, additional research, and the development of appropriate interventions in the field of MHM is important for improved MHM in LMICs (Tamiru et al., 2015).

## CHILD FUTURE AFRICA

This research was conducted for Child Future Africa (CFA), a non-profit organisation based in Mount Darwin, Mashonaland Central, Zimbabwe (see [Figure 1](#): Map of Zimbabwe). CFA strives to enhance the menstrual experience of at-risk menstruating adolescents in Mashonaland Central, Zimbabwe, specifically in the district of Mount Darwin. CFA is an organisation that provides a home and access to school for at-risk children in the district of Mount Darwin, either temporarily or long-term. CFA's main objective is to safeguard the welfare of orphaned and/or at-risk children in the community. According to a CFA representative (respondent 6), one of

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<sup>1</sup> The Sustainable Development Goals (SDG) are established by the United Nations and are to be reached by 2030. SDG 3, 'Good Health and Well-being', targets maternal, reproductive, newborn and child health and infectious diseases, including HIV/AIDS and hepatitis B and C among others. SDG 4, 'Quality Education', targets equitable and inclusive education and education especially for girls, women, and marginalised people in vulnerable settings. SDG 5, 'Gender Equality', targets gender equality and empowerment of all girls and women. SDG 6, 'Clean Water and Sanitation', targets ensuring availability to water and sanitation and the sustainable management of water and sanitation for all (United Nations, 2015).



**Figure 1** Map of Zimbabwe (African Centre for the Constructive Resolution of Disputes, 2019).

the issues that occurs and disturbs the welfare of menstruating persons in the communities being supported by CFA is the inadequate access to menstrual health education and facilities. When not educated properly, persons who menstruate are highly vulnerable to diseases and unwanted pregnancies. In order to enhance the menstrual health of persons, and specifically the adolescent persons who menstruate living in the communities where CFA operates, the menstrual health needs of these adolescents need to be met.

## MENSTRUAL EXPERIENCE AND MANAGEMENT

Through joint global efforts resulting from MHM becoming a globally recognised topic in public health (Sommer et al., 2015), the following definition of MHM has been created and agreed upon by the Joint Monitoring Program of the World Health Organization in collaboration with UNICEF:

Women and adolescent girls are using a clean menstrual management material to absorb or collect menstrual blood, that can be changed in privacy as often as necessary for the duration of a menstrual period, using soap and water for washing the body as required, and having access to safe and convenient facilities to dispose of used menstrual management materials. (WHO/UNICEF, 2012, p.16)

This growing attention for MHM continuously reveals the importance of tackling the issue (Sommer & Sahin, 2013), and has its origins in the global concern for closing the gender gap in education, in which the aim is to keep girls in school and to improve their educational outcomes. Furthermore, from the public health perspective, the improved educational outcomes of girls have shown to contribute to healthier population outcomes (Sommer et al., 2015).

However, secrecy around menstruation occurs in both low- and high-income settings, where menstruating persons are directly or indirectly taught a ‘menstrual etiquette’ (Sommer et al., 2015). This etiquette encourages discrete management of the menstruation and teaches menstruating persons to keep the menstruation a secret that must be hidden from men. Menstruating persons are to follow this etiquette, which is generally much easier in contexts that have available menstrual products, puberty guidance, and clean, safe, private, and accessible water, disposal, and sanitation facilities. In many LMICs, persons who menstruate lack access to these important facilities (Sommer et al., 2015), and a comprehensive approach towards MHM is needed that can improve these aspects (Tamiru et al., 2015).

Menstruating community members in LMICs experience challenges regarding their menstrual needs (Kuhlmann et al., 2017; Hennegan & Montgomery, 2016; Phillips-Howard et al., 2015). As a result, menstruating persons often have to cope with the social and health implications of inadequate MHM. In rural LMIC settings, the unmet menstrual needs of impoverished menstruating persons can lead to increased physical and sexual harms. Even though there are commonalities between LMICs, the menstrual behaviour and strategies to handle menstruation differ by culture and age. A variety of items are used as menstrual products by at-risk menstruating persons (especially among younger persons), such as old cloths, grass, cotton wool, plastic, socks, and paper. Menstruating persons recognise that the way their menstruation is managed may be unhygienic but lack better alternatives (Kuhlmann et al., 2017; Phillips-Howard et al., 2015).

### **MHM AND CONSTRAINTS FACED BY SCHOOL-GOING MENSTRUATING ADOLESCENTS**

Schools in LMICs face substantial barriers to achieving adequate MHM and WASH baselines. In 2013, 43% of LMICs had water coverage in schools and 46% of LMICs had sanitation coverage in schools (Sommer et al., 2015). In Zimbabwe, several barriers exist to hygienic practices in MHM. In a study conducted by Ndlovu and Bhala (2016), the following challenges were mentioned by respondents (respondents consist of stakeholders working directly or indirectly with the school-going menstruating adolescents and women drawn from community structures):

- 30% indicated water challenges in terms of sanitary facilities at school;
- 35% indicated the majority of the girls could not afford sanitary supplies, as they were priced beyond their capacity;
- 10% of girls had no underwear, which meant they would rather stay at home than face embarrassment at school;
- 15% indicated they had access to proper disposal facilities; and
- 5% complained of a lack of reusable sanitary supplies (Ndlovu & Bhala, 2016, p. 5).

The most recent studies reported that most sanitary facilities at schools in Zimbabwe were inappropriate regarding privacy; toilets lacked access to water, handwashing facilities, disposal facilities, doors, and/or were poorly maintained, are often unclean, unsafe, and too few in number (Ndlovu & Bhala, 2016; Sommer & Sahin, 2013). If there is available water, it is often located away from the bathroom stall, preventing menstruating persons from privately washing blood off their hands or clothes. Furthermore, latrines lack opportunities for disposal of menstrual products and ultimately prevent menstruating persons from having a dignified and safe menstruation period (Sommer & Sahin, 2013). Hence, these inappropriate sanitary facilities are a constraint in managing the menstruation and is especially challenging for menstruating persons in most rural communities in Zimbabwe (Ndlovu & Bhala, 2016).

Moreover, sanitary facilities in schools are a key determinant in school attendance of menstruating students. A lack of such facilities significantly increases the challenges school-going menstruating persons face with respect to managing their menstrual hygiene (Kuhlmann et al., 2017; Ndlovu & Bhala, 2016). Menstruation interrupts a menstruating pupil's capability to properly participate in school and progress academically (Kuhlmann et al., 2017; Ndlovu & Bhala, 2016; Sommer, 2015; Sommer & Sahin, 2013). Furthermore, earlier menarche and the greater emphasis on education for girls mean that many adolescent menstruating girls go to school while menstruating. A typical menstrual cycle lasts 25 to 30 days, in which bleeding occurs for four to six days. Thus, menstruating persons experience menstrual bleeding on at least a few school days each year. MHM is therefore increasingly important (despite often unrecognised) and intertwined with girls' empowerment, education, and social development (Kuhlmann et al., 2017).

According to Ndlovu and Bhala (2016), 57% of menstruating persons feel a lack of adequate support from family members and school, which leads to increased absenteeism. They found that, in total, 30% of menstruating persons indicated low performance during menstruation,

and 20% of menstruating persons indicated a lack of concentration. Furthermore, 17% cited low class participation and low extracurricular activity participation during menses. Participants of the study indicated feeling anxious, discriminated against, and low self-esteem. All these factors have a negative contribution to a menstruating person's educational performance and health. Ultimately, poor MHM can result in poor school results and therefore, an inability to access opportunities after school (Ndlovu & Bhala, 2016). Furthermore, Phillips-Howard et al. (2015) mentioned the issue of leakage and odour due to poor MHM, which consequentially prevents menstruating persons from fully engaging or even attending school during menstruation.

## **MHM AND THE CONNECTION TO SRHR**

MHM and sexual and reproductive health and rights (SRHR) are strongly interlinked, with MHM increasingly recognised as a crucial aspect of SRHR. Reproductive and sexual health programs need to provide support in the provision of affordable menstrual products, in order to economically empower menstruating persons and thus prevent harmful ways of acquiring money to buy menstrual products (Phillips-Howard et al., 2015). Generally, persons who menstruate are reliant on the men in their lives for access to menstrual products, and this often results in menstruating persons lacking the menstrual products they need due to the stigmatisation of menstruation and lack of financial resources. Likewise, in many households in rural areas in LMICs, the relatively high costs of commercial sanitary pads have to compete against other needed items in the family, such as food (Phillips-Howard et al., 2015).

Furthermore, the cultural implications of menstruation that occur in certain, often rural, regions in Zimbabwe, can have a negative impact on the menstruating person's sexual and reproductive health. Unhygienic practices resulting from having to hide the menstruation due to cultural beliefs can lead to reduced reproductive health. In a district in southern Zimbabwe, menstruating persons are perceived as dirty during menstruation. During menses, menstruating persons are therefore not allowed to cook, bathe, or participate in public gatherings, such as church gatherings. Persons who menstruate therefore can be put in the position of having to hide their menstruation, which often leads to unhygienic practices that are harmful to their reproductive and menstrual health (Kuhlmann et al., 2017; Tamiru et al., 2015).

Despite growing global and local attention for MHM and the impact the lack of MHM has on menstruating persons, a significant knowledge gap regarding menstruation persists. Often menstruating persons find themselves in a setting that does not meet proper hygiene standards and lack access to proper information and support regarding the menstruation. Additionally, cultural taboos concerning menstruation compound this problem (Sommer & Sahin, 2013).

## **INTEGRATED MODEL OF MENSTRUAL EXPERIENCE AND HYGIENE MANAGEMENT**

Hennegan et al. (2019) developed an integrated model of menstrual experience after conducting a systematic review and qualitative meta-synthesis of extant qualitative studies of menstrual experience. The integrated model hypothesizes directional pathways for future studies and for program and policy development to improve women's and girl's health and well-being. Based on literature review on menstrual experience and hygiene management of adolescents in Zimbabwe and other LIMCs, this study focused on four of the themes included in the integrated model of Hennegan et al. (2019). The four themes of knowledge, physical environment, economic environment and confidence became the basis for the conceptual model of this study (see [Figure 2: Conceptual Model](#)).

The theme of 'physical environment' pertains to water and sanitation facilities and infrastructure as well as disposal facilities. Sanitary facilities in schools are crucial for school attendance of menstruating persons and the lack thereof can become a barrier to maintaining hygiene and health (Kuhlmann et al., 2017; Ndlovu & Bhala, 2016; Sommer et al., 2015). The theme of 'economic environment' pertains to the affordability and availability of menstrual products. Menstruating persons need access to proper menstrual products and the lack of access and availability can impair their menstrual experience (Hennegan & Montgomery, 2016; Kuhlmann et al., 2017; Phillis-Howard et al., 2015). The third theme, 'knowledge', pertains to knowledge of menstrual biology, reproduction, accuracy of taboos, and practical menstrual management. MHM intervention programs can increase knowledge in order to improve menstrual health

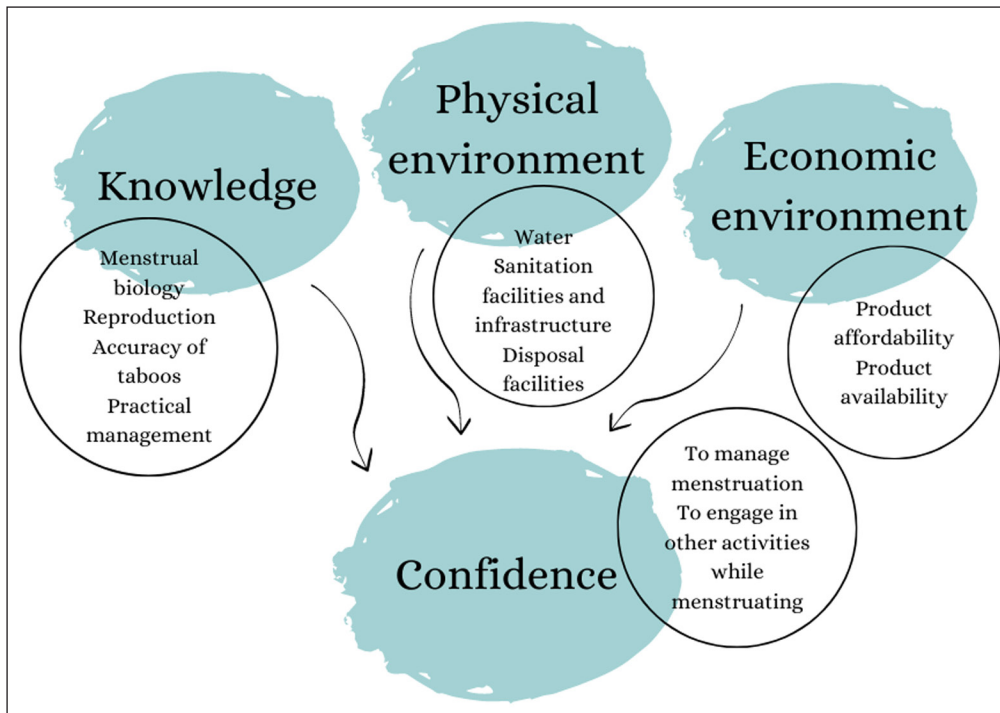


Figure 2 Conceptual model.

practices (Kuhlmann et al., 2017). Furthermore, increasing knowledge through software interventions<sup>2</sup> can improve MHM practices, eliminate confusion, and (cultural) misconceptions (Hennegan & Montgomery, 2016).

The three themes of 'knowledge', 'physical environment' and 'economic environment' are crucial when aiming to improve the confidence a menstruating person experiences during their period, thus enhancing the menstrual experience. This relates directly to the last theme of 'confidence' which pertains to the ability to manage menstruation, and to engage in other activities while menstruating.

## METHODOLOGY

This study<sup>3</sup> was conducted to identify the needs of at-risk menstruating adolescents in rural Mashonaland Central, Zimbabwe, regarding menstrual health in order to contribute to enhancing the menstrual experience of at-risk menstruating adolescents.

## DATA COLLECTION

The main data collection method consisted of semi-structured interviews with 11 experts and key informants in menstrual health. Additionally, five at-risk menstruating adolescents from rural Mashonaland Central were interviewed using a qualitative questionnaire.

Semi-structured interviews were used as a way to retrieve in-depth insights into the needs of menstruating persons in LMICs regarding MHM and to have opportunity for exploration during the interview. The four overall themes of this research, based on the conceptual model, were used to structure the interview questions (knowledge, physical environment, economic environment, and confidence), while leaving room for emergent topics.

A qualitative questionnaire was administered to five at-risk menstruating adolescents in Mashonaland Central, Zimbabwe. This was done to get the perspective of menstruating adolescents on their needs and wants regarding MHM. In this research, it was crucial to include the target population consisting of Zimbabwean menstruating adolescents from Mashonaland

<sup>2</sup> MHM interventions have been categorised into two groups: software interventions and hardware interventions. Software interventions address the knowledge gap in menstruation and management through providing education. Hardware interventions are designed to address the material deprivations such as sanitary products, or improving WASH facilities (Hennegan & Montgomery, 2016).

<sup>3</sup> A copy of the entire research report, including the detailed methodology, and an overview of interview participants and their responses, can be requested from the author.

Central as much as possible despite the limitations (see ‘Limitations’), in order to ensure that their perspectives, voices, and needs were considered.

## **SAMPLING**

For the expert and key-informant interviews, purposive sampling and snowball sampling were used. Key informants were defined as respondents that were able to provide a better insight on the needs in MHM regarding menstruating adolescents in specifically Mashonaland Central, and experts were defined as respondents that were able to provide valuable insights on the needs in MHM of menstruating persons in rural areas of other LMICs. Purposive sampling was used for identifying experts and key-informants on MHM practices in Mashonaland Central, Zimbabwe, and comparable LMICs. Experts and key informants therefore needed to have a thorough understanding of MHM practices in LMICs and be available for interviews conducted virtually. Snowball sampling was used to identify additional experts or key informants for the interviews. Interviewees referred the researcher to others in their network to contribute to a more diverse sample of experts and key informants in MHM. Furthermore, the researcher stayed in close contact with local stakeholders in Mashonaland Central, to retrieve additional data regarding specific context-related aspects relevant for the research such as information on what lavatories are commonly used, or what interventions could be impactful specifically to Mashonaland Central. Local stakeholders furthermore assisted in identifying suitable experts or key-informant interview participants.

The five adolescents who answered the qualitative questionnaire were recruited through snowball sampling with the help of a local secondary school teacher. They were all students of a local secondary school in Mashonaland Central. All five participants were identified as eligible for the questionnaire because they are part of the target population, being at-risk menstruating adolescents in Mashonaland Central, Zimbabwe. As the qualitative questionnaire had to be answered online, it was imperative that all five adolescents had access to a working phone with internet connection to submit answers. However, as can be read in the recommendations of this study, this sample size is very small, and it is highly recommended to have a larger sample size of the target population and have in-depth and face-to-face interviews in future research.

## **DATA ANALYSIS**

All raw data derived from the interviews was summarised without excluding any data. In the analysis process, a manual color-coding was done first and followed by analysing the data in the qualitative data analysis programme MAXQDA (version 2020). In MAXQDA, the data was analysed more in depth through expanding the codes and cross-referencing. Furthermore, data retrieved from the questionnaire was analysed in MAXQDA as well, using the same codes as for the interviews. For this coding, a deductive coding method was adopted, and emerging coding was done additionally (Stuckey, 2015). The codes were based on the conceptual model used in this study and had a clear description of the meaning of each code.

## **RESULTS KNOWLEDGE**

Menstruating adolescents need to have access to an adequate provision of knowledge, not only knowledge about the menstrual biology and anatomy, but also about puberty education, hormones, pain, menstrual products and how they are used, and so on. According to respondent 1, a staff from an NGO that campaigns for female education in Zimbabwe, ‘It is important to provide the girl information about her body and help her to appreciate her body so that she can understand her body is changing.’ Correspondingly, respondent 8, a menstrual health doctoral researcher, recognised the importance of integrating the biological aspect of menstruation with the day-to-day effects of menstruation and emphasised on the missed opportunity regarding providing knowledge on hormonal changes, mood changes, pain, and physical changes due to menstruation. This was supported by respondent 5, a senior education specialist in a foundation, who lamented that, ‘Often adolescents do not know how menstruation actually works, when you are fertile, and what it means when you are bleeding’. Moreover, there are many menstruating persons suffering from serious menstrual health concerns. But because they do not recognize the seriousness of their health issues, they do not

visit a health practitioner. Respondent 8 said, 'There are so many women and girls suffering from serious health concerns, but they just think: oh, it's my period, I need to suffer; that is what I am born for as a woman'. Hence, the menstruating persons need to be taught about fertility and reproductive health in order to increase body literacy and overall menstrual health and empowerment.

In providing knowledge to the menstruating persons, respondent 8 believes that the ecosystem around the menstruating adolescents needs to support them in the provision of this knowledge, which can come from various sources.<sup>4</sup> This entails taking the local context into account when providing knowledge, and ensuring access of menstruating adolescents in rural areas to adequate knowledge through different channels specifically designed to the local contexts. Moreover, it is important to involve community members, including boys and men, in any MHM intervention, according to the majority of respondents. They explained that boys and men need to be engaged in any form of MHM education because all people should be educated about menstruation being a natural and normal thing. Respondent 9, a doctoral researcher on SRHR in Uganda, stressed the importance to address boys and girls together in order to facilitate a valuable discussion between the sexes. In summary, it means that when providing MHM education, boys and men should be part of the target group of the educational program or intervention. Furthermore, when creating and providing programs for MHM education, it is crucial to take a bottom-up approach and engage the target group and community in every step of creating suitable, context-sensitive programs.

One of the challenges in MHM education is that menstruation is seen as a taboo topic in a lot of countries. According to respondent 8, MHM education should take into account the layers of social narratives around menstruation and aim to change the narrative of menstruation as a taboo topic into a neutral or positive one. Respondent 5 believes that factual knowledge can be a powerful tool to refute those myths and misunderstandings. Echoing the ecosystems approach, respondent 8 called for the involvement of community members in demystifying taboos and stigmas around menstruation.

Lastly, respondent 10, the head of a global program to end period stigma, recommended an approach that has worked in projects, where on the community level a bridge is built between cultural sensitivities and addressing why the people believe in certain things. A key element of this approach is its interdisciplinarity, which includes working together with all parties involved in the ecosystem. It uses entertainment education, that is discussing serious topics through light mediums such as songs or play. Respondent 9 endorsed entertainment education, particularly as a means to reduce the taboo around menstruation, as it enables participants to discuss a sensitive topic in a popular format that can make the topic easier to talk about.

## PHYSICAL ENVIRONMENT

All respondents mentioned the importance of access to clean water. According to respondent 7, a MHM and WASH expert from Kenya, safe water needs to be available to wash hands, for bathing, and for cleaning different menstrual products. However, respondent 1 mentioned that the provision of adequate and safe water is not a given, but something that has to be provided. While there is water available in some schools in rural areas in Zimbabwe, often it is not available in the bathroom itself, according to respondent 2, a secondary teacher in Mashonaland. This was seconded by adolescent participant 2 who stressed the importance of access to water and a disposal facility inside the lavatory. On top of water availability in the bathroom, respondent 8 added that soap and a towel for drying need to be available.

The reality remains that a person usually has to travel a long distance to access clean and safe water. In some cases, girls walk up to five kilometres to fetch water according to respondent 11, a government social worker. Respondent 6, a primary school teacher, illustrated the difficulty of distance in the context of her community in Mount Darwin, Mashonaland Central. This area is remote and is subject to a lot of poverty that it is a big challenge to get the required products needed to manage menstruation well to the communities. This again highlights the

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<sup>4</sup> The ecosystem relates to the social-ecological model which considers the interplay between the individual, relationships, communities, and societal factors (Centers for Disease Control and Prevention, 2015). In this study, the ecosystem relates to all actors that play a role around the girl, including peers, family, school, but also physical attributes such as sanitary facilities and products.



importance of taking the local context and the available resources in the area into account in MHM interventions.

While many things can be done in MHM education, respondents 1 and 5 argued that if there is a lack of sufficient WASH facilities, then a menstruating adolescent is still not able to participate in school during her menstrual period. In fact, respondent 11 revealed that many families in the rural areas share Blair toilets or still use the bush system (open ablution). To address this, respondent 6 suggested that bathrooms and toilets with water inside or Blair toilets need to be available at the minimum. Respondents 7 and 9 insisted on having access to all facilities related to WASH infrastructure, both in school and in the community.

Another important aspect is privacy. Respondent 6 suggested special compartments available only for menstruating adolescents. These compartments need to provide the possibility for bathing and cleaning and changing menstrual products. Respondent 8 added that schools need to provide the menstruating adolescents with a safe place where they can change, throw away or wash and dry a pad. The adolescent participants in this study supported these suggestions, and added specific details. For instance, adolescent participants 3 and 5 mentioned the placement of a hook so that clothes can be hung in order to prevent them from getting dirty. Moreover, all adolescent participants in this study stressed the need for a specific teacher available for questions or help in order to manage their menstruation in school.

## **ECONOMIC ENVIRONMENT**

Menstrual products need to be affordable, available, of high quality, and made of safe materials. Respondent 8 stressed that the ‘high quality and reliability of the product, whether disposable or reusable, and the ability to wash and take care of the product, on top of the accessibility and affordability’ are important characteristics of menstrual products. For respondent 8, it is also important to consider whether the product allows the persons using it to feel dry, to move, to play, to exercise, as they would when not menstruating. Thus, there is the functionality aspect of a product on one hand, and accessibility on the other that one considers when choosing a menstrual product.

Menstruating adolescents in rural areas often choose disposable menstrual products due to its comfortability and accessibility. Moreover, there are context-specific factors at play: the affordability and availability of the products in a specific environment (taking into account the remoteness of certain areas); the awareness of the family on what menstrual products to buy and where to buy these; and whether menstrual products are included in the household’s budget.

Respondent 7 stated that it is necessary to make all menstrual products available, and adopt a pro-choice approach. ‘You cannot force anyone to use a specific product. All products need to be available so that the person who menstruates can choose what works for them, whether that is one product or multiple different products.’ Aside from making all menstrual products available, it is crucial to make them affordable and, in the opinion of respondent 1, this is where government support is crucial. To address the lack of access to affordable menstrual products, respondent 11 suggested the provision of hygiene kits to those from low- to middle-income families. Another important measure, as suggested by respondent 8, is subsidising products, which can be done by NGOs that work in LMICs. Subsidies are a good alternative to distributing products for free, since free products could be seen as ‘for the poor’ and of low quality. Other respondents agreed that menstrual products should not be given out for free for reasons mentioned by respondent 8, and added that it is not a sustainable business model and is not effective in the long-term.

According to respondent 10, if governments are not able to provide sanitary products, either for free or for a reduced price, then alternative measures are needed to ensure affordability of menstrual products. An idea that respondent 10 proposed is to introduce reusable products connected to income-generating projects. For respondent 5, it is important to have resources to produce pads locally, aside from promoting reusable products. As schools often lack the funds to provide menstrual products, respondent 6 emphasized the need for parents to be aware of the importance of MHM so they could adequately provide the materials, time, and support their adolescent daughters need during menstruation.

Discomfort and pain is commonly experienced by menstruating adolescents, and this leads to a lack of confidence. This is often due to an inadequate supply of menstrual products, consisting of not only sanitary pads but also undergarments and pain medication. This was confirmed by the adolescent participants in this study. Reliable and varied menstrual products need to be available for menstruating adolescents so they could take on normal daily activities without feelings of discomfort, and with confidence.

According to respondent 1, confidence can also be increased by giving the menstruating adolescents information and providing them with the necessary support in terms of MHM materials and resources. In doing so, menstruating adolescents can feel like it is any other day even during their menses, and it is not necessary to feel insecure because of something the body is naturally doing. Body literacy is a crucial aspect in this process, which again comes back to providing the adolescents with sufficient education.

Moreover, as stressed by respondent 10, menstruating adolescents need to be able to share and discuss feelings and experiences during and regarding menstruation in order to feel confident. Besides, there needs to be space for talking and expressing feelings about menstruation. As respondent 5 said, as soon as an open conversation on menstruation can take place and the attitudes towards menstruation start to change, a change in behaviour can follow. This allows them to better manage menstruation and perform normal daily activities, henceforth, increasing the level of confidence of menstruating adolescents.

## **DISCUSSION**

A significant finding of this study is the importance of involving the entire ecosystem surrounding the menstruating adolescent and understanding the local context in identifying and understanding needs in MHM education. When educating about menstrual health, male engagement is crucial. Male involvement in all or at least most discussions and lectures would be most beneficial, specifically for demystifying menstruation and breaking down taboos. Previous studies also elaborated on the importance of the involvement of men due to their control of household financial resources, which is necessary for the purchase of menstrual products (Philips-Howard et al., 2015; UNICEF, 2019). Moreover, involving men is not only important in MHM education, but also relates back to involving the entire ecosystem around the menstruating adolescent. All actors have a role to play in contributing to the empowerment and increased confidence of the menstruating adolescent. This is in line with the proposal of Tamiru et al. (2015) for a comprehensive approach towards MHM, or one that includes, e.g., the menstruating persons, parents, community, accessible and safe products, and educational programmes.

Another key finding regarding knowledge is the importance of addressing taboos surrounding menstruation; the involvement of the community is crucial in this process (Kuhlmann et al., 2017; Tamiru et al., 2015). Since menstrual experience is highly infused with myths and taboos in Zimbabwe, providing MHM knowledge can be a useful tool in demystifying menstruation. Additionally, entertainment education is a valuable communication strategy to use when teaching sensitive topics on menstrual health. The children showed high interest in participating in play-based activities and enjoyed discussing issues on MHM. A play-based approach mainly involves structured educational games or play that are focussed on learning outcomes while the child is engaged in some sort of game or play activity. Play promotes children's development, creativity, learning, and independence while simultaneously fostering social inclusion. When used in MHM education, it contributes to a higher level of confidence among menstruating adolescents (Dorgbetor 2015). It should be noted that both boys and girls participate in the activities. Entertainment education likewise involves the participation of parents, and in the process, both parents and teachers become more aware of the consequences of poor MHM practices.

According to the findings of this study, body literacy is an essential aspect of MHM education. The menstruating adolescent needs to get to know the body in order to understand the natural processes and be confident to go about the day-to-day activities. Hence, knowledge should be available to the menstruating adolescent before the first period. Furthermore, teaching

about menstrual health should be relatable to the child, and a safe space should be created for discussions (Huisman, 2017). Currently, including information on hormonal changes is a missed opportunity that should unquestionably be addressed in MHM education. Findings also showed that it is again vital that the provision of this knowledge is supported by the entire ecosystem, in which the community is involved and where all actors know that menstruation is a natural and healthy process. However, according to the formative research on MHM in Zimbabwe by UNICEF (2019), the lack of a comprehensive and cross-sectoral approach in addressing MHM and ensuring the menstruating adolescent receives sufficient support from all necessary parties, results in a fragmented approach to information dissemination. Therefore, a multi-sectoral platform is needed. Lastly, Kuhlmann et al. (2017) found that educational programmes where menstrual products are explained and distributed had shown higher impact compared to programmes that only provided an educational intervention.

Strong barriers in providing MHM education in schools still persist in Zimbabwe. According to UNICEF (2019), 76.3% of schools in Mashonaland Central, Zimbabwe, have no access to educational materials in schools and 60% of menstruating adolescents in Mashonaland Central, Zimbabwe, do not receive any information about what menstruation is. Furthermore, not all teachers are comfortable with providing MHM information in class.

Improving WASH facilities, e.g. access to clean water, contributes to improving MHM. Even though much literature is in place regarding basic standards in WASH, it is doubtful whether these standards are feasible in the context of Mashonaland Central due to the lack of resources. As stated in the formative research on MHM in Zimbabwe by UNICEF (2019), the most commonly used toilet systems in rural areas are squat holes or pit holes. It found that 65% of toilets in secondary schools were not supportive of MHM, lacking basic facilities such as water and access to (hand)washing facilities. Furthermore, 55% of schools have no sanitation infrastructure that provides appropriate facilities for adequate MHM, with only 2.4% of menstruating adolescents in Zimbabwe having access to lockable latrines in school. Moreover, schools in poorer communities are heavily disadvantaged due to the bottom-up school financing systems that make schools heavily reliant on community support for the development of WASH facilities in schools. One of the proposals cited in this study was provision of separate sanitary cubicles for menstruating adolescents. However, literature showed that this is something that needs to be carefully considered, as this may deter menstruating adolescents from using those cubicles due to the attention such facilities might attract. Therefore, the emphasis should probably be on the incorporation of WASH facilities into the general sanitation and ablution infrastructure, in line with recommendations of UNICEF (2019).

This study found that disposal facilities need to be in place and available for all menstruating adolescents (Ndlovu & Bhala, 2016). Waste management is therefore important to consider. An incinerator can be built, however, it is important to consider its environmental consequences. In addition, menstruating adolescents need to have access to sufficient knowledge on how to properly dispose of (disposable) menstrual products. The formative research of UNICEF (2019) showed that products are most often thrown in pit latrines and adequate disposal facilities are lacking.

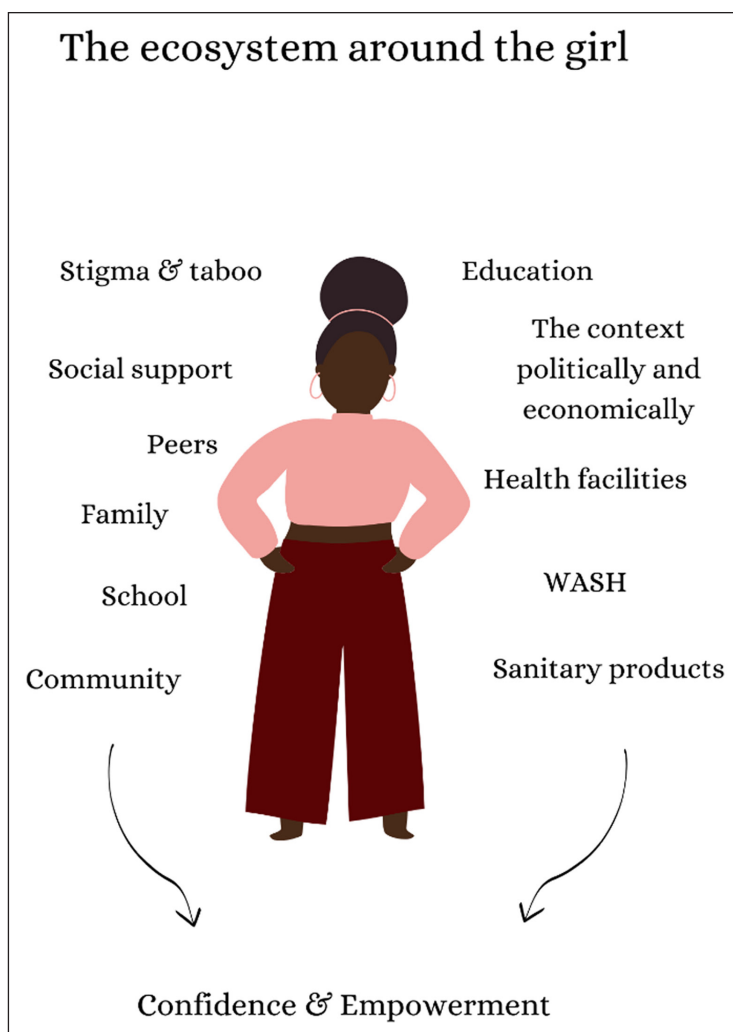
Additionally, this study highlighted that menstrual products should be of high quality and reliable, whether they are disposable or reusable. Furthermore, a choice-oriented approach should be adapted in the provision of menstrual products, where the menstruating adolescents can choose a product that they feel most comfortable with. Also, appropriate education needs to be provided on the usage of different products. Products should not be handed out for free; rather government support is needed to make them affordable and available, and find ways to locally produce and distribute menstrual products. This is an especially beneficial solution for remote areas where access to products is low and households generally have a low budget for menstrual products. Besides increasing access to affordable menstrual products, menstruating adolescents also need access to undergarments and pain management resources. The importance of pain management is crucial in enabling the menstruating adolescents to continue their day-to-day lives during menses, and this is too often underestimated or overlooked.

In increasing the level of confidence of the menstruating adolescents in managing their menstruation, body literacy is crucial. Discomfort due to inadequate products or an insufficient number of products results in lower confidence. Furthermore, the support of the ecosystem is

key in teaching the menstruating adolescent that menstruation should not restrict someone from any activity and provide the adolescent with the necessary support, with a focus on knowledge about menstruation being a central factor in increasing confidence levels. Thus, the most critical aspect in empowering menstruating adolescents is engagement of the entire ecosystem, and the involvement and empowerment of menstruating persons to take part in all steps when designing MHM interventions. Similarly, communities need to be engaged from the ground up and be the central point of the design of appropriate and context-sensitive interventions.

## CONCLUSION AND RECOMMENDATIONS

This study has shown that a combination of factors pertaining to knowledge, physical environment, economic environment and confidence influences the menstrual experience of rural menstruating adolescents in Mashonaland Central, Zimbabwe. It is important to involve the actors around the ecosystem of the menstruating adolescent to improve the menstrual experience of the adolescents, as can be seen visually in [Figure 3](#): The ecosystem around the girl.<sup>5</sup>

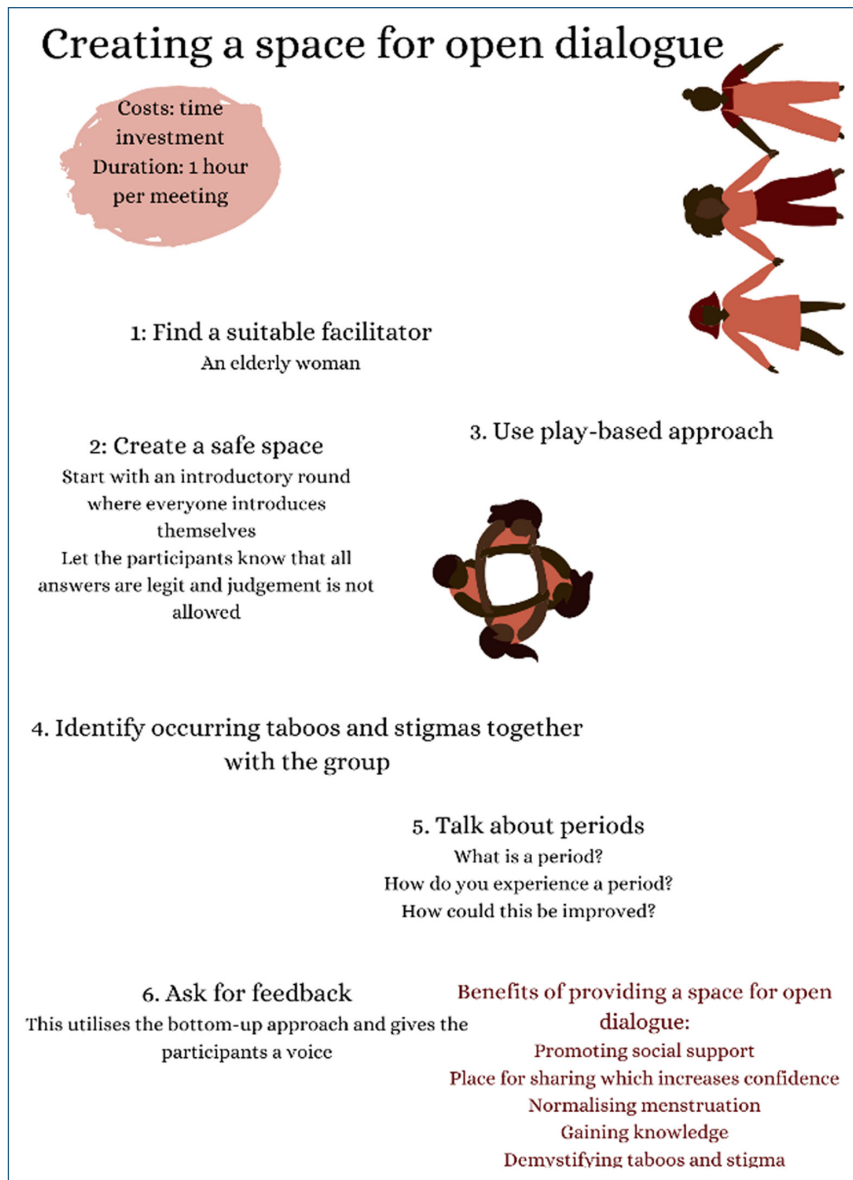


**Figure 3** The ecosystem around the girl.

Several factors related to knowledge have a significant impact on the menstrual experience of menstruating adolescents in Mashonaland Central, Zimbabwe. These factors are body literacy and understanding the biology behind menstruation. However, MHM education should not only be about provision of knowledge about biology and science, but more importantly, be about opening up the floor for discussion on how adolescents feel about menstruation, what they

<sup>5</sup> All images included in the conclusion are developed by the researcher for the advisory report written for Child Future Africa. These images are all based on evidence derived from the data acquired through this research. The images are on a project management level because they are designed to suggest possible interventions for Child Future Africa to implement.

experience during menstruation and what challenges occur in their day-to-day lives. This is elaborated upon in **Figure 4**: Creating space for open dialogue and **Figure 5**: Preparing for and supporting the girl during her period through MHM discussion at home. Furthermore, there is a missed opportunity in including the topic of hormones in menstruation education, which is crucial to address in MHM education. Moreover, the actors in the ecosystem around the menstruating adolescent need to be involved in the provision of knowledge and the dismantling of taboos and stigma, in order to increase the menstruating adolescent's confidence levels and feelings of empowerment.



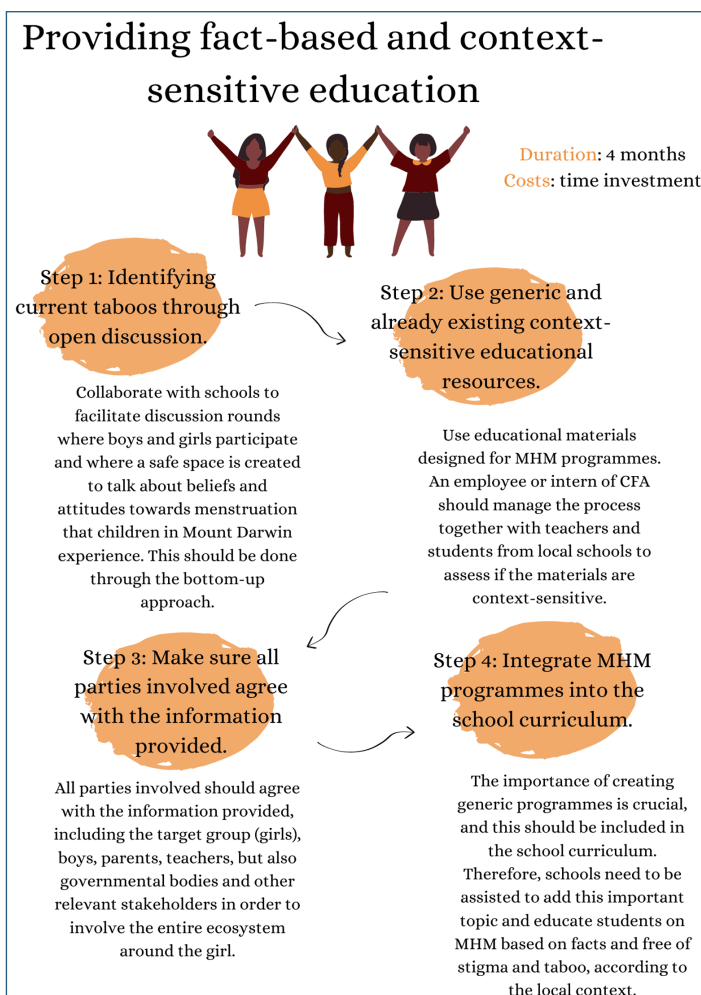
**Figure 4** Creating space for open dialogue.

The findings showed that taboos and stigma regarding menstruation remain particularly prominent in Mashonaland Central, Zimbabwe. Henceforth, there are several factors that need to be addressed in order to contribute to the demystification of myths around menstruation. First, men should be involved in every step of the process in order to refute taboos. Second, education is crucial in demystifying menstruation. Education is therefore not just about anatomy and biology, but also about making the connection to how this knowledge can be used to strategically refute the different taboos surrounding MHM. This is elaborated upon in **Figure 6**: Providing fact-based and context-sensitive education.

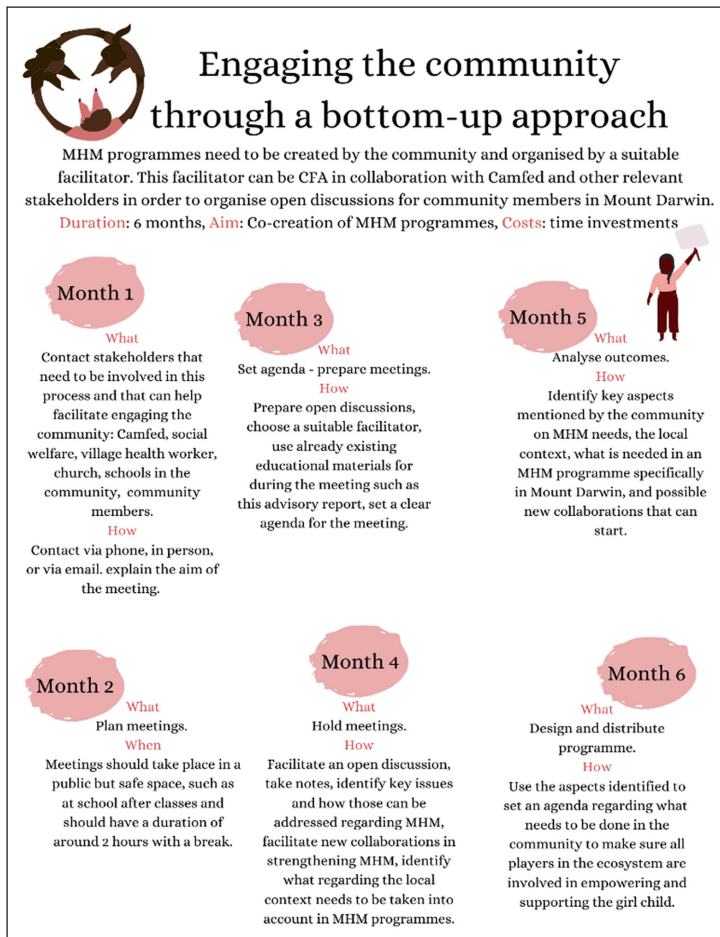
Thus, addressing taboos needs to be built into educational programmes on MHM in order to facilitate much needed discussion to identify and dismantle these taboos. In order to achieve this, the local context needs to be understood, which again leads to the essentiality of engaging the community in any MHM intervention. This is visualised in **Figure 7**: Engaging



**Figure 5** Preparing for and supporting the girl during her period through MHM discussion at home.



**Figure 6** Providing fact-based and context-sensitive information.

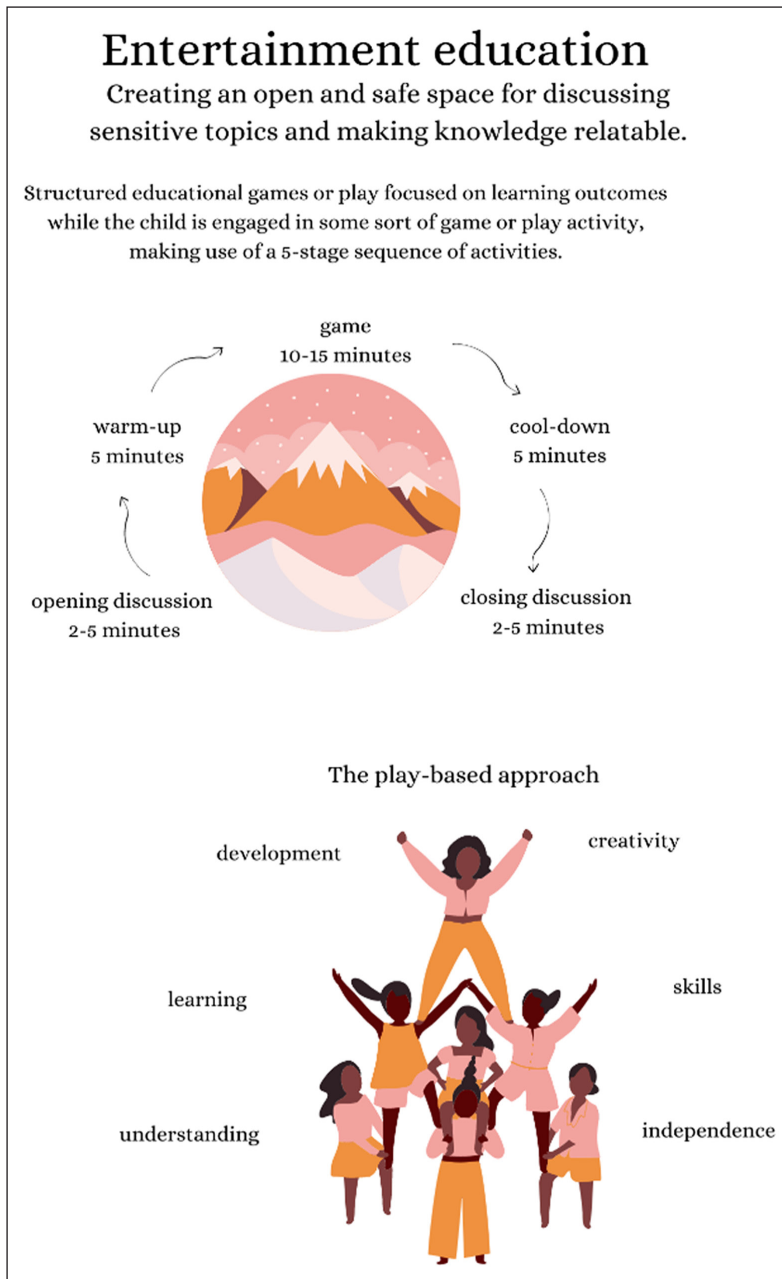


**Figure 7** Engaging the community through a bottom-up approach.

the community through a bottom-up approach. Moreover, a bridge needs to be built between cultural sensitivities and addressing why people believe in certain things. To realise the involvement of the community, an interdisciplinary and bottom-up approach is needed. As a powerful tool, entertainment education can be used to reduce taboos and enable participants to discuss sensitive topics in a format that makes the discussion lighter and more engaging, as is visualised in [Figure 8: Entertainment education](#).

Unfortunately, findings show that access to adequate and safe sanitary facilities is not a given for menstruating adolescents in rural settings in LMICs. Lack of access to clean water in Mashonaland Central, Zimbabwe, remains a challenge that needs to be addressed. In particular, clean water needs to be available in menstruation-friendly toilet for washing hands, bathing, and cleaning menstrual products. However, although a lot of information is available on a WASH and MHM-friendly toilet, not all requirements are feasible in the context of Mashonaland Central, Zimbabwe. Therefore, alternative measures need to be developed to meet MHM needs and provide a feasible, menstruation-friendly lavatory, taking into account the available resources in the context of Mashonaland Central. In addition, proper disposal facilities need to be available, which is not always the case. Waste management remains an issue; small bins fill up fast, and the general infrastructure around waste needs to be improved.

Furthermore, the importance of access to high quality and safe menstrual products is a reoccurring aspect. Products need to allow the menstruating adolescent to feel dry, to move, to play, and to exercise. However, In rural and remote areas, this is a challenge. Research shows that creative and alternative solutions therefore need to be embraced which can be realised through starting income generating projects that produce and distribute menstrual pads locally. Moreover, there is a substantial need to empower families and especially menstruating adolescents regarding the affordability of products, to which income generating projects can be a fitting solution. If governments are not able to provide menstrual products and make them affordable to all groups, an alternative route must be taken. A choice-oriented approach in the provision of menstrual products is another key finding in the research. Menstruating adolescents need to be able to choose their preferred product, whether disposable or reusable, and receive education on how to use and manage the products. Apart



**Figure 8** Entertainment education.

from inadequate access to menstrual products, two other important findings are the lack of pain medication and undergarments that prevent menstruating adolescents from being able to proceed with their day-to-day activities while menstruating.

Lastly, several aspects identified during this research are important in order to increase confidence of menstruating adolescents. First, having adequate knowledge on menstruation plays a big part in feeling confident during menstruation. The ecosystem needs to provide the menstruating adolescent with the necessary knowledge and support to help the adolescent realise that menstruation should not prohibit anyone from any day-to-day activity. Furthermore, there needs to be space for talking about menstruation and expressing feelings. This space for discussing and sharing has to exist in schools and other places where support can be provided, such as women's groups or at home. Second, reliable products that the menstruating adolescent feels comfortable with need to be available. Additionally, access to pain medication is crucial and was identified as one of the main challenges in feeling confident to take on normal daily activities during menses. Third, male engagement is crucial. Menstruating adolescents should not be taught about menstruation in groups of females only, but in groups of mixed genders as well. Furthermore, menstruating adolescents need to be able to not only approach females but also males when they need help with managing their period and getting access to menstrual products and pain medication, instead of being held back due to stigma or taboo, even though this is currently a persistent issue in Zimbabwe.



In conclusion, it can be said that the menstrual needs of at-risk menstruating adolescents in Mashonaland Central, Zimbabwe, consist of a wide range of aspects that contribute to higher levels of confidence and ultimately to the empowerment of the menstruating adolescent. Overall, the importance of involving the entire ecosystem around the menstruating adolescent and including especially the target group at the community level, using an inclusive bottom-up approach, is crucial in order to contribute to the improvement of the menstrual experience of at-risk menstruating adolescents in Mashonaland Central, Zimbabwe. This study has touched upon four main aspects that need to be addressed when identifying MHM needs: knowledge, physical environment, economic environment, and confidence. Furthermore, it showed that it is of the utmost importance to examine the cultural context, along with involving the community in all decisions and to come up with creative solutions to improve the menstrual experience, especially when operating in resource-scarce environments such as Mashonaland Central, Zimbabwe.

## LIMITATIONS

Also, a strong limitation of this research was the inability to conduct interviews in person with at-risk menstruating adolescents in Mashonaland Central, Zimbabwe, due to the COVID-19 pandemic. After two months of being in Zimbabwe, the researcher was demanded to leave Zimbabwe and to fly back to her home country, before being able to conduct the interviews. Thus, instead of conducting the research on location, experts and key informants were interviewed online, and at-risk menstruating adolescents were interviewed using a qualitative questionnaire. Continuing the research remotely also hindered extensive research and observation on specific context-related data on stigma and taboo regarding MHM in Mashonaland Central, Zimbabwe. This was mitigated as much as possible through staying in close contact with stakeholders in Mashonaland Central, Zimbabwe, and through interviews with key informants and experts who were knowledgeable of local stigmas and taboos. In addition, extensive desk research regarding MHM was conducted.

During this research, it was important for the researcher to be aware of her own cultural assumptions and the cultural lens, especially because of the widely different cultural contexts of Zimbabwe in comparison to the researcher's background. Cultural biases were further mitigated through self-reflection, discussions with Zimbabwean stakeholders, and through extensive desk research on conducting ethical research in different cultures.

## RECOMMENDATIONS FOR FURTHER RESEARCH

Several recommendations for further research can be given. First and foremost, more extensive research needs to be conducted on context-specific stigmas and taboos that occur in Mashonaland Central, Zimbabwe, and that have an influence on the menstruating adolescent. Second, further research is recommended on using an inclusive bottom-up approach in designing MHM interventions. Involving the target group and community in every decision made is critical for creating inclusive and effective interventions. Third, for further research on the topic, it is strongly recommended to include a larger sample from the target group. This is to truly ensure that the voices of menstruating adolescents are heard.

Furthermore, it is strongly recommended to conduct research on inclusive policy making for MHM. Related to this, it is advised to include Zimbabwe's legislative and policy framework regarding MHM for further research on MHM in Zimbabwe. Lastly, it is recommended to review the role of religion in MHM interventions.

For further readings, The Zimbabwe Formative Research on Menstrual Hygiene Management by UNICEF done in collaboration with the government of Zimbabwe in 2019 is highly recommended to gain a deeper understanding of the current situation regarding MHM in both rural and urban Zimbabwe. Another recommended reading is the paper by Tembo, Renju, Weiss, Dauya, Bandason, Dziva-Chikwari & Francis (2020), Menstrual product choice and uptake among young women in Zimbabwe: A pilot study.

LMIC: low- and middle-income country

MHM: menstrual hygiene management

SRHR: sexual and reproductive health and rights

WASH: water, sanitation and hygiene facilities

## ADDITIONAL FILE

The additional file for this article can be found as follows:

- **Supplementary data.** Overview of respondents. DOI: <https://doi.org/10.5334/glo.33.s1>

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## COMPETING INTERESTS

The author has no competing interests to declare.

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