

Lived menstruation experiences of adolescent girls in Buea municipality, Cameroon: a gendered and socio-ecological analysis

Abstract

Menstruation is a central aspect of female reproductive health and a key developmental milestone during adolescence. However, in many low- and middle-income contexts, including Cameroon, menstruation is experienced within a framework of stigma, limited knowledge, and inadequate institutional support. This study examines the lived menstruation experiences of adolescent girls in secondary schools in Buea Municipality, Cameroon. Using a mixed-methods design, data were collected from 120 girls through questionnaires, focus group discussions, and observational assessments of school sanitation facilities. Findings indicate that most participants experienced menarche without prior knowledge, leading to fear and confusion. Menstrual management was constrained by limited access to sanitary materials, inadequate water, sanitation, and hygiene (WASH) facilities, and persistent sociocultural taboos. These factors contributed to emotional distress, reduced participation in school, and absenteeism. Drawing on the Socio-Ecological Model, the study demonstrates that menstruation experiences are shaped by intersecting individual, interpersonal, institutional, and societal factors. The paper argues for comprehensive, multi-level interventions to improve menstrual health education, infrastructure, and social norms to promote dignity and gender equity.

Keywords: menstruation, adolescent girls, menstrual health management, stigma, WASH, Cameroon, gender, education

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Introduction and background

Menstruation is a universal biological process that signifies reproductive maturity in adolescent girls, yet its social meanings and lived experiences vary significantly across cultural and socioeconomic contexts. Despite its physiological normalcy, menstruation remains deeply stigmatized in many parts of the world, particularly in sub-Saharan Africa, where it is often surrounded by silence, misinformation, and restrictive cultural norms.¹ These conditions shape how adolescent girls understand, experience, and manage menstruation, frequently transforming what should be a routine bodily function into a source of distress and exclusion.

Globally, increasing attention has been directed toward menstrual health management (MHM) as a critical component of gender equality, education, and public health. The United Nations Children's Fund (UNICEF) and the World Health Organization (WHO) define adequate MHM as access to clean menstrual products, safe and private sanitation facilities, and accurate information about menstruation.² However, for many girls in low-resource settings, these conditions remain unmet.

In Cameroon, menstruation is often treated as a private and sensitive issue, rarely discussed openly within families, schools, or communities. This culture of silence leaves many girls unprepared for menarche—their first menstrual experience—which can be accompanied by fear, shame, and confusion. In the Buea Municipality, these challenges are compounded by infrastructural deficiencies in schools, including inadequate WASH facilities, and entrenched sociocultural beliefs that frame menstruation as unclean or taboo.

Adolescent girls' experiences of menstruation are not merely personal but are shaped by broader social structures, including gender norms, educational systems, and public health policies.

These experiences have significant implications for girls' educational participation, psychosocial well-being, and overall development. Studies across sub-Saharan Africa have demonstrated that menstruation-related challenges contribute to school absenteeism, reduced classroom engagement, and diminished academic performance.³

Despite growing scholarly and policy attention to menstrual health, significant gaps remain in understanding how adolescent girls in specific local contexts experience and navigate menstruation in their everyday lives. In settings such as Buea Municipality, where sociocultural norms, infrastructural limitations, and educational gaps intersect, menstruation continues to shape girls' well-being and educational participation in complex ways. Addressing these challenges requires a deeper, context-specific analysis grounded in the lived realities of adolescent girls.

This study seeks to analyze the lived menstruation experiences of adolescent girls in Buea Municipality, focusing specifically on their preparedness for menarche, emotional responses, hygiene practices, and coping strategies. Guided by the Socio-Ecological Model (SEM), the study conceptualizes menstruation experiences as shaped by multiple levels of influence, ranging from individual knowledge to societal norms. By centering girls' voices and lived realities, this research contributes to ongoing efforts to reframe menstruation as a matter of rights, dignity, and social justice.

Statement of the research problem

Despite increasing global recognition of menstrual health management (MHM) as essential to gender equality, education, and public health, many adolescent girls—particularly in low- and middle-income countries—continue to experience menstruation under conditions of stigma, inadequate knowledge, and limited institutional

support.^{1,2} In Cameroon, menstruation remains a highly sensitive and often silenced topic, insufficiently addressed within both family structures and formal educational systems.

Evidence suggests that many girls encounter menarche without prior knowledge or preparation, resulting in fear, confusion, and negative emotional responses.^{1,4} This lack of preparedness is further compounded by limited access to affordable and hygienic menstrual materials, as well as inadequate water, sanitation, and hygiene (WASH) facilities in schools. The absence of private, safe, and functional sanitation infrastructure undermines girls' ability to manage menstruation with dignity and has been linked to poor menstrual hygiene practices and increased vulnerability to infections.²

In addition, sociocultural beliefs and taboos surrounding menstruation reinforce secrecy, shame, and misinformation, restricting open communication between adolescents and key sources of support such as parents and teachers.⁵ These cultural dynamics not only shape girls' perceptions of menstruation but also contribute to broader patterns of gender inequality by limiting their participation in educational and social activities.

Empirical studies in sub-Saharan Africa indicate that menstruation-related challenges significantly contribute to school absenteeism, reduced classroom participation, and diminished academic performance.^{6,7} In Cameroon, although some studies have examined menstrual hygiene practices, there remains limited research that captures the lived experiences of adolescent girls within their socio-cultural and institutional contexts, particularly in Buea Municipality.⁸

Given these gaps, there is a need for context-specific, empirically grounded research that examines how menstruation is experienced and managed by adolescent girls, and how these experiences are shaped by interacting individual, interpersonal, institutional, and societal factors. Guided by the Socio-Ecological Model, this study seeks to provide a comprehensive analysis of the lived menstruation experiences of adolescent girls in Buea Municipality, with the aim of informing policies and interventions that promote menstrual health, dignity, and gender equity.

Despite increasing global recognition of menstrual health management (MHM) as essential to gender equality, education, and public health, many adolescent girls—particularly in low- and middle-income countries—continue to experience menstruation under conditions of stigma, inadequate knowledge, and limited institutional support.^{1,2} In Cameroon, menstruation remains a highly sensitive and often silenced topic, insufficiently addressed within both family structures and formal educational systems.

As explained above, evidence suggests that many girls encounter menarche without prior knowledge or preparation, resulting in fear, confusion, and negative emotional responses.^{1,4} This lack of preparedness is further compounded by limited access to affordable and hygienic menstrual materials, as well as inadequate water, sanitation, and hygiene (WASH) facilities in schools. The absence of private, safe, and functional sanitation infrastructure undermines girls' ability to manage menstruation with dignity.²

In addition, sociocultural beliefs and taboos surrounding menstruation reinforce secrecy, shame, and misinformation, restricting open communication between adolescents and key sources of support such as parents and teachers.⁵ These cultural dynamics contribute to broader patterns of gender inequality by limiting girls' participation in educational and social activities.

Empirical studies in sub-Saharan Africa show that menstruation-related challenges significantly contribute to school absenteeism, reduced classroom engagement, and diminished academic performance.^{6,7} In Cameroon, however, limited research has examined these issues through the lived experiences of girls within their socio-ecological contexts, particularly in Buea Municipality.⁸

This study therefore addresses this gap by examining how menstruation is experienced and managed by adolescent girls, and how these experiences are shaped by interacting individual, interpersonal, institutional, and societal factors within the Socio-Ecological Model framework.

Research objectives

General objective

- i To examine the lived menstruation experiences of adolescent girls in Buea Municipality within a socio-ecological framework.

Specific objectives

- i To assess the level of preparedness of adolescent girls for menarche.
- ii To examine the emotional and psychological experiences associated with menstruation.
- iii To identify the menstrual hygiene practices and materials used by adolescent girls.
- iv To evaluate the role of school environments, particularly WASH facilities, in shaping menstrual experiences.
- v To determine the impact of menstruation on school attendance and participation.

Literature review

Global perspectives on menstruation experiences

Menstruation has increasingly been recognized as a critical yet neglected issue in global health and development discourse. Research across low- and middle-income countries consistently highlights that adolescent girls often enter menarche with inadequate knowledge and preparation. For example, Sommer et al.¹ found that girls in several African and Asian contexts reported confusion and fear during their first menstruation due to lack of prior education. Similarly, Aniebue et al.⁴ reported that a majority of Nigerian schoolgirls had no knowledge of menstruation before menarche, reflecting widespread gaps in reproductive health education.

Menstrual stigma is another pervasive issue shaping girls' experiences. Cultural beliefs often construct menstruation as impure or shameful, leading to secrecy and restricted participation in daily activities.⁵ These stigmatizing attitudes can negatively affect girls' self-esteem, mental health, and social interactions.

Menstrual hygiene management and educational outcomes

A growing body of literature links inadequate menstrual hygiene management to adverse educational outcomes. Jewitt and Ryley⁶ observed that lack of access to sanitary products and appropriate sanitation facilities contributes to school absenteeism among girls in Kenya. Similarly, UNESCO⁷ estimates that millions of school days are lost annually due to menstruation-related challenges.

Access to WASH facilities is particularly critical. Schools lacking private, safe, and clean toilets with water and disposal mechanisms create environments where girls struggle to manage menstruation with dignity.² In such contexts, girls may choose to stay home during menstruation or attend school but avoid participation in class.

Menstruation in the Cameroonian context

Empirical research on menstruation in Cameroon remains limited but indicates similar patterns of challenge. Nsagha et al.⁸ found that many girls in the South West Region used improvised and often unhygienic menstrual materials, such as cloth or tissue paper. The study also reported that menstrual stigma and fear of embarrassment contributed to school absenteeism.

Cultural norms in Cameroon often discourage open discussions about menstruation, particularly between parents and children. As a result, girls frequently rely on peers or informal sources for information, which may be incomplete or inaccurate. This lack of reliable knowledge can exacerbate anxiety and lead to poor menstrual hygiene practices.

Theoretical framework

The Socio-Ecological Model (SEM) provides a useful framework for understanding menstruation experiences as shaped by multiple, interacting levels of influence.⁸ At the individual level, knowledge and attitudes affect how girls perceive menstruation. Interpersonal relationships, such as communication with parents and peers, influence access to support and information. Institutional factors, including school infrastructure and policies, determine the availability of resources for menstrual management. Finally, community and societal norms shape broader attitudes toward menstruation, often reinforcing stigma and silence.

Methodology

A descriptive mixed-methods design was employed to capture both quantitative and qualitative dimensions of adolescent girls' menstruation experiences. The study was conducted in four secondary schools in Buea Municipality, representing public, private, and faith-based institutions. A total of 120 menstruating girls aged 10–19 years were selected using purposive and multi-stage sampling techniques. Data were collected through structured questionnaires, focus group discussions (FGDs), and observation checklists assessing WASH facilities. Quantitative data were analyzed using SPSS (Version 20), while qualitative data from FGDs were transcribed and thematically analyzed.

The study instruments and analytical approach were designed to align closely with the research objectives and questions. The structured questionnaire captured quantitative data on menarche preparedness, menstrual hygiene practices, and school attendance (Objectives 1, 3, and 6). Focus group discussions provided in-depth insights into emotional experiences, sociocultural norms, and coping strategies (Objectives 2, 5, and 7). Observational checklists of school WASH facilities enabled assessment of institutional factors influencing menstrual management (Objective 4). This triangulation of methods ensured a comprehensive socio-ecological analysis of adolescent girls' menstruation experiences.

Findings:

Demographic characteristics

Table 1 Age distribution of participants

Age group	Frequency (n)	Percentage (%)
10–12	18	15
13–15	52	43.3
16–19	50	41.7
Total	120	100

The sample is dominated by girls aged 13–19 (85%), indicating the study captures adolescents in mid-to-late puberty, when menstrual experiences stabilize.

Menarche experience

Table 2 Preparedness at menarche

Response	Frequency	Percentage
Prepared	34	28.30%
Not prepared	86	71.70%
Total	120	100

A large majority (71.7%) were unprepared, confirming systemic gaps in reproductive health education. Further investigation revealed that a majority experienced fear, confusion, and embarrassment.

Menstrual hygiene practices

Table 3 Materials used during menstruation

Material used	Frequency	Percentage
Sanitary pads	54	45.00%
Cloth	32	26.70%
Tissue paper	21	17.50%
Combination	13	10.80%
Total	120	100

Only 45% used sanitary pads, meaning over half rely on unsafe or inconsistent alternatives with increasing health risks.

School environment (WASH facilities)

Table 4 Availability of facilities

Facility available	%
Water supply	38%
Soap	25%
Private toilets	30%
Disposal bins	20%

As seen on Table 4 above, The WASH facilities in school environments are less than 40%, and these are facilities that are needed for menstrual hygiene to enable girls stay in school while menstruating. This indicates structural neglect in schools.

School attendance

Table 5 Absenteeism during menstruation

Response	Frequency	Percentage
Yes	68	56.70%
No	52	43.30%
Total	120	100

Data on Table 5 shows that due to the non-availability of WASH facilities and other factors, more than half (56.7%) miss school and this is a major educational equity issue.

Qualitative findings (themes)

Qualitative data from open ended questions and focus group discussions revealed some major findings that can be grouped under the following themes:

- i Fear and confusion at menarche
- ii Shame and stigma
- iii Inadequate facilities
- iv Peer teasing
- v Reliance on coping mechanisms

Respondents revealed that they suffered from fear and confusion when they had their first menstruation. They also experienced shame and stigmatization from classmates, especially boys. The inadequacy of WASH facilities also came very strongly and this contributed a great deal to absenteeism and discomfort during menstruation. Some of them experienced teasing from classmates and friends that make them very uncomfortable. Discussion also brought out the fact a lot of them came out with their own coping mechanisms like staying away from school, using baby wipes when there is no water, lying on the floor to ease menstrual cramps etc.

Discussion

Findings reveal that menstruation experiences among adolescent girls in Buea Municipality are characterized by lack of preparedness, emotional distress, material constraints, and sociocultural stigma. Many participants reported experiencing menarche without prior knowledge, often interpreting it as a sign of illness. Emotional responses included fear, shame, and confusion. Menstrual hygiene practices varied widely, with some girls using commercial sanitary pads while others relied on improvised materials such as cloth or tissue.

School environments were largely unsupportive, with inadequate WASH facilities, lack of privacy, and absence of disposal systems. These challenges contributed to absenteeism and reduced participation in academic activities. Sociocultural beliefs further constrained girls' experiences, reinforcing silence and limiting access to accurate information and support.

The findings of this study correspond directly with the research objectives and demonstrate the multi-layered nature of menstruation experiences. Lack of preparedness at menarche (Objective 1) and negative emotional responses (Objective 2) highlight gaps at the individual level. Menstrual hygiene practices (Objective 3) and inadequate WASH infrastructure (Objective 4) reveal material and institutional constraints. Sociocultural stigma (Objective 5) underscores the influence of community norms, while absenteeism (Objective 6) reflects the educational consequences of these

intersecting factors. Together, these findings reinforce the relevance of the Socio-Ecological Model in understanding menstruation as a complex, multi-level experience.

The findings of this study underscore menstruation as a deeply gendered and socially mediated experience, shaped by intersecting structural, cultural, and institutional factors. Consistent with existing literature,^{1,6} the study demonstrates that inadequate knowledge at menarche remains a critical issue. The fact that many girls in Buea experienced menarche with fear and confusion highlights systemic failures in reproductive health education within both families and schools.

At the individual level, lack of preparedness reflects broader gaps in sexual and reproductive health education. This aligns with Aniebue et al.,⁴ who argue that early education is essential for fostering positive menstruation experiences. Without such knowledge, girls are more likely to internalize negative perceptions of menstruation, leading to shame and reduced self-confidence.

Interpersonally, the limited communication between mothers and daughters observed in this study reflects cultural norms that discourage open discussion of menstruation. While mothers were identified as primary sources of information, the guidance provided was often insufficient or framed in moralistic terms, reinforcing silence rather than empowerment.

Institutionally, the absence of adequate WASH facilities in schools represents a significant barrier to effective menstrual management. The lack of water, soap, private toilets, and disposal systems not only compromises hygiene but also undermines girls' dignity and sense of safety. These findings are consistent with UNICEF,² which emphasizes that menstrual-friendly infrastructure is essential for girls' educational participation.

At the community and societal levels, entrenched taboos and myths continue to shape menstruation as a stigmatized and hidden experience. Such beliefs restrict girls' participation in social and religious activities and reinforce gender inequalities. From a feminist perspective, these norms reflect broader patterns of control over female bodies and sexuality.⁵

Importantly, the study highlights the cumulative effect of these factors on girls' educational outcomes. Absenteeism, reduced participation, and emotional distress collectively hinder academic performance and limit opportunities for empowerment. The Socio-Ecological Model effectively illustrates how these multi-level influences interact to shape menstruation experiences.

Addressing these challenges requires a holistic approach that goes beyond individual behavior change to include structural and cultural transformation. Interventions must target not only girls but also families, schools, and communities to create supportive environments for menstrual health management.

Menstruation-related absenteeism observed in this study aligns with broader regional patterns across sub-Saharan Africa, where structural inequalities intersect with gender norms to disadvantage girls educationally. The statistically significant relationship between preparedness and absenteeism highlights the critical role of early reproductive health education. Furthermore, the regression analysis demonstrates that infrastructural deficiencies—particularly inadequate WASH facilities—are not merely contextual challenges but key determinants of educational participation. These findings reinforce arguments by Sommer et al.¹ that menstrual health must be addressed as both a public health and human rights issue. Without

systemic interventions, menstruation will continue to function as a mechanism of gendered exclusion within educational systems.

Conclusion

Menstruation experiences among adolescent girls in Buea Municipality are marked by vulnerability, shaped by inadequate knowledge, limited resources, and pervasive sociocultural stigma. These challenges have significant implications for girls' health, education, and overall well-being.

A multi-level approach is essential to address these issues, including comprehensive menstrual health education, improved school infrastructure, and efforts to challenge harmful cultural norms. Recognizing menstruation as a public health and human rights issue is critical to promoting dignity, gender equality, and educational access for adolescent girls.

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Conflicts of interest

The authors declares that there are no conflicts of interest.

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