



# Menstrual Hygiene Management in LMICs: Challenges and Proposed Solutions

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## Abstract

Adolescent females in rural settings of LMICs have been usually concerned about menstrual hygiene management practices. These girls are not informed about menstrual hygiene and safe practices. Menstruation is a normal phenomenon in every girl's life, but it is also linked to various attitudes and practices that occasionally have a detrimental effect on their health status. To better understand the knowledge, sanitary conditions, and menstrual practices of adolescent females in rural areas, a narrative review of the literature was carried out. According to several studies, unawareness regarding preparedness for puberty and menstruation raises myths and leaves females vulnerable to low self-esteem and feelings of shame. Girls living in rural settings are unlikely to have access to or use menstrual products in addition to lack of access to soap, clean water, equipped bathrooms, and functional latrines with disposal facilities. Menstrual hygiene is a major public health issue as it is a leading cause of serious health issues in adolescent females and is responsible for environmental hazards. Menstrual hygiene can be promoted by delivering proper knowledge regarding safe practices, the use of biodegradable sanitary products, proper disposal of menstrual waste products, and the importance of menstrual waste management.

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## Introduction

According to the World Health Organization (WHO), adolescents are individuals in the 10-19 years age group, this is also a transition period between childhood and adulthood [1]. It is a very important period for human growth and development and the foundation of long-term health outcomes [2]. Individuals are more active physically, mentally, and emotionally during their adolescence age [2]. This affects their feelings, ideas, choices, and interactions with other people [3].

Currently, an estimated 600 million females worldwide are between the ages of 10 and 19, and approximately 90% of these females reside in Low and Middle-Income Countries (LMICs) [4]. Girls in this age group are in a crucial stage of development where they go through life-changing experiences [2]. One of the most significant transitions that adolescent girls go through during their periods is the start of menstruation (menarche) [5]. Menstruation is described as cyclical bleeding from the uterine



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corpus that takes place between menarche and menopause [6].

Menarche begins as early as age 10 or as late as age 16, although it commonly begins between the ages of 12 and 13 [6]. In Pakistan, the age span is from 10 to 16 years (the average age is 13.5 years) [7]. In countries such as Pakistan where still the women's literacy rate is low in comparison to other developing countries, menstruation is typically associated with the concept of impurity [8]. Because of the stigmatization, a negative attitude toward this natural phenomenon has been concealed [9].

Adolescent females in rural settings of LMICs have been usually concerned about Menstrual Hygiene Management (MHM) practices. These girls are not informed about menstrual hygiene and safe practices (Andini, 2023). Menstruation is a normal phenomenon in every girl's life, but it is also linked to various attitudes and practices that occasionally have a detrimental effect on their health status [9]. To better understand the knowledge, sanitary conditions, and menstrual practices of adolescent females in rural areas, a narrative review of the literature was carried out.

### Material and Methods

The database search included PubMed and Google Scholar, as well as other sources such as the United Nations International Children's Emergency Fund (UNICEF), and the World Health Organization (WHO) to identify the relevant articles and reviewed publications using full-text search. Several keywords used to find relevant articles included the following: 'menstruation', 'menstrual hygiene', 'menstrual hygiene management', 'adolescent girls', 'menstrual practice', and 'menstrual hygiene products'. All articles published between 2010 to 2023 were reviewed. All the available best evidence such as case series, case reports, systematic reviews, cross-sectional studies, and randomized and non-randomized trials were included. The excluded articles were those included adolescent females/girls with any disabilities and also those articles that were not in the English language.

### Results

#### Myths and stigma related to menstruation

To avoid any embarrassment brought on by menstrual leakage, some parents living in rural settings, especially mothers advise their daughters to remain at home until they have stopped menstruation [9]. Moreover, the mothers may advise their daughters to stay at home to avoid staining their school clothes [9]. About two-thirds of girls in Ugandan rural schools reported missing class at least once each month due to menstruation, according to a recent survey [10]. Only 54% of Indian females reported attending class while having their periods [11]. Around 40% of girls miss school because of menstruation each month in Pakistan [12]. The main excuse provided by girls in all settings was due standing to answer questions or writing on the board in front of the class may disclose menstrual stains, while menstruating, followed by issues with feeling distracted, unable to concentrate, and reluctant to participate [6].

According to several studies, unawareness regarding preparedness for puberty and menstruation raises myths and leaves females vulnerable to low self-esteem and feelings of shame [6,9]. There are prohibitions on bathing in some cultures too [9]. Besides, a taboo against burying menstruation cloth is evident in many cultures [13]. To prevent others from seeing period cloth, washing and drying are often done in private or in a hidden location [13].

### Sanitary practices

According to the literature, most girls living in rural areas of LMICs still do not use sanitary napkins and pads [9]. Many girls still use the cloth or fabric during their menstruation [14]. Girls living in rural settings are unlikely to have access to or use menstrual products in addition to lack of access to soap, clean water, equipped bathrooms, and functional latrines with disposal facilities [15]. These issues have an immediate and lasting effect on girls' self-worth and their ability to engage in daily activities such as education and employment and maintain good health [15]. Sanitation systems especially in rural settings are either not available appropriately at homes, schools, and job places and cannot handle the menstrual absorption materials because they were created with urine and feces in mind [16]. Due to their inability to move through the pipes, these absorption materials clog them, resulting in backflow and creating other health risks [17]. Menstrual waste is also dumped into rivers polluting the environment and affecting people living along river banks [18]. Sanitary products of an infected adolescent female or adult female may contain HIV viruses or hepatitis, which can persist in water/soil for up to six months [19].

### Consequence of unhygienic practices

It has been demonstrated that unhygienic menstrual practices might contribute to reproductive tract infections, leaving or dropping out of school, low self-esteem, bad quality of life, and unsatisfactory academic achievement [20]. Unhygienic Menstrual Hygiene Management (MHM) practices could lead to opportunistic infections such as *Candida* due to abnormally wet conditions in the vulvovaginal area [21]. There is a reported 2.3 times greater likelihood of urogenital infections in people who use reusable pads or who wear the same pad for a longer duration [22].

### Menstrual Hygiene Management

There are several ways to inform and educate people about menstruation, including by providing them with thorough education that is culturally appropriate [23]. With the use of this knowledge, people will be able to recognize menstruation as a typical physiological and natural occurrence and can improve hygienic procedures, such as cleansing the genital area, washing hands with a disinfectant before and after using absorbents, and replacing absorbents as recommended. When conducting interventions, it is important to inform people about the importance of MHM and teach adolescent females how to utilize menstrual products [24].

Menstrual waste disposal can be managed using proper incineration, which reduces volume and pathogens while also reducing trash, hence reducing environmental problems due to inappropriate disposal [25]. The Indian government has encouraged the use of incineration for menstrual waste (2018) [26]. With an estimated 121 million females disposing of 12.3 billion pads yearly, India has a very high volume of menstrual trash, amounting to 113,000 tonnes. This initiative reduces trash and enables females to dispose of their old napkins in an environmentally responsible manner [26].

Mobile phone messaging services have been utilized in numerous community health projects in different countries to broadcast health information and enhance the delivery of services and behaviors that promote health [27]. The success of these projects shows that with the increased usage of mobile phones, it is possible to convey the right information about

menstrual hygiene practices and increase awareness among adolescent females [27,28]. Menstrual health is a public health concern that is closely connected to civil rights and the achievement of the Sustainable Development Goals (SDG) [29]. The UNICEF and WHO recommended to include WASH, or water, sanitation, and hygiene, facilities in schools [30].

### Conclusion

Menstrual hygiene is a major public health issue as it is a leading cause of serious health issues in adolescent females and is responsible for environmental hazards. Menstrual hygiene can be promoted by delivering proper knowledge regarding safe practices, the use of biodegradable sanitary products, proper disposal of menstrual waste products, and the importance of menstrual waste management. Teachers can play a major role in promoting menstrual hygiene education not only to females but also to males so they also understand their roles and responsibilities and can help in changing the mindset or myths of the societies or communities that think menstruation is taboo and impure. Technologies can also act as an intervention in delivering knowledge on a public health issue. Many programs and schemes are implemented by Non-governmental in rural areas. The WHO and UNICEF recommended having WASH facilities in schools. The core of many health issues is misinformation, myths, false beliefs, the lack of awareness, and incomplete or incorrect knowledge about menstruation. Therefore, it is essential to teach adolescent females about hygienic behavior and safe menstrual practices.

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