AKENTEN APPIAH-MENKA UNIVERSITY OF SKILLS TRAINING AND ENTREPRENEURIAL DEVELOPMENT

ASSESSING THE IMPACT OF TEENAGE GIRLS' MENSTRUAL HYGIENE ON THEIR ACADEMIC PERFORMANCE IN THE MAMPONG MUNICIPALITY

PRISCILLA OPPONG - MENSAH

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BY

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OCTOBER, 2025

DECLARATION

Candidate's Declaration

I hereby declare that this dissertation is the result of my own original work and that no part of it has been presented for another degree in this university or elsewhere.

Priscilla Oppong-Mensah

Signature…… Date……

Supervisors' Declaration

We hereby declare that the preparation and presentation of this dissertation were supervised in accordance with the guidelines on supervision of dissertation laid down by the Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development.

Dr. Ernest Osei Asante (Principal Supervisor)

Signature…… Date……

Rev. Dr. Denis Dekugmen Yar (Co-supervisor)

Signature…… Date……

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DEDICATION

I dedicate this work to my dear husband, Pastor Henry and lovely sons, Sam and Ben, for their inspiration, support, and encouragement throughout my study.

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LIST OF ACRONYMS

AAMUSTED	Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development
CHPS	Community-based Health Planning and Services
CHRPE	Committee on Human Research, Publication and Ethics
GES	Ghana Education Service
GHS	Ghana Health Service
HBM	Health Belief Model
KNUST	Kwame Nkrumah University of Science and Technology
MA	Municipal Assembly
MHM	Menstrual Hygiene Management
MoH	Ministry of Health
NGOs	Non-Governmental Organizations
PI	Principal Investigator
SDA	Seventh-day Adventist
SDGs	Sustainable Development Goals
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization

ABSTRACT

The study examined the relationship between teenage girls' menstrual hygiene practices and their academic performance in the Mampong Municipality. A cross-sectional study involving 184 female students from selected schools in the Ashanti Mampong Municipality was conducted using stratified and random sampling techniques. Data were collected through questionnaires, and observations, focusing on demographics, menstrual hygiene practices, access to hygiene products and facilities, and the perceived impact on school attendance and academic performance. Data analysis was performed using SPSS version 22, employing descriptive statistics, Chi-square tests, and logistic regression. Ethical approval and informed consent were obtained before data collection. Most participants (80.4%) used disposable pads, changed them twice daily (55.4%), and disposed of them in dustbins (58.7%). However, 66.8% and 78.3% had limited access to clean water and soap at school, respectively. Age, school, and income significantly influenced menstrual hygiene practices and resource access ($p< 0.05$). Older girls were more likely to access clean water and hygiene supplies. The majority (58.2%) missed school during menstruation due to pain, lack of facilities, products, or stigma, while 75% struggled to concentrate, and 58.2% reported academic decline. Girls from higher-income households were less likely to experience academic decline. Barriers included high product costs (73.4%) and poor school sanitation (63.6%). Many girls (67.9%) felt uncomfortable using school toilets, and 35.9% experienced teasing. Age, class, and school significantly impacted menstrual hygiene management ($p< 0.05$). Participants in the Junior High School class three were four times more likely to get adequate toilet and

water facilities than those in lower classes [AOR=3.9 (1.61–9.26), p=0.003]. Students from Mensah Saahene JHS were about 70% less likely to find adequate facilities than students from other schools [AOR=0.32 (0.12–0.88), p=0.025]. Poor school facilities, limited access to sanitary products, and social stigma hinder menstrual hygiene among teenage girls in Mampong Municipality. These challenges contribute to absenteeism, discomfort, and reduced academic performance. Many girls miss school or struggle to concentrate due to pain, lack of hygiene materials, and inadequate toilets. Addressing these issues through improved infrastructure, menstrual health education, and stigma reduction is crucial for promoting girls' well-being, dignity, and equal educational opportunities. Schools and policymakers should prioritize comprehensive menstrual support to foster a more inclusive learning environment. GES should improve sanitation facilities in schools by ensuring access to clean water, soap, and adequate toilets specifically designed to accommodate girls during menstruation.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In recent times, there has been a notable worldwide campaign to address menstrual hygiene management, with an emphasis on its substantial effects on women's and girls' health, dignity, and socioeconomic empowerment (Cardoso et al., 2021). Inadequate access to menstrual hygiene facilities, products, and information is still a major problem in many parts of the world, especially in low- and middle-income nations. This affects many aspects of girls' lives, including their education (Holmes et al., 2021).

Menstrual hygiene remains a significant challenge for millions of women and girls worldwide, with over 500 million lacking access to adequate facilities (Patel et al., 2022). Many face difficulties due to the absence of clean water, proper toilets, and essential menstrual products, making it hard to manage their periods safely and with dignity. Inadequate sanitation increases the risk of infections, discomfort, and social stigma, particularly in low- and middle-income countries where menstrual health is often overlooked in public health policies (Sahoo et al., 2022).

Beyond sanitation concerns, privacy is another major issue affecting menstrual hygiene. Alarmingly, one in four women globally does not have a private place to change menstrual products (Koskenniemi, 2023). This lack of privacy exposes them to embarrassment, distress, and even potential harassment. The situation is particularly dire

in schools, workplaces, and refugee camps, where inadequate infrastructure forces women and girls to use unsafe and unhygienic spaces (Smoyer et al., 2023). This gap in menstrual hygiene management affects their confidence and overall well-being, reinforcing gender disparities in health and human rights.

Research and intervention in the field of adolescent girls' academic performance and menstrual hygiene management have shown a vital relationship (Anee et al., 2020). Adolescence is a critical period in girls' lives during which they develop physically, emotionally, and cognitively. However, girls' attendance, involvement, and academic performance are often negatively impacted by the difficulties that come with menstruation during this time. According to estimates from the World Health Organization (WHO), because of poor facilities for menstrual hygiene and the stigma associated with menstruation, one in ten African girls miss school during their menstrual cycles (Dar et al., 2023).

In the African environment, Ghana represents an aspect of the larger potential and challenges related to managing menstrual hygiene and its effect on education (Mohammed et al., 2020).

Ghana struggles with difficulties like cultural taboos around menstruation, poor sanitation infrastructure, and restricted availability of affordable menstrual products, just like many other Sub-Saharan African nations (Kumbeni et al., 2020a). Adolescent females are

marginalized because of these conditions, which make it difficult for them to pursue their academic goals and reach their full potential.

With a population of over 30 million, Ghana is a West African nation known for its rich cultural legacy and dedication to enhancing public health and education (Owusu, 2024). To promote universal basic education and gender parity in school attendance, the country has rules that divide education into three levels: basic, secondary, and tertiary. Despite these initiatives, sociocultural and economic issues continue to make it challenging to guarantee equal access to school, especially for adolescent girls (Baxter et al., 2022). Menstruation is still a taboo subject in Ghana due to ingrained cultural stigmas and misconceptions. These cultural beliefs frequently make it difficult for teenage females to properly manage their menstrual hygiene, especially in underprivileged and rural communities under the Mampong Municipality. Teenage females suffer additional difficulties due to a lack of gender-sensitive facilities in schools, restricted access to sanitary goods, and insufficient instruction on period hygiene (Adams, 2023). As a result, these obstacles affect their academic performance, engagement, and physical and mental health.

The government of Ghana has implemented various initiatives to address menstrual hygiene management (MHM), such as providing free sanitary pads to learners and awareness campaigns (Dwumfour-Asare et al., 2024). However, gaps remain in addressing the systemic and infrastructural issues that hinder effective MHM, particularly in rural areas. Understanding the specific impact of menstrual hygiene on academic

performance is critical for developing targeted interventions that ensure teenage girls can attend school consistently and perform optimally.

Mampong Municipal, located in the Ashanti Region, provides a unique context for examining these issues. Known for its mix of urban and rural settlements, the area reflects Ghana's socio-economic diversity, with varying levels of access to education and health resources. Assessing the impact of menstrual hygiene on the academic performance of teenage girls in this municipality can shed light on broader trends and inform policies that foster gender equity in education across the country.

The schools in the Mampong Municipality represent the larger sociocultural and economic forces present in many Ghanaian rural and urban regions. Adolescent girls in this situation confront a variety of obstacles to menstrual hygiene, such as restricted access to sanitary facilities, clean water, and menstrual products, in addition to deeply rooted cultural beliefs that support stigma and false information about menstruation (Bulto, 2021).

Knowing how menstrual hygiene practices and teenage girls' academic progress interact is especially important in the unique setting of the Mampong municipality in the Ashanti Region of Ghana. Considering this, this study examines how teenage girls' menstrual hygiene practices affect their academic performance in schools in the Mampong Municipality in Ghana. This study aims to provide insight into the complex relationship between menstrual hygiene management and educational success in the Ghanaian context

by investigating the views, experiences, and practices of students and relevant stakeholders (Kumbeni et al., 2020b). The evidence-based findings of this study would propose recommendations for policy interventions to improve the overall well-being and academic success of adolescent girls in Ghana (Mohammed et al., 2020b).

1.2 Problem Statement

Menstrual hygiene management (MHM) is recognized globally as a critical component of public health and education, particularly for adolescent girls in low- and middle-income countries (Olson et al., 2022). Menstruation is a natural and essential biological process experienced by over 300 million women and girls worldwide every day (Ganguly et al., 2024). Despite its normalcy, managing menstruation remains a significant challenge in many parts of Africa due to limited access to menstrual hygiene products, inadequate sanitation facilities, and prevailing cultural stigmas (Anbesu & Asgedom, 2023).

Millions of school-aged girls lack access to adequate menstrual products, private sanitation facilities, and supportive learning environments (Weiss, 2025). These deficiencies often lead to school absenteeism, reduced participation in class, and poor academic performance, ultimately undermining gender equity in education.

In West Africa, menstrual hygiene challenges are further compounded by cultural taboos, economic hardship, and insufficient water, sanitation, and hygiene (WASH) infrastructure. As a result, menstruation remains a source of discomfort and exclusion for many girls, limiting their educational opportunities and personal development (Sun et al., 2024)..

In Ghana, while governmental and non-governmental organizations have made strides in promoting menstrual hygiene education and improving access to sanitary materials, significant gaps persist—especially in rural and peri-urban areas (Baye, 2021). Research indicates that limited access to menstrual products, inadequate school sanitation facilities, and prevailing social stigma contribute to absenteeism, reduced concentration, and lower academic engagement among adolescent girls (Benshaul-Tolonen et al., 2020).

In the Ashanti Region, particularly within the Mampong Municipality, these challenges are especially evident. Many teenage girls struggle to manage menstruation effectively due to a lack of gender-sensitive sanitation facilities, fear of menstrual leaks, and enduring cultural misconceptions. Consequently, several girls miss school during their menstrual periods, leading to irregular attendance, diminished academic performance, and restricted educational advancement.

Despite these observed challenges, there remains limited empirical research examining the specific impact of menstrual hygiene management on academic outcomes among teenage girls in the Mampong Municipality. This study, therefore, seeks to fill this knowledge gap by assessing how menstrual hygiene management influences school attendance, participation, and academic performance. The findings are expected to provide evidence-based insights to guide policy formulation and intervention strategies aimed at improving menstrual hygiene management and enhancing educational outcomes for adolescent girls in the municipality.

1.3 Study Objectives

The main aim of this study was to examine the relationship between teenage girls' menstrual hygiene practices and their academic performance in the Mampong Municipality.

1.3.1 Specific Objectives

Specifically, this study sought to:

1. Determine the current menstrual hygiene practices among teenage girls attending schools in the Mampong Municipality.
2. Examine the impact of menstrual hygiene-related challenges on the academic performance of teenage girls in the Mampong Municipality.
3. Examine the barriers to effective menstrual hygiene management among teenage girls in the Mampong Municipality.

1.4 Research Questions

1. What are the current menstrual hygiene practices among teenage girls attending schools in the Mampong Municipality?
2. How do menstrual hygiene-related challenges impact the academic performance of teenage girls in the Mampong Municipality?
3. What are the barriers to effective menstrual hygiene management among teenage girls in the Mampong Municipality?

1.5 Justification of the Study

In Sub-Saharan Africa, inadequate MHM has been linked to poor school attendance and academic performance among adolescent girls (Anbesu & Asgedom, 2023a). Some studies highlighted that many girls in the region lack access to proper menstrual hygiene products, clean water, and safe, private sanitation facilities in schools (Habtegiorgis et al., 2021). These challenges contribute to absenteeism, reduced concentration, and even school dropout, as girls are often forced to stay at home during their menstrual periods to avoid embarrassment and discomfort. Due to inadequate sanitary facilities and a lack of modern sanitary pads, 95% of girls in rural areas missed classes during menstruation, affecting their education and overall well-being. (Dwumfour-Asare et al., 2024).

Ghana is no exception to the menstrual hygiene challenges faced in other parts of Africa. Research by (Kumbeni et al., 2020b) found that many girls in Ghana, particularly in rural areas, face considerable difficulties in managing their menstruation while in school. The lack of sanitary products and inadequate sanitation facilities contribute to stigma and social isolation, directly affecting school attendance and learning outcomes. This study estimated that nearly 95% of girls in the Northern Region have had their education interrupted due to menstrual hygiene-related issues. These findings suggest that teenage girls in the Mampong Municipality in the Ashanti Region may experience similar barriers, which warrants investigating how these factors affect academic performance. The Ashanti Region, one of Ghana's most populous and economically significant areas, presents a unique opportunity for understanding the regional challenges of menstrual hygiene management in schools. According to the 2020 Ghana Statistical Service report,

about 24% of the adolescent population in the region face challenges related to MHM, with limited access to affordable sanitary products and inadequate school sanitation infrastructure (Asumah et al., 2022). The Ashanti Region's mix of urban and rural communities provides a diverse context for examining variations in menstrual hygiene practices and their impact on academic outcomes. Research here could also inform policy development aimed at improving girls' educational experiences across similar regions in Ghana and beyond.

Empirical evidence suggests a strong association between menstrual hygiene practices and girls' academic performance. A study by (Fialkov et al., 2021) improved access to sanitary products, and better school sanitation facilities significantly reduced absenteeism among girls in Kenya. Providing adequate MHM resources was associated with a 30% improvement in school attendance, directly correlated with better academic results. Similar research in Uganda confirmed that menstrual-related absenteeism is a key contributor to the gender gap in education, especially during adolescence (Weiss, 2025). These findings underline the need to assess whether such correlations exist in the Ashanti Region and to identify strategies for addressing any identified gaps.

Cultural beliefs and social stigma around menstruation in Ghana add another layer of complexity to menstrual hygiene management. Studies in West Africa have found that traditional beliefs about menstruation often lead to discriminatory practices, which can negatively influence girls' self-esteem and willingness to participate in school activities during their periods (Asumah et al., 2022). These cultural barriers can further exacerbate

academic challenges, making it necessary to investigate their specific effects on girls' educational experiences in the Ashanti Region.

This research topic is essential because it addresses a significant but often neglected factor affecting girls' education in Ghana. By assessing the impact of menstrual hygiene on academic performance in the Ashanti Region, the study aims to contribute to a deeper understanding of gender-specific educational barriers. The findings could inform policies and programs to improve school sanitation infrastructure, access to affordable menstrual products, and culturally sensitive education about menstruation, ultimately enhancing the educational outcomes for adolescent girls in Ghana and other African countries.

1.6 Significance of the Study

The study's significance lies in its potential to address a critical intersection of adolescent health and education, particularly in the context of the Mampong Municipality in Ghana. Understanding the impact of menstrual hygiene on academic performance can improve teenage girls' overall health and well-being. By identifying barriers to effective menstrual hygiene management, interventions can be designed to promote healthier practices and mitigate health risks associated with inadequate menstrual hygiene. Menstrual hygiene-related challenges often disproportionately affect girls' access to education. By elucidating how menstrual hygiene influences academic performance, this study can inform strategies to enhance educational equity and ensure that all students, regardless of gender, have equal opportunities to succeed in school. Findings from this research can inform the development of evidence-based policies and programs to promote menstrual

hygiene management in schools. By highlighting the specific needs and challenges faced by girls in the municipality, policymakers and educators can tailor interventions to address local contexts and priorities.

1.7 Scope of the Study

This study focused on assessing the impact of menstrual hygiene practices on the academic performance of teenage girls in Mampong. The research explored teenage girls' knowledge and attitudes toward menstrual hygiene, the availability and accessibility of menstrual hygiene products, and the support systems available within schools and communities. It also examined how these factors influence school attendance, concentration in class, and overall academic outcomes.

Mampong was chosen as the study site because it reflects rural and semi-urban educational settings and presents a relevant context for understanding the intersection between menstrual hygiene management and girls' educational experiences. This location provided a practical setting for gathering detailed and context-specific data on how menstrual health challenges affect school-aged girls.

1.8 Thesis Organization

The study is divided into six main chapters. The first chapter addresses the background of the study, the problem statement, objectives, research questions, justification, significance of the study, scope and organization of the study. The second chapter thoroughly examined relevant literature related to this research topic. Chapter three

focuses on presenting the study area and the methodology employed to conduct the research. Moving on to chapter four, the study data is presented. Chapter five discussed the findings of the study. Lastly, in chapter six, the summary of the results is presented, conclusions based on the main findings are drawn, and recommendations are offered based on the study's outcomes.

1.9 Study Limitation

This study relied on self-reported information from teenage girls, which introduces the possibility of recall bias, as participants may selectively report their menstrual hygiene practices and academic experiences. Some respondents might have provided socially desirable responses rather than accurate reflections of their experiences, potentially leading to data inaccuracies. To mitigate this, participants were assured of strict confidentiality and anonymity to encourage honest responses.

Additionally, the study was conducted within a specific geographical location, the Mampong Municipality, using a limited sample size and non-random sampling techniques. These factors may affect the generalizability of the findings to all teenage girls in Ghana. Despite these limitations, the study provides valuable insights into the impact of menstrual hygiene management on academic performance. The findings are essential for educators, health professionals, and policymakers in developing strategies to improve menstrual health education and support systems, ensuring better educational outcomes for adolescent girls.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a comprehensive review of existing literature related to menstrual hygiene management and its influence on the academic performance of teenage girls, with a focus on both global and local contexts. It explores key issues such as global menstrual hygiene practices, menstrual health challenges in Africa, the impact of poor menstrual hygiene on education, assesses the current menstrual hygiene practices among teenage girls attending schools, and assesses the impact of menstrual hygiene-related challenges on the academic performance of teenage girls. Lastly, barriers to effective menstrual hygiene management in school settings.

2.2 Global Menstrual Hygiene Practices

MHM remains a neglected issue in many developing countries, despite its critical importance for women's health, dignity, and overall well-being. In many cultures, menstruation is surrounded by deep-rooted taboos and misconceptions, often leading to discriminatory practices that isolate women and girls during their menstrual cycles (Sarkar et al., 2025). As a result, menstruating individuals are often subjected to social exclusion, mobility restrictions, and limitations on what they can eat or do, which affects their ability to participate fully in daily life, including school and work (Holst et al., 2022).

One central concern that has received insufficient attention is managing menstrual hygiene waste. Despite being an inevitable byproduct of a natural biological process, the disposal and treatment of menstrual waste are often overlooked in public health discussions (Babbar et al., 2022). This oversight is mainly due to the social stigma surrounding menstruation, which inhibits open dialogue and research on effective waste management strategies. Consequently, data on the quantity and lifecycle of menstrual waste is scarce or unreliable, making it challenging to develop informed and sustainable solutions (Van Eijk et al., 2021a).

The implications of poor menstrual waste management go beyond inconvenience; they pose real risks to the environment and public health. Waste improperly disposed of can contaminate water sources and contribute to environmental pollution. In densely populated settings, such as refugee camps or urban slums(Singh et al., 2022). During pandemics such as COVID-19, these risks become even more significant, raising questions about whether menstrual waste could serve as a potential vector for viruses like SARS-CoV-2 (Anand et al., 2022). These issues call for urgent action and innovative approaches to ensure both environmental sustainability and the health and dignity of menstruating individuals.

Moreover, the current gaps in knowledge and awareness around MHM present opportunities for targeted interventions. Public education campaigns using diverse media channels can play a vital role in breaking the silence around menstruation and encouraging safe hygiene practices. Involving national governments, non-governmental

organizations, and community leaders is essential to ensure these efforts are culturally sensitive and impactful (Cidoni, 2024).

Addressing MHM is also essential for achieving Sustainable Development Goals (SDGs), particularly SDG 3.7, which focuses on universal access to sexual and reproductive health services, and SDG 6.2, which aims to provide adequate sanitation and hygiene (Baye, 2021). A coordinated and inclusive national strategy that prioritizes menstrual hygiene can help empower women and girls, protect the environment, and promote health equity. Without such efforts, the cycle of neglect and stigma surrounding menstruation is likely to continue.

2.3 Menstrual Health Challenges in Africa

Menstruation is a natural and essential biological process experienced by over 300 million women and girls worldwide every day (Ganguly et al., 2024). Despite its normalcy, managing menstruation remains a significant challenge in many parts of Africa due to limited access to menstrual hygiene products, inadequate sanitation facilities, and prevailing cultural stigmas (Anbesu & Asgedom, 2023). Women and girls require access to clean and safe menstrual absorbents, private spaces to change them as needed, and proper hygiene and disposal facilities. Without these, their health, dignity, and well-being are at risk.

In many African countries, including Ethiopia, Kenya, Uganda, Burkina Faso, Ghana, and Niger, MHM needs often go unmet (Otieno & Oguta, 2024). This contributes to

school absenteeism among girls, increased risk of infections, and broader gender inequalities. The lack of access to affordable menstrual products and safe sanitation is compounded by social taboos and misinformation, which often prevent open discussion about menstruation (Olson et al., 2022).

A recent study assessed the prevalence and contributing factors of unmet MHM needs in the six aforementioned countries (Akoth et al., 2024). Findings suggest that poverty, limited access to water and sanitation, low levels of education, and cultural beliefs significantly hinder proper menstrual hygiene practices (Rossouw & Ross, 2021). These challenges affect physical health and have psychological and social impacts, including shame, embarrassment, and reduced participation in daily activities (Kpodo et al., 2022). Addressing menstrual hygiene issues in Africa requires a multi-sectoral approach involving health, education, and infrastructure development and empowering women and communities through awareness and policy support. Ensuring menstrual equity is essential for achieving broader health and gender equality goals (Sommer et al., 2021).

2.4 Impact of Poor Menstrual Hygiene on Education

Poor menstrual hygiene has a significant and far-reaching impact on education, particularly for girls in Africa (Harerimana et al., 2025). Across the continent, millions of school-aged girls struggle to manage their menstruation due to limited access to affordable sanitary products, inadequate water and sanitation facilities, and deep-rooted social and cultural taboos surrounding menstruation (Mansour, 2024). These challenges create a hostile learning environment for girls and are directly linked to absenteeism, poor

academic performance, low self-esteem, and school dropout (Cheema & Bhardwaj, 2021).

One of the most immediate effects of poor menstrual hygiene is school absenteeism. Research indicates that girls may miss up to five days of school each month during their menstrual cycle, adding up to nearly 20% of the academic year (Shah et al., 2022). This recurring absence significantly disrupts learning, limits participation, and reduces their chances of keeping up with their peers, particularly boys. Over time, this educational gap can result in lower academic achievement and increased dropout rates, especially in rural and low-income communities.

The lack of gender-sensitive school infrastructure further worsens the situation. Many schools do not have private, clean, and safe toilets with access to water and disposal facilities (Kadle, 2023). As a result, girls often feel ashamed, anxious, or fearful about managing their periods at school. Concerns about leaks, odour, and potential ridicule by peers make attending school during menstruation an unbearable experience for many. In some communities, cultural stigmas and myths about menstruation further discourage girls from speaking openly or seeking help (Olson et al., 2022).

Addressing these barriers requires a holistic approach. Governments, NGOS, and communities must prioritize providing menstrual hygiene products, improving school WASH (Water, Sanitation, and Hygiene) infrastructure, and promoting menstrual health education (Mansour, 2024). Empowering girls with the knowledge and resources to

manage their menstruation with dignity is not just a health issue; it is a vital step toward achieving gender equality and ensuring equal access to education for all.

2.5 Overview of Menstrual Hygiene Management (MHM)

MHM is essential for adolescent girls' health, well-being, and dignity. Effective MHM entails using clean menstrual materials, appropriate sanitation facilities, access to clean water, and proper disposal methods for menstrual waste (Sood et al., 2022). Adolescents face numerous challenges in maintaining proper hygiene, particularly in low-resource settings, where knowledge gaps, limited access to resources, and cultural barriers prevail (Sampa et al., 2021).

2.5.1 Knowledge and Awareness of Menstrual Hygiene

The lack of adequate knowledge about menstruation is a significant challenge for teenage girls globally. Many adolescents enter puberty with insufficient information about menstruation, leading to confusion, fear, and anxiety. According to (Fialkov et al., 2021), this knowledge deficit is often exacerbated by societal norms discouraging open discussions about menstruation. These gaps are more pronounced in regions with limited access to formal education, where menstruation remains a taboo subject.

Educational initiatives play a crucial role in improving menstrual hygiene practices. For instance, studies have shown that incorporating menstrual health education into school curricula can empower girls to make informed decisions and adopt better hygiene practices. However, such programs remain underdeveloped in many parts of Sub-Saharan

Africa, including Ghana, where cultural stigmas often inhibit progress (Anbesu & Asgedom, 2023b).

2.5.2 Access to Menstrual Hygiene Products

Access to sanitary goods is a critical element that impacts menstrual hygiene behaviours. Adolescent girls' academic performance can be adversely affected by not having access to menstrual hygiene products, as numerous studies have demonstrated. For example, a study conducted by (Fialkov et al., 2021) In rural Kenya, it was revealed that girls without access to sanitary pads had a higher likelihood of missing school during their menstrual cycles, which resulted in lower academic performance when compared to their counterparts with menstrual hygiene products. Similarly, a study by (Alam et al., 2022) in Bangladesh, girls showed higher academic performance and school attendance for girls who received free sanitary pads as part of a school-based intervention.

The availability and affordability of menstrual hygiene products significantly influence the practices of teenage girls. In low-resource settings, many girls rely on alternatives such as cloth, tissue paper, or other unsanitary materials due to the high cost of disposable sanitary pads. A study by (Bhusal, 2020) revealed that only 48% of teenage girls in similar settings used disposable pads, with the remainder resorting to unhygienic substitutes. These practices increase the risk of infections, discomfort, and other health complications. Governments and non-governmental organizations (NGOs) have introduced various initiatives to address this issue, such as subsidized sanitary pads and

free distribution programs (Alam et al., 2022). However, the coverage of such initiatives is often limited, leaving many girls without access to essential resources.

2.5.3 Sanitation Facilities and Infrastructure

Adequate sanitation facilities are critical for managing menstruation with privacy and dignity. The lack of gender-sensitive sanitation infrastructure in schools remains a significant barrier to proper MHM. According to (Shallo et al., 2020) many schools in Sub-Saharan Africa lack basic amenities such as separate toilets for girls, water supply, and disposal mechanisms for menstrual waste.

The absence of these facilities often leads to absenteeism, as girls are reluctant to attend school during their menstrual periods. This phenomenon is particularly acute in rural areas, where schools are less likely to have the necessary infrastructure (Mchenga et al., 2020). Addressing these gaps requires coordinated efforts to improve school facilities, provide water and waste management systems, and ensure girls have a safe and hygienic environment.

2.5.4 Cultural and Social Influences

Cultural taboos and social stigma surrounding menstruation profoundly affect how teenage girls manage their hygiene. In many communities, menstruation is shrouded in secrecy, and discussions about it are considered inappropriate. These attitudes can lead to shame, embarrassment, and isolation, preventing girls from seeking help or using sanitary products. (Kpodo et al., 2022) Highlighted the role of cultural norms in perpetuating

inadequate practices, noting that restrictive beliefs often discourage girls from participating in daily activities, including attending school. Tackling these deep-rooted issues requires cultural sensitization programs and the involvement of community leaders to normalize conversations about menstruation.

2.5.5 Relevance to Mampong Municipality

The challenges outlined above are likely present in Mampong Municipality, where socioeconomic and cultural factors may exacerbate the situation. A thorough assessment of menstrual hygiene practices in this region is necessary to understand teenage girls' specific needs and barriers, identify gaps in knowledge, resources, and infrastructure, and develop targeted interventions to improve MHM and support adolescent health and education.

Addressing menstrual hygiene practices among teenage girls requires a multifaceted approach that includes education, access to affordable menstrual products, improved sanitation infrastructure, and cultural change. The findings from existing literature provide a solid foundation for assessing the current situation in Mampong Municipality and designing evidence-based strategies to enhance MHM and ensure adolescent girls' well-being and academic success.

2.6 Overview of Menstrual Hygiene-Related Challenges and Education

Menstrual hygiene management (MHM) challenges significantly impact the academic performance and school attendance of teenage girls. Poor menstrual hygiene often leads

to physical discomfort, psychological stress, and social stigma, which collectively hinder educational outcomes. These challenges are particularly pronounced in low-resource settings, where access to sanitary products, private facilities, and supportive environments is limited.

2.6.1 Absenteeism and Academic Performance

Absenteeism due to menstruation is one of the most documented educational impacts of poor menstrual hygiene. (Kumbeni et al., 2021) found that schoolgirls who lack access to sanitary products and private, hygienic facilities miss several school days each month, leading to cumulative learning losses and lower academic performance. This absenteeism is often compounded by the fear of leaks, odours, and ridicule from peers, which discourages girls from attending school during their menstrual periods.

Research in Sub-Saharan Africa has revealed that the frequency of absenteeism is directly linked to the availability of menstrual hygiene resources. Studies show that girls who consistently miss school due to menstruation are more likely to fall behind academically and are at a higher risk of dropping out altogether (Shah et al., 2022). Regional socioeconomic and infrastructure constraints in the Mampong Municipality probably make these trends severe.

2.6.2 Role of Menstrual Hygiene Interventions

Interventions to improve menstrual hygiene have significantly positively affected school attendance and academic performance. (Austrian et al., 2021) highlighted that providing

free or subsidized sanitary products and improved school sanitation infrastructure increased school attendance rates among adolescent girls. These interventions reduced absenteeism and enhanced girls' confidence and participation in classroom activities. School-based menstrual hygiene education programs have also been shown to improve knowledge and practices related to menstruation. Such programs equip girls with the skills and confidence to manage their periods effectively, minimizing disruptions to their education. However, the success of these interventions depends on addressing both the practical and psychological barriers associated with menstruation.

2.6.3 Psychological and Social Effects on Education

The psychological effects of menstruation, including embarrassment, anxiety, and low self-esteem, further contribute to the academic challenges faced by teenage girls. (Sundari et al., 2022) emphasized that societal attitudes toward menstruation perpetuate feelings of shame and stigma, which deter girls from fully engaging in school activities. These attitudes often result in girls avoiding participation in physical education, group discussions, and other interactive learning opportunities.

The stigma surrounding menstruation also limits open communication about menstrual health, both at home and in schools. Teachers and parents may feel uncomfortable discussing menstruation, leaving girls without adequate support or guidance. Addressing these social and psychological barriers is critical for ensuring that girls can fully benefit from educational opportunities.

2.6.4 Relevance to Mampong Municipality

The challenges outlined above are likely to be prevalent in Mampong Municipality, where cultural norms, economic constraints, and inadequate school infrastructure may exacerbate the impact of poor menstrual hygiene on education. Understanding how these factors interact in the local context is essential for developing targeted interventions that address the unique needs of girls in this region.

The literature highlights the multifaceted impact of menstrual hygiene-related challenges on academic performance. Absenteeism, psychological stress, and social stigma are key factors that hinder girls' educational attainment (Ahmed, 2020). Effective interventions, including sanitary products, improved school facilities, and community education programs, have been shown to mitigate these challenges and enhance academic outcomes. Conducting a focused assessment in Mampong Municipality will provide valuable insights into these issues and inform the design of context-specific solutions.

2.7 Examining the Barriers to Effective Menstrual Hygiene Management

2.7.1 Economic Barriers

Economic constraints are among the most significant barriers to effective menstrual hygiene management (MHM). Many teenage girls, particularly in low-resource settings, cannot afford sanitary products due to their high cost. As highlighted by (Rossouw & Ross, 2021), this financial limitation forces girls to rely on less effective and unhygienic alternatives, such as old cloth or paper, increasing their vulnerability to infections and

discomfort. The lack of subsidies or support programs for affordable menstrual products in many regions exacerbates this economic challenge.

2.7.2 Infrastructural Barriers

Inadequate school infrastructure is another critical factor that hampers effective MHM. Many schools lack basic facilities such as private and safe washrooms, water supply, and proper disposal mechanisms for menstrual waste. The absence of these essential facilities not only compromises hygiene but also discourages girls from attending school during their menstrual periods. This infrastructural inadequacy has been widely documented, emphasizing the need for improved sanitation facilities to support adolescent girls in educational settings.

2.7.3 Cultural and Social Barriers

The stigma and cultural taboos associated with menstruation pose a serious obstacle to candid dialogue and menstrual health education.. (Alam et al., 2022) observed that traditional beliefs often perpetuate myths and misconceptions, discouraging girls from seeking help or adopting proper menstrual hygiene practices. These cultural norms foster an environment of shame and secrecy, which limits access to information and resources necessary for effective MHM.

2.7.4 Educational Barriers

The absence of menstrual health teaching in schools makes the issue worse. Students lack proper supervision because school personnel, including teachers, are frequently

uneducated and unprepared to handle menstruation-related concerns. (Yaliwal et al., 2020) noted that integrating menstrual health education into school curricula and providing teacher training are crucial steps in overcoming this barrier.

2.7.5 Barriers in the Context of Mampong Municipality

In Mampong Municipality, these barriers are likely to be influenced by the local socioeconomic and cultural landscape. Economic challenges may limit access to affordable sanitary products, while traditional beliefs and taboos may hinder open discussions about menstruation (Michael et al., 2020). Additionally, infrastructural limitations in schools, such as inadequate washrooms and water supply, may further compound the challenges faced by teenage girls.

Addressing the Barriers

To effectively tackle these barriers, a multifaceted approach is required. Strategies may include subsidizing or providing free sanitary products to reduce economic constraints; improving school infrastructure, including private washrooms, water access, and disposal facilities; conducting community sensitization programs to challenge cultural taboos and stigma; introducing comprehensive menstrual health education in schools and training teachers to provide support.

Barriers to effective menstrual hygiene management significantly impact the health, education, and well-being of teenage girls. Addressing these barriers requires targeted interventions considering economic, infrastructural, cultural, and educational challenges

within specific contexts, such as Mampong Municipality. By identifying and mitigating these obstacles, it is possible to improve MHM and ensure better educational outcomes for adolescent girls.

2.8 Theoretical Model: Health Belief Model (HBM)

2.8.1 Overview of the Health Belief Model (HBM)

The Health Belief Model (HBM) is a psychological framework developed in the 1950s by social psychologists Hochbaum, Rosenstock, and Kegels at the U.S. Public Health Service. This model was initially designed to understand why individuals fail to adopt preventive health measures, and later evolved to explain a wide range of health-related behaviours (Cronk et al., 2021).

HBM is based on the premise that individual health behaviours are influenced by personal beliefs and perceptions about health conditions, the potential consequences of those conditions, and the perceived benefits and barriers to adopting preventive or corrective actions. This makes it a suitable theoretical foundation for exploring menstrual hygiene practices and their impact on teenage girls' academic performance.

a) Application of HBM to the Research Topic

The HBM is well-suited for assessing how teenage girls in Mampong Municipal perceive and manage their menstrual hygiene and how these perceptions influence their school attendance, participation, and overall academic performance. The constructs of the HBM can be directly linked to MHM and its academic implications.

b) Key Constructs of the HBM and Their Relevance to Menstrual Hygiene Management (MHM)

i. Perceived Susceptibility

- Definition: This refers to an individual's belief about the likelihood of experiencing a health problem.
- Application: Teenage girls may perceive themselves as susceptible to health issues such as infections, discomfort, or embarrassment due to poor menstrual hygiene. Their belief in this susceptibility may drive their behaviour towards adopting better hygiene practices or seeking support.

ii. Perceived Severity

- Definition: This refers to the perception of the seriousness of a health issue and its consequences.
- Application: Teenage girls' understanding of the adverse outcomes of poor menstrual hygiene, such as physical health problems, missed school days, and reduced academic performance, could influence their willingness to prioritize proper hygiene practices.

iii. Perceived Benefits

- Definition: This refers to the belief in the advantages of taking specific action to reduce risk or improve outcomes.
- Application: Girls who recognize the benefits of proper menstrual hygiene, such as feeling comfortable at school, avoiding health issues, and staying focused in class—are more likely to adopt good practices and maintain regular attendance.

iv. Perceived Barriers

- Definition: This refers to the perceived obstacles that prevent an individual from adopting a behaviour.
- Application: Barriers for teenage girls may include a lack of access to affordable and reliable sanitary products, inadequate sanitation facilities in schools, limited privacy, cultural taboos, and fear of stigma or bullying. Identifying and addressing these barriers is crucial to improving menstrual hygiene management and academic performance.

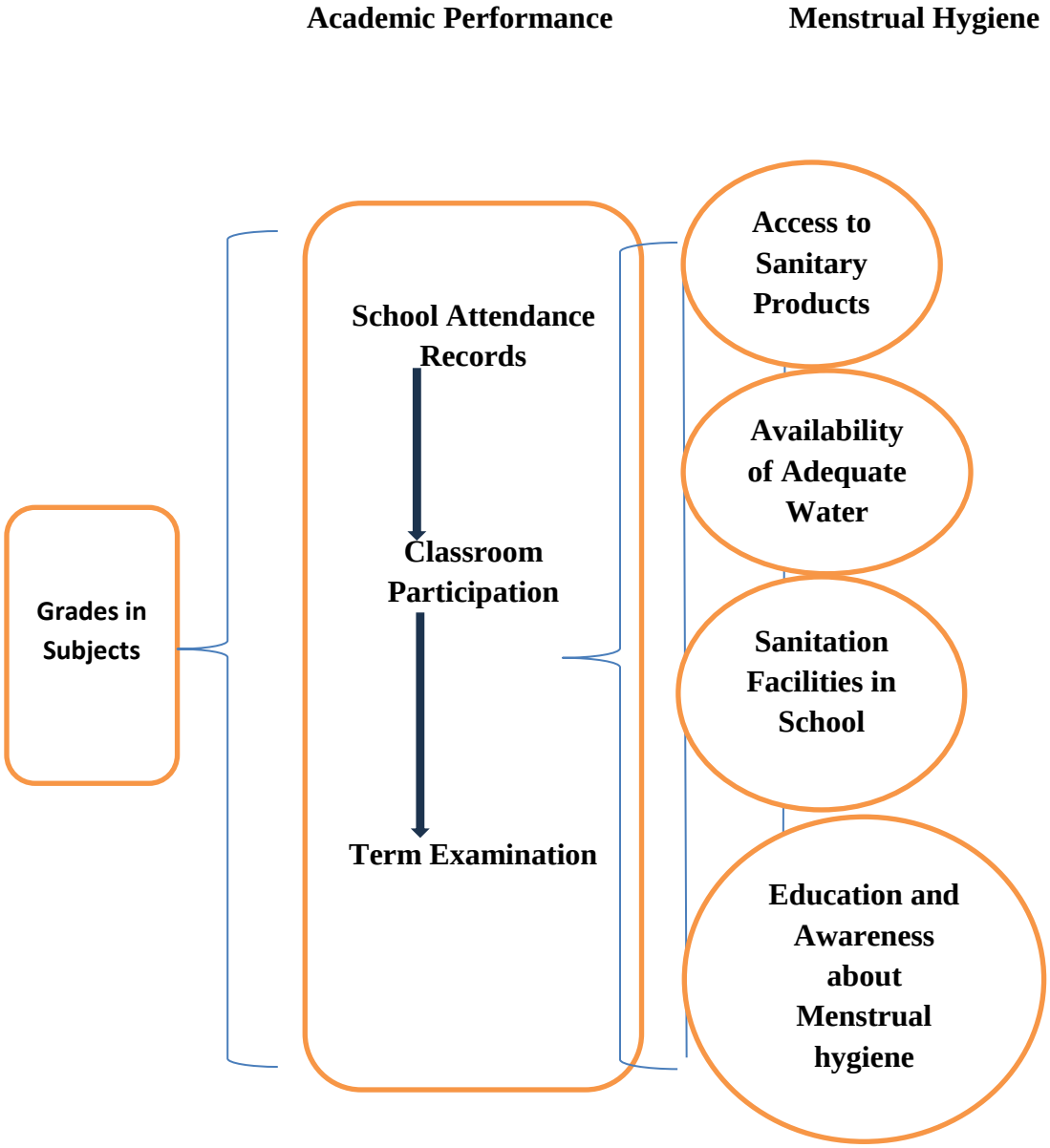
v. Cues to Action

- Definition: These are events, information, or interventions that prompt individuals to take action.
- Application: Factors such as school-based health education programs, peer discussions, campaigns promoting menstrual health, and providing menstrual hygiene products can be cues to action for teenage girls. Such initiatives can motivate them to adopt better hygiene practices.

vi. Self-Efficacy

- Definition: This refers to confidence in one's ability to perform a behaviour successfully.
- Application: Teenage girls' belief in their ability to manage menstruation effectively in the school environment is critical in ensuring regular school attendance and active participation. Self-efficacy can be enhanced through education, access to resources, and supportive school policies.

2.9 Conceptual Framework



2.9.1 Academic Performance

This refers to the academic performance of teenage girls, which can be measured through indicators such as school attendance records, grades in subjects like Mathematics and English, classroom participation, and overall academic progress during the school term.

The dependent variable is what the research seeks to measure and understand about menstrual hygiene.

2.9.2 Menstrual Hygiene

This includes factors related to how teenage girls manage their menstruation, such as access to sanitary products (pads, tampons, etc.), availability of adequate water and sanitation facilities in schools, privacy for changing menstrual materials, and level of education or awareness about menstrual hygiene practices. These factors are considered to influence the girls' academic achievement potentially.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter focuses on the study area and the methodology employed. It discusses the following sections: Study Design, Study Area, Study Site, Study Population, Inclusion and Exclusion Criteria, Sample Size Estimation, Sampling Techniques, Data Collection Tools and Techniques, Sample Collection, Sample Processing, Data Management, Statistical Analysis, and Ethical Review and Clearance.

3.1 Study Area

The Ashanti Region is one of Ghana's 16 administrative regions, located in the southern part of the country. It is known for its rich cultural heritage, particularly the Ashanti people, renowned for their traditional practices, kente cloth, and the historic Ashanti Kingdom. Kumasi, the regional capital, is a major cultural and commercial hub often called "The Garden City" due to its lush greenery. The Ashanti Region is the most populous region in Ghana, with approximately 5.4 million people. It has a diverse economy, with activities such as agriculture, mining (notably gold), and manufacturing playing significant roles. The region is also an important centre for education, hosting several tertiary institutions, including the Kwame Nkrumah University of Science and Technology (KNUST).

3.1.1 Mampong Municipal

Mampong Municipality is in the northern part of the Ashanti Region, Ghana. It is a significant centre for education and healthcare in the region, housing institutions like the Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development (AMMUSTED), and the Mampong Nursing and Midwifery Training College. The municipality is also home to the Asante Mampong Traditional Area, a cultural centre that highlights the traditions and customs of the Ashanti people. The area is predominantly agricultural, with crops such as carrots, cocoa, maize, plantain, and yams being the main economic activities. The municipality has a total population of 88,000. Out of this, women of reproductive age make up about 21,100. The total adolescent population is approximately 19,600, with 11,200 adolescents aged 10–14 years and 8,400 aged 15–19 years (Mohammed & Larsen-Reindorf, 2020) .

Healthcare services in Mampong Municipality include five health centres, 18 Community-based Health Planning and Services (CHPS) compounds, and one district hospital. Additionally, residents access health services from various sources such as pharmacies, chemical licensed shops, and traditional healers. Education facilities in the municipality comprise of four Tertiary, four Senior High Schools, 40 Junior High Schools and 52 Primary Schools.

Figure 3.1: Map of Mampong Municipal (Source: GSS, 2010)

3.2 Study Sites

The study sites included the Mampong SDA JHS, Mensah Saahene MA JHS, and Kofiase SDA JHS in the Mampong Municipal.

3.3 Study Design

This study employed a cross-sectional design to examine the relationship between teenage girls' menstrual hygiene practices and their academic performance in the Mampong Municipality.

3.4 Population

The study population comprised teenage girls residing in the Mampong Municipality. Based on the school registry, an estimated teenage girl population of 262 pupils, including 75 girls from Mampong SDA JHS, 125 girls from Mensah Saahene JHS, and 62 girls from Kofiase SDA JHS. However, a total of 202 girls were menstruating at the time of the data collection.

3.4.1 Inclusion and Exclusion Criteria

The study included teenage girls between the ages of 13 and 17 who had started menstruating. Participants who lived in the Mampong Municipality or attended school and were enrolled in junior high school (JHS) were included in the study. Girls who had not yet started menstruating were excluded from the study. In addition, those not enrolled in the selected schools and who did not live in the Mampong Municipality were not eligible to participate.

3.5 Sample Size Estimation

The sample size for this study was determined using Yamane's formula (Yamane, 1967), which is suitable for estimating sample size from a known population:

$$n = \frac{N}{1 + N\,(e)2}$$

Where:

n = sample size

N = population size

e = margin of error (precision level), typically 0.65 for 95% confidence level respondents.

However, this study targeted the Mampong SDA JHS (68 teenage girls), Mensah Saahene JHS (86 teenage girls) and Kofiase SDA JHS (48 teenage girls). Therefore, the target population for this study was estimated to be 202 teenage girls who were included in the study in all three schools. However, 184 participants completed the study and were included in the data analysis, comprising Mampong SDA JHS (64 teenage girls), Mensah Saahene JHS (82 teenage girls), and Kofiase SDA JHS (38 teenage girls).

3.6 Sampling Techniques

This study employed a multi-stage sampling approach, incorporating stratified and simple random sampling techniques to ensure a representative and comprehensive dataset. Firstly, stratified sampling was used to categorize the target population into distinct subgroups based on key characteristics such as age groups (e.g., 13–15 years, 16–18 years) and grade levels (e.g., JHS 1–3). This method ensured that each subgroup was adequately represented in the study, allowing for the assessment of potential differences in menstrual hygiene practices and academic performance across various age cohorts and educational stages. Proportional allocation was applied within each stratum to maintain balance and representativeness.

Secondly, random sampling was employed within each stratum to select schools and participants. A comprehensive list of all eligible schools within the Mampong Municipality was compiled, and schools were randomly selected to capture a range of locations and demographic profiles. Within each selected school, students were randomly chosen from each stratum, ensuring that every eligible participant had an equal chance of

selection. This process helped minimize selection bias and enhanced the generalizability of the findings.

3.7 Data Collection Tool(s)

To collect comprehensive data from participants, a structured questionnaire, face-to-face interaction, and an observation checklist were employed. The structured questionnaire was developed to gather quantitative data on participants' socio-demographic characteristics, menstrual hygiene practices, access to menstrual products and sanitation facilities, and how these factors influenced their academic attendance and performance.

An observation checklist was utilized to assess the availability and condition of school sanitation facilities, including gender-friendly toilets, access to clean water, and disposal systems for sanitary products. These observations provided real-time evidence of environmental factors influencing school menstrual hygiene management.

3.8 Validity and Reliability

Experts in adolescent health, public health education, and educational psychology reviewed the data collection tools to ensure content and face validity. The review ensured that the instruments adequately addressed the study objectives and captured key variables related to menstrual hygiene and academic performance.

To ensure reliability, a pilot study was conducted involving 30 students from a junior high school outside the selected study area in the Ashanti Region. The structured questionnaire was assessed for internal consistency using Cronbach’s alpha, with a

reliability score of 0.745 deemed acceptable. Feedback from the pilot study was used to improve clarity, eliminate ambiguous items, and refine the overall structure of the tools.

3.9 Data Collection Procedure

Data collection involved administering structured questionnaires and conducting direct school facility observations. The principal investigator (PI) facilitated all data collection activities with the assistance of trained research assistants. The structured questionnaires were administered to selected teenage girls aged 13–17 years old in urban and rural junior high schools within the Mampong Municipality. These questionnaires captured information on their menstrual hygiene practices, access to hygiene products and facilities, and perceived impact on their school attendance and academic performance.

Observations and face-to-face interaction were conducted in selected schools to examine the hygiene and privacy conditions in girls' washrooms, water availability, sanitary bins, and any visible menstrual health support structures.

3.10 Data Management and Statistical Analysis

3.10.1 Data Management

The principal investigator reviewed all collected data daily for completeness and accuracy before entry. The data were entered into Microsoft Excel (version 2016) for preliminary cleaning and validation. Incomplete and inconsistent entries were flagged and corrected in consultation with research assistants. The cleaned dataset was exported to IBM SPSS version 22.0 for detailed statistical analysis. Data confidentiality was

maintained by storing the electronic files on password-protected computers with access limited to the research team.

3.10.2 Statistical Analysis

Both descriptive and inferential statistics were employed to analyze the data. Descriptive statistics, including frequencies and percentages, were used to summarize demographic characteristics, menstrual hygiene practices, and reported academic challenges. Chi-square tests were used to examine associations between categorical variables such as age, class, school, and menstrual hygiene practices. Logistic regression analysis was applied to identify predictors of academic performance decline, controlling for variables such as household income, type of school, and access to water and sanitation facilities. A p-value of <0.05 was considered statistically significant, and a 95% confidence interval was applied to all statistical tests.

3.11 Ethical Review and Clearance

Ethical clearance for this study was obtained from the Committee on Human Research, Publications, and Ethics (CHRPE) at Kwame Nkrumah University of Science and Technology (KNUST), with the approval reference number CHRPE/AP/817/25. Written permission was obtained from the Mampong Municipal Education Directorate and participating school heads. Written informed consent was obtained from all participants or their guardians before questionnaires were administered.

CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter presents the study's results. The presentation is based on the specific objectives. It covers the following subheadings: Demographic Characteristics of Participants, Menstrual Hygiene Practices Among Teenage Girls in Mampong Municipality, Menstrual Hygiene Challenges and Academic Performance, and Barriers to Menstrual Hygiene Management.

4.1 Demographic Characteristics of Participants

Table 4.1 shows that 63.6%, 28.3%, and 8.2% of the respondents were between the ages of 14-15, 12 -13 and 16 -17 years old, respectively. The majority (55.4%) of the participants were in JHS Three, 37.0% were in JHS Two, and 7.6% were in JHS One. Of the three schools, Mensah Saahene MA JHS had 44.6% participants, Mampong SDA JHS and Kofiase SDA JHS had 34.8% and 20.7%. Most (77.7%) participants lived in urban areas, while 22.3% resided in rural communities. Most (86.4%) participants lived with their parents, while 13.6% lived with guardians. The majority (59.8%) of the participants' parents fell in the middle-income families, 23.9% in the high-income families, and 16.3% in the low-income families.

Table 4.1: Demographic Characteristics of Participants

Demographic Characteristics	Frequency (N= 184)	Percentage %
Age		
12-13	52	28.2
14-15	117	63.6
16-17	15	8.2
Class		
JHS 1	14	7.6
JHS 2	68	37.0
JHS 3	102	55.4
School name		
Kofiase SDA JHS	38	20.7
Mampong SDA JHS	64	34.7
Mensah Saahene MA JHS	82	44.6
Place of residence		
Urban	143	77.7
Rural	41	22.3
Who do you live with		
Parents	159	86.4
Guardians	25	13.6
Household monthly income		
Low income	30	16.3
Middle income	110	59.8
High income	44	23.9

(Data Source: Field data, 2025)

Table 4.2: Menstrual Hygiene Practices among Teenage Girls in Mampong Municipality

Variables	Frequency (N= 184)	Percentage %
How to manage your menstrual flow		
Disposable pads	148	80.4
Cloth	26	14.1
Tissue paper	10	5.5
Rate of change of sanitary material per day		
Once	29	15.8
Twice	102	55.4
Three times	44	23.9
more than three times	9	4.9
Place of disposal of used sanitary materials		
School toilet	51	27.7
Open disposal	25	13.6
Dustbin	108	58.7
Access to clean water for washing		
Yes	61	33.2
No	123	66.8
Access to soap and toilet paper at school		
Yes	40	21.7
No	144	78.3
Cleaning materials during menstruation		
water and soap	123	66.8
Tissue paper only	18	9.8
water only	43	23.4
Support to manage menstrual hygiene better		
More affordable sanitary products	60	32.6
Better school facilities	28	15.2
More privacy at school	38	20.7
Education on menstrual hygiene	58	31.5

(Data Source: Field data, 2025)

Table 4.2 indicates that 80.4% of the participants used disposable pads to manage their menstrual flow, 55.4% changed their sanitary material twice daily, and 58.7% disposed of the used sanitary materials into a dustbin. The majority (66.8%) of participants did not have access to clean water for washing during menstruation at school, 78.3% did not have

access to soap and toilet paper at school during menstruation. Additionally, 66.8% use water and soap to clean themselves during menstruation. Furthermore, 32.6% and 31.5% indicated that affordable sanitary products and education on menstrual hygiene would help them manage their menstrual hygiene better.

4.2 Factors that Influence the Menstrual Hygiene Practices among Teenage Girls in Mampong Municipality

Table 4.3 shows that age, school, and household income influence menstrual hygiene practices among teenage girls, particularly regarding access to clean water, with χ^2 values of 6.44 (p = 0.040), 15.40 (p = 0.000), and 7.99 (p = 0.018), respectively.

Older participants (16–17 years) were nearly four times more likely to access clean water at school than their younger counterparts [AOR = 3.8 (1.26 – 11.57), p = 0.018]. Participants from Mampong SDA JHS and Mensah Saahene MA JHS (both located in Mampong) were over 70% less likely to access clean water compared to those from Kofiase SDA JHS, with adjusted odds ratios of [AOR = 0.2 (0.10 – 0.52), p = 0.001] and [AOR = 0.3 (0.15 – 0.65), p = 0.002], respectively.

Table 4.4 shows that participants' age influences menstrual hygiene practices among teenage girls, particularly regarding access to soap and toilet paper (χ^2 = 7.17, p = 0.028). Younger participants (12–13 years) were 80% less likely to have access to soap and toilet paper at school compared to older participants [AOR = 0.2 (0.03–0.98), p = 0.047].

Table 4.3: Factors that Influence the Menstrual Hygiene Practices among Teenage Girls: Access to Clean Water

Factors	Access to clean water		X^2 (P-value)	AOR (95%CI) P-value
	Yes (%)	No (%)		
Age				
12-13	19 (36.5)	33 (63.5)	**6.44 (0.040)**	**Ref:**
14-15	33 (28.2)	84 (71.8)		2.6 (0.80, 8.45) 0.111
16-17	9 (60.0)	6 (40.0)		**3.8** (1.26, 11.57) **0.018**
Class				
JHS 1	8 (57.1)	6 (42.9)	4.10 (0.129)	**Ref:**
JHS 2	20 (29.4)	48 (70.6)		0.3 (0.12, 1.12) 0.077
JHS 3	33 (32.4)	69 (67.6)		1.1 (0.59, 2.24) 0.685
School name				
Kofiase SDA JHS	19 (50.0)	19 (50.0)	**15.40 (0.000)**	**Ref:**
Mampong SDA JHS	27 (42.2)	37 (57.8)		**0.2** (0.10, 0.52) **0.001**
Mensah Saahene JHS	15 (18.3)	67 (81.7)		**0.3** (0.15, 0.65) **0.002**
Place of residence				
Urban	45 (31.5)	98 (68.5)	0.82 (0.365)	**Ref:**
Rural	16 (39.0)	25 (61.0)		1.4 (0.68, 2.86) 0.366
Who do you live with				
Parents	51 (32.1)	108 (67.9)	0.61 (0.434)	1.4 (0.59, 3.36) 0.435
Guardians	10 (40.0)	15 (60.0)		
Household income				
Low income	5 (16.7)	25 (83.3)	**7.99 (0.018)**	**Ref:**
Middle income	45 (40.9)	65 (59.1)		1.7 (0.51, 5.41) 0.395
High income	11 (25.0)	33 (75.0)		0.5 (0.22, 1.05) 0.067

(Data Source: Field data, 2025)

Table 4.4: Factors that Influence the Menstrual Hygiene Practices among Teenage Girls: Access to Soap and Toilet Paper

Factors	Access to Soap & Toilet Paper		X^2 (P-value)	AOR (95%CI) P-value
	Yes (%)	No (%)		
Age				
12-13	18 (34.6)	34 (65.4)		**0.2** (0.03, 0.98) **0.047**
14-15	19 (16.2)	98 (83.8)	**7.17 (0.028)**	0.7 (0.15, 3.30) 0.653
16-17	3 (20.0)	12 (80.0)		**Ref:**
Class				
JHS 1	4 (28.6)	10 (71.4)		**Ref:**
JHS 2	11 (16.2)	57 (83.8)	6.08 (0.05)	2.4 (0.48, 12.0) 0.286
JHS 3	25 (24.5)	77 (75.5)		**2.7** (1.03, 7.32) **0.043**
School name				
Kofiase SDA JHS	6 (15.8)	32 (84.2)	2.56 (0.278)	**Ref:**
Mampong SDA JHS	18 (28.1)	46 (71.9)		1.3 (0.46, 3.62) 0.625
Mensah Saahene JHS	16 (19.5)	66 (80.5)		0.6 (0.29, 1.34) 0.224
Place of residence				
Urban	34 (23.8)	109 (76.2)	1.56 (0.211)	**Ref:**
Rural	6 (14.6)	35 (85.4)		0.7 (0.22, 2.20) 0.541
Who do you live with				
Parents	33 (20.8)	126 (79.2)	0.67 (0.414)	**Ref:**
Guardians	7 (28.0)	18 (72.0)		1.1 (0.39, 3.39) 0.806
Household income				
Low income	4 (13.3)	26 (86.7)	1.50 (0.471)	**Ref:**
Middle income	26 (23.6)	84 (76.4)		1.9 (0.46, 8.08) 0.368
High income	10 (22.7)	34 (77.3)		1.0 (0.38, 2.65) 0.992

(Data Source: Field data, 2025)

4.3 Menstrual Hygiene Challenges and Academic Performance

In Table 4.5, most participants (58.2%) have missed school due to menstruation. The common challenges faced at school during menstruation include pain and discomfort (30.4%), inadequate water and toilet facilities (28.3%), lack of sanitary products (26.6%), and stigma or embarrassment (14.7%). Most participants (75.0%) find it difficult to concentrate in class during menstruation, and the majority (58.2%) have experienced a

decline in their academic performance due to menstrual hygiene challenges. Additionally, 63.0% indicated that their school provides menstrual hygiene education, while only 35.9% receive any support (such as pads, painkillers, or counselling) from their school. Participants proposed that free sanitary products, better water and toilet facilities, more education on menstrual health, and the availability of pain relief medication would help improve their academic experience during menstruation. Moreover, most participants (80.4%) believe menstrual hygiene challenges affect girls' academic success.

Table 4.5: Menstrual Hygiene Challenges and Academic Performance

Variables	Frequency (N= 184)	Percentage %
Ever missed school due to menstruation		
Yes	107	58.2
No	77	41.8
Challenges faced at school		
Lack of sanitary products	49	26.6
Inadequate water and toilet facilities	52	28.3
Stigma or embarrassment	27	14.7
Pain and discomfort	56	30.4
Difficult to concentrate in class during menstruation		
Yes	138	75.0
No	46	25.0
A decline in your academic performance		
Yes	107	58.2
No	77	41.8
Schools provide menstrual hygiene education.		
Yes	116	63.0
No	68	37.0
Receive any support from your school.		
Yes	66	35.9
No	118	64.1
Measures to improve your academic experience		
Free sanitary products	51	27.7
Better water and toilet facilities	47	25.5
More education on menstrual health	39	21.2
Pain relief medication availability	47	25.5
Menstrual hygiene challenges affect girls' academic success.		
Yes	148	80.4
No	36	19.6

(Data Source: Field data, 2025)

4.3.1 Contributing Factors to Menstrual Hygiene Challenges and Academic Performance

Table 4.6 **s**hows no significant association between demographic factors such as age, class, school, place of residence, household income, or the individuals with whom

participants live and menstrual hygiene challenges and academic performance, particularly regarding difficulty concentrating in class ($P > 0.05$).

Table 4.7 shows that participants' household income influences menstrual hygiene challenges and academic performance, specifically in terms of a decline in academic performance ($\chi^2 = 12.37$, $p = 0.002$). Participants from middle-income and high-income households were over 70% less likely to experience a decline in academic performance compared to those from low-income households, with adjusted odds ratios of [AOR = 0.2 (0.06 – 0.57), p = 0.003] and [AOR = 0.3 (0.13 – 0.65), p = 0.003], respectively.

Table 4.6: Factors that Influence Menstrual Hygiene Challenges and Academic Performance: Difficulty to Concentrate in Class

Factors	Difficulty to Concentrate		X^2 (P-value)
	Yes (%)	No (%)	
Age			
12-13	36 (69.2)	16 (30.8)	
14-15	91 (77.8)	26 (22.2)	1.43 (0.490)
16-17	11 (73.3)	4 (26.7)	
Class			
JHS 1	10 (71.4)	4 (28.6)	
JHS 2	56 (82.4)	12 (17.6)	3.11 (0.211)
JHS 3	72 (70.6)	30 (29.4)	
School name			
Kofiase SDA JHS	27 (71.1)	11 (28.9)	
Mampong SDA JHS	47 (73.4)	17 (26.6)	0.81 (0.668)
Mensah Saahene JHS	64 (78.0)	18 (22.0)	
Place of residence			
Urban	105 (73.4)	38 (26.6)	0.85 (0.357)
Rural	33 (80.5)	8 (19.5)	
Who do you live with			
Parents	120 (75.5)	39 (24.5)	0.14 (0.709)
Guardians	18 (72.0)	7 (28.0)	
Household income			
Low income	23 (76.7)	7 (23.3)	
Middle income	87 (79.1)	23 (20.9)	4.06 (0.132)
High income	28 (63.6)	16 (36.4)	

(Data Source: Field data, 2025)

Table 4.7: Factors that Influence Menstrual Hygiene Challenges and Academic Performance: Decline in Academic Performance

Factors	Decline in academic performance		X^2 (P-value)	AOR (95%CI) P-value
	Yes (%)	No (%)		
Age				
12-13	28 (53.8)	24 (46.2)	0.88 (0.645)	Ref:
14-15	69 (59.0)	48 (41.0)		2.5 (0.57, 10.89) 0.225
16-17	10 (66.7)	5 (33.3)		1.6 (0.42, 5.90) 0.509
Class				
JHS 1	8 (57.1)	6 (42.9)	1.96 (0.376)	Ref:
JHS 2	44 (64.7)	24 (35.3)		0.7 (0.16, 2.56) 0.538
JHS 3	55 (53.9)	47 (46.1)		0.5 (0.24, 1.15) 0.109
School name				
Kofiase SDA JHS	21 (55.3)	17 (44.7)	0.36 (0.836)	Ref:
Mampong SDA JHS	39 (60.9)	25 (39.1)		1.7 (0.67, 4.53) 0.258
Mensah Saahene JHS	47 (57.3)	35 (42.7)		1.4 (0.58, 3.59) 0.435
Place of residence				
Urban	85 (59.4)	58 (40.6)	0.44 (0.508)	Ref:
Rural	22 (53.7)	19 (46.3)		0.5 (0.21, 1.25) 0.142
Who do you live with				
Parents	95 (59.7)	64 (40.3)	1.23 (0.268)	Ref:
Guardians	12 (48.0)	13 (52.0)		0.6 (0.23, 1.53) 0.285
Household income				
Low income	22 (73.3)	8 (26.7)	**12.37(0.002)**	Ref:
Middle income	69 (62.7)	41 (37.3)		**0.2** (0.06, 0.57) **0.003**
High income	16 (36.4)	28 (63.6)		**0.3** (0.13, 0.65) **0.003**

(Data Source: Field data, 2025)

4.4 Barriers to Menstrual Hygiene Management

In Table 4.8 some participants (6.0%) use reusable cloth pads as a menstrual product in school. The majority (73.4%) identified high cost as the major challenge in accessing menstrual hygiene products, while 63.6% reported inadequate toilet and water facilities in their school. Additionally, 67.9% feel uncomfortable using the school toilet during menstruation, and 59.8% stated that menstruation is openly discussed in their school. Most participants (75.5%) talk to their mothers when they have menstrual hygiene

concerns, while 13.6% seek guidance from their female teachers. Furthermore, about 35.9% have experienced teasing or bullying due to menstruation. Participants suggested that education for both boys and girls, open discussions about menstrual health, and better access to hygiene products would help break the stigma surrounding menstruation.

Table 4.8: Barriers to Menstrual Hygiene Management

Variables	Frequency (N= 184)	Percentage %
The most common menstrual product used by girls		
Disposable pads	165	89.7
Reusable cloth pads	11	6.0
Tissue paper	8	4.3
Challenge in accessing menstrual hygiene products		
High cost	135	73.4
Lack of availability	44	23.9
Cultural or religious restrictions	5	2.7
Adequate toilet and water facilities in your school		
Yes	67	36.4
No	117	63.6
Feel comfortable using the school toilet.		
Yes	59	32.1
No	125	67.9
menstruation is openly discussed in school		
Yes	110	59.8
No	74	40.2
Advisor on menstrual hygiene concerns		
Mother	139	75.5
female teacher	25	13.6
Friends	5	2.7
no one	15	8.2
Ever been teased or bullied because of menstruation.		
Yes	66	35.9
No	118	64.1
What would help break the stigma around menstruation		
Education for boys and girls	60	32.6
Open discussions about menstrual health	64	34.8
Better access to hygiene products	60	32.6

(Data Source: Field data, 2025)

4.4.1 Factors that Impede Menstrual Hygiene Management

Table 4.9 shows that age, class, and school of participants were factors that impeded menstrual hygiene management in terms of adequate toilet and water facilities among teenage girls in the Mampong Municipality ($\chi^2 = 6.7$, $p = 0.034$), ($\chi^2 = 7.6$, $p = 0.023$), and ($\chi^2 = 9.5$, $p = 0.009$), respectively.

Participants in the B9 class were four times more likely to indicate that toilet and water facilities were adequate compared to those in classes B7 and B8 [AOR = 3.9 (1.61 – 9.26), p = 0.003]. Additionally, participants from Mensah Saahene JHS were about 70% less likely to suggest that toilet and water facilities were adequate compared to students from other schools [AOR = 0.32 (0.12 – 0.88), p = 0.025].

Table 4.9: Factors that Impede Menstrual Hygiene Management: Adequate Toilet and Water Facility

Factors	Adequate Toilet and Water Facility		X^2 (P-value)	AOR (95%CI) P-value
	Yes (%)	No (%)		
Age				
12-13	16 (30.8)	36 (69.2)		**Ref:**
14-15	41 (35.0)	76 (65.0)	**6.7 (0.034)**	1.7 (0.37, 7.92) 0.498
16-17	10 (66.7)	5 (33.3)		1.9 (0.48, 7.42) 0.365
Class				
JHS 1	3 (21.4)	11 (78.6)		**Ref:**
JHS 2	18 (26.5)	50 (73.5)	**7.6 (0.023)**	4.8 (0.96, 23.90) 0.056
JHS 3	46 (45.1)	56 (54.9)		**3.9** (1.61, 9.26) **0.003**
School name				
Kofiase SDA JHS	7 (18.4)	31 (81.6)		**Ref:**
Mampong SDA JHS	31 (48.4)	33 (51.6)	**9.5 (0.009)**	2.3 (0.76, 6.93) 0.139
Mensah Saahene JHS	29 (35.4)	53 (64.6)		**0.32** (0.12, 0.86) **0.025**
Place of residence				
Urban	53 (37.1)	90 (62.9)	0.13	**Ref:**
Rural	14 (34.1)	27 (65.9)	(0.732)	1.01 (0.36, 2.78) 0.989
Who do you live with				
Parents	61 (38.4)	98 (61.6)	1.9 (0.165)	**Ref:**
Guardians	6 (24.0)	19 (76.0)		0.28 (0.09, 1.01) 0.051
Household income				
Low income	8 (26.7)	22 (73.3)		**Ref:**
Middle income	47 (42.7)	63 (57.3)	4.7 (0.095)	0.95 (0.28, 3.24) 0.940
High income	12 (27.3)	32 (72.7)		0.42 (0.18, 0.99) 0.051

(Data Source: Field data, 2025)

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter presents a comprehensive discussion of the study's key findings, which examined the relationship between teenage girls' menstrual hygiene practices and their academic performance in the Mampong Municipality. The discussion is structured around the study's specific objectives, focusing on the current menstrual hygiene practices among teenage girls, the impact of menstrual hygiene-related challenges on their academic performance, and the barriers to effective menstrual hygiene management. Menstrual hygiene is critical to adolescent health and well-being, with far-reaching implications for education, social inclusion, and gender equality. Poor MHM can lead to absenteeism, reduced concentration, and lower academic performance among teenage girls. Several factors contribute to these challenges, including inadequate access to sanitary products, poor sanitation facilities in schools, and socio-cultural stigmas. These barriers hinder the ability of teenage girls to manage their menstrual health effectively, thereby affecting their overall academic experience.

This chapter critically examines the findings about existing literature and public health frameworks on menstrual hygiene management.

5.1 Menstrual Hygiene Practices among Teenage Girls in Mampong Municipality

The findings of this study revealed that the majority (80.4%) of teenage girls in the Mampong Municipality use disposable sanitary pads to manage their menstrual flow. This is consistent with studies conducted in other regions of Ghana, which indicate that disposable pads are the preferred menstrual product among adolescent girls due to their convenience and perceived effectiveness in preventing leakage (Ramsay et al., 2023; Van Eijk et al., 2021b). Limited access to menstrual hygiene products, inadequate facilities, and financial constraints could contribute to this low frequency of change, highlighting the need for interventions to ensure sustainable access to menstrual products for adolescent girls (Ene et al., 2024).

This study identified a significant concern: the lack of access to clean water and sanitation facilities during school sessions. Approximately 66.8% of participants reported that they do not have access to clean water for washing at school, while 78.3% lack access to soap and toilet paper. This finding aligns with previous studies that emphasize the critical role of adequate Water, Sanitation, and Hygiene (WASH) facilities in promoting menstrual health and preventing infections (Jalali, 2021; Okesanya et al., 2024). The absence of proper hygiene facilities can negatively impact school attendance, as girls may feel uncomfortable or ashamed to manage their menstruation in unhygienic conditions (Sharma et al., 2024). Schools in the Mampong Municipality must prioritize providing WASH facilities, including separate latrines, water, and sanitary supplies, to create a supportive environment for menstruating students.

The study also found that the majority (66.8%) of teenage girls use water and soap for personal hygiene during menstruation. While this is good practice in maintaining hygiene, the unavailability of these basic resources at school raises concerns about how well girls can adhere to hygienic practices during school hours. Additionally, 32.6% of participants expressed the need for more affordable sanitary products, and 31.5% emphasized the importance of education on menstrual hygiene. These findings highlight the economic barriers and knowledge gaps that hinder effective menstrual hygiene management among adolescent girls. Similar studies have reported that a lack of education and stigma surrounding menstruation contribute to misinformation and poor hygiene practices among teenage girls, further exacerbating menstrual-related challenges in schools (Olson et al., 2022). Targeted interventions such as menstrual health education programs and government subsidies on sanitary products could significantly improve menstrual health management and academic performance.

Overall, the findings suggest that inadequate menstrual hygiene practices, coupled with limited access to WASH facilities, can adversely affect the academic performance of teenage girls in the Mampong Municipality. Prior research has demonstrated that poor menstrual hygiene management contributes to absenteeism, reduced concentration, and lower academic performance among schoolgirls (Andargie & Tinuola, 2025).

5.1.1 Factors Influencing Menstrual Hygiene Practices Among Teenage Girls in Mampong Municipality

This study found that several factors significantly influenced the menstrual hygiene practices of teenage girls in Mampong Municipality. Specifically, age, school location, and household income were associated with access to clean water, soap, and toilet paper. Older participants (16–17 years) were nearly four times more likely to have access to clean water at school than their younger counterparts, indicating that younger students face greater barriers in maintaining proper menstrual hygiene (AOR = 3.8, p = 0.018). This aligns with findings from similar studies, which suggest that younger girls, particularly those in economically disadvantaged areas, struggle to access essential hygiene resources (Shah et al., 2022). Additionally, school location was a significant factor, with participants from Mampong SDA JHS and Mensah Saahene MA JHS being over 70% less likely to access clean water compared to students from Kofiase SDA JHS (p = 0.001 and p = 0.002, respectively). This disparity highlights infrastructural inequalities that disproportionately affect menstrual hygiene management in certain schools.

Economic factors also played a crucial role in menstrual hygiene access, as girls from lower-income households faced increased challenges in obtaining necessary materials, including sanitary pads, soap, and toilet paper. Household income significantly influenced access to clean water ($\chi^2 = 7.99$, p = 0.018), reinforcing previous studies that link economic status to menstrual health disparities (Houghton & Adkins-Jackson, 2024; Pampel et al., 2010). Furthermore, younger participants (12–13 years) were 80% less

likely to have access to soap and toilet paper at school than their older counterparts (AOR = 0.2, p = 0.047). This suggests that younger students may be more vulnerable to inadequate hygiene conditions, negatively impacting their health and school attendance. Research has demonstrated that poor menstrual hygiene is associated with increased absenteeism and lower academic performance, emphasizing the need for targeted interventions to improve access to essential hygiene products and facilities (Adane et al., 2025).

Schools should prioritize providing clean water, soap, and disposable menstrual products to mitigate hygiene-related absenteeism and discomfort. Additionally, community-based education programs can help break the stigma surrounding menstruation and empower girls with the knowledge and resources they need for proper menstrual hygiene management.

5.2 Menstrual Hygiene Challenges and Academic Performance of Teenage Girls in Mampong Municipality

The findings of this study reveal that menstrual hygiene challenges significantly impact the academic performance of teenage girls in the Mampong Municipality. The study found that 58.2% of participants had missed school due to menstruation, a trend that aligns with previous studies indicating that menstrual-related absenteeism is a widespread issue in low-resource settings (OMBOGO, 2023). Several factors contribute to this absenteeism, including pain and discomfort (30.4%), inadequate water and toilet facilities (28.3%), lack of sanitary products (26.6%), and stigma or embarrassment (14.7%). These

findings are consistent with those of (Ssemata et al., 2023), who noted that inadequate school sanitation infrastructure exacerbates menstrual hygiene challenges, leading to school absenteeism. Additionally, stigma surrounding menstruation further discourages school attendance, creating barriers to educational attainment (Ssemata et al., 2023). Addressing these challenges requires a comprehensive approach, including improving school sanitation, providing affordable menstrual hygiene products, and promoting menstrual health education to reduce stigma and misinformation.

The study also revealed that menstrual hygiene challenges negatively affect students' ability to concentrate in class. A significant proportion (75.0%) of participants reported difficulty focusing during menstruation, which aligns with the findings of (Owoo, 2024), who established that discomfort and anxiety related to menstruation significantly impact cognitive performance. Moreover, 58.2% of participants indicated that their academic performance had declined due to menstrual hygiene issues. This is consistent with research by (Suthers, 2024), which found that menstrual-related discomfort and inadequate hygiene facilities can reduce classroom engagement and participation. Additionally, schools with inadequate menstrual hygiene management infrastructure often experience lower academic performance among female students (Ahmed et al., 2021). The findings highlight the need for schools to establish support systems, such as pain relief provisions, access to sanitary products, and proper menstrual hygiene facilities, to enhance girls' ability to learn and participate fully in school activities.

Interventions to improve menstrual hygiene management in schools were also explored in this study. While 63.0% of participants acknowledged that their schools provide menstrual hygiene education, only 35.9% reported receiving direct support, such as free sanitary pads or pain relief medication. This finding underscores the gap between menstrual health education and tangible support mechanisms, reinforcing the need for policy interventions (Munro et al., 2021). Participants recommended free sanitary products, improved water and toilet facilities, and increased menstrual health education as strategies to mitigate the impact of menstruation on academic performance. Studies have shown that interventions such as free pad distribution and menstrual health education programs significantly improve school attendance and academic performance among adolescent girls (Betsu et al., 2024). Therefore, policymakers and stakeholders in the education and health sectors must collaborate to implement sustainable menstrual hygiene management initiatives in schools, ensuring that girls have the necessary resources to maintain their education without disruption.

5.2.1 Contributing Factors to Menstrual Hygiene Challenges and Academic Performance

The findings of this study indicate that demographic factors such as age, class, school, place of residence, household income, and household composition did not significantly influence menstrual hygiene challenges or academic performance among teenage girls in the Mampong Municipality ($P > 0.05$). This suggests that menstrual hygiene challenges cut across various social and economic backgrounds, affecting students regardless of their demographic characteristics. These findings align with the (Dar et al., 2023), which

reported that menstrual hygiene difficulties are widespread among adolescent girls, irrespective of their socio-demographic attributes. Similarly, a study by (Patel et al., 2022) emphasized that the availability of menstrual hygiene facilities and educational support plays a more critical role in mitigating these challenges than individual demographic factors.

However, household income was found to significantly influence menstrual hygiene challenges and academic performance, particularly in terms of a decline in academic performance (χ^2 = 12.37, p = 0.002). Participants from middle- and high-income households were over 70% less likely to experience a decline in academic performance compared to those from low-income households, as reflected in the adjusted odds ratios [AOR = 0.2 (0.06 – 0.57), p = 0.003] and [AOR = 0.3 (0.13 – 0.65), p = 0.003], respectively. This finding is supported by research conducted by Mason et al. (2021), who found that economic constraints often limit girls' access to sanitary products, leading to absenteeism and reduced academic performance. Additionally, (D Afolalu et al., 2021) reported that girls from low-income households often experience heightened menstrual hygiene challenges due to financial barriers, further exacerbating their academic difficulties.

The impact of household income on menstrual hygiene challenges highlights the importance of financial support programs, such as free sanitary products and improved school facilities, to enhance menstrual health management. Participants in this study suggested that free sanitary products, better water and toilet facilities, increased

menstrual health education, and access to pain relief medication could significantly improve their academic experience during menstruation. These recommendations align with the study by (Bakibinga & Rukuba-Ngaiza, 2021), which found that school-based interventions, including free pad distribution and health education, significantly improved adolescent girls' school attendance and academic performance. Addressing these challenges through policy interventions and support programs could bridge the gap in menstrual hygiene disparities, ultimately fostering better academic outcomes for teenage girls in the Mampong Municipality.

5.3 Barriers to Menstrual Hygiene Management

The findings of this study reveal significant barriers to effective MHM among teenage girls in the Mampong Municipality. The majority (73.4%) of participants identified the high cost of menstrual products as a major challenge, which aligns with previous research indicating that financial constraints limit access to proper menstrual hygiene materials in low-income communities (Bakibinga & Rukuba-Ngaiza, 2021). A study by (Owusu, 2024) in Ghana, similarly, it was found that a significant proportion of school girls struggle to afford commercial sanitary products, leading some to rely on suboptimal alternatives such as reusable cloth pads, which were used by 6.0% of participants in the current study. This reliance on reusable materials, often without proper sanitation facilities, increases the risk of infections and discomfort during menstruation, further affecting school attendance and concentration (Patel et al., 2022).

Inadequate toilet and water facilities were also reported as significant barriers to MHM, with 63.6% of participants indicating a lack of access to proper sanitary infrastructure in their schools. This finding aligns with the work of (Betsu et al., 2024), who noted that poor sanitation facilities significantly hinder menstrual management, forcing many girls to miss school. Additionally, 67.9% of respondents expressed discomfort using school toilets during menstruation, reinforcing existing literature that highlights the lack of privacy, cleanliness, and water availability in school environments as critical barriers to menstrual hygiene (Dar et al., 2023). Furthermore, 35.9% of participants reported experiencing teasing or bullying due to menstruation, which contributes to stigma and emotional distress, negatively impacting their academic performance. Studies by (D Afolalu et al., 2021) have demonstrated that menstrual stigma in schools leads to absenteeism and reduced participation in classroom activities.

Social support and education were crucial in improving menstrual hygiene management. Most participants (75.5%) indicated that they discuss menstrual hygiene concerns with their mothers, while only 13.6% sought guidance from female teachers. This highlights the vital role of family support in menstrual health, as noted by (Munro et al., 2021), who found that parental involvement in menstrual education significantly improves girls' confidence in managing their periods. Additionally, 59.8% of participants reported that menstruation is openly discussed in their schools, yet stigma remains prevalent. Participants suggested that education for both boys and girls, open discussions about menstrual health, and better access to hygiene products would help break the stigma. Previous interventions in Ghana and Kenya have shown that integrating menstrual

education into school curricula fosters a more inclusive and supportive environment for girls (Betsu et al., 2024). Therefore, implementing comprehensive MHM programs, including subsidized sanitary products and improved sanitation facilities, is crucial to addressing these challenges and enhancing the academic experiences of school girls.

5.3.1 Barriers to Menstrual Hygiene Management among Teenage Girls in Mampong Municipality

This study revealed several barriers to effective MHM among teenage girls in the Mampong Municipality, with economic, infrastructural, and socio-cultural factors playing significant roles. The high cost of menstrual hygiene products emerged as the predominant challenge, as 73.4% of participants reported. This finding aligns with a study by (Patel et al., 2022), which highlight that financial constraints limit access to sanitary products, leading to using less effective alternatives such as reusable cloth pads, which were used by 6.0% of participants. Additionally, inadequate toilet and water facilities, reported by 63.6% of respondents, significantly hindered proper menstrual hygiene practices. This supports findings from (Munro et al., 2021), who emphasized that poor sanitation infrastructure in schools negatively impacts girls' ability to manage menstruation effectively, often leading to absenteeism and decreased academic performance.

Social and environmental factors also influenced menstrual hygiene management. Approximately 67.9% of the participants reported discomfort using school toilets during menstruation, which may stem from a lack of privacy, inadequate water supply, and poor

sanitation conditions. This is consistent with the study by (Bakibinga & Rukuba-Ngaiza, 2021), which found that school environments that lack gender-sensitive sanitation facilities contribute to feelings of insecurity and discomfort among menstruating girls. Furthermore, 35.9% of participants experienced teasing or bullying related to menstruation, highlighting the impact of menstrual stigma in schools. Similar trends were observed in a study by (Patel et al., 2022), which emphasized that menstrual-related stigma discourages girls from attending school and engaging in class activities, ultimately affecting their academic performance.

In addition to these challenges, factors such as age, class, and school of participants significantly influenced menstrual hygiene management. Class participants JHS 3 were four times more likely to report adequate toilet and water facilities than those in classes JHS 1 and B8 [AOR = 3.9 (1.61 – 9.26), p = 0.003]. Moreover, students from Mensah Saahene JHS were about 70% less likely to perceive their toilet and water facilities as adequate than those from other schools [AOR = 0.32 (0.12 – 0.88), p = 0.025]. These findings are in line with those of (Munro et al., 2021), who reported that disparities in school infrastructure significantly affect girls' menstrual hygiene management experiences. Addressing these issues requires interventions such as improved school sanitation, subsidized menstrual products, and comprehensive menstrual health education to foster supportive learning environments for adolescent girls (Betsu et al., 2024) .

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATIONS

6.1 Introduction

This chapter summarizes the study's key findings, which examined the relationship between teenage girls' menstrual hygiene practices and their academic performance in the Mampong Municipality. It highlights key findings related to menstrual hygiene management, the challenges faced by teenage girls during menstruation, and the impact of these challenges on school attendance, participation, and overall academic performance. Additionally, the chapter discusses the study's limitations, draws conclusions based on the findings, and provides recommendations for improving menstrual hygiene management to enhance the educational outcomes of teenage girls.

6.2 Summary of the Key Findings

Most participants (63.6%) were aged between 14 and 15, with 55.4% in class B9. Nearly half (44.6%) were recruited from Mensah Saahene MA JHS, and the majority (77.7%) were from urban areas. Most participants (86.4%) lived with their parents, and 59.8% reported having a middle-class monthly income.

Most participants (80.4%) used disposable pads for menstrual flow management. The majority (55.4%) changed their sanitary materials twice daily, and 58.7% disposed of used materials in a dustbin. However, 66.8% lacked access to clean water at school

during menstruation, and 78.3% did not have access to soap and toilet paper. Furthermore, 66.8% used water and soap for personal cleaning. Participants suggested affordable sanitary products (32.6%) and menstrual hygiene education (31.5%) would improve menstrual health management.

Several factors significantly influenced menstrual hygiene practices, including age (χ^2=6.44, p=0.040), school (χ^2=15.40, p<0.001), and household income (χ^2=7.99, p=0.018). Older participants (16–17 years) were nearly four times more likely to access clean water at school than younger participants [AOR=3.8 (1.26–11.57), p=0.018]. Participants from Mampong SDA JHS and Mensah Saahene MA JHS were over 70% less likely to access clean water than those from Kofiase SDA JHS [AOR=0.2 (0.10–0.52), p=0.001] and [AOR=0.3 (0.15–0.65), p=0.002], respectively. Additionally, age influenced access to soap and toilet paper (χ^2=7.17, p=0.028), with younger participants (12–13 years) being 80% less likely to have access [AOR=0.2 (0.03–0.98), p=0.047].

Most participants (58.2%) missed school due to menstruation, citing pain and discomfort (30.4%), inadequate water and toilet facilities (28.3%), lack of sanitary products (26.6%), and stigma (14.7%) as significant challenges. Additionally, 75.0% found it difficult to concentrate in class, and 58.2% reported declining academic performance. While 63.0% received menstrual hygiene education at school, only 35.9% received direct support, such as pads or counselling. Participants suggested free sanitary products, better water and toilet facilities, and pain relief medication as key improvements. Notably, 80.4% believed menstrual hygiene challenges affected academic success.

Household income significantly influenced menstrual hygiene challenges and academic performance, particularly academic decline (χ^2=12.37, p=0.002). Participants from middle and high-income households were over 70% less likely to experience academic decline than those from low-income households [AOR=0.2 (0.06–0.57), p=0.003] and [AOR=0.3 (0.13–0.65), p=0.003], respectively.

High costs (73.4%) and inadequate toilet and water facilities (63.6%) were major barriers to menstrual hygiene management. Additionally, 67.9% felt uncomfortable using school toilets during menstruation. Most participants (75.5%) consulted their mothers about menstrual concerns, while 35.9% had experienced teasing or bullying. Participants recommended education for both genders and open discussions to reduce stigma.

Age (χ^2=6.7, p=0.034), class (χ^2=7.6, p=0.023), and school (χ^2=9.5, p=0.009) significantly impacted menstrual hygiene management. Participants in class B9 were four times more likely to consider toilet and water facilities adequate than those in lower classes [AOR=3.9 (1.61–9.26), p=0.003]. Students from Mensah Saahene JHS were about 70% less likely to find these facilities adequate than students from other schools [AOR=0.32 (0.12–0.88), p=0.025].

6.3 Conclusion

Various socio-economic and environmental factors influence menstrual hygiene practices among teenage girls in the Mampong Municipality. While most participants routinely

used disposable pads and practised basic hygiene, limited access to clean water, soap, and adequate toilet facilities at school posed significant challenges.

Menstrual hygiene-related challenges had a notable impact on the academic performance of teenage girls. A significant proportion of participants missed school due to menstruation, with pain, discomfort, lack of sanitary products, and inadequate school facilities being major contributing factors. Many girls reported difficulty concentrating during class hours, ultimately leading to a decline in academic performance.

Barriers to effective menstrual hygiene management, including the high cost of sanitary products, poor WASH facilities, and social stigma, significantly affected the well-being and academic success of teenage girls. Many participants reported feeling uncomfortable using school WASH facilities, and a considerable number had experienced teasing or bullying related to menstruation.

Menstrual hygiene-related challenges have both immediate and long-term effects on academic performance, impacting individual students and the broader education system. Many girls miss school during their periods due to pain, discomfort, lack of sanitary products, and inadequate WASH facilities, leading to reduced instructional time and chronic absenteeism. These absences make it harder to keep up with lessons, often resulting in lower academic achievement and an increased risk of dropping out. Even when present, girls may struggle to focus or participate fully due to physical discomfort

and emotional stress, which can negatively affect test performance and classroom engagement.

Beyond the classroom, these challenges can lower girls' confidence and self-esteem, especially when combined with stigma or bullying. The lack of access to proper hygiene facilities and products creates a gender-based barrier to education, placing girls at a disadvantage compared to boys. Over time, these issues can limit access to higher education and job opportunities, reinforcing cycles of poverty and inequality. Therefore, menstrual hygiene management is not just a health concern but a critical factor in promoting educational equity and empowering girls to reach their full potential.

6.4 Recommendations

6.4.1 Policy Makers and Practice

6.4.2 Ghana Education Service (GES)

- Implement a comprehensive menstrual hygiene education program across all junior high schools, ensuring that both boys and girls are educated to reduce stigma and promote awareness.
- Improve sanitation facilities in schools by ensuring access to clean water, soap, and adequate toilets specifically designed to accommodate girls during menstruation.

6.4.3 Ministry of Health (MoH) and Ghana Health Service (GHS)

- ✓ Integrate menstrual health education into existing adolescent health programs, with regular community and school-based sensitization programs.
- ✓ Provide free or subsidized menstrual hygiene products in partnership with stakeholders to support girls from low-income households.

6.4.4 Ministry of Gender, Children, and Social Protection

- ➢ Develop policies to support the distribution of free sanitary pads to underprivileged students, reducing absenteeism caused by menstruation-related challenges.
- ➢ Establish support systems and counselling services in schools to address menstrual-related stigma, bullying, and emotional distress among teenage girls.

6.4.5 Non-Governmental Organizations (NGOs) and Civil Society Groups

- ✓ Launch community-based programs that provide affordable and sustainable menstrual products, such as reusable pads, to economically disadvantaged girls.
- ✓ Advocate for including menstrual health in national policies, working with government bodies to push for improved school sanitation and free menstrual products.

Local Government Authorities (Municipal and District Assemblies)

- ➢ Allocate budgetary support for constructing and maintaining gender-friendly sanitation facilities in schools. This includes the provision of private toilets for

girls, access to clean water, and facilities for proper disposal of sanitary products. Ensuring such infrastructure is in place will improve menstrual hygiene and reduce school absenteeism among girls.

- Collaborate with community health workers to provide regular menstrual health sensitization programs in schools and communities. Such programs should aim to normalize menstruation, educate both boys and girls, and reduce stigma. These campaigns can also provide practical demonstrations on hygiene practices and the proper use of sanitary products.
- Integrate menstrual hygiene into local development plans and school health policies. MDAs should treat menstrual health as a public health and educational issue. Incorporating it into broader development strategies will promote sustainability and accountability in addressing the needs of adolescent girls.
- Facilitate partnerships with NGOs and private sector stakeholders to supply free or subsidized sanitary products to vulnerable students. Public-private partnerships can help bridge resource gaps, especially for girls from low-income households who are disproportionately affected by the high cost of menstrual products.

6.5 Future Research

- ✓ Conduct longitudinal studies to explore the long-term impact of menstrual hygiene challenges on academic performance and dropout rates.
- ✓ Investigate the effectiveness of different interventions, such as free sanitary pads, menstrual health education, and improved sanitation facilities, in reducing absenteeism and academic decline.

REFERENCES

Adams, Z. (2023). *Challenges facing female heads of senior high schools in the central region of Ghana the perspective of stakeholders* University of Education, Winneba].

Adane, Y., Ambelu, A., Yenesew, M. A., Mekonnen, Y., & Kassahun, T. (2025). Effect of menstruation on school attendance of girls along with water, sanitation, and hygiene services in Northwest Ethiopia. *The Pan African Medical Journal, 50*, 28.

Ahmed, M. S., Yunus, F. M., Hossain, M. B., Sarker, K. K., & Khan, S. (2021). Association between menstrual hygiene management and school performance among the school-going girls in rural Bangladesh. *Adolescents, 1*(3), 335-347.

Ahmed, T. (2020). Effect of mHealth tool on knowledge regarding reproductive health of school going adolescent girls: A before-after quasi-experimental study. *BMJ Open*. https://bmjopen.bmj.com/content/10/10/e036656.abstract

Akoth, C., Wambiya, E. O., Kibe, P. M., Mbuthia, G. W., Ng'ang'a, L., Otieno, P., & Oguta, J. O. (2024). Prevalence and factors associated with unmet need for menstrual hygiene management in six countries in Sub-Saharan Africa: A multilevel analysis. *BMC women's health, 24*(1), 473.

Alam, M. U., Sultana, F., Hunter, E. C., Winch, P. J., Unicomb, L., & ... (2022). Evaluation of a menstrual hygiene intervention in urban and rural schools in Bangladesh: A pilot study. In *BMC public health*. Springer. https://doi.org/10.1186/s12889-022-13478-1

Anand, U., Li, X., Sunita, K., Lokhandwala, S., Gautam, P., Suresh, S.,…Bontempi, E. (2022). SARS-CoV-2 and other pathogens in municipal wastewater, landfill leachate, and solid waste: a review about virus surveillance, infectivity, and inactivation. *Environmental Research*, *203*, 111839.

Anbesu, E. W., & Asgedom, D. K. (2023). Menstrual hygiene practice and associated factors among adolescent girls in sub-Saharan Africa: a systematic review and meta-analysis. *BMC Public Health*, *23*(1), 33.

Anbesu, E. W., & Asgedom, D. K. (2023a). Menstrual hygiene practice and associated factors among adolescent girls in sub-Saharan Africa: A systematic review and meta-analysis. In *BMC Public Health*. Springer. https://doi.org/10.1186/s12889-022-14942-8

Anbesu, E. W., & Asgedom, D. K. (2023b). Menstrual hygiene practice and associated factors among adolescent girls in sub-Saharan Africa: A systematic review and meta-analysis. In *BMC Public Health*. Springer. https://doi.org/10.1186/s12889-022-14942-8

Andargie, F. A., & Tinuola, F. R. (2025). Effects of school menstrual hygiene management, water, sanitation, and hygiene interventions on girls' empowerment, health, and educational outcomes: Lasta district, Amhara regional state, Ethiopia. *Plos one*, *20*(4), e0321376.

Anee, U. S., Islam, A., Wahid, F., & ... (2020). Knowledge, attitude and practice on female Hygie ne management among Madrasa girls in Dhaka, Bangladesh. *Asian Journal of …*. https://asianjournals.org/online/index.php/ajms/article/view/231

Asumah, M. N., Abubakari, A., Aninanya, G. A., & ... (2022). Perceived factors influencing menstrual hygiene management among adolescent girls: A qualitative study in the West Gonja Municipality of the Savannah Region …. *Pan African Medical …*. https://www.ajol.info/index.php/pamj/article/view/238579

Asumah, M. N., Abubakari, A., & Aninanya, G. A. (2022). Determinants of Menstrual Hygiene Management Practices among Schoolgirls: A Cross-Sectional Study in the Savannah Region of Ghana. *Infectious diseases in obstetrics and gynecology*, *2022*(1), 7007117.

Austrian, K., Kangwana, B., Muthengi, E., & ... (2021). Effects of sanitary pad distribution and reproductive health education on upper primary school attendance and reproductive health knowledge and attitudes in …. In *Reproductive health*. Springer. https://doi.org/10.1186/s12978-021-01223-7

Babbar, K., Martin, J., Ruiz, J., Parray, A. A., & Sommer, M. (2022). Menstrual health is a public health and human rights issue. *The Lancet Public Health*, *7*(1), e10-e11.

Bakibinga, E., & Rukuba-Ngaiza, N. (2021). The role of law in addressing poverty and inequality in high income countries: A comparative view of menstrual hygiene management and its impact on education and health in the UK and select high income Sub-Saharan African countries. *Law and Development Review*, *14*(2), 503-549.

Baxter, M., Novy-Marx, M., & D'Angelo, S. (2022). Improving pathways for girls and disadvantaged youth through secondary education and into work: Evidence and reflections from practice: Special Issue Youth & Adolescent Skills Development: Preparing young people for diverse global challenges. *Development Policy Review*, *40*, e12651.

Baye, D. (2021). Sustainable development goals (SDG) target 6.2 in Ethiopia: challenges and opportunities. *Open Access Library Journal*, *8*(5), 1-28.

Benshaul-Tolonen, A., Zulaika, G., & ... (2020). Measuring menstruation-related absenteeism among adolescents in low-income countries. In *... critical menstruation ...*. library.oapen.org. https://library.oapen.org/bitstream/handle/20.500.12657/41299/1/2020_Book_ThePalgraveHandbookOfCriticalM.pdf#page=723

Betsu, B. D., Medhanyie, A. A., Gebrehiwet, T. G., & Wall, L. L. (2024). Menstrual hygiene management interventions and their effects on schoolgirls' menstrual hygiene experiences in low and middle countries: A systematic review. *Plos one*, *19*(8), e0302523.

Bhusal, C. K. (2020). Practice of menstrual hygiene and associated factors among adolescent school girls in Dang district, Nepal. *Advances in Preventive Medicine*. https://doi.org/10.1155/2020/1292070

Bulto, G. A. (2021). Knowledge on menstruation and practice of menstrual hygiene management among school adolescent girls in Central Ethiopia: A cross-sectional study. *Risk Management and Healthcare Policy*. https://doi.org/10.2147/RMHP.S296670

Cardoso, L. F., Scolese, A. M., Hamidaddin, A., & Gupta, J. (2021). Period poverty and mental health implications among college-aged women in the United States. In *BMC women's health*. Springer. https://doi.org/10.1186/s12905-020-01149-5

Cheema, G. K., & Bhardwaj, M. (2021). Study of Selfesteem and Academic Achievement in Relation to Home Environment among Adolescents. *European Journal of Molecular & Clinical Medicine*, *8*(1), 1978-1987.

Cidoni, R. (2024). Breaking the Silence: Global Media's Role in Shattering the Stigma of Period Poverty. *Available at SSRN 4983236*.

Cronk, R., Guo, A., Fleming, L., & Bartram, J. (2021). Factors associated with water quality, sanitation, and hygiene in rural schools in 14 low-and middle-income countries. *Science of the Total Environment*. https://www.sciencedirect.com/science/article/pii/S0048969720377573

D Afolalu, T., O Anuforo, G., Odetayo, A., R Akosile, O., Z Wada, O., J Adeniji, Y., & B Olawade, D. (2021). Menstrual hygiene management amidst COVID-19 pandemic in Nigeria's epicentre: the reality of girls and women in a low-income community. *International Journal of Tropical Disease & Health*, *42*(17), 22-29.

Dar, M. A., Maqbool, M., Gani, I., & Ara, I. (2023). Menstruation hygiene and related issues in adolescent girls: A brief commentary. *International Journal of Current Research in Physiology and Pharmacology*, 1-5.

Dwumfour-Asare, B., Appiah-Effah, E., Tidwell, J. B., & Nyarko, K. B. (2024). Menstrual hygiene management improvement in selected communities using nurturing care group approach. *medRxiv*, 2024.2010. 2001.24314753.

Ene, N., Bolarinwa, O. A., Adedigba, C., Oyeleye, J., Boboye, I., Nwosu, U.,…Okeke, S. R. (2024). “If I use pad, I feel comfortable and safe”: a mixed-method analysis of knowledge, attitude, and practice of menstrual hygiene management among in-school adolescent girls in a Nigerian city. *BMC Public Health*, *24*(1), 1721.

Fialkov, C., Haddad, D., Ajibose, A., Flufy, C. L., & ... (2021). The impact of Menstrual Hygiene Management and gender on psychosocial outcomes for adolescent girls in Kenya. *... of Adolescence and ...*. https://doi.org/10.1080/02673843.2021.1898424

Ganguly, M., Jana, S., Ganguly, A., & Midya, D. K. (2024). Menstruation in adolescent girls: myths and taboos. *Acta Biologica Slovenica*, *67*(2).

Habtegiorgis, Y., Sisay, T., Kloos, H., Malede, A., Yalew, M., Arefaynie, M.,…Addisu, E. J. P. o. (2021). Menstrual hygiene practices among high school girls in urban areas in Northeastern Ethiopia: A neglected issue in water, sanitation, and hygiene research. *16*(6), e0248825.

Harerimana, A., Mchunu, G., & Pillay, J. D. (2025). Menstrual hygiene management among girls and women refugees in Africa: a scoping review. *Conflict and Health*, *19*(1), 20.

Holmes, K., Curry, C., Sherry, Ferfolja, T., Parry, K., & ... (2021). Adolescent menstrual health literacy in low, middle and high-income countries: A narrative review. In *International Journal of ...*. mdpi.com. https://www.mdpi.com/1660-4601/18/5/2260

Holst, A. S., Jacques-Aviñó, C., Berenguera, A., Pinzón-Sanabria, D., Valls-Llobet, C., Munrós-Feliu, J.,…Medina-Perucha, L. (2022). Experiences of menstrual inequity and menstrual health among women and people who menstruate in the Barcelona area (Spain): a qualitative study. *Reproductive health*, *19*(1), 45.

Houghton, L. C., & Adkins-Jackson, P. B. J. P. S. (2024). Mixed-method, multilevel clustered-randomized control trial for menstrual health disparities. *25*(Suppl 3), 459-473.

Jalali, R. J. G. P. o. I. D. (2021). The role of water, sanitation, hygiene, and gender norms on women's health: a conceptual framework. *1*(1), 21-44.

Kadle, S. J. (2023). Gender-Responsive Infrastructure. In *Gender, Environment and Sustainable Development* (pp. 121-133). Routledge India.

Koskenniemi, A. (2023). Say no to shame, waste, inequality—and leaks! Menstrual activism in the market for alternative period products. *Feminist Media Studies*, *23*(1), 19-36.

Kpodo, L., Aberese-Ako, M., Axame, W. K., Adjuik, M., & Gyapong, M. (2022). Socio-cultural factors associated with knowledge, attitudes and menstrual hygiene practices among Junior High School adolescent girls in the Kpando district of Ghana: A mixed method study. *Plos one*, *17*(10), e0275583.

Kumbeni, M. T., Otupiri, E., & Ziba, F. A. (2020a). Menstrual hygiene among adolescent girls in junior high schools in rural northern Ghana. *Pan African Medical Journal*. https://www.ajol.info/index.php/pamj/article/view/221636

Kumbeni, M. T., Otupiri, E., & Ziba, F. A. (2020b). Menstrual hygiene among adolescent girls in junior high schools in rural northern Ghana. *Pan African Medical Journal*. https://www.ajol.info/index.php/pamj/article/view/221636

Kumbeni, M. T., Ziba, F. A., Apenkwa, J., & Otupiri, E. (2021). Prevalence and factors associated with menstruation-related school absenteeism among adolescent girls in rural northern Ghana. In *BMC women's health*. Springer. https://doi.org/10.1186/s12905-021-01418-x

Mansour, L. (2024). Water, Sanitation, and Hygiene in Schools: A Global Analysis of Bottlenecks and Climate Resilient Strategies. In.

Mchenga, J., Phuma-Ngaiyaye, E., & Kasulo, V. (2020). Do sanitation facilities in primary and secondary schools address Menstrual Hygiene needs? A study from Mzuzu City, Malawi. *Physics and Chemistry of the …*. https://www.sciencedirect.com/science/article/pii/S147470651930097X

Michael, J., Iqbal, Q., Haider, S., Khalid, A., Haque, N., & ... (2020). Knowledge and practice of adolescent females about menstruation and menstruation hygiene visiting a public healthcare institute of Quetta, Pakistan. In *BMC women's …*. Springer. https://doi.org/10.1186/s12905-019-0874-3

Mohammed, S., & Larsen-Reindorf, R. E. (2020). Menstrual knowledge, sociocultural restrictions, and barriers to menstrual hygiene management in Ghana: Evidence from a multi-method survey among …. In *Plos one*. journals.plos.org. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0241106

Mohammed, S., Larsen-Reindorf, R. E., & ... (2020). Menstrual hygiene management and school absenteeism among adolescents in Ghana: Results from a school-based cross-sectional study in a rural …. In *International journal of …*. hindawi.com. https://www.hindawi.com/journals/ijrmed/2020/6872491/

Munro, A. K., Hunter, E. C., Hossain, S. Z., & Keep, M. (2021). A systematic review of the menstrual experiences of university students and the impacts on their education: a global perspective. *Plos one*, *16*(9), e0257333.

Okesanya, O. J., Eshun, G., Ukoaka, B. M., Manirambona, E., Olabode, O. N., Adesola, R. O.,…health. (2024). Water, sanitation, and hygiene (WASH) practices in Africa: exploring the effects on public health and sustainable development plans. *52*(1), 68.

Olson, M. M., Alhelou, N., Kavattur, P. S., Rountree, L., & Winkler, I. T. (2022). The persistent power of stigma: A critical review of policy initiatives to break the menstrual silence and advance menstrual literacy. *PLOS Global Public Health*, *2*(7), e0000070.

Ombogo, P. A. (2023). Menstrual Hygiene Management Practices And School Attendance Among Girls In Public Primary Schools In Kisumu West Sub-County, Kisumu County, Kenya Kisii University].

Otieno, P., & Oguta, J. O. (2024). Prevalence and factors associated with unmet need for menstrual hygiene management in six countries in Sub-Saharan Africa: A multilevel analysis.

Owoo, N. S. (2024). Interventions to Promote Health and Reproductive Rights in Sub-Saharan Africa and Other Developing Countries.

Owusu, C. A. (2024). *Effects of Education on Family Practices among Ashantis in Ghana: The Case of Kumasi Metropolis*

Pampel, F. C., Krueger, P. M., & Denney, J. T. J. A. r. o. s. (2010). Socioeconomic disparities in health behaviors. *36*(1), 349-370.

Patel, K., Panda, N., Sahoo, K. C., Saxena, S., Chouhan, N. S., Singh, P.,…Panda, B. (2022). A systematic review of menstrual hygiene management (MHM) during humanitarian crises and/or emergencies in low-and middle-income countries. *Frontiers in public health*, *10*, 1018092.

Ramsay, C., Hennegan, J., Douglass, C. H., Eddy, S., Head, A., & Lim, M. S. J. B. W. s. H. (2023). Reusable period products: use and perceptions among young people in Victoria, Australia. *23*(1), 102.

Rossouw, L., & Ross, H. (2021). Understanding period poverty: Socio-economic inequalities in menstrual hygiene management in eight low-and middle-income countries. In … *Journal of Environmental Research and Public …*. mdpi.com. https://www.mdpi.com/1660-4601/18/5/2571

Sahoo, K. C., Dubey, S., Dash, G. C., Sahoo, R. K., Sahay, M. R., Negi, S.,…Pani, S. P. (2022). A systematic review of water, sanitation, and hygiene for urban poor in low-and middle-income countries during the COVID-19 pandemic through a gendered lens. *International Journal of Environmental Research and Public Health*, *19*(19), 11845.

Sampa, M., Musukuma, M., Fisa, R., Musonda, P., & Young, T. (2021). Interventions for keeping adolescent girls in school in low-and middle-income countries: a scoping review. Frontiers in Education,

Sarkar, R., Das, P., & Chatterjee, M. (2025). Addressing Menstrual Stigma in South Asia: A Holistic Approach Toward Gender Equality and Public Health. In *Sexual and Reproductive Health of Women: Dimensions and Perspectives* (pp. 359-372). Springer.

Shah, V., Nabwera, H., Sonko, B., Bajo, F., Faal, F., & ... (2022). Effects of menstrual health and hygiene on school absenteeism and drop-out among adolescent girls in rural Gambia. In *International journal of …*. mdpi.com. https://www.mdpi.com/1660-4601/19/6/3337

Shallo, S. A., Willi, W., & Abubeker, A. (2020). Factors affecting menstrual hygiene management practice among school adolescents in Ambo, Western Ethiopia, 2018: A cross-sectional mixed-method study. *Risk Management and …*. https://doi.org/10.2147/RMHP.S267534

Sharma, M. K., Adhikari, R., Khanal, S. P., Acharya, D., & van Teijlingen, E. (2024). Do school Water, Sanitation, and Hygiene facilities affect students' health status, attendance, and educational achievements? A qualitative study in Nepal. *Health Science Reports*, *7*(8), e2293.

Singh, N., Poonia, T., Siwal, S. S., Srivastav, A. L., Sharma, H. K., & Mittal, S. K. (2022). Challenges of water contamination in urban areas. In *Current directions in water scarcity research* (Vol. 6, pp. 173-202). Elsevier.

Smoyer, A. B., Pittman, A., & Borzillo, P. (2023). Humans peeing: Justice-involved women's access to toilets in public spaces. *Plos one*, *18*(3), e0282917.

Sommer, M., Torondel, B., Hennegan, J., Phillips-Howard, P. A., Mahon, T., Motivans, A.,…Caruso, B. A. (2021). How addressing menstrual health and hygiene may enable progress across the Sustainable Development Goals. *Global health action*, *14*(1), 1920315.

Sood, S., Stevens, S., Okumura, M., Hauer, M., & Ramaiya, A. (2022). A systematic review of menstrual health and hygiene management (MHHM) as a human right for adolescents girls. *International Journal of Sexual Health*, *34*(3), 483-502.

Ssemata, A. S., Ndekezi, D., Kansiime, C., Bakanoma, R., Tanton, C., Nelson, K. A.,…Seeley, J. (2023). Understanding the social and physical menstrual health environment of secondary schools in Uganda: a qualitative methods study. *PLOS Global Public Health*, *3*(11), e0002665.

Sun, J., Bai, S., Li, Q., Zhao, M., Ge, L., & Zang, S. (2024). The condition of women frequently changing sanitary pads in 28 cities of China: a cross-sectional study. *Reproductive health*, *21*(1), 170.

Suthers, A. (2024). A Program to Promote Reusable Sanitary Pads in West Bengal, India: Recommendations for the FLūME Foundation.

Sundari, T., George, A. J., & Sinu, E. (2022). Psychosocial problems of adolescent girls during menstruation. In *Journal of mental health education*. ncbi.nlm.nih.gov. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9202820/

Van Eijk, A. M., Jayasinghe, N., Zulaika, G., Mason, L., Sivakami, M., Unger, H. W., & Phillips-Howard, P. A. (2021a). Exploring menstrual products: A systematic review and meta-analysis of reusable menstrual pads for public health internationally. *Plos one*, *16*(9), e0257610.

Weiss, H. (2025). Effects and costs of a multi-component menstrualhealth intervention (MENISCUS) on mental health problems, educational performance, and menstrual health in Ugandan secondary schools: an open-label, school-based, cluster-randomised controlled trial. *The Lancet Global Health*.

Yaliwal, R. G., Biradar, A. M., Kori, S. S., & ... (2020). Menstrual morbidities, menstrual hygiene, cultural practices during menstruation, and WASH practices at schools in adolescent girls of North Karnataka, India …. In *Obstetrics and …*. hindawi.com. https://www.hindawi.com/journals/ogi/2020/6238193/

APPENDICES

APPENDIX I

QUESTIONNAIRES

Introduction to Research Questionnaire

Dear Participant

I am a student of the Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development (AAMUSTED). I am conducting a research study titled: **"Assessing the Impact of Teenage Girls' Menstrual Hygiene on their Academic Performance in the Mampong Municipality."**

This study aims to understand how menstrual hygiene affects teenage girls' academic performance and identify challenges faced in managing menstrual hygiene within schools. Your participation in this study is voluntary, and all responses will be kept strictly confidential. The information you provide will be used solely for academic purposes and to help make recommendations to improve school menstrual hygiene management.

The questionnaire will take approximately 10-15 minutes to complete. There are no right or wrong answers, please respond honestly based on your experiences. If you have any questions or concerns, feel free to ask before proceeding. Thank you for your time and valuable input. Your participation is greatly appreciated.

Instructions for Completing the Questionnaire

Thank you for taking the time to complete this questionnaire. Your responses will help us understand menstrual hygiene management among teenage girls in Mampong Municipality. Please read each question carefully and answer honestly. Your responses will remain confidential and used only for research purposes.

The questionnaire is divided into four sections:

Section A: Demographics

This section collects basic information about you, such as age, grade level, and living conditions. Please select the option that best describes you.

Section B: Assessing the Current Menstrual Hygiene Practices Among Teenage Girls in Mampong Municipality

In this section, you will be asked about your menstrual hygiene habits, including the products you use, how often you change them, and your access to hygiene facilities.

Section C: Menstrual Hygiene Challenges and Academic Performance

This section focuses on how menstruation affects your school attendance, concentration, and overall academic performance. Your responses will help identify the challenges girls face in school during their periods.

Section D: Barriers to Menstrual Hygiene Management

This section seeks to understand the difficulties you encounter in managing menstruation, such as the availability of sanitary products, access to clean toilets, and cultural or social barriers.

General Instructions:

- Answer all questions as accurately as possible.

- Circle the most appropriate response.
- If a question requires additional information, please write clearly in the space provided.

Section A: Demographics

1. Age: ……..
2. Grade/Class: ……..
3. School Name (Optional): ……
4. Place of Residence:

1. Urban
2. Rural

5. Who do you live with?

1. Parents
2. Guardians
3. Other (Specify) ____

6. Household Monthly Income (if known):

1. Low income
2. Middle income
3. High income

Assessing the Current Menstrual Hygiene Practices among Teenage Girls in Mampong Municipality

Section B: Menstrual Hygiene Practices

7. Have you started menstruating?

1. Yes
2. No

8. How do you manage your menstrual flow?

1. Disposable pads
2. Cloth
3. Tissue paper
4. Other (Specify) ____

9. How often do you change your sanitary material daily during menstruation?

1. Once
2. Twice
3. Three times
4. More than three times

10. Where do you dispose of used sanitary materials?

    1. School toilet
    2. Open disposal
    3. Dustbin
    4. Other (Specify) ____

11. Do you have access to clean water for washing during menstruation in school?

    1. Yes, always

2. Sometimes
3. No

12. Do you have access to soap and toilet paper at school during menstruation?

1. Yes, always
2. Sometimes
3. No

13. What do you use to clean yourself during menstruation?

1. Water and soap
2. Tissue paper only
3. Water only
4. Other (Specify) ____

14. What support would help you manage your menstrual hygiene better?

1. More affordable sanitary products
2. Better school facilities
3. More privacy at school
4. Education on menstrual hygiene

Assessing the Impact of Menstrual Hygiene-Related Challenges on Academic Performance

Section C: Menstrual Hygiene Challenges and Academic Performance

15. Have you ever missed school due to menstruation?

1. Yes
2. No (If No go to Q 17)

16. If yes, how often do you miss school during menstruation?

1. Once per cycle
2. 2-3 days per cycle
3. More than 3 days per cycle

17. What challenges do you face at school during menstruation? (Select all that apply)

1. Lack of sanitary products
2. Inadequate water and toilet facilities
3. Stigma or embarrassment
4. Pain and discomfort
5. Other (Specify) ____

18. Do you find it difficult to concentrate in class during menstruation?

1. Yes
2. No

19. Have you experienced a decline in your academic performance due to menstrual hygiene challenges?

1. Yes
2. No

20. Does your school provide any form of menstrual hygiene education?
    1. Yes
    2. No
21. Do you receive any support (pads, painkillers, counselling) from your school during menstruation?

1. Yes
2. No

22. What measures would help improve your academic experience during menstruation?

1. Free sanitary products
2. Better water and toilet facilities
3. More education on menstrual health
4. Pain relief medication availability

23. Do you think menstrual hygiene challenges affect girls' academic success in your school?

1. Yes
2. No

Examining Barriers to Effective Menstrual Hygiene Management

Section D: Barriers to Menstrual Hygiene Management

24. What do girls use the most common menstrual product in your school?

1. Disposable pads
2. Reusable cloth pads
3. Tissue paper
4. Other (Specify) ____

25. What is your main challenge in accessing menstrual hygiene products?

1. High cost
2. Lack of availability
3. Cultural or religious restrictions
4. Other (Specify) ____

26. Are there adequate toilet and water facilities in your school?

1. Yes
2. No

27. Do you feel comfortable using the school toilet during menstruation?

1. Yes
2. No (Explain why) ____

28. Do you think menstruation is openly discussed in your school/community?

1. Yes
2. No

29. Who do you talk to when you have menstrual hygiene concerns?

1. Mother
2. Female teacher
3. Friends
4. No one

30. Have you ever been teased or bullied because of menstruation?

1. Yes
2. No

31. What would help break the stigma around menstruation?

1. Education for boys and girls
2. Open discussions about menstrual health
3. Better access to hygiene products

32. What recommendations do you have to improve menstrual hygiene management in your school/community?

1. Free sanitary products
2. Better toilet and water facilities
3. More privacy in school toilets
4. Increased awareness programs

THANK YOU

APPENDIX II

Ethical Approval Letter from CHRPE-KNUST

Kwame Nkrumah University of Science and Technology, Kumasi

College of Health Sciences
SCHOOL OF MEDICINE AND DENTISTRY

COMMITTEE ON HUMAN RESEARCH, PUBLICATION AND ETHICS

Our Ref: CHRPE/AP/186/25

17th March, 2025

Ms. Priscilla Oppong-Mensah
Akenten Appiah-Menka University of Skills
Training and Entrepreneurial Development,
Faculty of Environmental Science.
KUMASI-GHANA.

Dear Madam,

LETTER OF APPROVAL

Protocol Title:	***"Assessing the Impact of Teenage Girls' Menstrual Hygiene on their Academic Performance in the Mampong Municipality."***
Proposed Site:	***Mampong SDA Junior High School, Mensah Saahene Junior High School, Kofiase SDA Junior High School.***
Sponsor:	***Self-Sponsored.***
Students:	Ms. Priscilla Oppong-Mensah
Supervisor:	Dr. Ernest Osei

Your submission to the Committee on Human Research, Publications, and Ethics on the above-named protocol refer.

The Committee reviewed the following documents:

- A notification letter of 17th January 2025 from the Ghana Education Service, Mampong-Ashanti (study site) indicating approval for the conduct of the study in the municipality.
- A Completed CHRPE Application Form.
- Participant Information Leaflet and Consent Form.
- Research Protocol.
- Questionnaire.

The Committee has considered the ethical merit of your submission and approved the protocol. The approval is for one year, renewable after that, from **17th March 2025 to 16th March 2026**. The Committee may, however, suspend or withdraw ethical approval at any time if your study is found to contravene the approved protocol.

Data gathered for the study should be used for the approved purposes only. Permission should be sought from the Committee if any amendment to the protocol or use, other than submitted, is made of your research data.

The Committee should be notified of the actual start date of the project and would expect a report on your study, annually or at the close of the project, whichever one comes first. It should also be informed of any publication arising from the study.

Thank you for your application.

Yours faithfully,

Rev. Prof. John Appiah-Poku.
Honorary Secretary
FOR: CHAIRMAN

Room 7, Block L, School of Medicine and Dentistry, KNUST, University Post Office, Kumasi, Ghana
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Official Approval Letter from GES

GHANA EDUCATION SERVICE

In case of reply the number and date of the letter should be quoted

My Ref. No:GES/ASH/MPG/EP.40/21

Your Ref. No:.....

REPUBLIC OF GHANA

Municipal Education Office P. O. Box 216, Mampong-Ashanti
Tel No.: (+233) 0200486266
Email:mampongeducationoffice@yahoo.com
Mampongmunicipal@ges.gov.gh
AM-0020-0754
17th January, 2025

MS. PRISCILLA OPPONG-MENSAH
AKENTEN APPIAH-MENKA UNIVERSITY OF SKILLS TRAINING AND ENTREPRENEURIAL DEVELOPMENT
FACULTY OF ENVIRONMENTAL & HEALTH EDUCATION
DEPARTMENT OF PUBLIC HEALTH EDUCATION
MAMPONG ASHANTI

RE: PERMISSION TO CONDUCT A RESEARCH STUDY

Following your application to the Municipal Education Directorate, Mampong-Ashanti dated 28th November, 2024 to carry out research on ***"Assessing the impact of Teenage Girls Menstrual Hygiene on their Academic Performance in the Ashanti Region"***. I am pleased to inform you that you have been granted permission to conduct your research in the selected Junior High Schools – Mampong S.D.A Junior High School, Mensah Saahene Junior High School and Kofiase S.D.A Junior High School from 20th January, to 20th April 2025.

You are duly advised to report to the authorities of the selected Junior High Schools before embarking on the Data Collection. I am by a copy of this letter requesting the Heads of the selected schools to kindly give the Student Researcher the needed support to enable her conduct the research.

Note that:

1. **All ethical issues in research must be duly observed and applied in the selected Schools in this Municipal Education Directorate.**
2. Consent of the learners and teachers must be sought before conducting your research at the selected sites.
3. Present a copy of this clearance to the school of your choice before collecting your data.
4. **On completion of the research project, you are requested to submit one hardcopy of your report to this office.**

I wish you good luck in your assignment.

MUNICIPAL DIRECTOR
GHANA EDUCATION SERVICE
MAMPONG MUNICIPAL
MAMPONG - ASH.

PRINCE OWUSU-ANSAH (MR.)
MUNICIPAL DIRECTOR OF EDUCATION

Cc:
The Ag. Head of Department, Department of Public Health Education, AAMUSTED, **Mampong Ashanti,**
The Headmaster, Mampong S.D.A Junior High School, **Mampong Ashanti.**
The Headmaster, Mensah Saahene Junior High School, **Mampong Ashanti**
The Headmaster, Kofiase S.D.A Junior High School, **Mampong-Ashanti**
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