Hygiene Management and Girl Child Education in Secondary Schools in Amuru District, Uganda

By

Adoch Irene Lamwaka

23/0648/MED/PS

B.Ed. (GU)

A Dissertation Submitted to the Directorate of Research and Graduate Training in Partial Fulfilment of the Requirements for the Award of the Degree of Master of Education in Education Management of Gulu University

October, 2026

Declaration

I Adoch Irene Lamwaka declare that this dissertation entitled "*Hygiene management and girl child education in secondary schools in Amuru District.*" is my original work. It has never been presented for any academic award in any university or other awarding institution.

Signature…… Date…07th/10/2026…

Adoch Irene Lamwaka

23/U/0648/MED/PS

Approval

This dissertation entitled *"Hygiene Management and Girl Child Education in Secondary Schools in Amuru District,."* has been done under my supervision as the institution's research supervisor.

Signature.....Date.....07/10/2026.....

Dr. Collins Anguzu (PhD)

Dedication

This dissertation is dedicated to my beloved parents, Mr. Edward Opiro Jonyo and Mrs. Elizabeth Opiro, whose love, sacrifices, prayers, and encouragement have been a constant source of strength throughout my academic journey.

Acknowledgements

I sincerely thank the Diocese of Northern Uganda, the former students of Redmaids High School Bristol (U.K.), Rev. Canon Willy Akena, Ms. Kate, and Rev. Canon Stuart Taylor (RIP) for laying a strong foundation for my education and inspiring me to pursue academic excellence. My heartfelt appreciation goes to my supervisor, Dr. Collins Anguzu (PhD), for his professional guidance, patience, encouragement, and invaluable support throughout this study. I am also grateful to the staff and lecturers of Gulu University, particularly the Department of Education Management, and especially Dr. Gloria Lamaro (PhD) for her continuous guidance and encouragement. Special appreciation go to all the lecturers in the department of Education Management; Prof.Wilfred Lajul, Assoc .Prof Denis .T. Ofoyuru, Dr. John Baptist Hab'Imana, Dr. Gregory Okello(RIP), Dr. Tom Henry Ogwang Mr. Okot .E. Ambrose, Mr. Luwa John Charles and Ms. Pamela Peace Okwir for imparting all the required knowledge in us during the course of the study. Special thanks also go to the Chief Administrative Officer of Amuru District, school administrators, and all respondents who participated in this study. I also appreciate my research assistants, Mr. Richard Obwolo and Mr. Simon Ocan, all my course mates, friends, and workmates for their encouragement, cooperation, and support that greatly contributed to the successful completion of this research. Special appreciation also goes to my dear husband Mr. Tonny Ayoo, my siblings, uncles especially Lapwony Ocheng Jany, sisters, relatives and in-laws who supported and encouraged me so much in this academic journey not forgetting my uncle Lapwony Opwonya Ayubi(RIP), Lapwony Erica Layoo(RIP) and Ms.Christine Oroma(RIP) for encouraging me to join the Master Programmes.

Table of Contents

Declaration i
Approval ii
Dedication iii
Acknowledgements iv
Table of Contents v
List of Tables ix
List of Figures x
List of Abbreviations xi
Abstract xii
CHAPTER ONE 1
INTRODUCTION 1
1.0 Overview 1
1.1 Background to the Study 1
1.1.1 Historical Background 1
1.1.2 Theoretical Background 2
1.1.3 Conceptual Background 3
1.1.4 Contextual Background 4
1.2 Statement of the Problem 6
1.3 Purpose of the Study 6
1.4 Specific Objectives 6
1.5 Research Questions 7
1.6 Significance of the Study 7
1.7 Scope of the Study 8
1.7.1 Content Scope 8
1.7.2 Geographical Scope 8
1.7.3 Time Scope 8
1.8 Conceptual framework 9
CHAPTER TWO 11
LITERATURE REVIEW 11

2.0 Introduction 11
2.1 Theoretical Review 11
2.1.1 Social Ecological Theory 11
2.1.2 Application of the Theory to the Study 12
2.2 Hygiene management and Girl Child Education 12
2.2.1. Sanitation Facilities and Girl Child Education 12
2.2.2. Menstrual Hygiene Management (MHM) and Girl Child Education 14
2.2.3. Cleanliness in Schools and Girl Child Education 15
2.2.4. Health Education Programs and Girl Child Education 16
2.3. Girl child education 16
2.3.1. Attendance 17
2.3.2. Performance 18
2.3.3. Girls' Participation at School 19
2.4 Literature Gap and Justification of the Study 20
CHAPTER THREE 22
METHODOLOGY 22
3.0 Introduction 22
3.1 Research Approach 22
3.2 Research Design 22
3.3 Study Population 23
3.4 Sampling Frame 23
3.5 Sample Size Determination 24
3.4.1 Sampling Techniques 25
3.5 Data Collection Methods and Instruments 26
3.5.1 Questionnaire Survey 26
3.5.2 Interviews 27
3.6 Data Quality Control 27
3.6.1 Validity of Research Instruments 27
3.6.2 Reliability of Research Instruments 28
3.7 Research Procedure 29
3.8 Data Analysis 29

3.8.1 Quantitative Data Analysis 29
3.8.2 Qualitative Data Analysis 30
3.9 Study Limitations and Delimitations 30
3.10 Ethical Considerations 31
CHAPTER FOUR 33
PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS 33
4.0 Introduction 33
4.1 Response Rate 33
4.2 Demographic Characteristics of Respondents 34
4.3 Hygiene Management Practices in Secondary Schools in Amuru District 36
4.3.1 Qualitative Findings 43
4.4 Level of Girl Child Education in Secondary Schools in Amuru District 54
4.4.1 Qualitative Findings 59
4.5 Relationship Between Hygiene Management and Girl Child Education 69
4.5.1 Qualitative Findings 74
CHAPTER FIVE 80
SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS 80
5.0 Introduction 80
5.1 Summary of Findings 80
5.2 Discussion of Findings 82
5.2.1 Hygiene Management Practices in Secondary Schools and Girl Child Education 82
5.2.2 Level of Girl Child Education in Secondary Schools in Amuru District 84
5.2.3 Relationship Between Hygiene Management Practices and Girl Child Education 86
5.3 Conclusions 88
5.4 Recommendations 89
5.5 Areas for Further Research 90
REFERENCES 91
Appendices 96
Appendix A: Consent Form 96
Appendix B: Questionnaire for Girls 99
Appendix C: Key Informant Interview (KII) Guide 102

Appendix D. Observation Checklist.....104
Appendix E: Krejci Morgan Sample Size Table.....105
Appendix F: Map of Amuru District.....106
Appendix G: Introductory Letter.....107

List of Tables

Table 1: Sampling Frame 24
Table 2: Reliability Results of the Research Instrument 28
Table 3: Response Rate of Respondents 33
Table 4: Demographic Characteristics of Respondents (N = 201) 34
Table 5: Sanitation Facilities in Secondary Schools (N = 201) 36
Table 6: Menstrual Hygiene Management in Secondary Schools (N = 201) 38
Table 7: Cleanliness in Secondary Schools (N = 201) 40
Table 8: Health Education Programs in Secondary Schools (N = 201) 42
Table 9: Attendance of Girl Child in Secondary Schools (N = 201) 54
Table 10: Academic Performance of Girl Child in Secondary Schools (N = 201) 56
Table 11: Girls' Participation in School Activities (N = 201) 58
Table 12: Relationship Between Hygiene Management and Girl Child Education 70
Table 13: ANOVA Results for the Influence of hygiene Management on Girl Child Education (N = 201) 72
Table 14: Regression Coefficients for the Influence of Hygiene Management on Girl Child Education (N = 201) 73

List of Figures

Figure 1: Conceptual Framework of the Study.....9

List of Abbreviations

IDP:	Internally Displaced Person
MHM:	Menstrual Hygiene Management
MoES:	Ministry of Education and Sports
NGO:	Non-Governmental Organization
UNESCO:	United National Educational Scientific and Cultural Organization
UNICEF:	United Nation International Children's Emergency Fund
UPE:	Universal Primary Education
USE:	Universal Secondary Education
WASH:	Water Sanitation and Hygiene
WHO:	World Health Organization.
WSSCC:	Water Supply and Sanitation Collaborative Council

Abstract

This study investigated the relationship between hygiene management and girl child education in secondary schools in Amuru District, Uganda. The study was guided by three objectives: to explore hygiene management practices in secondary schools, to assess the level of girl child education, and to examine the relationship between hygiene management practices and girl child education. A mixed-methods research design employing both quantitative and qualitative approaches was adopted. Data were collected from 201 respondents comprising girl students, teachers, senior female teachers, head teachers, and the District Inspector of Schools using questionnaires and interview guides. Quantitative data were analyzed using frequencies, percentages, means, Pearson Product Moment Correlation, and linear regression analysis, while qualitative data were analyzed thematically. The findings revealed that many schools had inadequate sanitation facilities, limited handwashing facilities, insufficient water supply, inadequate menstrual hygiene materials, lack of changing rooms, and poor environmental cleanliness. The study further established that girl child education was affected by menstruation, sickness, hygiene-related challenges, and household responsibilities, which negatively influenced attendance, participation, concentration, and academic performance. Correlation analysis revealed a strong positive and statistically significant relationship between hygiene management practices and girl child education, while regression analysis showed that hygiene management practices explained 69.7% of the variation in girl child education ($R^2 = .697$). Menstrual hygiene management emerged as the strongest predictor of educational outcomes, followed by sanitation facilities, school cleanliness, and health education programmes. The study concluded that hygiene management practices significantly influence girl child education and that improvements in sanitation facilities, menstrual hygiene management, environmental cleanliness, and health education programmes enhance attendance, participation, retention, and academic performance among girls. The study recommends increased investment in sanitation infrastructure, provision of menstrual hygiene materials, establishment of changing rooms, strengthening of health education programmes, and enhanced collaboration among schools, parents, government agencies, and development partners to improve girl child education in secondary schools within Amuru District.

Key Words: Hygiene Management, Sanitation Facilities, Menstrual Hygiene Management, School Cleanliness, Health Education Programmes, Girl Child Education, Secondary Schools, Amuru District, Uganda.

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter presents the background to the study, statement of the problem, purpose and specific objectives of the study, research questions, scope of the study, significance of the study and conceptual framework of the study. The study examines hygiene management and girl child education in secondary schools in Amuru District, Uganda, recognising that girls need a safe, clean and supportive school environment to attend, participate and remain in school. Ssemata et al. (2023) found that poor WASH facilities, inadequate menstrual support and weak school-level menstrual health programmes remain challenges in Ugandan secondary schools. Betsu et al. (2024) similarly established that effective menstrual hygiene interventions can improve girls' educational experiences and outcomes.

1.1 Background to the Study

The background to the study is presented under four perspectives: historical, theoretical, conceptual and contextual. The four perspectives provide a logical basis for understanding the development of girls' education, the theory explaining the relationship between hygiene and education, the meaning of the study variables, and the specific circumstances that make Amuru District an appropriate setting for the study.

1.1.1 Historical Background

Historically, girls in many societies had fewer opportunities to participate fully in formal education because of domestic responsibilities, early marriage, gender expectations and limited recognition of their educational rights. Bronfenbrenner (1979) explains that children's development is influenced by the different social environments in which they live. Ahikire and Mwiine (2020) further show that gender norms and institutional arrangements have influenced opportunities available to women and girls in Uganda. This historical experience demonstrates that girl child education is affected not only by access to school but also by the condition's girls encounter while there.

Uganda introduced Universal Primary Education in 1997 and Universal Secondary Education in 2007, which expanded educational opportunities for children. However, increased

enrolment has not automatically resulted in regular attendance, retention and completion for all learners. UNESCO's recent assessment of Uganda's education sector shows that enrolment increased substantially following education reforms, although completion and learning outcomes have remained challenging. This indicates that increasing access to education must be accompanied by supportive school environments that enable girls to remain and participate effectively.

Over time, attention has therefore shifted from simply increasing girls' enrolment to addressing the conditions that affect their daily school experiences. Menstrual hygiene has become an important part of this discussion because inadequate facilities, limited information, lack of privacy and stigma can make school participation difficult for adolescent girls. Tomlinson et al. (2024) found that menstrual knowledge and the sources from which girls receive information influence their menstrual experiences. Betsu et al. (2024) also established that menstrual hygiene interventions can improve knowledge, practices and educational outcomes.

Evidence from Uganda has increasingly linked school hygiene conditions with girls' educational experiences. Ssemata et al. (2023), in their study of secondary schools in Wakiso and Kalungu, identified inadequate WASH facilities, limited psychosocial support, negative beliefs and weaknesses in menstrual health programmes. Dvalishvili et al. (2025) similarly found that better WASH infrastructure and supportive teachers were associated with reduced menstrual-related absenteeism among girls in Southern Uganda. However, much of this evidence comes from other parts of Uganda, creating a need for district-specific evidence on the situation in Amuru District.

1.1.2 Theoretical Background

This study is guided by the Social Ecological Model (SEM) which was developed by Urie Bronfrenbrenner in 1970s, explains that individual behaviour and wellbeing are influenced by several interacting levels of the environment. McLeroy et al. (1988) argue that health-related behaviour is influenced by individual, interpersonal, organisational, community and policy factors. Bronfenbrenner (1979) similarly emphasises the influence of surrounding social systems on individual development. The theory is appropriate for this study because hygiene management involves girls, teachers, school administrators, families, communities and government institutions.

At the individual level, girls' knowledge, attitudes and personal hygiene practices can influence how they manage hygiene and menstruation at school. Tomlinson et al. (2024) found that menstrual knowledge among adolescent girls is influenced by age, education and sources of information. Betsu et al. (2024) also found that menstrual hygiene interventions can improve girls' knowledge, attitudes and practices. This suggests that providing facilities without improving girls' knowledge and confidence may not fully address hygiene-related educational challenges.

At the interpersonal and institutional levels, relationships with parents, peers, teachers and school administrators can influence girls' school experiences. Ssemata et al. (2023) identified limited psychosocial support, myths, misconceptions and weaknesses in school menstrual health programmes as challenges in Ugandan secondary schools. Dvalishvili et al. (2025) further found that supportive teachers were associated with reduced menstrual-related absenteeism. The theory therefore supports examination of the role of school-level management and support alongside physical hygiene facilities.

At the community and policy levels, cultural beliefs, household conditions, government policies and institutional resources can influence hygiene management. McLeroy et al. (1988) emphasise that sustainable improvement requires attention to the wider environment in which individuals live. Jain and Naik (2026) similarly demonstrate that WASH conditions, privacy, social norms and policy implementation interact in influencing girls' menstrual experiences. The Social Ecological Model therefore provides a suitable theoretical foundation for examining WASH facilities, menstrual hygiene management and school hygiene management practices.

1.1.3 Conceptual Background

Hygiene management refers to the systems, facilities, education and practices through which schools maintain clean, safe and healthy conditions for learners. In this study, hygiene management is conceptualised through three dimensions: WASH facilities, menstrual hygiene management and school hygiene management practices. Ssemata et al. (2023) show that school hygiene involves both physical conditions and social support, while Jain and Naik (2026) emphasise the importance of WASH, privacy, disposal systems and institutional practices. The concept therefore extends beyond the mere presence of toilets and water points.

The first dimension is Sanitation facilities, which include safe water, functional toilets, handwashing facilities, soap, privacy and appropriate sanitation arrangements. These facilities provide the physical conditions necessary for girls to maintain personal hygiene and manage menstruation while at school. Ssemata et al. (2023) found inadequate soap, water and sanitation facilities in some Ugandan secondary schools, while Dvalishvili et al. (2025) found that better WASH infrastructure was associated with reduced menstrual-related absenteeism. The important issue is therefore not only whether facilities exist but whether they are accessible, functional, clean and properly maintained.

The second dimension is menstrual hygiene management, which includes menstrual health information, access to appropriate menstrual materials, privacy, safe disposal and support from teachers and peers. Tomlinson et al. (2024) found that menstrual knowledge is an important part of girls' menstrual experiences. Betsu et al. (2024) established that menstrual hygiene interventions can improve knowledge, practices and educational outcomes. Ssemata et al. (2023), however, identified knowledge gaps, myths, stigma and inadequate institutional support in Ugandan schools, indicating the need to examine menstrual hygiene management within the specific context of Amuru District.

The third dimension is hygiene management, which refer to how school administrators and staff plan, implement, monitor and maintain hygiene standards. These practices include cleaning and maintenance, waste management, provision of cleaning materials, hygiene education, monitoring of facilities and assignment of hygiene responsibilities. Ssemata et al. (2023) found weaknesses in school-level menstrual health programmes, while Dvalishvili et al. (2025) showed that supportive school environments can reduce girls' absenteeism. The focus is therefore on whether school management systems effectively translate available resources and policies into a clean and supportive environment for girls.

1.1.4 Contextual Background

Globally, inadequate water, sanitation and hygiene remain important barriers to safe and inclusive education. Girls may experience particular difficulties where schools lack private toilets, adequate water, menstrual disposal facilities and appropriate information. Betsu et al. (2024) found that menstrual hygiene interventions can improve educational outcomes, although many interventions focus more on products and information than on the wider

school environment. Jain and Naik (2026) similarly identify inadequate WASH, privacy, disposal systems and social norms as interconnected challenges affecting girls.

In sub-Saharan Africa, these challenges are often influenced by poverty, inadequate infrastructure, limited menstrual information and social attitudes towards menstruation. Tomlinson et al. (2024) found that menstrual knowledge among adolescent girls is influenced by socioeconomic and educational circumstances. Betsu et al. (2024) further found positive educational effects from menstrual hygiene interventions. However, the evidence also suggests that sustainable improvement requires attention to the wider physical and social environment rather than placing responsibility for hygiene entirely on individual girls.

In Uganda, school hygiene conditions remain an important concern for girls' educational participation. Ssemata et al. (2023) found knowledge gaps, negative menstrual beliefs, limited psychosocial support, poor WASH facilities and weak school-level menstrual health programmes in Ugandan secondary schools. Dvalishvili et al. (2025) found that better WASH infrastructure was associated with reduced menstrual-related absenteeism among girls in Southern Uganda. These findings demonstrate the importance of examining the relationship between hygiene management and girl child education, although evidence specific to Amuru District remains limited.

Amuru District provides an important context for this study because girls require both access to education and a supportive environment that enables them to remain in school. A previous WASH assessment covering four secondary schools in Amuru found that all four schools had water and separate girls' toilets, but only three had handwashing stations and two had menstrual hygiene management systems. The assessment therefore indicated that the existence of basic facilities does not necessarily mean that comprehensive hygiene management is in place. Since Amuru District has both government and private secondary schools, there is a need for current empirical evidence on how WASH facilities, menstrual hygiene management and school hygiene management practices influence girl child education.

Amuru District provides an important context for this study because girls need both access to education and a supportive school environment to remain and participate in school. A previous WASH assessment of four secondary schools found that all had water and separate girls’ toilets, but only three had handwashing stations and two had menstrual hygiene

management systems. This finding is consistent with Ssemata et al. (2023) and Dvalishvili et al. (2025), who show that WASH facilities, menstrual support and school-level practices can influence girls' attendance and participation. However, current district-specific evidence remains limited, particularly on how these three aspects of hygiene management influence girl child education in Amuru District.

1.2 Statement of the Problem

Ideally, girl child education in secondary schools should enable girls to attend regularly, participate actively, remain in school and complete their education in a safe and supportive environment. However, this ideal is not fully realised in Northern Uganda, where girls' secondary school completion has been reported at only 7%, compared with 52% in Kampala. This situation is associated with barriers such as poverty, gender norms and inadequate school facilities. In Uganda, Ssemata et al. (2023) found that inadequate water, sanitation, soap, clean toilets and menstrual support affected girls' experiences in secondary schools, while Dvalishvili et al. (2025) found that improved WASH infrastructure was associated with reduced menstruation-related absenteeism. Betsu et al. (2024) further found that menstrual hygiene interventions can improve school attendance and educational outcomes.

Although government and development partners have introduced WASH and menstrual hygiene interventions, implementation gaps remain. In Amuru District, there is still limited empirical evidence on how WASH facilities, menstrual hygiene management and school hygiene management practices influence girl child education, particularly attendance, participation, retention and academic progress.

1.3 Purpose of the Study

The purpose of the study was to examine the influence of hygiene management on Girl Child Education in secondary schools in Amuru District, Uganda.

1.4 Specific Objectives

1. To explore the hygiene management practices in secondary schools in Amuru District.
2. To assess the level of Girl Child Education in secondary schools in Amuru District.
3. To examine the relationship between hygiene management practices and the level of Girl Child Education in secondary schools in Amuru District.

1.5 Research Questions

1. What hygiene management practices are implemented in secondary schools in Amuru District?
2. What is the level of Girl Child Education in secondary schools in Amuru District?
3. What is the relationship between hygiene management practices and the level of Girl Child Education secondary schools in Amuru District?

1.6 Significance of the Study

The study may be useful to the Ministry of Education and Sports by providing evidence on the role of WASH facilities, menstrual hygiene management and school hygiene practices in supporting girls' education. The findings may contribute to the improvement of policies, guidelines and programmes aimed at creating safe and supportive learning environments for girls.

The findings may also be useful to Amuru District Local Government, particularly the education and health departments. The evidence may assist the district in identifying weaknesses in school WASH facilities, menstrual hygiene support and hygiene management practices. It may also support planning, monitoring and allocation of resources to improve school hygiene conditions.

School administrators and teachers may benefit from the findings by gaining a clearer understanding of how school hygiene management affects girls' educational experiences. The findings may encourage schools to strengthen cleaning, sanitation, menstrual support, hygiene education and monitoring of facilities.

The study may also benefit parents and communities by increasing awareness of the importance of supporting girls' hygiene needs. Better understanding of menstrual hygiene and school sanitation may encourage parents and community members to support girls and participate in improving the school environment.

Finally, the study may contribute to academic knowledge by providing empirical evidence from Amuru District. Since much of the existing Ugandan evidence has focused on other districts, the study may provide a useful basis for future research on hygiene management and girl child education in Northern Uganda.

1.7 Scope of the Study

This section described the content, geographical and time boundaries of the study and explained the reasons for selecting each scope.

1.7.1 Content Scope

The study focused on the influence of hygiene management on girl child education in secondary schools. Hygiene management was examined through three dimensions: WASH facilities, menstrual hygiene management, and school hygiene management practices. WASH facilities included access to safe water, functional toilets, handwashing facilities, soap and privacy. Menstrual hygiene management covered menstrual information, availability of menstrual materials, privacy, safe disposal and support from teachers. School hygiene management practices included cleaning, waste management, availability of cleaning materials, hygiene education and monitoring. Girl child education was assessed in terms of attendance, participation, retention and academic progress. These areas were selected because they directly captured both the school hygiene conditions and the educational outcomes that were central to the study.

1.7.2 Geographical Scope

The study was conducted in selected government and private secondary schools in Amuru District, Northern Uganda. Amuru District was selected because available evidence had indicated gaps in some school hygiene facilities, including handwashing and menstrual hygiene management systems. The district also provided an appropriate setting for examining girl child education because it contained both government and private secondary schools. Including the two categories of schools enabled the study to obtain evidence from different school settings and provided a more balanced understanding of how hygiene management influenced girls' educational experiences in the district.

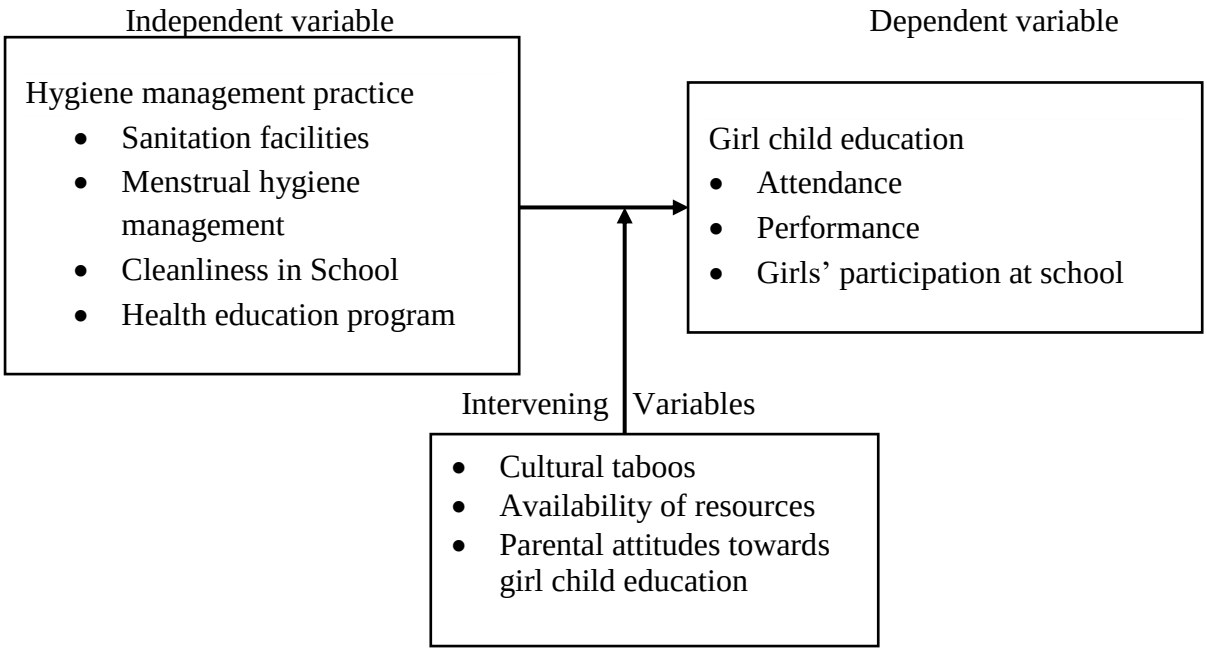
1.7.3 Time Scope

The study covered the period 2019–2026. This period was selected because it captured recent developments in school WASH provision, menstrual hygiene management and girl child education, including changes in school hygiene practices following increased attention to health and sanitation in schools. It also provided a sufficient period for examining recent

evidence and developments relevant to the study variables. However, older scholarly sources were retained where necessary because they provided foundational theories, established concepts and earlier empirical explanations that remained relevant to understanding the relationship between hygiene management and girl child education.

1.8 Conceptual framework

The Conceptual Framework of this study graphically describes the relationship between Hygiene Management and Girl Child Education including the intervening variables as shown in Figure 1.0 below.



Source. Adopted from World Bank,2011 with modification by the researcher.

Figure 1: Conceptual Framework of the Study

The conceptual framework assumed that hygiene management influenced girl child education in secondary schools. Hygiene management, the independent variable, was examined through three dimensions: WASH facilities, menstrual hygiene management and school hygiene management practices. WASH facilities included safe water, functional toilets, handwashing facilities, soap and privacy; menstrual hygiene management included menstrual information, materials, privacy and safe disposal; while school hygiene practices included cleaning, waste management, hygiene education and monitoring. Ssemata et al. (2023) noted that these school-level conditions are important components of the menstrual health environment for girls.

The dependent variable, girl child education, was measured through attendance, participation, retention and academic progress. Adequate water and sanitation, menstrual materials and supportive hygiene practices can reduce barriers that cause girls to miss school and may enable them to participate more confidently in school activities. Dvalishvili et al. (2025) found that improved WASH infrastructure was associated with reduced menstruation-related absenteeism among girls in Uganda, while Betsu et al. (2024) reported that menstrual hygiene interventions can improve school attendance and educational outcomes.

The framework also recognised intervening variables, including cultural beliefs and taboos, availability of resources and parental attitudes, which could influence the relationship between hygiene management and girl child education. Ssemata et al. (2023) identified social norms and institutional conditions as important influences on girls' menstrual experiences, while Jain and Naik (2026) emphasised the interaction between school facilities, community norms and policy implementation. Therefore, the framework guided the study in examining how the three dimensions of hygiene management were related to attendance, participation, retention and academic progress among girls in secondary schools in Amuru District.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviewed literature on hygiene management and girl child education in secondary schools. The review was organised according to the three objectives of the study, namely WASH facilities, menstrual hygiene management and school hygiene management practices. The chapter also examined the theoretical perspective guiding the study and identified gaps in existing literature. The review particularly considered how hygiene conditions influence girls' attendance, participation, retention and academic progress.

2.1 Theoretical Review

2.1.1 Social Ecological Theory

The study was guided by the Social Ecological Theory, which explains that individual outcomes are shaped by interactions between personal, interpersonal, organisational, community and policy environments. McLeroy et al. (1988) emphasised the influence of multiple environmental levels on health behaviour, while Bronfenbrenner (1979) explained how individuals develop through continuous interaction with their surrounding environments. Golden and Earp (2012) later demonstrated the usefulness of ecological approaches in understanding health promotion. However, these theoretical explanations are general and provide limited specific attention to hygiene management and girls' education in rural Ugandan secondary schools.

The theory was relevant because school hygiene is influenced by conditions beyond the individual girl. Teachers, parents, peers, school administrators, infrastructure and government policies can collectively shape girls' experiences. Sallis et al. (2008) explained that ecological models are useful where behaviour is influenced by several interconnected environments, while Glanz et al. (2015) emphasised the importance of organisational and social contexts in health behaviour. Jain and Naik (2026) similarly demonstrated that menstrual hygiene is influenced by individual, interpersonal, organisational and policy factors. Nevertheless, limited empirical work has applied this perspective specifically to hygiene management and girl child education in Amuru District.

2.1.2 Application of the Theory to the Study

The theory helped the study to understand WASH facilities as an organizational and environmental factor affecting girls' educational experiences. Water availability, sanitation facilities, handwashing stations and privacy are school-level conditions that can either support or restrict participation. Freeman et al. (2012) found that school-based WASH interventions can influence health and attendance, while Psaki et al. (2022) reported promising evidence that WASH interventions can improve girls' enrolment and attendance. Sclar et al. (2017), however, found mixed evidence concerning sanitation and school absence. This inconsistency creates a need for context-specific evidence from Amuru District.

The theory also supported examination of menstrual hygiene management through interpersonal and organizational relationships. Teachers can provide information and emotional support, while peers and family members can influence menstrual beliefs and practices. Hennegan et al. (2019) highlighted the importance of social and environmental conditions in menstrual health, whereas Ssemata et al. (2023) identified knowledge gaps, stigma and inadequate school support in Ugandan secondary schools. Dvalishvili et al. (2025) further found that teacher support and adequate WASH infrastructure were associated with reduced menstruation-related absenteeism. However, these studies have not sufficiently examined how these factors jointly influence the wider educational outcomes of girls in Amuru.

2.2 Hygiene management and Girl Child Education

Hygiene management in schools plays a pivotal role in promoting the health, dignity, and academic performance of students, especially girls. In many developing countries, including Uganda, poor hygiene management continues to impede girls' education. This literature review explores four key aspects of hygiene management sanitation facilities, menstrual hygiene management (MHM), cleanliness in schools, and health education programs and their relationship with girl child education.

2.2.1. Sanitation Facilities and Girl Child Education

Sanitation facilities are facilities and services for the safe disposal of human excreta (WHO,2000). Adequate sanitation facilities are fundamental to ensuring a conducive learning environment, particularly for adolescent girls. In Uganda, many schools grapple with insufficient and poorly maintained sanitation infrastructure. According to the Ministry of

Education and Sports (2021), the recommended student-to-latrine stance ratio is 40:1; however, in practice, this ratio is often exceeded, compromising privacy and hygiene. Inadequate facilities disproportionately affect girls, especially during menstruation, leading to discomfort and absenteeism.

Studies from India and Ghana showed that constructing private hygiene facilities such as latrines and changing room is very crucial for girls' attendances at school (Mohamed,2020). He continued that Inadequate or unhygienic facilities for girls can have negative impact on girl's attendance because it can lead to embarrassment and panic among girls especially when they are in their menstruation therefore affecting their daily school attendance.

Lack of clean water and other sanitation facilities such as incinerator, toilets and changing rooms in schools means that school girls always do not have anywhere to change or disposed of used pads privately during their menstruation which affects their education(UNESCO,2009).In Tanzania, Sommer (2016) in his study found that post-pubescent school girls in Tanzania face a lot of challenges to travel to attend school during their menstruation due to inadequate sanitation facilities in school like water and changing room.

The lack of gender-segregated and private sanitation facilities exacerbates the challenges faced by girls. A study by WaterAid Uganda (2020) highlighted that many schools lack separate toilets for girls, and existing facilities often lack doors or locks, undermining privacy and safety. This situation discourages girls from attending school during their menstrual periods, contributing to increased absenteeism and dropout rates.

Moreover, the absence of water and handwashing facilities further complicates the situation. The IRC (2024) reported that less than 50% of schools in Uganda have functional handwashing facilities, and only 20% of girls and boys indicated having access to such facilities at school. The lack of water impedes proper hygiene practices, increasing the risk of infections and illnesses, which can further deter girls from attending school.

The situation is compounded by cultural and societal factors. In some communities Amuru district inclusive, discussing menstruation is a taboo, leading to a lack of awareness and support for girls' sanitation needs. This cultural silence contributes to the neglect of girls' specific sanitation requirements in school infrastructure planning and maintenance.

Addressing these challenges requires a multifaceted approach, including the construction of adequate, gender-segregated sanitation facilities, ensuring the availability of water and handwashing stations, and promoting community awareness to break cultural taboos. Such interventions are crucial for improving girls' school attendance and overall educational outcomes.

Therefore, the reviewed documents showed that lack of sanitation facilities such as toilets, incinerator, and changing room among others always affects girl child education and they end up missing school during their menstruation

2.2.2. Menstrual Hygiene Management (MHM) and Girl Child Education

Menstrual hygiene management is a critical factor influencing girls' education in Uganda. A significant number of girls miss school during their menstrual periods due to inadequate facilities and lack of access to sanitary products. According to a report by Nile Post (2024), 64% of girls admitted to missing school due to menstruation, citing the lack of menstrual materials and proper sanitation facilities as primary causes.

The stigma surrounding menstruation further exacerbates the issue. A study by the 1000Hugs Foundation (2024) highlighted that many girls feel embarrassed and fear being teased by peers, leading to absenteeism during their periods. This stigma is often rooted in cultural beliefs that consider menstruation unclean, discouraging open discussions and support for menstrual hygiene.

Efforts to improve MHM have included the distribution of reusable sanitary pads and education on menstrual health. Malteser International (2024) reported training programs in Uganda that equipped women with skills to produce reusable pads, enhancing access to affordable menstrual products and promoting sustainability. Such initiatives not only address the immediate needs of girls but also empower communities economically.

However, challenges persist, including the lack of disposal facilities for used menstrual products. The IRC (2024) noted that 80% of girls and women dispose off used pads in latrines, while others resort to bushes or rubbish pits, posing environmental and health risks. The absence of proper disposal mechanisms in schools underscores the need for comprehensive MHM strategies.

To effectively support girls' education, MHM interventions must encompass the provision of sanitary products, education to dispel myths and stigma, and the establishment of appropriate disposal facilities. Such comprehensive approaches are essential for ensuring that menstruation does not hinder girls' educational pursuits.

2.2.3. Cleanliness in Schools and Girl Child Education

The overall cleanliness of school environments significantly impacts students' health and learning experiences, particularly for girls. Unclean classrooms, latrines, and water sources can deter attendance and contribute to the spread of diseases. WaterAid Uganda (2020) emphasized that dirty and smelly latrines discourage usage and contribute to the spread of infections, leading to increased absenteeism among girls.

The lack of regular cleaning schedules and maintenance in schools often results from limited resources and inadequate training of staff. A study by Adong and Oboth (2023) in Northern Uganda highlighted the importance of school hygiene committees and routine cleaning practices in improving the learning environment. Schools that engage students, especially girls, in hygiene promotion activities report better sanitation practices and improved student morale.

Moreover, the involvement of students in maintaining cleanliness fosters a sense of responsibility and ownership. When students participate in cleaning activities, they are more likely to value and uphold hygiene standards, creating a more conducive learning environment. This participatory approach also empowers girls by involving them in decision-making processes related to their health and well-being.

However, challenges such as inadequate funding and lack of cleaning supplies hinder the maintenance of cleanliness in schools. The IRC (2024) reported that many schools lack basic cleaning materials such as squeezers and hard brush, liquid soap and brooms among others, and teachers are often not trained in maintaining hygiene standards. Addressing these issues requires increased investment in school infrastructure and capacity-building for staff.

Ensuring cleanliness in schools is not only vital for health but also for promoting dignity and respect among students. Clean environments reduce the risk of infections, enhance concentration, and encourage regular attendance, particularly for girls who may be more sensitive to unhygienic conditions during menstruation.

2.2.4. Health Education Programs and Girl Child Education

Health education programs play a pivotal role in promoting hygiene practices and addressing issues related to menstruation and sanitation. Comprehensive health education empowers students with knowledge and skills to manage their health effectively. According to the Ministry of Education and Sports (2021), integrating health education into the curriculum is essential for fostering healthy behaviors among students.

Programs that include information on menstrual health, personal hygiene, and sanitation practices help demystify taboos and encourage open discussions. Namubiru and Kaggwa (2023) noted that in schools where girls received structured health education, their school participation and exam performance significantly improved due to reduced absenteeism and health-related barriers. Such education also promotes gender equality by involving both boys and girls in discussions about menstruation and hygiene.

The involvement of trained health personnel and teachers is crucial for the success of health education programs. However, the IRC (2024) reported that only 30 out of 120 teachers had received training in menstrual hygiene management, indicating a significant gap in capacity building. Investing in teacher training ensures that educators can effectively deliver health education and support students' needs.

Community involvement enhances the effectiveness of health education programs. Engaging parents and community leaders in health education initiatives fosters a supportive environment for students and reinforces messages delivered in schools. Such collaboration is vital for challenging cultural norms and promoting sustainable behavior change.

Incorporating health education into school programs is a strategic approach to improving hygiene management and supporting girls' education. By equipping students with knowledge and fostering supportive environments, health education programs contribute to reduced absenteeism, improved academic performance, and enhanced well-being.

2.3. Girl child education

Education is a fundamental human right and a powerful tool for the social, economic, and political empowerment of individuals. In particular, girl child education plays a transformative role in fostering gender equity, reducing poverty, and improving health outcomes in communities (UNESCO, 2021). While global progress has been made in

improving access to education for girls, disparities still exist, especially in developing regions where factors such as poor hygiene, menstruation stigma, cultural norms, and poverty continue to hinder girls' educational attainment. Understanding the dimensions of girl child education specifically attendance, academic performance, completion of study, and participation in school is essential in shaping effective interventions and policies aimed at promoting inclusive and equitable quality education.

2.3.1. Attendance

Globally, inadequate menstrual hygiene management (MHM) significantly impacts girls' school attendance. The United Nations Children's Fund (UNICEF) estimates that 1 in 10 girls in Africa miss school during menstruation due to lack of sanitary products and inadequate facilities (UNICEF, 2021). This absenteeism accumulates over time, leading to substantial learning gaps. The COVID-19 pandemic has exacerbated period poverty, with 47% of people who menstruate struggling to access menstrual products and hygiene facilities, further impacting school attendance among the girl child (Teen Vogue, 2020).

In many African countries, cultural taboos and limited access to MHM resources exacerbate absenteeism. For instance, in rural Gambia, 27% of girls reported missing at least one school day per month due to menstruation-related issues (Shah et al., 2022). Factors such as menstrual pain, fear of stigma, and inadequate sanitation facilities contribute to this trend. In Ghana, a study found that less than half of the schoolgirls changed their absorbent materials three times or more in a day, indicating poor menstrual hygiene practices that can lead to absenteeism (Mohammed, 2020).

Sub-Saharan Africa faces significant challenges in providing adequate WASH (Water, Sanitation, and Hygiene) facilities in schools. A systematic review and meta-analysis revealed that poor menstrual hygiene management is associated with increased school absenteeism among adolescent girls in the region (Sisay et al., 2022). In Ethiopia, 24.68% of students knew a girl who had dropped out of school due to menstruation-related problems, highlighting the impact of inadequate MHM on attendance (Tegegne & Sisay, 2014).

In Tanzania, approximately 50% of schoolgirls miss school during their menstrual periods due to lack of private and clean changing facilities, sanitary pads, or clean water (UNESCO, 2021). This translates to around 60 lost school days annually per student, impacting their academic performance and increasing dropout rates. In Kenya, a study found that sanitary

pad distribution and reproductive health education alone were insufficient to improve girls' school attendance, suggesting the need for comprehensive interventions (Phillips-Howard et al., 2021).

In Uganda, particularly in Amuru District, the lack of proper sanitation facilities has led to high dropout rates among girls. A report by Amref Health Africa (2023) indicated that over 60% of girls registered in lower primary drop out before completing their primary leaving examinations. The absence of changing rooms in 90% of schools forces many girls to stay home during menstruation, contributing to increased absenteeism and eventual dropout. Additionally, a study in Mityana and Kassanda districts found that only 25% of schools had separate washrooms for girls, and none had water and soap in girls' washrooms, further impacting attendance (Monitor, 2023).

2.3.2. Performance

Globally, poor menstrual hygiene management negatively affects girls' academic performance. The stigma and lack of facilities lead to reduced concentration and participation in class, hindering learning outcomes (UNESCO, 2021). In the United States, period poverty has been linked to decreased academic performance among students who menstruate, highlighting the global nature of the issue (Teen Vogue, 2020).

In Africa, the correlation between inadequate MHM and poor academic performance is evident. In rural Gambia, girls reported that menstrual pain and lack of sanitary facilities led to decreased classroom engagement and lower test scores (Shah et al., 2022). In Ethiopia, a study found that 24.68% of students knew a girl who had dropped out of school due to menstruation-related problems, indicating the impact on academic performance (Tegegne & Sisay, 2014).

In Sub-Saharan Africa, the lack of WASH facilities in schools contributes to poor academic performance among girls. A study across six countries found that inadequate sanitation facilities led to increased absenteeism, which in turn affected academic achievement (Freeman et al., 2017). In Zambia, girls missed school due to a lack of access to adequate materials needed to manage menstruation, impacting their performance (Girod et al., 2017).

In Tanzania, the absence of proper sanitation facilities has been linked to poor academic performance among girls. The lack of private changing rooms and sanitary products leads to discomfort and distraction, reducing their ability to focus on studies (UNESCO, 2021). In

Ethiopia, a study found that girls who had good menstrual hygiene management practices were more likely to perform better academically (Belayneh et al., 2019).

In Amuru District, Uganda, the lack of menstrual hygiene facilities has directly impacted girls' academic performance. A report by Amref Health Africa (2023) highlighted that girls missing classes during menstruation led to poor performance and class repetition. The introduction of modern latrines with changing rooms has shown promise in improving attendance and performance. Additionally, a study in Mityana and Kassanda districts found that the lack of information programs targeting menstrual hygiene management perpetuates myths and taboos, negatively impacting girls' academic performance (Monitor, 2023).

2.3.3. Girls' Participation at School

Globally, inadequate menstrual hygiene management (MHM) significantly hampers girls' active participation in school activities. The stigma and lack of facilities lead to reduced involvement in class discussions and extracurricular activities. For instance, in India, half of all girls are unaware of what menstruation is when they first experience it, leading to fear, confusion, and poor menstrual hygiene with potential health consequences, affecting their participation in school (Time, 2017). Moreover, the lack of access to menstrual products and private sanitation facilities in schools contributes to absenteeism and disengagement during menstruation (World Bank, 2022).

In Africa, cultural taboos and limited access to MHM resources exacerbate the challenges girls face in participating fully in school. In rural Gambia, girls reported that menstrual pain and lack of sanitary facilities has led to decreased classroom engagement and participation in school activities (Shah et al., 2022). Similarly, in Malawi, a study showed a significant reduction in the number of girls failing to attend classes due to menstruation from 70% at baseline to 14% at the final evaluation after the introduction of MHM interventions, indicating improved participation (BMC Public Health, 2024).

In Sub-Saharan Africa, the lack of WASH (Water, Sanitation, and Hygiene) facilities in schools contributes to poor participation among girls. A study across six countries found that inadequate sanitation facilities led to increased absenteeism, which in turn affected academic achievement and participation (Freeman et al., 2017). In Zambia, girls missed school due to a lack of access to adequate materials needed to manage menstruation, impacting their ability to participate fully in school activities (Girod et al., 2017).

In East Africa, the absence of proper sanitation facilities has been linked to poor participation among girls. In Tanzania, approximately 50% of schoolgirls miss school during their menstrual periods due to lack of private and clean changing facilities, sanitary pads, or clean water, affecting their participation in school activities (UNESCO, 2021). In Ethiopia, a study found that girls who had good menstrual hygiene management practices were more likely to participate actively in school (Belayneh et al., 2019).

In Uganda, particularly in Amuru District, the lack of proper sanitation facilities has led to reduced participation among girls. A report by Amref Health Africa (2023) indicated that over 60% of girls registered in lower primary drop out before completing their primary leaving examinations, partly due to inadequate MHM facilities affecting their participation. Additionally, a study in the Rukungiri district found that 61.7% of girls reported missing school each month for menstrual-related reasons, highlighting the impact on their participation in school activities (PubMed, 2015).

2.4 Literature Gap and Justification of the Study

Despite the increasing recognition of the role hygiene management plays in supporting girl child education globally, existing literature reveals several significant gaps that underscore the need for this study, particularly in the context of rural districts like Amuru in Northern Uganda.

Firstly, limited context-specific research exists for Northern Uganda, especially Amuru District, where cultural practices, post-conflict recovery, and infrastructural inadequacies create a unique set of challenges. While several studies have been conducted in urban settings or better-resourced districts of Uganda (e.g., Kampala, Mukono, and Rukungiri) to examine menstrual hygiene management (MHM) and its effect on school attendance, performance, and participation, there is little empirical data which focused on rural, underserved areas like Amuru (UNICEF Uganda, 2022; PubMed, 2015). This geographical research gap limits the generalizability of current findings and hinders the development of targeted interventions.

Secondly, the majority of existing studies focus singularly on menstrual hygiene, often overlooking other crucial aspects of hygiene management such as access to sanitation facilities, overall school cleanliness, and the implementation of school-based health education programs. These components are interrelated and jointly influence the educational experience and participation of girls in school. An integrated approach that examines hygiene

management holistically is thus missing in the literature and is necessary for policy and intervention design (Sommer et al., 2021; World Bank, 2022).

Thirdly, there is inadequate longitudinal or impact-based research linking hygiene interventions to educational outcomes such as academic performance, retention, and completion of studies. While cross-sectional studies highlight attendance as a common indicator, the long-term implications on learning achievement and dropout rates remain underexplored, especially in the Sub-Saharan African and East African contexts (UNESCO, 2021; BMC Public Health, 2023). The absence of such comprehensive evaluations makes it difficult for stakeholders to understand the depth of hygiene-related educational barriers and to allocate resources effectively.

Fourth, socio-cultural barriers and gender norms remain under-investigated**,** particularly how they mediate the relationship between hygiene practices and educational outcomes. In rural Ugandan settings, for instance, taboos around menstruation, lack of parental support, and shame associated with poor hygiene practices can discourage girls from active school participation (Shah et al., 2022; Girod et al., 2017). These social factors, though crucial, are often marginalized in quantitative research, highlighting a gap for more nuanced, qualitative, or mixed-methods investigations.

Lastly, there is a lack of policy-relevant evidence tailored to school administrators and local government leaders who play a vital role in implementing hygiene-related programs at the community level. Without data that is local, actionable, and specific to school conditions in Amuru, stakeholders cannot adequately address the hygiene needs of girls in school, nor can they advocate for sustainable water, sanitation, and hygiene (WASH) interventions in education plans.

Conclusively, this study sought to fill these critical gaps by generating empirical evidence from Amuru District on how various components of hygiene management like sanitation facilities, menstrual hygiene, school cleanliness, and health education impact key educational indicators for girls, including attendance, performance, and Girls' participation. By addressing this gap, the study aimed to inform evidence-based policy, enhance gender-responsive school environments, and ultimately contribute to the improvement of girl child education in Uganda and similar settings

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presents the methodology used in the study. It includes the research approach, research design, study population, sampling strategies, data collection methods and instruments, data quality control, research procedure, and data analysis techniques employed.

3.1 Research Approach

The study adopted a mixed-methods research approach, combining quantitative and qualitative approaches within one study. The quantitative component generated numerical information concerning hygiene management and girl child education, while the qualitative component provided detailed explanations of respondents' experiences, practices and challenges. Creswell and Creswell (2018) explain that mixed methods allow researchers to combine numerical and narrative evidence to obtain a more comprehensive understanding of a research problem. Creswell and Plano Clark (2018) further observe that the approach is appropriate where one form of evidence alone may not adequately explain the phenomenon under investigation.

The quantitative approach was used to measure WASH facilities, menstrual hygiene management, school hygiene management practices and indicators of girl child education, while the qualitative approach explored how and why these conditions influenced girls' educational experiences. The use of both approaches enabled the researcher to compare measurable patterns with explanations obtained from key informants. Bryman (2016) notes that qualitative evidence can provide explanations for patterns identified through quantitative research, while Saunders et al. (2019) emphasise the value of combining methods where a research problem has both measurable and experiential dimensions.

3.2 Research Design

The study adopted a convergent parallel mixed-methods design within a cross-sectional study. Quantitative and qualitative data were collected during the same general period, analysed separately and subsequently integrated during interpretation. Creswell and Plano Clark (2018) explain that a convergent design allows researchers to collect different forms of data independently and compare the findings to establish areas of agreement,

complementarity or divergence. The cross-sectional element was appropriate because information was collected from respondents during a defined period rather than following the same respondents over several years.

The quantitative strand used a cross-sectional survey to obtain measurable information from teachers and female students, while the qualitative strand used semi-structured interviews to obtain detailed information from the District Inspector of Schools, head teachers and senior female teachers. The design was therefore not simply a cross-sectional survey; it incorporated both quantitative and qualitative strands. Creswell and Creswell (2018) note that cross-sectional designs are useful for describing existing conditions, while Bryman (2016) observed that qualitative interviews provided deeper understanding of participants' experiences. The two strands were integrated during interpretation to provide a fuller understanding of hygiene management and girl child education.

3.3 Study Population

The study population comprised respondents from 12 secondary schools in Amuru District and the District Inspector of Schools. The population included 12 head teachers, 220 teachers, 12 senior female teachers and 2,126 female secondary school students, together with one District Inspector of Schools. The total target population was therefore 2,371 respondents. The different categories were included because they had different responsibilities and experiences concerning hygiene management and girl child education.

The District Inspector of Schools provided district-level information on inspection and education standards, while head teachers provided information concerning school administration, resource allocation and implementation of school programmes. Senior female teachers were included because of their direct involvement in girls' welfare and menstrual-related concerns. Teachers provided information on school-level practices, while female students provided firsthand information about WASH facilities, menstrual hygiene management, participation, attendance, retention and academic experiences.

3.4 Sampling Frame

The sampling frame consisted of the lists of eligible respondents obtained from Amuru District education records and the administrative records of the participating secondary schools. For teachers, the sampling frame contained the names of 220 teachers, while the student sampling frame contained the names or registration numbers of 2,126 female

students. Separate lists were maintained for the District Inspector of Schools, head teachers and senior female teachers because these categories were selected purposively.

The sampling frame provided the basis for selecting respondents systematically and reduced the possibility of including people outside the defined study population. Taherdoost (2016) explains that a sampling frame provides an identifiable list of population members from which a sample can be selected. The researcher verified the lists with school authorities before sampling and assigned identification numbers to teachers and students so that the required respondents could be selected through a transparent random procedure.

3.5 Sample Size Determination

The study used the Krejcie and Morgan (1970) sample size approach to determine the required sample from the defined population. The final sample consisted of 376 respondents, comprising one District Inspector of Schools, 12 head teachers, 36 teachers, 12 senior female teachers and 327 female students. The entire populations of the District Inspector of Schools, head teachers and senior female teachers were included because these categories were small and consisted of respondents with specific knowledge relevant to the study.

For the larger categories, the sample was selected from the established sampling frame using simple random sampling. The 36 teachers were therefore selected from the population of 220 teachers through a random procedure, while the 327 female students were selected from the population of 2,126 students. This distinction is important because the selection of 36 teachers was not based on convenience or personal judgement; it was a probability-based selection from the identified sampling frame

Table 1: Sampling Frame

Category	Population	Sample	Sampling Techniques
1. District Inspector of schools	01	01	Purposive
2. Headteachers	12	12	Purposive
3. Teachers	220	36	Simple Random
4. Senior Female Teachers	12	12	Purposive
5. Secondary school Girls	2126	327	Simple Random
Total	2,371	376	

Source; Amuru District office statistics,2024

3.4.1 Sampling Techniques

The study employed both purposive and simple random sampling techniques to select respondents. Purposive sampling was used because it enables the researcher to select respondents who possess specific knowledge, experience, or characteristics relevant to the study (Chawla & Sondhi, 2018). This technique was considered appropriate for obtaining rich and detailed information from key informants who were directly involved in matters concerning hygiene management and girl child education.

The District Inspector of Schools was selected purposively because of they have responsibility for school inspection, monitoring compliance with hygiene and health standards, and maintaining inspection reports. Their position enabled them to provide comprehensive information regarding the status of hygiene management practices across secondary schools in Amuru District and identify areas requiring improvement.

Head teachers were also selected using purposive sampling because they are the chief administrators of schools and are responsible for policy implementation, resource allocation, and management of school programmes. Their views were considered important in understanding the existing hygiene management practices, challenges faced by schools, and interventions that could be implemented to support girl child education.

Senior Female Teachers were purposively selected because they are directly responsible for the welfare of girls in schools. They provide guidance and counselling services, support girls during menstruation, and address challenges related to personal hygiene and school participation. Their experiences and interactions with female students provided valuable insights into the relationship between hygiene management and girl child education.

Simple random sampling was used to select teachers and girl students. According to Chawla and Sondhi (2018), simple random sampling gives every member of the target population an equal chance of being selected, thereby minimizing selection bias and enhancing representativeness. This technique was considered appropriate because the study required views from a broad range of teachers and female students.

Teachers were selected using simple random sampling because they play an important role in implementing school programmes and delivering health and hygiene-related content through

teaching and guidance activities. Their participation enabled the researcher to obtain information regarding school hygiene practices, learner behaviour, and the integration of hygiene-related issues within the school environment.

Girl students were selected using simple random sampling because they were the primary beneficiaries and directly experienced the effects of hygiene management practices in schools. Their participation provided firsthand information regarding access to sanitation facilities, menstrual hygiene management, attendance, participation, and academic performance. Since girls are among the groups most affected by hygiene-related challenges in educational settings, their views were essential in achieving the study objectives.

3.5 Data Collection Methods and Instruments

The study utilized multiple data collection methods to enhance the validity, reliability, and comprehensiveness of the findings. The use of both quantitative and qualitative methods enabled the researcher to obtain detailed information regarding hygiene management practices and girl child education from different categories of respondents.

3.5.1 Questionnaire Survey

Structured self-administered questionnaires were used to collect quantitative data from girl students. According to Bell et al. (2022), questionnaires are effective tools for collecting standardized information from a large number of respondents within a relatively short period of time. The questionnaire contained both closed-ended and open-ended questions to generate quantitative data for statistical analysis and qualitative information for additional explanation of the findings.

The questionnaire was selected because it enabled the researcher to reach many respondents efficiently and economically. It also provided respondents with adequate time to read, understand, and answer questions honestly, thereby reducing interviewer bias and increasing the likelihood of obtaining reliable data on hygiene management practices and girl child education.

3.5.2 Interviews

Semi-structured interviews were conducted with the District Inspector of Schools, head teachers, senior female teachers, and teachers. According to Bryman and Bell (2020), interviews allow researchers to obtain detailed information, clarification, and in-depth explanations from respondents regarding the subject under investigation.

The interview method was used because it facilitated face-to-face interaction between the researcher and respondents, allowing for probing and follow-up questions. This enabled the researcher to gain deeper insights into hygiene management practices, challenges faced by schools, and their influence on girl child education, which could not easily be captured through questionnaires alone.

3.6 Data Quality Control

3.6.1 Validity of Research Instruments

Validity refers to the extent to which a research instrument measures what it is intended to measure (Mugenda & Mugenda, 2019). To ensure validity, the study focused on content validity and face validity.

Content validity was ensured by developing questionnaire items directly from the study objectives and variables identified in the literature. The questionnaire covered key dimensions of hygiene management, including sanitation facilities, menstrual hygiene management, school cleanliness, and health education programmes, as well as dimensions of girl child education such as attendance, participation, and academic performance. This ensured that all relevant aspects of the study variables were adequately represented.

To further establish content validity, the research instruments were submitted to experts in education administration, including university lecturers, research supervisors, and experienced education officers. These experts reviewed the instruments for relevance, clarity, and comprehensiveness. Their comments and recommendations were incorporated into the final version of the questionnaire to improve its quality.

3.6.2 Reliability of Research Instruments

Reliability refers to the consistency and stability of a research instrument in measuring study variables over time (Mugenda & Mugenda, 2019). To establish reliability, the researcher used the internal consistency approach through Cronbach's Alpha coefficient.

A pilot study was conducted among a sample of girls drawn from secondary schools outside the study area. The responses obtained were entered into the Statistical Package for Social Sciences (SPSS) version 27 and analyzed to determine the Cronbach's Alpha values for each section of the questionnaire.

According to Nunnally and Bernstein (1994), a Cronbach's Alpha coefficient of 0.70 or above is acceptable for social science research. Therefore, questionnaire items that yielded values below the recommended threshold were reviewed, modified, and re-tested to improve reliability. This process ensured that the research instruments generated consistent and dependable data.

Table 2: Reliability Results of the Research Instrument

Variable	Dimensions	Number of Items	Cronbach's Alpha
Hygiene Management Practices	Sanitation Facilities	5	0.811
	Menstrual Hygiene Management	4	0.842
	Cleanliness in School	5	0.798
	Health Education Programmes	3	0.774
Girl Child Education	Attendance	5	0.827
	Academic Performance	5	0.853
	Girls' Participation at School	5	0.816
Moderating Factors	Cultural Taboos	4	0.761
	Availability of Resources	4	0.835
	Parental Attitudes towards Girl Child Education	4	0.787
	Government Policy	4	0.806
Overall Reliability Index		**48**	**0.814**

Source: Pilot Study Data (2026)

The findings in Table 2 indicate that all study variables registered Cronbach's Alpha coefficients above the recommended threshold of 0.70. Hygiene management practices recorded reliability coefficients ranging from 0.774 to 0.842, while girl child education dimensions ranged from 0.816 to 0.853. The moderating factors also demonstrated satisfactory reliability coefficients ranging from 0.761 to 0.835. The overall reliability coefficient of 0.814 indicates that the research instrument possessed high internal consistency and was therefore considered reliable for collecting data on hygiene management practices and girl child education in secondary schools in Amuru District.

3.7 Research Procedure

Upon approval of the research proposal by the university, the researcher obtained an introductory letter from Gulu University. The letter was presented to the Chief Administrative Officer, District Education Officer, and relevant authorities in Amuru District to seek permission to conduct the study in selected secondary schools.

After obtaining permission, research assistants were recruited and trained on the objectives of the study, ethical considerations, and data collection procedures. The researcher then visited the selected schools to administer questionnaires and conduct interviews with the respective respondents.

Completed questionnaires and interview responses were checked for completeness, accuracy, and consistency before analysis. The collected data were coded, entered into SPSS version 27 for analysis, and later presented using tables, frequencies, percentages, means, correlations, and regression outputs.

3.8 Data Analysis

3.8.1 Quantitative Data Analysis

Quantitative data were analyzed using the Statistical Package for Social Sciences (SPSS) version 27. Univariate analysis was conducted using frequencies, percentages, means, and standard deviations to summarize respondents' characteristics and study variables.

Bivariate analysis was conducted using Pearson's Product Moment Correlation Coefficient to determine the strength and direction of the relationship between hygiene management

practices and girl child education. This technique was appropriate because it measures associations between continuous variables.

Multivariate analysis was conducted using linear regression analysis to determine the extent to which sanitation facilities, menstrual hygiene management, school cleanliness, and health education programmes influenced girl child education. Regression analysis enabled the researcher to assess the predictive power of the independent variables on the dependent variable and establish their relative contribution to educational outcomes among girls (Mertler & Reinhart, 2021).

3.8.2 Qualitative Data Analysis

Qualitative data obtained from interviews were analyzed using thematic analysis. According to Braun and Clarke (2022), thematic analysis involves identifying, organizing, and interpreting patterns or themes within qualitative data.

The researcher transcribed interview responses, reviewed the transcripts repeatedly, and coded similar responses into categories. Related categories were then grouped into broader themes based on the study objectives. The identified themes were interpreted and compared with quantitative findings to provide a comprehensive understanding of hygiene management practices and their influence on girl child education in secondary schools within Amuru District.

3.9 Study Limitations and Delimitations

The study encountered several limitations that had the potential to affect the research process and findings. One of the major limitations was logistical constraints, including transportation costs, limited financial resources, and difficulties in coordinating appointments with respondents. These challenges had the potential to delay data collection and affect access to some respondents. However, the researcher minimized these challenges through proper planning, budgeting, and scheduling of data collection activities in advance, as recommended by Whittington (2020).

The study was geographically delimited to selected secondary schools in Amuru District, Northern Uganda. While this enabled an in-depth investigation of the relationship between hygiene management and girl child education within the district, the findings may not be

fully generalizable to other districts or regions with different socio-economic, cultural, and environmental conditions. To minimize this limitation, the researcher selected respondents from different schools across the district using appropriate sampling techniques to ensure adequate representation of the study population.

Another limitation related to the demographic scope of the study. The study focused mainly on girls, teachers, senior female teachers, head teachers, and the District Inspector of Schools. Consequently, the findings may not fully reflect the perspectives of other stakeholders such as parents, community leaders, and policymakers who also influence hygiene management and girl child education. Nevertheless, the selected respondents were considered appropriate because they possessed the information required to address the study objectives.

The study was also susceptible to response bias because some respondents might have provided socially desirable answers rather than their actual experiences and opinions. To address this challenge, respondents were assured of confidentiality and anonymity, and they were encouraged to provide honest responses. The researcher further triangulated data collected through questionnaires and interviews to improve the credibility of the findings.

The time available for conducting the study also posed a limitation. Collecting, processing, and analyzing data from multiple respondents required considerable time and effort. However, the researcher developed a detailed work plan and utilized Statistical Package for Social Sciences (SPSS) version 27 to facilitate efficient data management and analysis. Despite these limitations, the researcher took appropriate measures to ensure that the findings remained reliable, valid, and useful for achieving the objectives of the study.

3.10 Ethical Considerations

Ethical considerations were observed throughout the study to ensure the protection of respondents' rights, dignity, and welfare. Before data collection commenced, the researcher obtained an introductory letter from Gulu University and sought permission from the relevant authorities, including the Chief Administrative Officer, District Education Officer, and school administrators in Amuru District. This ensured that the study was conducted within approved institutional and administrative frameworks.

Informed consent was obtained from all respondents before their participation in the study. The researcher clearly explained the purpose of the study, procedures involved, expected duration, and the voluntary nature of participation. Respondents were informed that they had the right to withdraw from the study at any stage without facing any negative consequences. This was done in accordance with ethical principles of respect for persons and voluntary participation (Denscombe, 2014).

Confidentiality and anonymity were strictly maintained throughout the study. Respondents were not required to provide their names on questionnaires, and information obtained during interviews was treated with the highest level of confidentiality. Codes were used instead of personal identifiers during data analysis and reporting to protect respondents from possible identification.

The researcher ensured that no physical, psychological, social, or emotional harm was caused to participants during the study. Interviews were conducted in environments convenient and comfortable to respondents, and participants were treated with respect and courtesy throughout the research process. The principles of beneficence and non-maleficence were observed by ensuring that the study posed minimal risk to participants while contributing valuable knowledge to the field of education and hygiene management.

All data collected during the study were securely stored and accessed only by the researcher. Hard-copy documents were kept under lock and key, while electronic data were protected using passwords. Upon completion of the study, the findings were reported honestly and objectively without falsification, fabrication, or misrepresentation of information. This ensured the integrity, credibility, and trustworthiness of the research findings.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

4.0 Introduction

This chapter presents, analyzes, and interprets the findings of on the relationship between hygiene management and girl child education in secondary schools in Amuru District. The findings are presented in line with the study objectives and provide empirical evidence on the influence of hygiene management practices on girl child education.

The chapter begins with the demographic characteristics of respondents, followed by an analysis of hygiene management practices in secondary schools. It further presents findings on the level of girl child education and examines the relationship between hygiene management practices and girl child education.

4.1 Response Rate

The study targeted a total of 327 respondents from selected secondary schools in Amuru District. However, only 201 respondents successfully participated in the study and provided complete responses. The response rate achieved was considered adequate for analysis and interpretation of the study findings.

Table 3: Response Rate of Respondents

Category	Frequency	Percentage (%)
Responded	201	61.5
Did Not Respond	126	38.5
Total	**327**	**100.0**

Source: Primary Data (2026)

The findings presented in Table 2 indicate that out of the targeted 327 respondents, 201 participated in the study, representing a response rate of 201 (61.5%), while 126 respondents did not participate, representing 38.5%. According to Mugenda and Mugenda (2019), a response rate above 50% is adequate for analysis and reporting, while a response rate of 60% and above is considered good. Therefore, the response rate obtained was sufficient to provide

reliable data for the study and to support meaningful analysis and interpretation of the findings.

4.2 Demographic Characteristics of Respondents

This section presents the demographic characteristics of respondents including age bracket, class level, residence status, religion, and living arrangements.

Table 4: Demographic Characteristics of Respondents (N = 201)

Characteristic	Category	Frequency	Percentage (%)
Age Bracket	12–14 Years	30	14.9
	15–17 Years	122	60.7
	18–20 Years	38	18.9
	21 Years and Above	11	5.5
	Total	**201**	**100.0**
Class	S1	44	21.9
	S2	38	18.9
	S3	34	16.9
	S4	64	31.8
	S5	15	7.5
	S6	6	3.0
	Total	**201**	**100.0**
Residence	Boarding	177	88.1
	Day	24	11.9
	Total	**201**	**100.0**
Religion	Catholic	56	27.9
	Protestant	37	18.4
	PAG	100	49.8
	Muslim	5	2.5
	Others	3	1.5
	Total	**201**	**100.0**
Living with Parents	Both Parents	125	62.2
	Single Parent	6	3.0
	Guardian	70	34.8
	Total	**201**	**100.0**

Source: Primary Data (2026)

The findings in Table 3 show that the majority of respondents 122(60.7%) were aged between 15 and 17 years, followed by those aged 18–20 years 38 (18.9%). Respondents aged

12–14 years accounted for 30(14.9%), while only 11(5.5%) were aged 21 years and above. This indicates that most participants were within the normal secondary school-going age range. As such, they were well positioned to provide relevant information regarding hygiene management practices and their influence on girl child education in secondary schools within Amuru District.

With regard to class level, the largest proportions of respondents (31.8%) were in Senior Four, followed by Senior One 44 (21.9%), Senior Two 38 (18.9%), and Senior Three 34(16.9%). Senior Five and Senior Six accounted for 15(7.5%) and 6(3.0%) respectively. The representation of students from different class levels suggests that the study captured views and experiences from learners at various stages of secondary education, thereby providing a broader understanding of hygiene management issues affecting girls in school.

The findings further reveal that the majority of respondents (88.1%) were boarding students, while only 11.9% were day scholars. This implies that most respondents spent a significant amount of time within the school environment and interacted regularly with the available hygiene facilities and services. Consequently, they were more likely to provide informed opinions on the adequacy and effectiveness of hygiene management practices implemented within their schools.

Regarding religious affiliation, nearly half of the respondents 30(49.8%) belonged to Pentecostal churches (PAG), followed by Catholics 56(27.9%) and Protestants 29(18.4%). Muslims constituted 5(2.5%) of the respondents, while 3(1.5%) belonged to other religious groups. The diversity in religious backgrounds suggests that the study drew participants from different faith communities, thereby enhancing the inclusiveness of the findings and reducing the likelihood of bias associated with a single religious perspective.

The results also indicate that the majority of respondents 125 (62.2%) lived with both parents, while 34.8% lived with guardians and only 6(3.0%) lived with a single parent. These findings suggest that most learners had access to family support systems that may contribute positively to their educational participation and wellbeing. Family support is often important in ensuring school attendance, provision of personal hygiene materials, and emotional encouragement, all of which can influence the educational experiences and performance of the girl child.

4.3 Hygiene Management Practices in Secondary Schools in Amuru District

The first objective of the study sought to explore hygiene management practices in secondary schools in Amuru District. The findings were categorized into sanitation facilities, menstrual hygiene management, cleanliness in school, and health education programs.

Table 5: Sanitation Facilities in Secondary Schools (N = 201)

Item	Response Category	Frequency	Percentage (%)
My school has enough toilet facilities for girls	No	107	53.2
	Yes	94	46.8
	Total	**201**	**100.0**
The toilets in my school are clean and regularly maintained	Never	5	2.5
	Rarely	32	15.9
	Sometimes	113	56.2
	Always	51	25.4
	Total	**201**	**100.0**
The toilets provide adequate privacy for girls	No	76	37.8
	Yes	125	62.2
	Total	**201**	**100.0**
There are handwashing facilities near the toilets in my school	No	150	74.6
	Yes	51	25.4
	Total	**201**	**100.0**
I have access to water throughout the school day	No	63	31.3
	Yes	138	68.7
	Total	**201**	**100.0**

Source: Primary Data (2026)

The findings indicate that more than half of the respondents107 (53.2%) reported that their schools did not have enough toilet facilities for girls, while only 94(46.8%) indicated that the available facilities were adequate. This finding suggests that toilet inadequacy remains a significant challenge in many secondary schools within Amuru District. Inadequate toilet facilities often result in overcrowding, long waiting times, and reduced convenience for learners. For female students, particularly those experiencing menstruation, insufficient

sanitation facilities may contribute to discomfort, absenteeism, and reduced participation in school activities.

The results further reveal that 113(56.2%) of respondents reported that toilets were only sometimes cleaned and maintained, while 51(25.4%) indicated that they were always cleaned and maintained. However, 32(15.9%) and 5(2.5%) reported that toilets were rarely and never maintained respectively. These findings indicate that although some schools have effective sanitation management practices, maintenance remains inconsistent across many institutions. Poorly maintained toilets may create unhygienic conditions, unpleasant odors, and increased risks of disease transmission, thereby negatively affecting learners' health and overall school experience.

The study also established that 125(62.2%) of respondents reported that toilet facilities provided adequate privacy for girls, while 76(37.8%) indicated that privacy was insufficient. Although the majority of respondents were satisfied with the level of privacy provided, the proportion reporting inadequate privacy is still considerable. Privacy is particularly important for adolescent girls, especially during menstruation, as it promotes dignity, confidence, and comfort while using sanitation facilities. Lack of privacy may discourage girls from using school toilets regularly and may negatively affect their attendance and concentration in class.

The findings further indicate that 150(74.6%) of respondents reported that there were no handwashing facilities near the toilets, while only 51(25.4%) confirmed their availability. This represents a major hygiene concern because handwashing is an essential practice for preventing the spread of communicable diseases and maintaining personal hygiene. The absence of handwashing facilities may expose learners to health risks and undermine efforts aimed at promoting proper sanitation practices within schools. This finding highlights the need for schools to invest in adequate handwashing infrastructure alongside toilet facilities.

The results also show that 138(68.7%) of respondents had access to water throughout the school day, while 63(31.3%) reported a lack of reliable access to water. Although the majority of learners had access to water, the proportion without access remains substantial and may affect hygiene practices such as handwashing, toilet cleaning, and menstrual hygiene management. Taken together, the findings suggest that while some schools have made progress in providing basic sanitation services, significant gaps remain in terms of toilet adequacy, maintenance, handwashing facilities, and water access. Addressing these

challenges is essential for creating a safe, healthy, and supportive learning environment for girls in secondary schools within Amuru District.

Table 6: Menstrual Hygiene Management in Secondary Schools (N = 201)

S/No.	Item	Response Category	Frequency	Percentage (%)
1.	My school provides sanitary pads or other menstrual hygiene materials for girls	No	142	70.6
		Yes	59	29.4
		Total	**201**	**100.0**
2.	A changing room is available for girls to use during menstruation	Never	168	83.6
		Rarely	33	16.4
		Total	**201**	**100.0**
3.	I miss school during my menstrual period	No	172	85.6
		Yes	29	14.4
		Total	**201**	**100.0**
4.	I am comfortable managing my menstruation while at school	No	52	25.9
		Yes	149	74.1
		Total	**201**	**100.0**

Source: Primary Data (2026)

The findings reveal that a large majority of respondents 142(70.6%) reported that their schools did not provide sanitary pads or other menstrual hygiene materials, while only 59 (29.4%) indicated that such support was available. This suggests that access to menstrual hygiene materials remains limited in many secondary schools within Amuru District. The lack of sanitary products may place a financial burden on learners and their families and may make it difficult for some girls to manage menstruation effectively while at school. As a result, girls may experience discomfort, anxiety, and reduced participation in academic and co-curricular activities.

The results further indicate that 168(83.6%) of respondents reported that changing rooms for girls during menstruation were never available, while 33(16.4%) stated that they were rarely available. The absence of changing rooms represents a significant gap in menstrual hygiene infrastructure and limits girls' ability to manage menstruation with dignity and privacy. Without appropriate facilities, girls may feel embarrassed or uncomfortable while at school,

particularly during menstruation. This situation may discourage some learners from fully participating in school activities and may negatively affect their overall learning experience.

The study also found that 29(14.4%) of respondents reported missing school during their menstrual periods, while 172(85.6%) indicated that they did not. Although the proportion of girls who miss school appears relatively low compared to other findings, it still represents a considerable number of learners whose education is interrupted on a regular basis. Repeated absenteeism during menstruation may lead to missed lessons, reduced academic performance, and difficulties in keeping pace with classroom activities. This finding demonstrates that menstrual hygiene challenges continue to affect the educational experiences of some girls within the study area.

The findings further show that 149(74.1%) of respondents reported being comfortable managing menstruation while at school, while 52(25.9%) indicated that they were not comfortable. The relatively high proportion of respondents reporting comfort may suggest that some girls have developed coping mechanisms or receive support from peers, teachers, or family members. However, the fact that more than one-quarter of the respondents were uncomfortable managing menstruation at school remains a concern, particularly given the reported lack of sanitary materials and changing facilities.

Generally, the findings suggest that menstrual hygiene management remains inadequate in many secondary schools in Amuru District. The limited provision of sanitary materials, absence of changing rooms, and the continued occurrence of menstruation-related absenteeism indicate that important gaps still exist in supporting girls' menstrual health needs. Addressing these challenges through the provision of menstrual hygiene materials, establishment of changing facilities, and strengthening of school-based support systems would contribute significantly to improving girls' wellbeing, school attendance, and educational participation.

Table 7: Cleanliness in Secondary Schools (N = 201)

S/No.	Item	Response Category	Frequency	Percentage (%)
1.	The general environment of my school is clean	Very Dirty	153	76.1
		Dirty	48	23.9
		Total	**201**	**100.0**
2.	Students are actively involved in cleaning the school environment	No	2	1.0
		Yes	199	99.0
		Total	**201**	**100.0**
3.	There are adequate garbage bins in the school compound	No	84	41.8
		Yes	117	58.2
		Total	**201**	**100.0**
4.	Waste is properly collected and disposed of within the school compound	No	56	27.9
		Yes	145	72.1
		Total	**201**	**100.0**
5.	The cleanliness of the school environment promotes a healthy learning atmosphere	No	53	26.4
		Yes	148	73.6
		Total	**201**	**100.0**

Source: Primary Data (2026)

The findings indicate that a majority of respondents 153 (76.1%) rated the general environment of their schools as very dirty, while 48(23.9%) rated it as dirty. Surprisingly, none of the respondents described their school environment as clean or very clean. These findings suggest that environmental cleanliness remains a major challenge in many secondary schools within Amuru District. Poor environmental sanitation may negatively affect learners' health, comfort, and concentration, thereby limiting the creation of a conducive learning environment.

The study further found that an overwhelming majority of respondents 199 (99.0%) reported that students actively participated in cleaning the school environment, while only 2(1.0%) indicated otherwise. This demonstrates that schools strongly encourage learner involvement in sanitation and environmental management activities. The high level of student participation suggests that learners are aware of their responsibility in maintaining cleanliness within their schools. However, despite this active involvement, the poor ratings of overall

cleanliness indicate that student efforts alone may not be sufficient to address existing sanitation challenges.

The findings also reveal that 117(58.2%) of respondents reported that adequate garbage bins were available within school compounds, while 84(41.8%) indicated that such facilities were inadequate or unavailable. Although the majority acknowledged the presence of garbage bins, the relatively large proportion reporting inadequacy suggests that waste disposal infrastructure remains insufficient in some schools. Limited availability of garbage bins may contribute to improper waste disposal practices, leading to environmental pollution and poor sanitation conditions within school compounds.

The results further show that 145(72.1%) of respondents reported that waste was properly collected and disposed of within their schools, while 56(27.9%) disagreed. This indicates that waste management practices are relatively effective in many schools despite concerns regarding the overall cleanliness of the environment. Proper waste collection and disposal are important components of school sanitation because they help prevent the accumulation of waste and reduce health risks associated with poor environmental hygiene. However, the proportion of respondents reporting poor waste management suggests that improvements are still needed in some schools.

Overall, 148(73.6%) of respondents agreed that school cleanliness promotes a healthy learning atmosphere, while 53(26.4%) disagreed. This demonstrates that learners recognize the importance of a clean environment in supporting health, comfort, and academic performance. Nevertheless, the fact that a majority of respondents described their school environments as dirty or very dirty indicates a contradiction between the perceived importance of cleanliness and the actual sanitation conditions experienced within schools. These findings highlight the need for increased investment in environmental sanitation, waste management infrastructure, and school hygiene programs to create healthier and more conducive learning environments for girls in secondary schools within Amuru District.

Table 8: Health Education Programs in Secondary Schools (N = 201)

S/No.	Item	Response Category	Frequency	Percentage (%)
1.	I have attended a health education talk at school about hygiene or menstruation	No	72	35.8
2.		Yes	129	64.2
3.		**Total**	**201**	**100.0**
4.	Health education programs are conducted regularly in my school	Weekly	185	92.0
5.		Monthly	16	8.0
6.		**Total**	**201**	**100.0**
7.	Teachers are involved in providing health education programs in my school	Not at all	1	0.5
		Weekly	26	12.9
		Monthly	131	65.2
		Termly	43	21.4
		Total	**201**	**100.0**

Source: Primary Data (2026)

The findings indicate that 129(64.2%) of respondents had attended health education talks related to hygiene or menstruation, while 72(35.8%) reported that they had never attended such programs. This suggests that health education initiatives are present in many secondary schools within Amuru District and are reaching a considerable proportion of learners. However, the fact that more than one-third of the respondents had never participated in such programs indicates that access to health education remains uneven across schools. This may limit some learners' knowledge and awareness of important hygiene and menstrual health practices.

The results further reveal that 185(92.0%) of respondents reported that health education programs were conducted on a weekly basis, while only 16(8.0%) indicated that they were conducted monthly. These findings suggest that schools place significant emphasis on providing learners with regular health-related information and guidance. Frequent health education sessions may contribute to increased awareness of personal hygiene, reproductive health, disease prevention, and menstrual management among students. Such knowledge is particularly important for girls as they navigate adolescence and educational challenges.

The study also found that teachers play a significant role in delivering health education programs within schools. The majority of respondents 131(65.2%) indicated that teachers

provided health education on a monthly basis, while 43(21.4%) reported that such activities were conducted termly. Only a small proportion of respondents reported limited teacher involvement. These findings highlight the central role of teachers in promoting hygiene awareness and supporting learners with health-related information and guidance.

The findings further suggest that schools rely heavily on teachers as the primary source of health education information. This demonstrates the important contribution teachers make in shaping learners' attitudes and behaviors regarding hygiene and health. Through classroom instruction, guidance sessions, and health talks, teachers are able to influence positive practices among students and provide support on issues affecting their wellbeing. Their continued involvement is therefore essential in promoting healthy lifestyles and improving educational outcomes.

Overall, the findings indicate that health education programs are relatively common in secondary schools within Amuru District and constitute an important component of school hygiene management. Regular health talks and the active involvement of teachers provide learners with valuable knowledge on hygiene practices, menstrual health, and disease prevention. Such programs have the potential to improve students' health behaviors, enhance confidence in managing personal hygiene, and support girl child education by creating a healthier and more informed school population.

4.3.1 Qualitative Findings

Theme 1: Availability and Adequacy of WASH Facilities

The qualitative findings corroborated the quantitative results by providing detailed experiences regarding the availability and adequacy of WASH facilities in secondary schools in Amuru District. The respondents mentioned toilets, handwashing facilities, water, bathing rooms, rubbish pits, drying racks and other sanitation facilities. However, the findings also showed that the existence of these facilities did not always mean that they were adequate, clean, private or accessible to all learners. In some schools, the number of facilities was limited, while in others, water supply and cleanliness remained challenges. These conditions are important to girl child education because the quality of the school hygiene environment can influence girls' comfort, concentration, attendance and participation.

Respondent 1b explained, *"The hygiene supplies are all inadequate in the schools I have visited though the few available like the toilets are gender segregated."* The respondent's statement reveals an important distinction between the availability and adequacy of WASH facilities. Although gender-segregated toilets were available in some schools, the wider range of hygiene supplies was considered insufficient. Separate toilets are important because they provide girls with privacy and can make them more comfortable when attending to personal hygiene needs. However, the respondent's observation suggests that the provision of separate toilets alone cannot guarantee an adequate hygiene environment. Girls also require water, cleaning materials, menstrual hygiene materials and other supporting supplies to use the facilities effectively.

Respondent 2 (Head Teacher 1) reported, *"hand washing facilities, latrines and bathing rooms."* The response identifies three important components of the school's hygiene infrastructure. Handwashing facilities can support routine hygiene practices, latrines provide sanitation services and bathing rooms can provide an additional space for personal hygiene. The availability of these facilities can make the school environment more supportive for girls, particularly where the facilities are private and properly maintained. However, their educational contribution depends on whether learners can access them when needed and whether they are kept clean and functional.

Respondent 3 (Head Teacher 2) gave a broader description of the available facilities and materials, stating, *"hand washing facilities, toilet papers, latrines, sanitary pads and water."* This response is important because it combines physical infrastructure with hygiene supplies. Water and handwashing facilities are essential for maintaining personal cleanliness, while toilet paper supports appropriate use of sanitation facilities. The inclusion of sanitary pads is particularly relevant to girls because menstruation can create practical challenges that may interfere with school attendance. The provision of such materials within the school can reduce the likelihood that girls will leave school simply because they lack basic menstrual supplies.

Respondent 4 (Head Teacher 4) reported, *"toilets, handwashing facilities, drying racks and rubbish pits."* The response demonstrates that hygiene management included several facilities addressing different aspects of school cleanliness. Toilets support sanitation, handwashing facilities promote personal hygiene, rubbish pits facilitate waste management and drying racks support appropriate handling of washed materials. The presence of these

facilities indicates that schools had put in place measures to maintain a hygienic environment. However, their effectiveness depends on regular cleaning, supervision, proper use and maintenance. A rubbish pit, for example, may not improve the environment if waste is not properly managed.

Respondent 5 (Head Teacher 6) emphasised the importance of water by stating, *"constant supply of water."* This response highlights water as a basic requirement for effective WASH management. Without reliable water, handwashing facilities may not function properly, toilets may be difficult to clean and girls may experience difficulties maintaining personal hygiene. Water is particularly important during menstruation because girls require it for cleaning themselves and managing menstrual materials. The emphasis placed on constant water supply therefore demonstrates that WASH infrastructure must be supported by reliable services.

Respondent 6 (Head Teacher 8) highlighted a limitation in the number of facilities, explaining, *"one handwashing facility is shared by both teachers and students."* This response demonstrates that the mere existence of a handwashing facility does not necessarily mean that it is adequate. When one facility is shared by a large number of learners and teachers, access may become difficult during busy periods. Learners may have to wait or may choose not to wash their hands when the facility is congested. The finding therefore indicates that schools need to consider the number of users when planning WASH facilities.

Respondent 1b further observed, *"lack of cleanliness causes poor concentration in class because of smelling latrines."* This statement directly links the condition of sanitation facilities to learning. Poorly maintained latrines can produce unpleasant smells, creating discomfort and distraction among learners. When learners are uncomfortable, their ability to concentrate during lessons may be affected. For girls, poor sanitation can be especially problematic because they may need to use the facilities more frequently for personal or menstrual hygiene. Maintaining clean and acceptable sanitation facilities is therefore part of creating a suitable learning environment.

Respondent J (Head Teacher 10) reported, *"water supply, toilets, rubbish pits and handwashing facilities."* This response confirms that the school had several basic WASH facilities. However, when considered alongside other responses, it also illustrates why availability needs to be assessed together with adequacy. A school can have water and toilets

but still experience shortages, overcrowding or maintenance problems. Therefore, the important issue is whether the available facilities are sufficient for the number of learners and whether they remain functional throughout the school term.

Respondent 11 (Senior Female Teacher 10) identified specific shortcomings, stating, *"lack of changing rooms, inadequate latrines, sharing of bathrooms and contraction of urinary tract infections."* This response highlights concerns about privacy, adequacy and health. Lack of changing rooms may make it difficult for girls to attend to personal and menstrual hygiene needs privately. Inadequate latrines and shared bathrooms may further reduce privacy and increase congestion. The reported health concerns also suggest that poor sanitation may have consequences for girls' wellbeing. These conditions may make some girls uncomfortable at school and can potentially affect their willingness to remain and participate throughout the school day.

Respondent 10 (Senior Woman Teacher 11) should be included as a distinct respondent because of her specific responsibility for girls' welfare and personal hygiene concerns. Her actual interview response should be inserted at this point in italics. Since the exact words of the Senior Woman Teacher have not been provided in the available material, no quotation should be fabricated. Her response should then be interpreted in relation to the availability, adequacy, privacy and use of WASH facilities by girls.

Overall, the qualitative findings indicate that WASH facilities were available in the sampled schools, but their adequacy varied. The respondents identified important facilities such as toilets, handwashing points, water, bathing rooms, rubbish pits and drying racks. At the same time, they identified inadequate supplies, shared facilities, insufficient latrines, lack of changing rooms and cleanliness problems. The findings therefore suggest that WASH provision should be assessed in terms of availability, adequacy, functionality, cleanliness, accessibility, privacy and maintenance rather than simply the physical presence of facilities.

Theme 2: Menstrual Hygiene Management

The qualitative findings demonstrated that menstrual hygiene management was an important aspect of girl child education in the sampled secondary schools. Respondents described the provision of sanitary pads, emergency menstrual materials, medication for menstrual pain, dressing rooms, girls' meetings and support from teachers and the Senior Woman Teacher.

External organisations were also reported to provide menstrual materials and health education. Despite these interventions, respondents continued to identify challenges such as absenteeism, shyness, low self-esteem and inadequate support. The findings suggest that menstrual hygiene management affects not only girls' physical comfort but also their attendance, participation and confidence at school.

Respondent 1 (Senior Female Teacher 2) reported, *"Girls often miss school due to lack of menstrual hygiene management."* This response provides a direct connection between menstrual hygiene and girls' attendance. When girls do not have appropriate menstrual materials, adequate facilities or supportive arrangements, they may decide to remain at home during menstruation. Missing school means losing classroom instruction, interaction with teachers and participation in other school activities. If such absence occurs repeatedly, it may create learning gaps and affect educational progress. The statement therefore demonstrates why menstrual hygiene should be treated as an educational issue as well as a health concern.

Respondent C (Head Teacher 3) explained that schools responded to menstrual challenges *"through acquisition of emergency sanitary pads."* The provision of emergency sanitary pads can be important for girls who unexpectedly begin menstruation while at school or arrive without sufficient materials. Such assistance can prevent a girl from having to leave school to obtain menstrual materials. It can also reduce embarrassment and anxiety associated with experiencing menstruation without appropriate protection. The finding indicates that schools can play a practical role in reducing menstrual-related barriers to attendance.

Respondent G (Head Teacher 7) reported that *"emergency supporting materials are provided under the guidance of the senior female teacher."* This response demonstrates the institutional importance of the Senior Woman Teacher in menstrual hygiene management. The position provides a mechanism through which girls can receive assistance with sensitive issues. Girls may find it easier to approach a trusted female staff member when experiencing menstrual difficulties. The response therefore suggests that menstrual hygiene management involves both the availability of materials and the presence of supportive personnel who can coordinate their distribution.

Respondent B (Head Teacher 2) stated that girls received *"sanitary pads, medication especially for menstrual pain and access to dressing rooms."* The response demonstrates that menstrual support addressed several dimensions of girls' needs. Sanitary pads provide the

necessary menstrual protection, medication can assist girls experiencing menstrual pain, and dressing rooms can provide privacy. Together, these measures may reduce the physical and emotional difficulties associated with menstruation. The response also suggests that effective menstrual hygiene management should not focus only on distributing pads but should provide a supportive environment where girls can manage menstruation with dignity.

Respondent F (Head Teacher 6) reported, *"Girls' meetings with the senior female teacher support from teachers and provision of toilets with incinerators."* This response demonstrates that menstrual hygiene management included communication, interpersonal support and appropriate sanitation infrastructure. Girls' meetings provide opportunities for discussion and guidance, while teachers can provide immediate assistance when difficulties arise. Toilets with incinerators can also support safe disposal of menstrual materials. The combination of these interventions indicates that schools were addressing menstrual hygiene through both behavioural and infrastructural approaches.

Respondent A (Head Teacher 1) reported that *"Watoto Church offers pads and health education."* This response demonstrates the contribution of external organisations to menstrual hygiene management. The provision of pads can reduce the financial burden faced by girls and their families, while health education can improve knowledge about menstruation and hygiene practices. Such partnerships can therefore complement the efforts of schools, especially where school resources are limited.

Respondent E (Head Teacher 5) observed, *"the girls are always shy."* This statement highlights the emotional and social challenges associated with menstrual hygiene. Girls may feel embarrassed discussing menstruation or requesting assistance, particularly where menstruation is regarded as a private or sensitive subject. Shyness can prevent girls from seeking help when they need menstrual materials or medical support. It can also contribute to withdrawal from school activities. Therefore, menstrual hygiene interventions need to create an environment where girls can seek assistance without fear or embarrassment.

Respondent C (Head Teacher 3) explained, *"the girls, if having challenges, stay at home and they tend to be shy."* This response provides further evidence that menstrual challenges may contribute directly to absenteeism. Remaining at home during menstruation means that girls miss lessons and may fall behind their classmates. The response also connects absenteeism with shyness, suggesting that social and emotional factors may operate alongside material

shortages. Addressing menstrual hygiene therefore requires attention to both practical needs and the attitudes surrounding menstruation.

Respondent B (Head Teacher 2) reported, *"Low self-esteem hence making others remain indoors."* This response indicates those girls' experiences of hygiene and menstruation can affect their confidence and social participation. Low self-esteem may cause girls to withdraw from classmates or avoid participating in activities where they feel exposed or uncomfortable. Such withdrawal can reduce their involvement in classroom and extracurricular activities. The finding therefore broadens the understanding of menstrual hygiene beyond attendance to include participation and emotional wellbeing.

Overall, the findings demonstrate that schools had introduced several measures to support menstrual hygiene, including emergency pads, pain medication, dressing rooms, girls' meetings, teacher support and partnerships. Nevertheless, the continued reports of absenteeism, shyness and low self-esteem indicate that menstrual hygiene challenges had not been completely resolved. Effective menstrual hygiene management therefore requires reliable access to materials, appropriate sanitation facilities, privacy, information, emotional support and trusted persons whom girls can approach when they experience difficulties.

Theme: Challenges of Hygiene Management Affecting Girl Child Education

The qualitative findings revealed that several hygiene-related challenges affected girls' educational experiences in secondary schools in Amuru District. Respondents identified poor cleanliness, inadequate latrines, and lack of changing rooms, shared bathrooms, menstrual challenges, economic hardship and inadequate parental support. These challenges were associated with poor concentration, absenteeism, shyness, low self-esteem and difficulties in maintaining personal hygiene. The findings demonstrate that hygiene management is connected to both the physical school environment and the social and economic circumstances surrounding girls.

Respondent 1b explained, *"Lack of cleanliness causes poor concentration in class because of smelling latrines."* This response demonstrates how poor hygiene can interfere directly with classroom learning. The problem is not restricted to the sanitation area because unpleasant smells can affect the wider school environment and distract learners during lessons. Poor concentration may reduce girls' ability to follow lessons, understand new concepts and

participate actively. This finding therefore shows that maintaining clean sanitation facilities is also part of supporting academic engagement.

Respondent J (Head Teacher 10) identified several challenges, stating, *"lack of changing rooms, inadequate latrines, sharing of bathrooms and contraction of urinary tract infections."* The response demonstrates that girls faced several interconnected hygiene challenges. Lack of changing rooms may reduce privacy, while inadequate latrines and shared bathrooms can make sanitation facilities uncomfortable or difficult to use. The reference to urinary tract infections also raises concerns about the health consequences associated with poor sanitation. When girls experience discomfort or health problems related to hygiene conditions, their attendance and participation in school may be affected.

Respondent 3 (Senior Female Teacher 3) stated, *"The girls are always shy."* Although brief, this response reveals an important social barrier. Girls may hesitate to discuss hygiene and menstrual issues because of embarrassment. This can prevent them from informing teachers when they require sanitary materials, medical assistance or access to appropriate facilities. Shyness can therefore contribute to problems remaining hidden until they become serious enough to affect attendance or participation.

Respondent D (Head Teacher 4) explained, *"the girls, if having challenges, stay at home and they tend to be shy."* This response demonstrates a direct pathway between hygiene challenges and school attendance. Girls who experience menstrual or personal hygiene difficulties may prefer to remain at home rather than face embarrassment or discomfort at school. Such absence can result in missed lessons and reduced academic continuity. The finding also indicates that improving facilities alone may not be sufficient unless girls feel confident enough to use them and seek assistance.

Respondent B (Head Teacher 2) reported, *"low self-esteem hence making others remain indoors."* This response highlights the psychosocial effects of hygiene challenges. A girl who feels embarrassed about her hygiene or menstrual condition may withdraw socially and avoid interacting with classmates. Remaining indoors or away from others can reduce participation in classroom discussions, group activities and other aspects of school life. Therefore, girl child education should be understood not only in terms of physical attendance but also meaningful participation.

Respondent I (Head Teacher 9) explained, *"some parents have economic hardship at supporting the girls with some requirements such as pads."* This response demonstrates the influence of household economic circumstances on menstrual hygiene management. Menstrual materials require regular financial resources, and families experiencing economic hardship may find it difficult to provide them consistently. Girls from such households may consequently depend on schools or external organisations for support. Where such support is unavailable, the girls may experience difficulties attending school during menstruation.

Respondent F (Head Teacher 6) similarly reported, *"some girls do not have enough support from their parents for their personal hygiene."* This response indicates that school hygiene outcomes are partly influenced by support provided at household level. Girls require assistance not only with menstrual materials but also with other personal hygiene requirements. Where parental support is inadequate, schools may have to provide additional guidance and resources. This demonstrates the importance of involving parents and communities in efforts to improve girl child education through better hygiene management.

The findings therefore show that hygiene challenges are interconnected rather than isolated. Poor sanitation may affect concentration, inadequate facilities may reduce privacy, menstrual challenges may contribute to absenteeism, while economic hardship may limit access to hygiene materials. At the same time, shyness and low self-esteem may prevent girls from seeking assistance. These interconnected challenges suggest that improving girl child education requires a comprehensive hygiene management approach involving infrastructure, materials, health education, teacher support and parental involvement.

Theme: School Hygiene Management Practices, Health Education and Partnerships

The qualitative findings revealed that schools used several practices to promote hygiene and support girls' education. These included health education, girl-child talks, sexuality education, girls' meetings, general cleanliness activities and support from female teachers. External organisations were also reported to provide sanitary materials, health education, soap, latrines and incinerators. These findings indicate that school hygiene management involved physical, educational, behavioural and institutional measures.

Respondent i (Teacher 1) reported that schools were *"teaching the girls the importance of adherence to hygiene."* This response shows that schools recognised the importance of

educating girls about hygiene practices. Hygiene education can help girls understand the reasons for maintaining personal cleanliness and using school facilities appropriately. It can also encourage girls to develop behaviours that protect their health and wellbeing. Such education is important because infrastructure is unlikely to achieve its full benefit if learners do not have adequate knowledge of how and when to use it.

Respondent D (Head Teacher 4) explained that schools conducted *"girl child talks and sexuality education."* This response demonstrates that schools created opportunities to address issues specifically affecting girls. Girl-child talks can provide information and guidance on hygiene, menstruation and other challenges that may affect female learners. Sexuality education can also help girls understand physical and developmental changes. Such programmes can create a supportive environment where girls receive information that may not always be openly discussed at home.

Respondent C (Head Teacher 3) reported, *"School talks are organized and one day is preserved for general cleanliness every Wednesday."* This response indicates that hygiene promotion was integrated into routine school activities. Regular school talks provide opportunities to reinforce hygiene messages, while scheduled cleaning activities encourage learners to participate in maintaining their environment. The regularity of these activities is important because cleanliness requires continuous attention. It also creates shared responsibility between learners and school staff.

Respondent F (Head Teacher 6) stated, *"girls' meetings with the senior female teacher."* This response demonstrates the importance of the Senior Woman Teacher in school hygiene management. Such meetings provide a dedicated opportunity for girls to discuss concerns that they may not feel comfortable raising in general school meetings. The Senior Woman Teacher can also serve as an important link between girls, teachers and school administration. Regular communication may enable schools to identify hygiene challenges early and respond before they affect attendance or participation.

Respondent G (Head Teacher 7) explained that support was provided *"through the help of female teachers."* This response highlights the contribution of female teachers to the welfare of girls. Female teachers may provide guidance and support on sensitive issues, particularly menstrual hygiene and personal care. Their presence can help create a more approachable environment for girls who may feel uncomfortable discussing such matters with other

members of staff. Teacher support can therefore complement physical facilities and hygiene materials.

Respondent 9 (Senior Female Teacher 9) reported that *"Watoto Church offers pads and health education."* This response demonstrates the role of external partnerships in strengthening school hygiene management. The provision of pads can help address material shortages, while health education can increase girls' knowledge about hygiene and menstruation. Such assistance can reduce the burden on schools and families. It also demonstrates the importance of collaboration between schools and community organisations in addressing educational barriers related to hygiene.

Respondent D (Head Teacher 4) identified *"Save the Children."* Although the response is brief, it identifies a development partner involved in supporting school-related activities. Partnerships with organisations can provide schools with additional resources, technical assistance and programmes that may not be possible using school resources alone. Such support can strengthen efforts to improve hygiene facilities and practices. However, long-term effectiveness depends on the ability of schools to maintain and continue activities after external support is reduced.

Respondent B (Head Teacher 2) explained, *"Watoto Church supports girls with soap and pads monthly while the European Union is supporting the construction of more latrines and incinerators."* This is a particularly important response because it demonstrates support at both material and infrastructural levels. Monthly provision of soap and pads can assist girls with their immediate hygiene and menstrual needs. At the same time, construction of additional latrines and incinerators can improve sanitation capacity and menstrual waste management. The response therefore shows how partnerships can address both short-term needs and longer-term infrastructure requirements.

Respondent I (Head Teacher 9) mentioned *"Abaana."* The response indicates that another organisation or programme was involved in supporting school-related activities. Although the statement does not provide detailed information about the nature of the support, it demonstrates that schools were not operating entirely alone in addressing hygiene and girl child education concerns. External partnerships can provide additional opportunities for schools to access materials, information and other forms of support.

The findings demonstrated that school hygiene management involved more than cleaning the school compound. It included health education, communication with girls, teacher support, menstrual assistance, routine cleanliness activities and collaboration with external organisations. These practices can reinforce the physical infrastructure available in schools. Health education improves knowledge, teacher support strengthens guidance, and routine cleaning maintains the environment and partnerships provide additional resources.

4.4 Level of Girl Child Education in Secondary Schools in Amuru District

The second objective of the study sought to assess the level of girl child education in secondary schools in Amuru District. Girl child education was assessed using three dimensions, namely attendance, academic performance, and girls' participation in school activities.

Table 9: Attendance of Girl Child in Secondary Schools (N = 201)

	Item	Response Category	Frequency	Percentage (%)
1.	I attend school regularly throughout the term	Always	40	19.9
		Sometimes	161	80.1
		Total	**201**	**100.0**
2.	Menstruation affects my ability to attend school regularly	No	107	53.2
		Yes	94	46.8
		Total	**201**	**100.0**
3.	Sickness affects my school attendance	No	70	34.8
		Yes	131	65.2
		Total	**201**	**100.0**
4.	Hygiene challenges affect my school attendance	No	105	52.2
		Yes	96	47.8
		Total	**201**	**100.0**
5.	Household responsibilities and other personal challenges affect my school attendance	No	72	35.8
		Yes	129	64.2
		Total	**201**	**100.0**

Source: Primary Data (2026)

The findings indicate that the majority of respondents 161(80.1%) reported that they sometimes attended school regularly during the term, while only 40(19.9%) indicated that they always attended school regularly. This finding suggests that consistent school attendance remains a challenge for many girls in secondary schools within Amuru District. Regular attendance is essential for effective learning because it enables learners to participate fully in classroom activities, complete coursework, and benefit from continuous interaction with teachers. The high proportion of respondents reporting irregular attendance therefore raises concerns regarding the ability of girls to achieve their full academic potential.

The results further reveal that 94(46.8%) of respondents reported that menstruation affected their ability to attend school regularly, while 107(53.2%) indicated that it did not. Although slightly more than half of the respondents reported that menstruation did not affect attendance, the proportion experiencing menstrual-related attendance challenges remains considerable. This finding suggests that menstrual health issues continue to be an important factor influencing school attendance among girls. Challenges such as menstrual discomfort, fear of embarrassment, inadequate sanitation facilities, and limited access to menstrual hygiene materials may contribute to absenteeism during menstrual periods.

The study also found that sickness was a major factor affecting attendance, with 131(65.2%) of respondents indicating that illness affected their school attendance, compared to only 70(34.8%) who reported otherwise. This suggests that health-related challenges remain a significant barrier to regular school participation among girls. Frequent illness may result in missed lessons, reduced academic engagement, and difficulties in keeping up with classroom activities. The findings highlight the importance of improving school health and hygiene conditions to minimize illness-related absenteeism among learners.

The findings further show that 96(47.8%) of respondents reported that hygiene challenges affected their attendance, while 105(52.2%) disagreed. In addition, 129(64.2%) indicated that household responsibilities and other personal challenges interfered with their school attendance, while only 72(35.8%) reported that such factors did not affect them. These results suggest that both school-based and home-based factors continue to influence girls' attendance patterns. Household chores, caregiving responsibilities, and other domestic obligations may reduce the time available for school attendance and study, thereby limiting educational opportunities for girls.

Broadly, the findings indicate that girl child attendance in secondary schools within Amuru District is influenced by a combination of factors including menstruation, sickness, hygiene challenges, and household responsibilities. While some girls are able to attend school consistently, many continue to face barriers that contribute to irregular attendance. These challenges may ultimately affect academic achievement, classroom participation, and educational progression. Addressing both school-related hygiene concerns and home-related constraints is therefore essential for improving attendance and promoting better educational outcomes among girls.

Table 10: Academic Performance of Girl Child in Secondary Schools (N = 201)

S/No.	Item	Response Category	Frequency	Percentage (%)
1.	I rate my academic performance as satisfactory	Excellent	55	27.4
		Good	144	71.6
		Average	2	1.0
		Total	**201**	**100.0**
2.	Hygiene-related issues affect my ability to concentrate in class	No	62	30.8
		Yes	139	69.2
		Total	**201**	**100.0**
3.	Menstruation affects my academic performance	No	56	27.9
		Yes	145	72.1
		Total	**201**	**100.0**
4.	Poor sanitation facilities negatively affect my classroom learning	No	81	40.3
		Yes	120	59.7
		Total	**201**	**100.0**
5.	A clean and hygienic school environment improves my academic performance	No	63	31.3
		Yes	138	68.7
		Total	**201**	**100.0**

Source: Primary Data (2026)

The findings reveal that the majority of respondents rated their academic performance positively, with 144(71.6%) reporting good academic performance and 55(27.4%) reporting excellent performance. 2(1.0%) of the respondents rated their performance as average, while none reported poor performance. These findings suggest that despite the various challenges faced by girls in school, most learners perceive themselves as performing well academically.

This positive self-assessment may be attributed to personal determination, support from teachers and parents, and the availability of learning opportunities that enable girls to achieve their educational goals.

The results further indicate that 139(69.2%) of respondents reported that hygiene-related issues affected their ability to concentrate in class, while 62(30.8%) disagreed. This finding demonstrates that hygiene conditions have a significant influence on learners' concentration and classroom engagement. Poor hygiene conditions such as dirty toilets, unpleasant school environments, lack of water, and inadequate sanitation facilities may create discomfort and distractions that interfere with effective learning. Consequently, girls may find it difficult to fully focus on lessons and academic tasks when hygiene challenges are present.

The study also found that 145(72.1%) of respondents reported that menstruation affected their academic performance, while only 56(27.9%) indicated that it did not. This suggests that menstrual-related challenges continue to influence the educational experiences of many girls. Menstruation may affect learners through physical discomfort, pain, anxiety, and concerns about managing menstrual hygiene while at school. Such challenges can reduce participation in classroom activities, lower confidence levels, and negatively affect academic performance if adequate support systems are not available.

The findings further reveal that 120(59.7%) of respondents reported that poor sanitation facilities negatively affected their classroom learning, while 81(40.3%) disagreed. In addition, 138(68.7%) of respondents agreed that a clean and hygienic school environment improved their academic performance, while 63(31.3%) disagreed. These findings highlight the important role that school hygiene and sanitation facilities play in creating an environment that supports effective teaching and learning. Schools with adequate sanitation facilities are more likely to promote learner comfort, concentration, and active participation in academic activities.

Conclusively, the findings suggest that although many girls perceive their academic performance positively, several hygiene-related factors continue to affect their learning experiences. Challenges associated with menstruation, inadequate sanitation facilities, and poor hygiene conditions can interfere with concentration, participation, and academic achievement. The findings therefore underscore the importance of improving school hygiene infrastructure and menstrual hygiene support programs as a strategy for enhancing academic

performance and educational outcomes among girls in secondary schools within Amuru District.

Table 11: Girls' Participation in School Activities (N = 201)

S/No.	Item	Response Category	Frequency	Percentage (%)
1.	I am comfortable participating in class during menstruation	No	123	61.2
		Yes	78	38.8
		Total	**201**	**100.0**
2.	I participate in school clubs, leadership, or extracurricular activities	No	28	13.9
		Yes	173	86.1
		Total	**201**	**100.0**
3.	Poor hygiene or menstruation has prevented me from participating in school activities	No	21	10.4
		Yes	180	89.6
		Total	**201**	**100.0**
4.	Adequate sanitation facilities encourage my participation in school activities	No	55	27.4
		Yes	146	72.6
		Total	**201**	**100.0**
5.	I feel confident participating in school events regardless of my menstrual status	No	68	33.8
		Yes	133	66.2
		Total	**201**	**100.0**

Source: Primary Data (2026)

The findings indicate that 123(61.2%) of respondents were not comfortable participating in class during menstruation, while only 78(38.8%) reported being comfortable. This suggests that menstruation continues to affect the confidence and classroom participation of many girls in secondary schools within Amuru District. Feelings of discomfort may arise from concerns about menstrual leakage, inadequate sanitation facilities, lack of privacy, or fear of embarrassment among peers. Such challenges can reduce active engagement in classroom discussions and limit learners' ability to participate confidently in academic activities during menstruation.

The results further reveal that a large majority of respondents173(86.1%) participated in school clubs, leadership positions, and other extracurricular activities, while only 28(13.9%) reported that they did not participate. These findings indicate that girls are generally willing

to engage in activities beyond classroom learning and are actively involved in various aspects of school life. Participation in such activities is important because it promotes leadership skills, teamwork, self-confidence, and personal development among learners.

The study also found that 180(89.6%) of respondents reported that poor hygiene conditions or menstruation had prevented them from participating in school activities at some point, while only 21(10.4%) indicated that these factors had never affected their participation. This finding demonstrates the significant influence of hygiene and menstrual-related challenges on girls' involvement in school programs. When girls are unable to participate fully in sports, leadership activities, debates, and other school events, they may miss opportunities for personal growth and social interaction that are essential for holistic development.

The findings further showed that 146(72.6%) of respondents agreed that adequate sanitation facilities encourage their participation in school activities, while 55(27.4%) disagreed. In addition, 133(66.2%) reported feeling confident participating in school events regardless of their menstrual status, while 68(33.8%) lacked such confidence. These findings suggest that improved sanitation facilities and supportive school environments can significantly enhance girls' confidence and willingness to participate in both academic and extracurricular activities. Access to clean toilets, water, privacy, and menstrual hygiene support may help girls feel more secure and comfortable while at school.

Comprehensively, the findings indicate that girls actively participate in school activities and demonstrate a willingness to engage in leadership, clubs, and extracurricular programs. However, their participation is frequently constrained by menstruation and hygiene-related challenges. The findings highlight the importance of improving sanitation facilities, strengthening menstrual hygiene management programs, and creating supportive school environments that enable girls to participate fully and confidently in all aspects of school life.

4.4.1 Qualitative Findings

Theme 1: WASH Facilities and Girl Child Education

The qualitative findings revealed that the availability and adequacy of WASH facilities have an important influence on girls' educational experiences in secondary schools. Respondent 1b explained that *"the hygiene supplies are all inadequate in the schools I have visited though*

the few available like the toilets are gender segregated." The respondent's observation shows that some schools have made efforts to provide gender-segregated sanitation facilities, which can enhance privacy and dignity for girls. However, the inadequacy of other hygiene supplies remains a concern. The finding suggests that the mere presence of toilets does not necessarily mean that girls have adequate WASH services because they also require water, handwashing facilities, soap and properly maintained sanitation facilities.

Respondent 2 (Head Teacher 2) identified several facilities and materials available to support hygiene, including *"hand washing facilities, toilet papers, latrines, sanitary pads and water."* The respondent's description demonstrates that WASH support involves several interconnected components. Water and handwashing facilities support personal cleanliness, while toilets provide sanitation and sanitary pads respond to girls' menstrual needs. The presence of these facilities can make the school environment more supportive of girls' attendance and participation. However, their educational contribution depends on whether they are consistently available and sufficient for the number of learners using them.

Respondent 3b (Senior Female Teacher 3) explained that *"the girls, if having challenges, stay at home and they tend to be shy."* This response indicates that hygiene challenges can affect girls' attendance through both practical and emotional difficulties. A girl who is unable to manage her hygiene needs comfortably at school may prefer to remain at home rather than experience embarrassment in front of other learners. The consequence is that she may miss lessons, classroom interaction and other school activities. Therefore, inadequate WASH conditions can indirectly contribute to interrupt learning.

Respondent 4 (Head Teacher 4) reported that the school had *"toilets, handwashing facilities, drying racks and rubbish pits."* The response shows that school hygiene management includes sanitation, hand hygiene and waste-management facilities. Toilets provide a basic sanitation service, while handwashing facilities enable learners to maintain personal hygiene. Rubbish pits support appropriate waste disposal, and drying racks can support hygienic handling of washed materials. These facilities collectively contribute to a healthier school environment, although their effectiveness depends on adequate numbers, proper use and regular maintenance.

Respondent 4 (Senior Female Teacher 4) stated that *"the girls are always shy."* Although the statement is brief, it highlights an important social dimension of hygiene management.

Shyness may prevent girls from openly discussing their hygiene needs or requesting assistance from teachers. This can be particularly important when girls experience menstrual difficulties or lack appropriate hygiene materials. A supportive school environment should therefore provide both physical facilities and a safe atmosphere in which girls can seek assistance without fear of embarrassment.

Respondent V (Teacher 5) emphasized the need for a *"constant supply of water."* The respondent's emphasis on constant supply demonstrates that the functionality of WASH facilities depends on reliable water availability. Water is required for handwashing, toilet maintenance, cleaning and personal hygiene. When water is unavailable, girls may find it difficult to maintain hygiene during the school day. Reliable water supply is therefore essential for ensuring that sanitation infrastructure remains functional and contributes meaningfully to girls' welfare and education.

Respondent G (Head Teacher 7) explained that *"emergency supporting materials are provided under the guidance of the senior female teacher."* This response demonstrates that school-based support mechanisms complement physical WASH facilities. The senior female teacher can act as an important link between girls experiencing hygiene difficulties and the assistance available within the school. Such support may prevent temporary hygiene problems from becoming reasons for girls to leave school or miss lessons.

Respondent H (Head Teacher 8) reported that *"one handwashing facility is shared by both teachers and students."* This finding demonstrates a limitation in the adequacy of the available infrastructure. Although the school has a handwashing facility, sharing one facility between teachers and students may create congestion and inconvenience. During busy periods, learners may have limited opportunity to wash their hands. The finding therefore suggests that WASH infrastructure should be assessed not only according to its existence but also according to its capacity to serve the school population.

Respondent 1V (Teacher 4) explained that *"some parents have economic hardship at supporting the girls with some requirements such as pads."* This response demonstrates that household economic circumstances can influence girls' hygiene experiences at school. Where parents have limited financial resources, girls may not consistently receive personal hygiene materials. Consequently, school-based support becomes important in preventing household poverty from translating into school absenteeism or reduced participation.

Respondent J (Head Teacher 10) identified *"water supply, toilets, rubbish pits and handwashing facilities"* as key hygiene facilities. This response reinforces the view that effective WASH management requires a combination of water, sanitation and waste-management services. Adequate provision of these facilities can contribute to a cleaner and more comfortable school environment. When such facilities are inadequate, girls may experience discomfort and health-related difficulties that interfere with attendance, concentration and participation.

Theme 2: Menstrual Hygiene Management and Girl Child Education

The findings revealed that menstrual hygiene management is a significant issue affecting girls' attendance and participation in secondary education. Respondent 1b clearly explained that *"girls often miss school due to lack of menstrual hygiene management."* The respondent's statement directly connects inadequate menstrual hygiene support with absenteeism. Girls who lack sanitary materials or appropriate facilities may find it difficult to remain at school during menstruation. Repeated absence can result in missed lessons and may gradually affect academic progress.

Respondent B (Head Teacher 2) reported that girls receive *"sanitary pads, medication especially for menstrual pain and access to dressing rooms."* The response shows that menstrual hygiene management requires more than the provision of sanitary pads. Girls may experience menstrual pain that affects their concentration and participation, while dressing rooms provide privacy for changing menstrual materials. Providing these different forms of support can help girls manage menstruation while remaining in school and participating in lessons.

Respondent C (Head Teacher 3) explained that support is provided *"through acquisition of emergency sanitary pads."* This demonstrates the importance of immediate school-based assistance. A girl who begins menstruating unexpectedly at school may be unable to continue participating if she lacks sanitary materials. Emergency provision can therefore help prevent an immediate menstrual challenge from becoming a reason for leaving school or remaining at home.

Respondent D (Head Teacher 4) reported that schools use *"girl child talks and sexuality education."* The response indicates that menstrual hygiene management also involves

providing information and education. Such programmes can help girls understand menstruation, personal hygiene and reproductive health. They may also reduce misconceptions and increase girls' confidence in discussing menstrual concerns. Education is therefore an important complement to the physical provision of menstrual materials.

Respondent E (Head Teacher 5) stated that *"the girls are always shy."* In relation to menstrual hygiene, this finding suggests that embarrassment may prevent girls from asking for assistance. A girl who feels shy may avoid approaching teachers for sanitary materials or reporting menstrual pain. Consequently, schools need to provide confidential and supportive arrangements that make it easier for girls to seek assistance when they need it.

Respondent F (Head Teacher 6) explained that the school provides *"girls' meetings with the senior female teacher, support from teachers and provision of toilets with incinerators."* This response demonstrates an integrated approach to menstrual hygiene management. Girls' meetings provide a platform for discussion and guidance, teacher support provides immediate assistance, while toilets and incinerators provide physical facilities for privacy and menstrual waste disposal. Together, these interventions can help girls manage menstruation with greater dignity.

Respondent G (Head Teacher 7) reported that *"emergency supporting materials are provided under the guidance of the senior female teacher."* The response highlights the importance of having a designated staff member responsible for supporting girls. The senior female teacher may provide a trusted and confidential point of contact for girls experiencing menstrual difficulties. This can reduce the likelihood that girls will remain at home simply because they are uncomfortable seeking assistance.

Respondent H (Head Teacher 8) reported that *"one handwashing facility is shared by both teachers and students."* This finding is relevant to menstrual hygiene because girls need adequate access to water for personal cleanliness. Where a single facility serves both staff and learners, access may be limited, particularly during busy school periods. Thus, menstrual hygiene support requires sufficient water and sanitation infrastructure alongside the provision of menstrual materials.

Respondent I (Head Teacher 9) observed that *"some parents have economic hardship at supporting the girls with some requirements such as pads."* This response demonstrates the

influence of household economic conditions on menstrual hygiene management. Girls whose parents cannot regularly purchase pads may experience difficulties attending school during menstruation. School and community support can therefore play an important role in reducing the effects of household financial limitations on girls' education.

Respondent J (Head Teacher 10) identified *"lack of changing rooms, inadequate latrines, sharing of bathrooms and contraction of urinary tract infections."* The response shows that menstrual hygiene management is closely connected to the quality and privacy of sanitation facilities. Girls require appropriate spaces where they can change menstrual materials privately and maintain personal hygiene. Inadequate or shared facilities may create discomfort and potentially contribute to health concerns, thereby affecting girls' attendance and participation.

Theme 3: School Hygiene Management Practices and Girl Child Education

The findings revealed that school hygiene management practices extend beyond the availability of physical facilities to include cleanliness, hygiene education, counselling, girls' meetings, teacher support and waste management. Respondent 1b explained that *"lack of cleanliness causes poor concentration in class because of smelling latrines."* This response demonstrates that the condition of sanitation facilities can directly affect the learning environment. Unclean and unpleasant-smelling latrines may create discomfort and distract learners during lessons, thereby affecting concentration and academic engagement.

Respondent 2 (Head Teacher 2) reported that *"Watoto Church supports girls with soap and pads monthly while the European Union is supporting the construction of more latrines and incinerators."* This response demonstrates the importance of partnerships in strengthening school hygiene management. Soap and pads address immediate hygiene needs, while latrines and incinerators improve the physical environment. Such partnerships can therefore supplement school resources and help address infrastructure and menstrual hygiene gaps.

Respondent 3 (Head Teacher 3) explained that *"school talks are organized and one day is preserved for general cleanliness every Wednesday."* This demonstrates that hygiene is incorporated into routine school management. The regular cleanliness day promotes shared responsibility among learners and staff, while school talks provide opportunities to reinforce

hygiene knowledge. Such practices can help transform hygiene from an occasional activity into part of everyday school life.

Respondent D (Head Teacher 4) reported the use of *"girl child talks and sexuality education."* These activities provide girls with knowledge about hygiene, reproductive health and issues that may influence their educational experiences. Regular discussions can also give girls an opportunity to raise concerns and seek clarification about sensitive matters. This suggests that school hygiene management should include educational and communication activities alongside physical facilities.

Respondent E (Head Teacher 5) emphasized *"guidance and counselling."* The response shows that hygiene management also has an emotional and psychosocial dimension. Girls may experience shyness, stigma, anxiety or low confidence when dealing with menstrual and personal hygiene challenges. Guidance and counselling can help them cope with these challenges and remain engaged in school.

Respondent F (Head Teacher 6) reported *"girls' meetings with the senior female teacher."* These meetings provide a structured opportunity for girls to discuss their hygiene, health and educational concerns. The senior female teacher can offer guidance and help connect girls to available support. Such interaction can strengthen communication between learners and school management and encourage girls to seek assistance before their problems affect attendance or participation.

Respondent G (Head Teacher 7) explained that support is provided *"through the help of female teachers."* This finding emphasizes the role of female teachers in school hygiene management. Female teachers can provide information, guidance and practical support on sensitive matters that girls may be uncomfortable discussing with other staff members. Their involvement can therefore strengthen the school's capacity to respond to girls' needs.

Respondent H (Head Teacher 8) reported that *"one handwashing facility is shared by both teachers and students."* The response reveals that hygiene practices may still be constrained by limited infrastructure. Even when schools provide hygiene education, learners require sufficient facilities to practice what they have been taught. The finding therefore points to the need to combine behavioural interventions with adequate infrastructure.

Respondent I (Head Teacher 9) identified *"Abaana"* as a source of support. The response indicates that external organizations or community actors can contribute to school hygiene

initiatives. Such partnerships may provide resources or support that schools cannot independently provide. Collaboration can therefore strengthen school-based efforts to improve girls' hygiene and educational experiences.

Respondent J (Head Teacher 10) identified *"guidance and counselling"* as an important intervention. This reinforces the role of psychosocial support in school hygiene management. Counselling can assist girls to overcome personal and social challenges that may otherwise affect their confidence, attendance and participation. It therefore complements the provision of physical hygiene facilities.

Theme 4: School Support Mechanisms for Promoting Girl Child Education

The findings revealed that schools employ several support mechanisms to promote girls' educational participation and address challenges affecting their schooling. Respondent 1b(suggested that *"bringing role models to speak to girls on girl child education."* The respondent also emphasized the importance of supporting vulnerable girls to continue education. Role models can provide encouragement and demonstrate that girls can successfully pursue education and leadership despite social or economic challenges.

Respondent B (Head Teacher 2) reported support through *"sanitary pads, medication especially for menstrual pain and access to dressing rooms."* These forms of assistance directly address practical barriers that may prevent girls from attending school. The provision of sanitary materials can reduce menstrual-related absenteeism, while pain management and dressing rooms can improve comfort and privacy. Such support can therefore contribute to girls' continued participation in education.

Respondent C (Head Teacher 3) explained that support is provided *"through acquisition of emergency sanitary pads."* The finding demonstrates how schools can respond to immediate needs that might otherwise cause girls to leave school. Emergency support is particularly important where girls come from households that may not always be able to provide adequate menstrual materials.

Respondent D (Head Teacher 4) reported *"girl child talks and sexuality education"* and emphasized *"encouraging them to participate in leadership roles."* These interventions demonstrate that supporting girls involves both knowledge development and empowerment. Girls' talks can address educational and personal challenges, while leadership opportunities can build confidence, responsibility and participation in school activities.

Respondent E (Head Teacher 5) emphasized *"guidance and counselling."* The finding suggests that schools recognize the importance of addressing the emotional and social challenges that girls experience. Counselling can provide a safe environment for girls to discuss concerns relating to hygiene, menstruation, relationships, self-esteem and education. Such support can help girls remain focused on their studies.

Respondent F (Head Teacher 6) reported *"girls' meetings with the senior female teacher."* The meetings provide a dedicated space for girls to communicate their concerns. Through these interactions, the senior female teacher can provide guidance and identify learners who require additional assistance. This support mechanism can therefore strengthen girls' relationship with the school and encourage them to seek help rather than withdraw.

Respondent G (Head Teacher 7) explained that support is provided *"through the help of female teachers."* Female teachers can serve as mentors and trusted sources of guidance for girls. Their presence may be particularly valuable when girls face sensitive hygiene or personal challenges that they are reluctant to discuss with male staff.

Respondent H (Head Teacher 8) reported that *"one handwashing facility is shared by both teachers and students."* Although this response primarily identifies a WASH challenge, it also demonstrates the limits that inadequate infrastructure can place on school support mechanisms. Counselling and mentorship cannot fully address hygiene-related barriers when girls lack sufficient physical facilities.

Respondent I (Head Teacher 9) identified *"Abaana"* as a source of support. This response highlights the contribution of external actors to school-based girl child education initiatives. External organizations can supplement school resources and provide additional assistance to girls facing material or educational challenges.

Respondent J (Head Teacher 10) emphasized *"guidance and counselling."* This reinforces the importance of psychosocial support in promoting girls' educational participation. Counselling can help girls deal with stigma, shyness, low confidence and personal challenges, thereby supporting their continued attendance and engagement in school.

Theme 5: Suggestion for Improving Hygiene Management and Girl Child Education

The findings revealed that respondents suggested greater sensitization on hygiene management and girl child education. Respondent 1b suggested *"teaching the girls the importance of adherence to hygiene"* and further proposed *"integrating hygiene into the national curriculum."* These suggested indicate that hygiene education should be

strengthened and made part of routine learning. Integrating hygiene into the curriculum could provide girls with consistent knowledge about personal hygiene, menstruation and healthy practices, rather than relying only on occasional sensitization.

Respondent B (Head Teacher 2) recommended *"more organizations and donors to support girl child education."* The suggestion indicates that schools require additional resources to address the different challenges affecting girls. External organizations can support the provision of sanitary materials, infrastructure, health education and other interventions that may be difficult for schools to finance independently.

Respondent C (Head Teacher 3) reported that *"school talks are organized and one day is preserved for general cleanliness every Wednesday."* This existing practice provides an example of how schools can promote hygiene through regular activities. Maintaining such routines can strengthen learner responsibility for cleanliness and reinforce the importance of a healthy school environment.

Respondent D (Head Teacher 4) recommended *"construction of an incinerator."* The suggestion demonstrates the need for better menstrual waste-management infrastructure. Appropriate disposal facilities can improve privacy and sanitation and may make girls more comfortable managing menstrual materials at school.

Respondent E (Head Teacher 5) recommended *"sensitization of students on hygiene management."* This suggestion emphasizes the role of knowledge and awareness in improving hygiene behaviour. Sensitization can help girls understand appropriate hygiene practices and encourage them to seek support when they experience difficulties.

Respondent F (Head Teacher 6) emphasized the *"addition of more water points."* This recommendation responds to the challenge of limited access to water. Additional water points could reduce congestion and improve access for learners, thereby making handwashing and other hygiene practices easier to maintain throughout the school day.

Respondent G (Head Teacher 7) called for *"more sensitization to avoid dropout."* This recommendation suggests that awareness creation is viewed as an important strategy for retaining girls in school. Sensitization can inform girls about available support and encourage them to seek assistance when they encounter menstrual, hygiene or other educational challenges.

Respondent H (Head Teacher 8) reported that *"one handwashing facility is shared by both teachers and students."* This response points to the need for additional infrastructure.

Increasing the number of handwashing facilities would improve accessibility and may encourage more consistent hygiene practices among learners and staff.

Respondent I (Head Teacher 9) suggested *"more partnerships to support girls with inadequate menstrual materials."* This recommendation highlights the importance of collaboration between schools, government, NGOs, parents and other stakeholders. Partnerships can help ensure that girls who cannot obtain menstrual materials from home are not forced to miss school.

Respondent J (Head Teacher 10) emphasized *"guidance and counselling."* The recommendation demonstrates that physical improvements should be accompanied by psychosocial support. Guidance and counselling can help girls overcome shyness, stigma, low confidence and other challenges that may interfere with attendance and participation.

Broadly, the five themes demonstrate that hygiene management and girl child education are closely interconnected. The responses from Respondents 1–10 show that WASH facilities, menstrual hygiene management, school hygiene practices, support mechanisms and stakeholder interventions all contribute to girls' educational experiences. The findings particularly emphasize that infrastructure alone is not enough. Girls require adequate water and sanitation facilities, menstrual materials, privacy, hygiene information, counselling, supportive teachers and external partnerships.

4.5 Relationship between Hygiene Management and Girl Child Education

The study sought to establish the relationship between Hygiene Management and girl child education in primary schools. Pearson Product Moment Correlation analysis was conducted to determine the strength and direction of the relationship between sanitation facilities, menstrual hygiene management, and cleanliness in school, health education programs, and girl child education. The findings are presented in Table 4.5.

Table 12: Relationship between Hygiene Management and Girl Child Education

Variables	Statistics	Sanitation Facilities	Menstrual Hygiene Management	Cleanliness in School	Health Education Programs	Girl Child Education
1. Sanitation Facilities	Pearson Correlation	1	.604**	.558**	.527**	.746**
	Sig. (2-tailed)	-	.000	.000	.000	.000
	N	201	201	201	201	201
2. Menstrual Hygiene Management	Pearson Correlation	.604**	1	.639**	.583**	.801**
	Sig. (2-tailed)	.000	-	.000	.000	.000
	N	201	201	201	201	201
3. Cleanliness in School	Pearson Correlation	.558**	.639**	1	.551**	.697**
	Sig. (2-tailed)	.000	.000	-	.000	.000
	N	201	201	201	201	201
4. Health Education Programs	Pearson Correlation	.527**	.583**	.551**	1	.663**
	Sig. (2-tailed)	.000	.000	.000	-	.000
	N	201	201	201	201	201
5. Girl Child Education	Pearson Correlation	**.746****	**.801****	**.697****	**.663****	**1**
	Sig. (2-tailed)	.000	.000	.000	.000	-
	N	201	201	201	201	201

Correlation is significant at the 0.01 level (2-tailed)

Source: Primary Data (2026)

The findings presented in Table 4.5 indicate that sanitation facilities had a strong positive and statistically significant relationship with girl child education (r = .746, p = .000). This implies that the availability of adequate and gender-friendly sanitation facilities such as separate toilets for girls, handwashing facilities, and access to clean water contributes significantly to improved attendance, retention, and participation of girls in school. In many schools within the local context, inadequate sanitation facilities often discourage girls from attending school regularly, particularly during adolescence.

The results further reveal that menstrual hygiene management had the strongest positive and statistically significant relationship with girl child education ($r = .801$, $p = .000$). This suggests that the provision of menstrual hygiene materials, changing rooms, water, privacy, and supportive school environments greatly enhances girls' participation in education. In many Ugandan primary schools, menstruation remains one of the leading causes of absenteeism among adolescent girls. Therefore, effective menstrual hygiene management is critical in promoting continuous attendance and educational achievement among girls.

Similarly, cleanliness in school was found to have a strong positive and statistically significant relationship with girl child education ($r = .697$, $p = .000$). This implies that maintaining clean toilets, classrooms, compounds, and water sources creates a safe and conducive learning environment that encourages girls to remain in school. Clean school environments reduce the risk of infections and improve learners' comfort and confidence, thereby enhancing educational participation.

The findings also indicate that health education programs had a positive and statistically significant relationship with girl child education ($r = .663$, $p = .000$). This suggests that health education programs provide girls with knowledge and skills related to personal hygiene, menstrual health, reproductive health, and disease prevention. Such information empowers girls to manage health-related challenges effectively and remain focused on their education.

Overall, the correlation analysis demonstrates that all dimensions of school sanitation are positively and significantly associated with girl child education. Among the sanitation dimensions, menstrual hygiene management exhibited the strongest relationship with girl child education, followed by sanitation facilities, cleanliness in school, and health education programs. The findings imply that improvements in school sanitation contribute significantly to enhanced attendance, retention, participation, and academic progress of girls. Therefore, schools and education stakeholders should prioritize investments in sanitation facilities, menstrual hygiene support, cleanliness, and health education programs to promote girl child education in the local context.

Table 13: ANOVA Results for the Influence of Hygiene Management on Girl Child Education (N = 201)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	138.452	4	34.613	112.847	.000
Residual	60.154	196	0.307		
Total	198.606	200			

Dependent Variable: Girl Child Education
Predictors: Sanitation Facilities, Menstrual Hygiene Management, Cleanliness in School, Health Education Programs

Source: Primary Data (2026)

The findings presented in Table 4.6 indicate that the regression model examining the influence of Hygiene Management on girl child education was statistically significant. The model produced an F-statistic of 112.847 with a significance value of p = .000, which is less than the conventional significance level of 0.05. This implies that the independent variables included in the model jointly explain a significant proportion of the variation in girl child education. Therefore, the null hypothesis that school sanitation has no significant influence on girl child education is rejected.

The regression sum of squares was 138.452, indicating the amount of variation in girl child education explained by sanitation facilities, menstrual hygiene management, cleanliness in school, and health education programs. In contrast, the residual sum of squares was 60.154, representing unexplained variation attributable to factors outside the model. The relatively higher regression sum of squares compared to the residual sum of squares suggests that school sanitation factors account for a substantial proportion of the differences observed in girl child education outcomes.

The mean square regression value of 34.613 compared to the mean square residual value of 0.307 further demonstrates the strength of the model. The large difference between these values resulted in the high F-ratio of 112.847, indicating that the sanitation variables collectively make a meaningful contribution to explaining girl child education. This finding suggests that improvements in sanitation conditions within schools are associated with improvements in educational outcomes among girls.

The results imply that adequate sanitation facilities, proper menstrual hygiene management, clean school environments, and effective health education programs collectively play a crucial role in promoting girl child education. In many rural and peri-urban primary schools,

inadequate sanitation facilities often contribute to absenteeism, poor concentration, and school dropout among girls. The findings therefore highlight the importance of strengthening school sanitation interventions as a strategy for improving educational participation and achievement among girls.

Table 14: Regression Coefficients for the Influence of Hygiene Management on Girl Child Education (N = 201)

Variables	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
Constant	0.624	0.183	-	3.410	.001
Sanitation Facilities	0.284	0.056	.291	5.071	.000
Menstrual Hygiene Management	0.367	0.061	.382	6.016	.000
Cleanliness in School	0.214	0.054	.226	3.963	.000
Health Education Programs	0.178	0.049	.187	3.633	.000

R = .835
R^2 = .697
Adjusted R^2 = .691
F = 112.847
Sig. = .000
Dependent Variable: Girl Child Education
Source: Primary Data (2026)

The findings presented in Table 4.7 indicate that all dimensions of Hygiene Management had a positive and statistically significant influence on girl child education. The overall regression model explained 69.7% of the variation in girl child education (R^2 = .697), indicating that sanitation-related factors play a substantial role in determining educational outcomes among girls. The model was statistically significant (F = 112.847, p = .000), confirming that the predictors jointly influence girl child education.

The results reveal that menstrual hygiene management had the strongest positive influence on girl child education (β = .382, p = .000). This implies that improvements in the provision of sanitary materials, privacy facilities, changing rooms, water access, and menstrual support

services significantly enhance girls' attendance, participation, retention, and academic performance. In the local context, menstruation remains a major challenge affecting girls' school attendance, making menstrual hygiene management a critical factor in promoting girl child education.

The findings further indicate that sanitation facilities had a positive and statistically significant influence on girl child education (β = .291, p = .000). This suggests that the availability of adequate toilets, handwashing facilities, and access to clean water contributes significantly to creating a safe and supportive learning environment for girls. Schools with better sanitation infrastructure are more likely to retain girls and promote regular attendance.

Similarly, cleanliness in school had a positive and statistically significant influence on girl child education (β = .226, p = .000). This implies that maintaining clean classrooms, toilets, compounds, and water sources encourages girls to remain in school and participate actively in learning activities. Clean school environments also reduce health risks and improve learners' comfort and well-being.

The results also show that health education programs had a positive and statistically significant influence on girl child education (β = .187, p = .000). This indicates that health education initiatives improve girls' awareness of personal hygiene, menstrual health, disease prevention, and reproductive health issues. Such knowledge empowers girls to manage challenges that may otherwise affect their educational participation and achievement.

Overall, the regression analysis demonstrates that all dimensions of Hygiene Management significantly influence girl child education. Among the predictors, menstrual hygiene management emerged as the strongest determinant, followed by sanitation facilities, cleanliness in school, and health education programs. The findings therefore suggest that improving school sanitation conditions is essential for enhancing girl child education through increased attendance, retention, participation, and academic success.

4.5.1 Qualitative Findings

Theme 1: Sanitation Facilities and Girl Child Education

The findings revealed that sanitation facilities play a critical role in influencing girls' educational participation, attendance, and learning experiences. Respondents consistently

indicated that the availability of toilets, water sources, handwashing facilities, bathing rooms, and changing spaces contributes to creating a conducive environment for girls to remain in school. The Respondent 1b observed that *"the hygiene supplies are all inadequate in the schools I have visited though the few available like the toilets are gender segregated."* This finding suggests that although schools have attempted to provide sanitation facilities, inadequacies continue to affect girls' educational experiences and wellbeing.

The findings further revealed that schools with relatively better sanitation facilities reported more positive attendance and participation outcomes among girls. Respondent B (Teacher 2) reported the availability of *"hand washing facilities, toilet papers, latrines, sanitary pads and water."* Similarly, Respondent IX (Teacher 9) noted the existence of *"constant supply of water and toilets with incinerators."* These facilities help girls manage personal hygiene needs more effectively, thereby reducing discomfort and enhancing participation in school activities. The findings imply that improved sanitation infrastructure contributes positively to educational outcomes among girls.

The findings also revealed that inadequate sanitation facilities create barriers to learning and participation. Respondent 10 (Senior Female Teacher 10) reported challenges such as *"lack of changing room, inadequate latrine and sharing of bathroom."* Similarly, Respondent J (Head Teacher 9) identified *"inadequate hygiene facilities like changing room, soap and clean water."* Such challenges limit girls' ability to manage hygiene comfortably while at school and may discourage attendance, especially during menstruation. These findings support the quantitative results that demonstrated a strong positive relationship between sanitation facilities and girl child education.

The findings further showed that privacy remains an important consideration in sanitation provision. Several respondents emphasized the need for separate and secure facilities for girls. Respondent F (Head Teacher 6) explained that the school had established facilities such as *"toilets, handwashing facilities and drying racks."* The availability of gender-sensitive facilities promotes dignity, confidence, and comfort among girls, enabling them to participate more actively in school life. This finding suggests that sanitation facilities should not only be available but should also be designed to meet the specific needs of girls.

Generally, the findings indicate that sanitation facilities are fundamental in supporting girl child education. Adequate toilets, water points, handwashing facilities, and changing spaces

contribute to improved attendance, participation, confidence, and academic engagement. The findings imply that investments in sanitation infrastructure can significantly enhance educational outcomes among girls and create more inclusive learning environments.

Theme 2: Menstrual Hygiene Management and Girl Child Education

The findings revealed that menstrual hygiene management is one of the most influential factors affecting girl child education. Respondents consistently reported that girls face numerous challenges during menstruation, including inadequate sanitary materials, lack of changing facilities, and fear of embarrassment. Respondent 1b, explained that *"girls will often miss school due to lack of menstrual hygiene management."* This finding suggests that menstruation remains a major barrier to regular attendance and educational participation among girls.

The findings further revealed that schools have implemented various strategies to support girls during menstruation. Respondent C (Head Teacher 3) reported support *"through acquisition of emergency sanitary pads for girls."* Similarly, Respondent G (Head Teacher 7) explained that girls receive *"emergency supporting materials guided by the senior female teacher."* These interventions help reduce menstrual-related challenges and enable girls to remain in school during their menstrual periods. The findings indicate that menstrual hygiene support contributes positively to attendance and participation.

The findings also highlighted the role of external partners in strengthening menstrual hygiene management. Respondent A (Head Teacher 1) stated that *"Watoto Church offers pads and health education."* Respondent B further explained that *"Watoto Church supports girls with soap and pads monthly while the European Union is supporting construction of more latrines and incinerators."* These examples demonstrate how partnerships contribute to addressing resource gaps and improving girls' educational experiences. The findings suggest that collaborative interventions are essential in supporting menstrual hygiene management.

The findings further revealed that menstruation affects girls' confidence, concentration, and participation in school activities. Respondent B observed that some girls experience *"low self-esteem hence making others remain indoors."* Respondent C similarly noted that *"the girls if having challenges, they stay at home and they tend to be shy."* These findings indicate that menstrual challenges extend beyond physical discomfort and also affect psychological

wellbeing and social participation. Such experiences can limit educational engagement and achievement.

Overall, the findings demonstrate that menstrual hygiene management is a critical determinant of girl child education. Effective menstrual support enhances attendance, participation, confidence, and academic performance, while inadequate support contributes to absenteeism and reduced educational engagement. These findings reinforce the quantitative results, which identified menstrual hygiene management as having the strongest relationship with girl child education

Theme 3: School Cleanliness and Girl Child Education

The findings revealed that school cleanliness significantly influences girls' comfort, health, and participation in education. Respondents consistently emphasized the importance of maintaining clean toilets, classrooms, compounds, and sanitation facilities. The District Inspector of Schools explained that *"lack of cleanliness causes poor concentration in class because of smelling latrines."* This observation suggests that poor environmental sanitation can negatively affect learning by creating uncomfortable and distracting conditions.

The findings further revealed that schools actively engage learners in cleanliness activities. Respondent C (Head Teacher 3) explained that *"there is one day preserved for general cleanliness every Wednesday from 4-5 pm."* Similarly, Respondent D (Head Teacher 4) reported *"general cleanliness every Saturday."* These initiatives encourage learners to take responsibility for maintaining clean environments and contribute to improved hygiene conditions within schools. The findings suggest that cleanliness programmes are important in promoting positive hygiene behaviours among learners.

The findings also revealed that poor sanitation conditions expose learners to health risks that may affect attendance and academic performance. The 1b explained that *"lack of hygiene causes severe illness to girls such as contraction of urinary tract infections."* Likewise, Respondent J reported that inadequate hygiene facilities contribute to *"contraction of urinary tract infections."* These findings indicate that poor cleanliness not only affects comfort but also creates health challenges that interfere with educational participation.

The findings further showed that clean environments contribute to learner confidence and wellbeing. Respondent I (Head Teacher 9) recommended *"constant cleanliness within hygiene facilities."* Maintaining clean sanitation facilities helps create a positive school environment where girls feel comfortable and safe. Such environments encourage regular attendance and active participation in both academic and extracurricular activities.

Overall, the findings indicate that school cleanliness plays an important role in supporting girl child education. Clean environments promote health, concentration, confidence, and participation while reducing the risk of disease and absenteeism. These findings support the quantitative results which established a strong positive relationship between school cleanliness and girl child education.

Theme 4: Health Education Programmes and Girl Child Education

The findings revealed that health education programmes contribute significantly to improving girls' awareness, confidence, and educational participation. Respondents reported that schools conduct health talks, sexuality education sessions, hygiene awareness programmes, and counselling activities aimed at supporting girls. Respondent D (Head Teacher 4) explained that the school provides *"sexuality education and girl child talks."* These programmes help girls acquire essential knowledge and skills related to hygiene and health management.

The findings further revealed that teachers play a central role in delivering health education. Respondent F (Head Teacher 6) reported *"girls' meetings with the senior female teacher,"* while Respondent G (Head Teacher 7) explained that health education is supported *"through the help of female teachers."* Teachers serve as mentors and trusted sources of information, helping girls navigate challenges related to menstruation, personal hygiene, and adolescence. This finding suggests that teacher involvement is critical for successful health education interventions.

The findings also highlighted the contribution of development partners in strengthening health education. The 1b noted that *"NGOs such as Save the Children and Amref are helping a lot."* Respondent G similarly explained that partnerships with NGOs help improve health education programmes within schools. These collaborations expand access to information,

materials, and expertise that enhance the effectiveness of school-based health education initiatives.

The findings further revealed that health education programmes contribute to behaviour change and increased awareness. The 1b suggested *"teaching girls the importance of adherence to hygiene and integrating hygiene into the national curriculum."* Several respondents also emphasized the need for continuous sensitization and awareness creation. These findings indicate that health education empowers girls with knowledge that supports positive hygiene practices and educational participation.

Overall, the findings suggest that health education programmes are essential for promoting girl child education. Through awareness creation, counselling, mentorship, and health promotion activities, schools help girls overcome hygiene-related challenges and participate more effectively in education. These findings support the quantitative results which showed a positive and statistically significant relationship between health education programmes and girl child education.

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the discussion of findings, summary of findings, conclusions, recommendations, and areas for further research. The discussion is organized according to the study objectives and relates the study findings to existing literature on hygiene management practices and girl child education in secondary schools in Amuru District.

5.1 Summary of Findings

Objective One, To Explore Hygiene Management Practices in Secondary Schools in Amuru District

The study found that hygiene management practices in secondary schools in Amuru District were characterized by both strengths and weaknesses. Although most schools had basic sanitation facilities such as toilets, water sources, and handwashing facilities, many respondents reported inadequacies in the number and quality of these facilities. The findings further revealed that a majority of schools lacked sufficient handwashing facilities, adequate toilet coverage, and reliable access to water, which limited the effectiveness of hygiene management efforts within the school environment.

The study also established that menstrual hygiene management remained a major challenge in many schools. Most respondents reported limited access to sanitary pads, absence of changing rooms, and inadequate menstrual hygiene support services. Despite these challenges, schools regularly conducted health education programmes and hygiene awareness sessions, which helped improve learners' knowledge and understanding of personal hygiene and menstrual health management.

Objective Two, To Assess the Level of Girl Child Education in Secondary Schools in Amuru District

The study established that the level of girl child education was influenced by several factors affecting attendance, academic performance, and participation in school activities. The findings revealed that many girls experienced challenges related to menstruation, sickness,

poor hygiene conditions, and household responsibilities, which negatively affected regular school attendance. As a result, some girls missed lessons and experienced interruptions in their educational progress.

The study further found that hygiene-related challenges affected concentration, classroom participation, and academic performance among girls. Many respondents reported that poor sanitation facilities and menstrual discomfort interfered with effective learning. Although girls actively participated in leadership positions, clubs, and extracurricular activities, menstruation-related challenges and inadequate hygiene support often reduced their confidence and limited their full participation in school programmes.

Objective Three, To Examine the Relationship Between Hygiene Management Practices and Girl Child Education in secondary schools in Amuru District.

The study found a strong positive and statistically significant relationship between hygiene management practices and girl child education in secondary schools in Amuru District. Correlation analysis revealed that sanitation facilities, menstrual hygiene management, school cleanliness, and health education programmes were all positively associated with educational outcomes among girls. This implies that improvements in hygiene conditions contribute to better attendance, participation, retention, and academic performance.

The study further established that menstrual hygiene management was the strongest predictor of girl child education, followed by sanitation facilities, school cleanliness, and health education programmes. Regression results showed that hygiene management practices explained a substantial proportion of the variation in girl child education. Therefore, the findings confirmed that improving hygiene management practices is essential for enhancing educational outcomes and promoting the overall wellbeing of girls in secondary schools within Amuru District.

5.2 Discussion of Findings

5.2.1 Hygiene Management Practices in Secondary Schools and Girl Child Education

The study established that sanitation facilities significantly influence girl child education in secondary schools in Amuru District. The findings revealed that many schools had inadequate toilet facilities, limited handwashing facilities, and insufficient water supply. These findings are consistent with Hennegan et al. (2021), who found that inadequate sanitation facilities in schools negatively affect girls' attendance, participation, and learning experiences. Similarly, Chard et al. (2021) observed that access to safe toilets, clean water, and handwashing facilities promotes school attendance and enhances educational outcomes among learners. However, Phillips-Howard et al. (2022) argued that although sanitation facilities are important, educational participation is also influenced by socioeconomic conditions and school management practices, suggesting that sanitation alone may not fully determine educational success.

The findings further revealed that inadequate sanitation infrastructure continues to affect the learning environment of girls. Respondents reported overcrowding in toilet facilities and inadequate access to water throughout the school day. These findings agree with Caruso et al. (2022), who reported that inadequate sanitation facilities compromise girls' comfort, dignity, and concentration in school. Likewise, Nalugya et al. (2023) found that schools with inadequate WASH facilities experience higher levels of absenteeism among female learners. In contrast, Ssewanyana and Bitanihirwe (2021) found that strong parental support and learner resilience can sometimes reduce the negative effects of poor sanitation conditions on educational participation.

The study also established that menstrual hygiene management remains a major challenge in many secondary schools. Most respondents reported limited access to sanitary pads and the absence of changing rooms. These findings support Hennegan et al. (2023), who found that inadequate menstrual hygiene support contributes to school absenteeism, reduced classroom engagement, and poor psychosocial wellbeing among adolescent girls. Similarly, Kansiime et al. (2020) observed that girls who lack access to menstrual hygiene materials are more likely to miss classes and experience interruptions in learning. However, Miiro et al. (2022) found that the relationship between menstrual hygiene challenges and absenteeism may vary depending on the availability of social support systems within schools.

The qualitative findings further demonstrated that girls often miss school during menstruation due to inadequate support and fear of embarrassment. These findings are consistent with Rossouw and Ross (2021), who established that menstrual stigma and lack of privacy negatively affect girls' confidence and participation in educational activities. Similarly, Hennegan et al. (2022) reported that fear of teasing, shame, and anxiety during menstruation often discourage girls from attending school regularly. On the contrary, Montgomery et al. (2021) found that in schools where girls receive psychosocial support and menstrual health education, menstruation has a less significant impact on attendance and participation.

The study also established that school cleanliness affects educational outcomes among girls. Although learners actively participated in cleaning activities, most respondents described their school environment as dirty or very dirty. These findings agree with Freeman et al. (2021), who found that clean school environments contribute to improved health, concentration, and academic engagement among learners. Similarly, Trinies et al. (2022) reported that environmental cleanliness reduces exposure to communicable diseases and creates conditions that support effective learning. However, McMichael (2022) argued that cleanliness alone may not significantly improve educational outcomes unless accompanied by improvements in instructional quality and learning resources.

The findings further revealed that health education programmes are regularly conducted in schools and contribute positively to hygiene awareness among learners. Teachers, particularly senior female teachers, were identified as key providers of hygiene and menstrual health information. These findings support Mason et al. (2021), who found that school-based health education programmes improve learners' knowledge and practices regarding hygiene and menstrual health. Likewise, Haver et al. (2023) reported that health education interventions help reduce menstrual stigma and increase girls' confidence in managing hygiene-related challenges. Nevertheless, Caruso et al. (2021) observed that health education programmes may have limited impact when schools lack adequate sanitation facilities and menstrual hygiene resources.

Overall, the findings suggest that hygiene management practices play a critical role in promoting girl child education in secondary schools. The positive influence of sanitation facilities, menstrual hygiene management, school cleanliness, and health education programmes confirms that supportive school environments enhance girls' attendance, participation, and academic performance. These findings are consistent with Hennegan et al.

(2023), who concluded that integrated hygiene interventions contribute significantly to improved educational outcomes among girls. However, Phillips-Howard et al. (2022) emphasized that sustainable improvements require a combination of sanitation infrastructure, menstrual support, health education, and broader social interventions. Therefore, improving hygiene management practices remains essential for enhancing girl child education in secondary schools within Amuru District.

5.2.2 Level of Girl Child Education in Secondary Schools in Amuru District

The findings revealed that attendance among girls is affected by menstruation, sickness, hygiene challenges, and household responsibilities. A considerable proportion of respondents indicated that these factors interfere with their regular school attendance. These findings are consistent with Hennegan et al. (2023), who found that inadequate menstrual health support contributes to absenteeism among adolescent girls, particularly in low-income settings. Similarly, Kansiime et al. (2020) reported that girls who experience difficulties managing menstruation are more likely to miss school and fall behind academically. However, Miiro et al. (2022) found that while menstrual health challenges influence attendance, their effects vary depending on the availability of support systems within schools and households.

The qualitative findings further revealed that many girls miss school during menstruation due to discomfort, fear of embarrassment, and lack of appropriate sanitation facilities. These findings agree with Rossouw and Ross (2021), who established that period poverty and inadequate menstrual hygiene support remain significant barriers to girls' educational participation. Likewise, Nalugya et al. (2023) observed that limited access to changing rooms, sanitary materials, and private sanitation facilities contributes to absenteeism among female learners. In contrast, Haver et al. (2023) found that in schools where menstrual health interventions are adequately implemented, menstruation has a less pronounced effect on school attendance and participation.

The study further established that sickness significantly affects girls' school attendance. Most respondents indicated that illness contributes to missing lessons and school activities. These findings support McMichael (2022), who found that poor sanitation and hygiene conditions increase the risk of communicable diseases, thereby affecting learners' attendance and educational progression. Similarly, Freeman et al. (2021) reported that inadequate hygiene facilities expose learners to health risks that contribute to absenteeism and reduced learning

opportunities. Conversely, Chard et al. (2021) argued that school attendance is often influenced by multiple factors, including economic conditions, parental involvement, and access to healthcare services, beyond hygiene-related illnesses alone.

The findings further revealed that hygiene-related challenges affect academic performance among girls. Most respondents reported that poor sanitation conditions and menstruation interfere with their concentration during lessons. These findings are consistent with Hennegan et al. (2022), who found that girls experiencing menstrual discomfort often face difficulties concentrating in class, resulting in lower levels of academic engagement. Similarly, Phillips-Howard et al. (2022) observed that inadequate sanitation facilities and poor menstrual hygiene management negatively affect learners' classroom experiences and academic performance. However, Ssewanyana and Bitanihirwe (2021) found that learners with strong family and school support systems often demonstrate resilience despite experiencing hygiene-related challenges.

The study also established that poor sanitation facilities negatively affect classroom learning and educational achievement. These findings support Caruso et al. (2022), who reported that inadequate sanitation conditions create discomfort, anxiety, and stress among female learners, thereby reducing their ability to focus on academic activities. Likewise, Trinies et al. (2022) found that clean and well-maintained school environments promote concentration and enhance learning outcomes. In contrast, Masika et al. (2021) argued that although sanitation conditions influence learning, factors such as teacher effectiveness, availability of instructional materials, and household socioeconomic status may have a stronger direct influence on academic performance.

The findings further revealed that girls actively participate in leadership positions, clubs, and extracurricular activities. These findings are consistent with Ninsiima et al. (2023), who found that participation in extracurricular activities contributes positively to girls' confidence, leadership development, and social skills. Similarly, Wanyama and Orodho (2021) reported that involvement in co-curricular activities enhances learners' self-esteem and educational engagement. However, the current study found that menstruation and hygiene-related challenges frequently limit girls' participation, supporting findings by Hennegan et al. (2023) that inadequate menstrual hygiene management reduces girls' confidence and willingness to engage in school activities.

The study further established that improved sanitation facilities and supportive school environments enhance girls' participation in educational activities. These findings agree with Mason et al. (2021), who found that girl-friendly sanitation facilities contribute to improved confidence, attendance, and participation among female learners. Similarly, Caruso et al. (2021) reported that supportive school environments help girls overcome hygiene-related barriers and participate more actively in both academic and extracurricular activities. Nevertheless, Rossouw and Ross (2021) argued that addressing sanitation challenges alone may not be sufficient unless accompanied by interventions targeting gender stereotypes, poverty, and social stigma. Therefore, improving the level of girl child education requires a comprehensive approach that addresses both school-based hygiene challenges and broader socio-economic barriers affecting girls' educational participation.

5.2.3 Relationship Between Hygiene Management Practices and Girl Child Education

The study established a strong positive and statistically significant relationship between hygiene management practices and girl child education in secondary schools in Amuru District. The findings revealed that sanitation facilities, menstrual hygiene management, school cleanliness, and health education programmes were all positively associated with educational outcomes among girls. These findings are consistent with Hennegan et al. (2023), who found that improvements in school hygiene conditions contribute significantly to increased attendance, retention, participation, and academic achievement among adolescent girls. Similarly, Phillips-Howard et al. (2022) reported that schools with adequate water, sanitation, and hygiene facilities provide environments that support educational participation and learner wellbeing. However, Chard et al. (2021) argued that although hygiene interventions positively influence educational outcomes, their effectiveness is often strengthened when combined with broader educational and social support mechanisms.

The findings further revealed that sanitation facilities were significantly associated with girl child education. This implies that the availability of adequate toilets, handwashing facilities, and reliable water sources promotes girls' participation and attendance in school. These findings agree with Caruso et al. (2022), who found that gender-responsive sanitation facilities enhance girls' comfort, dignity, and educational engagement. Likewise, Freeman et al. (2021) observed that schools with improved sanitation infrastructure experience lower absenteeism and higher levels of learner participation. In contrast, Ssewanyana and

Bitanihirwe (2021) noted that sanitation facilities alone may not eliminate educational inequalities where poverty and household-related challenges continue to affect learners.

The study also found that menstrual hygiene management had a strong positive relationship with girl child education. This finding is consistent with Kansiime et al. (2020), who established that access to sanitary products and menstrual support services contributes positively to school attendance and educational continuity among adolescent girls. Similarly, Hennegan et al. (2022) found that effective menstrual hygiene management improves girls' confidence, participation, and psychosocial wellbeing within school environments. However, Miiro et al. (2022) argued that the effect of menstrual hygiene management on educational outcomes may differ across contexts depending on cultural perceptions, family support, and school-level interventions.

The findings further revealed that menstrual hygiene management had the strongest influence on girl child education compared to other dimensions of hygiene management. This result supports Haver et al. (2023), who reported that menstrual health interventions have a significant effect on girls' educational participation because menstruation directly influences attendance, concentration, and confidence. Likewise, Rossouw and Ross (2021) found that menstrual challenges remain one of the leading causes of absenteeism among adolescent girls in low- and middle-income countries. Conversely, Montgomery et al. (2021) found that although menstrual hygiene support improves educational experiences, sustainable improvements require addressing additional barriers such as gender inequality and economic deprivation.

The study also established a significant positive relationship between school cleanliness and girl child education. These findings are consistent with Trinies et al. (2022), who found that clean school environments promote learner health, reduce disease transmission, and improve classroom concentration. Similarly, McMichael (2022) reported that improved environmental sanitation enhances educational participation by creating safer and healthier learning conditions. In contrast, Masika et al. (2021) argued that while school cleanliness contributes to learner wellbeing, academic achievement is also strongly influenced by instructional quality, parental involvement, and availability of learning materials.

The findings further showed that health education programmes were positively associated with girl child education. This implies that health education improves learners' knowledge,

attitudes, and practices regarding hygiene and menstrual health, thereby enhancing educational participation. These findings agree with Mason et al. (2021), who found that school-based health education programmes contribute to improved hygiene behaviours and increased confidence among adolescent girls. Similarly, Hennegan et al. (2023) observed that health education interventions reduce stigma and empower girls to manage hygiene-related challenges effectively. However, Caruso et al. (2021) argued that health education programmes are most effective when complemented by adequate sanitation facilities and access to hygiene materials.

The regression results further showed that hygiene management practices explained a substantial proportion of the variation in girl child education. This suggests that improvements in sanitation facilities, menstrual hygiene management, school cleanliness, and health education can significantly enhance educational outcomes among girls. These findings are consistent with Phillips-Howard et al. (2022), who found that integrated hygiene interventions contribute significantly to improved attendance, retention, and academic performance. Likewise, Hennegan et al. (2023) concluded that school hygiene management is a critical determinant of educational success among adolescent girls. However, Chard et al. (2021) emphasized that hygiene interventions should be implemented alongside broader educational and socioeconomic support measures to achieve sustainable improvements in educational outcomes. Therefore, the findings confirm that hygiene management practices remain an important determinant of girl child education in secondary schools within Amuru District.

5.3 Conclusions

The study concludes that hygiene management practices in secondary schools in Amuru District remain inadequate despite the existence of basic sanitation facilities and health education programmes. Many schools continue to face challenges related to insufficient toilets, inadequate handwashing facilities, unreliable water supply, limited menstrual hygiene materials, lack of changing rooms, and poor environmental cleanliness. Although health education programmes have contributed positively to hygiene awareness among learners, significant gaps in sanitation infrastructure continue to hinder effective hygiene management and compromise the wellbeing of girls within the school environment.

The study further concludes that the level of girl child education is greatly influenced by hygiene-related and personal factors. Menstruation, sickness, poor sanitation conditions, and household responsibilities continue to affect girls' attendance, concentration, academic performance, and participation in school activities. While many girls remain actively engaged in leadership positions, clubs, and extracurricular programmes, inadequate hygiene support and menstrual challenges often reduce their confidence and limit their ability to participate fully in educational opportunities.

The study finally concludes that hygiene management practices have a strong and significant influence on girl child education in secondary schools in Amuru District. Improved sanitation facilities, effective menstrual hygiene management, school cleanliness, and health education programmes contribute positively to educational outcomes among girls. Among all hygiene management dimensions, menstrual hygiene management emerged as the most influential factor affecting girl child education. Therefore, enhancing hygiene management practices is essential for improving attendance, participation, retention, academic performance, and the overall educational experience of girls in secondary schools.

5.4 Recommendations

The Ministry of Education and Sports should allocate more resources towards improving sanitation infrastructure in secondary schools within Amuru District. Priority should be given to the construction of adequate girl-friendly toilets, handwashing facilities, changing rooms, incinerators, and reliable water supply systems. These facilities will enable girls to maintain proper hygiene and participate comfortably in educational activities.

School administrators should strengthen menstrual hygiene management programmes by ensuring the regular availability of sanitary pads and other menstrual hygiene materials. Schools should also establish changing rooms and provide continuous support through senior female teachers, guidance counsellors, and peer support groups. This will help reduce menstruation-related absenteeism and improve girls' confidence while at school.

Schools should enhance environmental cleanliness by implementing effective waste management systems, increasing the number of garbage bins, and ensuring regular cleaning of sanitation facilities and school compounds. School management should also strengthen

supervision of hygiene activities to ensure that clean and healthy learning environments are maintained throughout the school year.

Government agencies, development partners, parents, and community leaders should work together to support girl child education through hygiene promotion programmes, awareness campaigns, mentorship initiatives, and financial support for vulnerable girls. Collaborative efforts will help address both school-based and household-related challenges that affect girls' educational participation and achievement.

5.5 Areas for Further Research

Future researchers should conduct studies on the influence of menstrual hygiene management on academic performance among girls in secondary schools in Uganda. Such studies would provide deeper understanding of how specific menstrual hygiene interventions affect learning outcomes and educational achievement.

Future studies should investigate the effectiveness of government and non-governmental organization interventions aimed at improving hygiene management and girl child education. This would provide evidence on the most effective strategies for addressing hygiene-related challenges and enhancing educational opportunities for girls in Uganda.

REFERENCES

Adong, A., & Oboth, S. (2023). *School hygiene and sanitation practices in Northern Uganda: Challenges and opportunities*. Gulu University Press.

Aikam, A., & Rao, M. (2012). *Promoting education for the girl child: An Indian perspective*. International Journal of Education and Development, 32(1), 45–52.

Aluko, O. O., Adebayo, O. M., & Adebayo, O. O. (2022). Menstrual hygiene management and psychosocial well-being among adolescent girls: Evidence from school settings in Sub-Saharan Africa. *Journal of Adolescent Health*, 71(3), 335–343.

Amref Health Africa. (2023). *Menstrual hygiene and WASH facilities in schools: A study from Amuru District, Uganda*. https://amref.org

Amuru District Local Government. (*2025, District Education Officer)*

Belayneh, A., Mekuria, A., & Lemma, D. (2019). Menstrual hygiene practice and its associated factors among adolescent school girls in Gedeo zone, Southern Ethiopia. *Journal of Women's Health Care*, 8(2), 1–8.

Bell, J. (2022). *Doing your research project: A guide for first-time researchers*. Open University Press.

Bougie, R., & Sekeran U. (2020). Research methods for business: A skill building approaches (8th Ed.). Bell and Bain Ltd.

Branch, A. (2011). *Displacing human rights: War and intervention in Northern Uganda*. Oxford University Press.

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. SAGE Publications.

Bryman, A. (2021). *Social research methods* (6th ed.). Oxford University Press.

Bryman, A., & Bell, E. (2020). *Business research methods* (6th ed.). Oxford University Press.

Chawla, D, & Sondhi, N. (2018). *Research methodology: Concepts and cases* (2nd ed.). Vikas Publishing House

Creswell, J. W. (2014). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (4th ed.). SAGE Publications.

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.

Denscombe, M. (2014). *The good research guide: For small-scale social research projects* (5th ed.). Open University Press.

Freeman, M. C., Greene, L. E., Dreibelbis, R., Saboori, S., Muga, R., Brumback, B., & Rheingans, R. (2017). Assessing the impact of a school-based water treatment,

hygiene and sanitation programme on pupil absence in Nyanza Province, Kenya: A cluster-randomized trial. *Tropical Medicine & International Health*, 17(3), 380–391.

Girod, C., Ellis, A., Andes, K. L., Freeman, M. C., Caruso, B. A. (2017). Physical, social, and political inequities constraining girls' menstrual management at schools in informal settlements of Nairobi, Kenya. *Journal of Urban Health*, 94(6), 835–846.

Golden, S. D., McLeroy, K. R., Green, L. W., Earp, J. A., & Lieberman, L. D. (2015). Upending the social ecological model to guide health promotion efforts toward policy and environmental change. *Health Education & Behavior*, 42(1_suppl), 8S–14S. https://doi.org/10.1177/1090198115575098

Human Rights Watch. (2005). *Uprooted and forgotten: Impunity and human rights abuses in Northern Uganda*. https://www.hrw.org/report/2005/09/19/uprooted-and-forgotten/impunity-and-human-rights-abuses-northern-uganda

IRC Uganda. (2020). *WASH in schools: Challenges and opportunities in Amuru District*. IRC Uganda.

IRC. (2024). *School WASH facilities and girls' education in Uganda: A situation report*. International Rescue Committee.

Jasper, C., Le, T. T., & Bartram, J. (2012). Water and sanitation in schools: A systematic review of the health and educational outcomes. *International Journal of Environmental Research and Public Health*, 9(8), 2772–2787. https://doi.org/10.3390/ijerph9082772

Johnson, B., & Christensen, L. (2012). *Educational research: Quantitative, qualitative, and mixed approaches* (4th ed.). SAGE Publications.

Kirk, J., & Sommer, M. (2006). Menstruation and body awareness: Linking girls' health with girls' education. *Royal Tropical Institute (KIT), Special on Gender and Health*, 1–22.

Malteser International. (2024). *Training girls and women in Uganda to produce reusable sanitary pads*. https://www.malteser-international.org

Mertler, C. A., & Reinhart, R. V. (2021). *Advanced and multivariate statistical methods: Practical application and interpretation* (7th ed.). Routledge.

Ministry of Education and Sports (MoES). (2005). *Education Sector Strategic Plan 2004/05–2014/15*. Government of Uganda.

Ministry of Education and Sports (MoES). (2011). *National strategy for girls' education in Uganda (2010–2015)*. Government of Uganda.

Ministry of Education and Sports (MoES). (2019). *National Menstrual Hygiene Management Guidelines*. Government of Uganda.

Ministry of Education and Sports (MoES). (2021). *Education and Sports Sector Annual Performance Report 2020/2021*. Kampala: Government of Uganda.

Mohammed, S. (2020). Menstrual hygiene management among schoolgirls in Ghana: Practices and implications. *African Journal of Reproductive Health*, 24(3), 99–107.

Monitor. (2023, March 10). Poor sanitation facilities hindering girls' education in rural Uganda. *Daily Monitor*. https://www.monitor.co.ug

Mugenda, O. M., & Mugenda, A. G. (2019). *Research methods: Quantitative and qualitative approaches*. African Centre for Technology Studies.

Mukunya, D., Nuwematsiko, R., Nabirye, C., & Waiswa, P. (2023). Integrating WASH and MNCH interventions to improve school hygiene and health outcomes: A community-based study in Uganda. *Health Promotion International*, 38(2), daac089.

Mutunda, A. (2020). Cultural perceptions and practices surrounding menstruation in Uganda. *Journal of African Cultural Studies*, 32(3), 315–330.

Nabwire, J., Otim, G., & Ayoo, D. (2021). School hygiene and absenteeism among adolescent girls in Amuru District. *African Journal of Health Sciences*, 21(2), 123–130.

Namubiru, H., & Kaggwa, R. (2023). The impact of structured health education on menstrual hygiene management and school attendance in Uganda. *Journal of School Health*, 93(4), 267–273.

Nile Post. (2024). Majority of girls in Uganda miss school during menstruation—New report reveals. https://nilepost.co.ug

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.

Offorma, G. C. (2009). Girl-child education in Africa. *Keynote address presented at the conference of the Federation of the University Women of Africa (FUWA)*, Lagos, Nigeria.

Phillips-Howard, P. A., Otieno, G., Burmen, B., Otieno, F., Odongo, F., Odour, C., ... & Laserson, K. F. (2021). Menstrual needs and associations with school attendance among adolescent girls in Kenya: A cluster-randomized controlled trial. *BMJ Open*, 11(3), e048975.

Plan International. (2022). *Addressing menstrual hygiene challenges in Northern Uganda schools*. https://plan-international.org

Shah, S., Baryayebyo, L., & Lwanga, F. (2022). Understanding menstruation-related absenteeism among adolescent girls in The Gambia. *Global Health Action*, 15(1), 2064432.

Sommer, M. (2021). Addressing menstrual hygiene management in schools: A global review. *Reproductive Health Matters*, 29(1), 149–158.

Sommer, M., Hirsch, J. S., Nathanson, C., & Parker, R. G. (2016). Comfortably, safely, and without shame: Defining menstrual hygiene management as a public health issue. *American Journal of Public Health*, 105(7), 1302–1311.

Sommer, M., Sutherland, C., & Chandra-Mouli, V. (2015). Putting menarche and girls into the global population health agenda. *Reproductive Health*, 12(1), 24. https://doi.org/10.1186/s12978-015-0009-8

Ssegujja, E., Munene, J. C., & Bakkabulindi, F. E. K. (2016). Cultural perspectives and the social construction of menstrual hygiene among adolescent girls in Uganda. *International Journal of Adolescent Medicine and Health*, 28(3), 289–295.

Teddlie, C., & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioral sciences*. SAGE Publications.

Teen Vogue. (2020, October 20). Period poverty in the time of COVID-19. https://www.teenvogue.com/story/period-poverty-covid-19

Tegegne, T. K., & Sisay, M. M. (2014). Menstrual hygiene management and school absenteeism among female adolescent students in Northeast Ethiopia. *BMC Public Health*, 14, 1118. https://doi.org/10.1186/1471-2458-14-1118

Time. (2017). Girls in India face a silent crisis around menstruation. https://time.com

UBOS (Uganda Bureau of Statistics). (2020). *National population and housing census 2019: Education thematic report*. Uganda Bureau of Statistics.

UNESCO. (2016). *Global Education Monitoring Report 2016: Education for people and planet*. Paris: UNESCO Publishing.

UNESCO. (2020). *Puberty education and menstrual hygiene management*. Paris: UNESCO Publishing.

UNESCO. (2021). *When schools shut: Gendered impacts of COVID-19 school closures*. Paris: UNESCO.

UNICEF. (2012). *Water, sanitation and hygiene in schools: A companion to the Child Friendly Schools Manual*. New York: United Nations Children's Fund.

UNICEF. (2020). *Guidance on menstrual health and hygiene*. New York: United Nations Children's Fund.

UNICEF. (2021). *Menstrual health and hygiene*. https://www.unicef.org/wash/menstrual-hygiene

UNICEF. (2021). *WASH in schools: Assessment report for Northern Uganda*. United Nations Children's Fund.

Waiswa, P., Mukunya, D., Nabirye, C., & Nuwematsiko, R. (2022). Menstrual hygiene management and school absenteeism in Uganda: A mixed-method study. *African Journal of Reproductive Health*, 26(1), 82–91.

WaterAid Uganda. (2020). *Improving menstrual hygiene and sanitation facilities in Ugandan schools*. https://www.wateraid.org/uganda

Whittington, R. (2020). *Strategic management: Concepts and cases* (3rd ed.). Oxford University Press.

WHO & UNICEF. (2021). *Progress on drinking water, sanitation and hygiene in schools: Special focus on COVID-19*. Geneva: World Health Organization (WHO) and United Nations Children's Fund (UNICEF).

World Bank. (2022). *Improving hygiene practices in schools: A gender-sensitive approach*. https://www.worldbank.org

World Medical Association Declaration of Helsinki. (2013). *Ethical principles for medical research involving human subjects*. JAMA, *310*(20), 2191–2194. https://doi.org/10.1001/jama.2013.281053

WSSCC. (2018). *Menstrual hygiene management in Ugandan schools: Challenges and opportunities*. https://www.wsscc.org

Appendices

Appendix A: Consent Form

Title of the study: Hygiene Management and Girl Child Education in secondary schools in Amuru District, Uganda.

student: Adoch Irene Lamwaka

Institution: Gulu University

Introduction

I am Adoch Irene Lamwaka, a master student with registration number 23/U/0648/MED/ PS at Gulu University. I am conducting a study with title above. You have been selected to provide information to be used to complete the research study. This informed consent explains the study to you. After the study has been explained, any questions you may have could have been answered. when you decide to participate in the study, you will be required to sign a consent, which you will be given a copy to keep.

Purpose:

The purpose of this study is to examine the relationship between hygiene management and girl child education in secondary schools in Amuru District, Northern Uganda. Specifically, the study aims to explore how various hygiene management, such as sanitation facilities, menstrual hygiene management, cleanliness in school and health education programs, girl child education, and overall performance in the classroom. Apart from helping to complete the master research project, the study will also help to establish the interplay between these factors and girl child performance outcomes. understanding these factors can potentially inform policy implementation and developments of effective interventions.

Procedures:

The researcher obtained an introductory letter from Gulu University, after the Research Ethical approval of the proposal. The letter was presented to Chief Administrative Officer, Amuru. Then the researcher visited various secondary schools within Amuru District to meet school administrators before conducting the study. The purpose of the study will be thoroughly explained to each respondent identified. Consent will be obtained from all participants who agreed to participate in the study and the questionnaire will be administered. Answering the questionnaire will take about 20-30 minutes of the time.

Who will participate in the study?

You have been chosen in this study because you are a school administrator or a teacher or a girl child in the secondary school in Amuru District Northern Uganda.

Risks/ discomforts:

There is no foreseeable risk of harm or discomfort that will arise from your participation in this study. The only discomfort will be the inconvenience in terms of time spent during the interview.

Benefits:

There is no immediate benefit of the study to the respondent whoever, this will help improve on the overall performance of the students in secondary schools after identifying the challenges faced by girl child. In addition, it will also improve girls' performance both academic and co-curricular activities and fill the gap between school administrators and girl child at school.

Confidentiality:

Your identity will not be revealed to any one as we shall only use codes to identify participants. Information obtained will only be accessible by the research team. Soft copies of the data will be protected by password and hard copy files will be kept under lock and key. Confidential information will only be accessed by the principal investigator.

Alternatives:

You do not have to participate in this study if you are not interested. You will not lose any benefit in case of no participation.

Cost:

There will be no any additional cost incurred as a result of participating in this study.

Questions:

If you have any questions related to the study as a research participant, you can contact the researcher Adoch Irene Lamwaka via phone call on 0771848960. If you have any issues pertaining to your rights and participation in the study, please contact the Chairperson, Gulu University Research Ethics Committee, Dr. Julaina A. Obika Tel: No., +256772964491; email: j.obika@gu.ac.ug or the Uganda National Council for Science and Technology, on plot 6 Kimera road, Ntinda, Kampala on Tel 0414705500.

Voluntary participation:

Participation in the research study is voluntary and you may join on your own free will. You have a right to withdraw from the study at any time without penalty.

Statement of consent

…….....has described to me what is going to be done, the risks, the benefits involved and my rights as a participant in this study. I understand that my decisions to participate in this study will not affect me in any way. In the use of this information my identity will be concealed. I am aware that I may withdraw at any time. I also understand that by signing this form I don't waive any of my legal rights but merely indicate that I have been informed about the research study in which I am voluntarily agreeing to participate. A copy of this form will be provided to me.

Name……Signature of Participant……..date……...

Name……Signature of Interviewer……..date……..

Appendix B: Questionnaire for Girls

Section A: Demographic Variables

Answer this section by ticking inside the box.

Target Group**:** Female students (Senior 1 to Senior 6) in secondary schools in Amuru District.

Section A: Socio-Demographic Information

1. Age: ____ years
2. Class: ☐ S1 ☐ S2 ☐ S3 ☐ S4 ☐ S5 ☐ S6
3. Residence: Boarding ☐ Day
4. Religion: _____
5. Who do you live with?

   Both Parents ☐ Single Parent ☐

   Guardian ☐ Others (specify): _____

Section B: Hygiene Management

1. Sanitation Facilities

7. Does your school have enough toilet facilities for girls?

   Yes ☐ No ☐

8. Are the toilets clean and regularly maintained?

   Always ☐ Sometimes ☐ Rarely ☐ Never ☐

9. Do the toilets provide privacy? Yes ☐ No ☐
10. Are there handwashing facilities near the toilets? Yes ☐ No ☐
11. Do you have access to water throughout the school day? Yes ☐ No ☐

2. Menstrual Hygiene Management (MHM)

12. Does your school provide sanitary pads/materials? Yes ☐ No ☐

13. Is there a changing room available for girls during menstruation? Yes ☐ No ☐

14. Do you miss school during your menstrual period? Yes ☐ No ☐

If yes, how many days per month? _____

15. Are you comfortable managing your menstruation at school? Yes ☐ No ☐

Explain why: _____

3. Cleanliness in School

16.11How would you rate the general cleanliness of your school?

Very Clean ☐ Clean ☐ Dirty ☐ Very Dirty ☐

17. Are students involved in cleaning the school environment? Yes ☐ No ☐

18. Are there garbage bins in the school compound? Yes ☐ No ☐

4. Health Education Programs

19.Have you ever attended a health talk at school about hygiene or menstruation?

Yes ☐ No ☐

20. How often are these programs conducted?

Weekly ☐ Monthly ☐ Termly ☐ Never ☐

21. Who provides these programs?

Teachers ☐ Health Workers ☐ NGO ☐ Others (specify): _____

Section C: Girl Child Education

1. Attendance

22.How often do you attend school during a term?

Always ☐ Often ☐ Sometimes ☐ Rarely ☐

23. What are the main reasons you miss school? (Tick all that apply):

Menstruation ☐ Sickness ☐ Lack of school fees ☐

Household chores ☐ Long distance ☐

24. Do hygiene challenges affect your attendance? Yes ☐ No ☐

If yes, explain: _____

2. Academic Performance

25.How do you rate your academic performance?

Excellent ☐ Good ☐ Average Poor ☐

26. Do hygiene-related issues (e.g., menstruation, dirty toilets) affect your ability to concentrate or perform in class? Yes ☐ No ☐

If yes, how? _____

4.Girls' Participation in School

27.Are you comfortable participating in class during menstruation?

Yes ☐ No ☐

28.Do you participate in school clubs or leadership activities?

Yes ☐ No ☐

29.Has poor hygiene or menstruation ever stopped you from participating in school events or sports? Yes ☐ No ☐

Explain briefly: _____

Thanks for participating in the study.

Appendix C: Key Informant Interview (KII) Guide

Target Group: Head teachers, senior female teachers, teachers, District Inspector of schools.

Sample Questions

Headteachers

1. What hygiene facilities (toilets, water, handwashing) are available at the school?
2. How does the school support menstrual hygiene management for girls?
3. What challenges do girls face regarding hygiene that might affect their education?
4. Are there any programs or partnerships to improve hygiene conditions in schools?
5. What is the school's attendance rate for girls, especially during menstruation?
6. Have you observed any dropout trends related to hygiene management?
7. What suggestion do you have to improve hygiene and support girl child education?

Senior Female teacher

1. Are hygiene facilities (latrines, water, and menstrual hygiene management adequate and gender segregated in the schools you have visited?
2. Are hygiene supplies (pads, soap etc) and changing room for girls available at school?
3. Have you observed any dropout trends related to hygiene management?
4. How do you support girls with menstrual hygiene needs?
5. What hygiene related challenges do girls face?
6. What is the school's attendance rate for girls, especially during menstruation?
7. What suggestion do you have to improve hygiene and support girl child education?

Teachers

1. How adequate are hygiene facilities in this school?
2. Do hygiene related issues affect girls 'engagement or participation in class?
3. How does menstruation affect girl's engagement in classroom activities?
4. What suggestion do you have to improve on hygiene and support girl child education?

District Inspector of schools

1. How often do you visit secondary schools in the District?
2. Are hygiene facilities (latrines, water, and menstrual hygiene management adequate and gender segregated in the schools you have visited?
3. How does lack of hygiene facilities impact girl's attendance and participation in school?
4. Does the District have any Programmes or partnerships to improve hygiene conditions in schools?
5. What suggestion do you have to improve hygiene and support girl child education?

Thank you for participating

Appendix D. Observation Checklist

Target: School Environment (done by researcher)

Hygiene Indicator	Available (✓)	Not Available (X)	Comments
Girls' toilet facilities			
Toilets are clean			
Water supply			
Handwashing stations			
Sanitary pad disposal bins			
Menstrual changing rooms			
Soap available			
Garbage collection area			
Clean classrooms and compound			
Hygiene-related posters or messages			

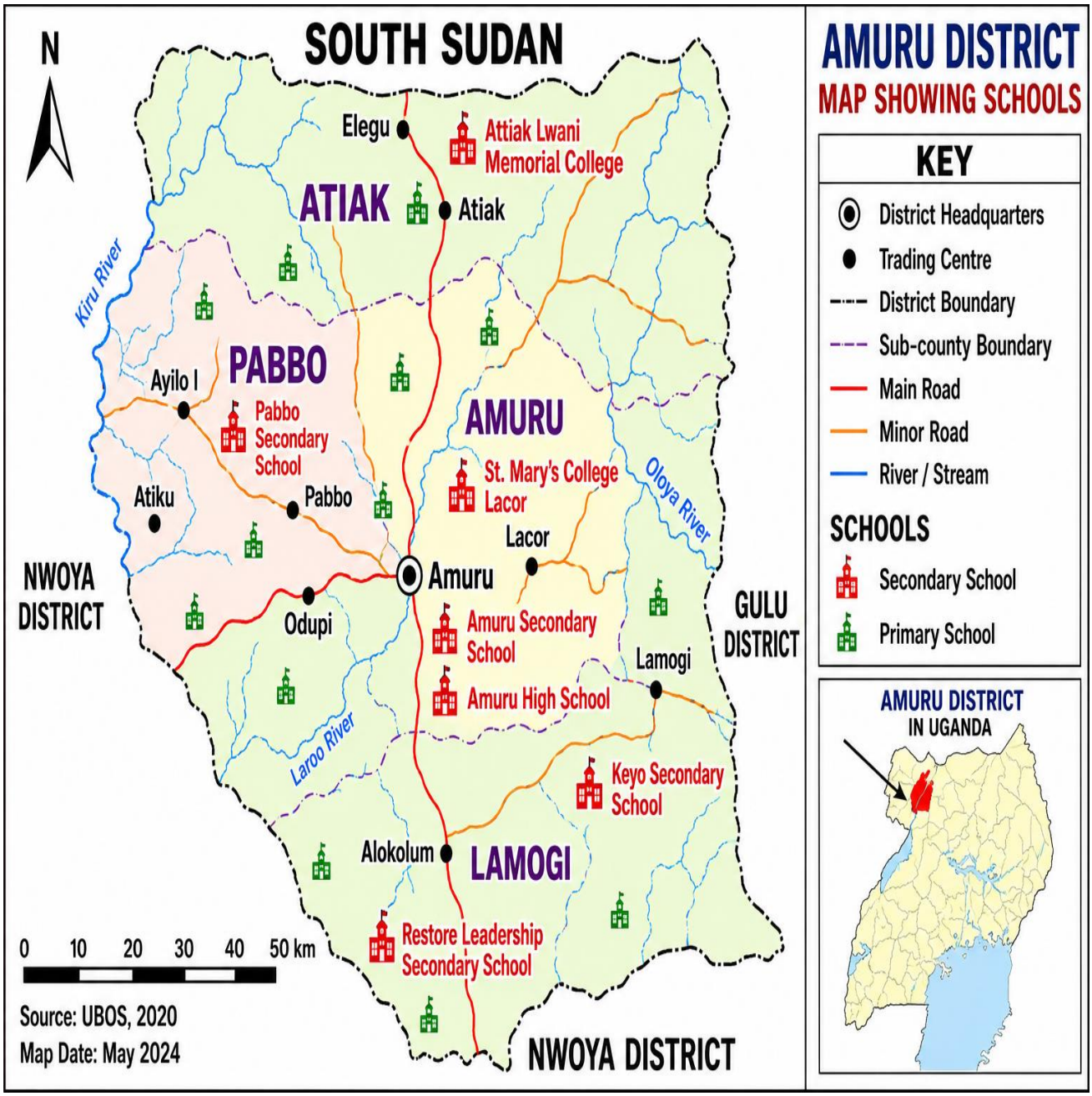
Appendix E: Krejci Morgan Sample Size Table

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

Appendix F: Map of Amuru District



Appendix G: Introductory Letter

GULU UNIVERSITY

P.O. BOX 166 GULU

TEL: +256471432922

OFFICE OF THE DEAN, FACULTY OF EDUCATION AND HUMANITIES

30th September 2025

TO : WHOM IT MAY CONCERN

This is to introduce to you Ms. Adoch Irene Lamwaka (Reg No. 23/U/0648/MED/PS) a student pursuing a programme of study leading to an award Master of Education in Education Management of Gulu University, Master of Gulu University.

She is undertaking research on the Topic:

HYGIENE MANGEMENT AND GIRL CHILD EDUCATION IN SECONDARY SCHOOLS IN AMURU DISTRICT, UGANDA

Which is in partial fulfilment of the requirements for the award.

Any assistance rendered to her in relation to this research work will be highly appreciated.

GULU UNIVERSITY
30 SEP 2025
FACULTY OF EDUCATION AND HUMANITIES

Yours faithfully,

Dr. Denis Thaddeus Ofoyuru

Dean, Faculty of Education and Humanities

CHIEF ADMINISTRATIVE OFFICER
28 NOV 2025
AMURU DISTRICT LOCAL GOVT
Signi.....

NO OBJECTION
PERMISSION GRANTED
28(11)2025