ENSIGN GLOBAL COLLEGE

KPONG, EASTERN REGION, GHANA

FACULTY OF PUBLIC HEALTH

DEPARTMENT OF COMMUNITY HEALTH

FACTORS ASSOCIATED WITH HYGIENE BEHAVIOURS AMONG STUDENTS IN AKUSE METHODIST HIGH SCHOOL IN THE EASTERN REGION OF GHANA

By

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DECLARATION

I, Alain Kourouma, declare that this thesis is the product of my own effort as a student at Ensign Global College, Kpong, under the guidance of Dr. Stephen Manortey. The work has properly acknowledged all pertinent sources, and this thesis has not been submitted in whole or in part for the award of a degree at another school.

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(Supervisor)	Signature	Date

Certified by	……	…….
Dr. Stephen Manortey	Signature	Date
(Head, Academic Programme)		

DEDICATION

This thesis is dedicated to my parents (Late Pascal Kourouma & Mrs. Masse Tolno), who have tirelessly supported me this far. It is also dedicated to my uncle, my brothers and my sister, my beloved wife, Helene Dore, and my dear sons, Pascal and Bonte Junior. I also dedicate it to the fellowship team members of my local church, New Apostolic, who have constantly prayed for success in my studies, and all students at Akuse Methodist High School in the Lower Manya Krobo Municipality in the Eastern Region of Ghana.

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DEFINITION OF KEYWORDS

Hygiene: This is the discipline that helps in maintaining the health of an individual and is one of the several determinants of good health, which varies according to one's morals and practices.

Behavior: This refers to actions, reactions, and mannerisms exhibited by individual, organisms, systems, or artificial entities in response to stimuli or in various situations.

Students: A student is an individual who is actively engaged in learning, typically within an educational institution such as a school, college, or university.

LIST OF ABBREVIATIONS

ABHR	Alcohol-Based Hand Rubs
AMEST	Akuse Methodist Senior High Technical School
CD	Communicable Disease
CI	Confident Interval
GES	Ghana Education Service
GPPPHW	Global Public-Private Partnership for Hand Washing
HEI	Higher Education Institution
KAP	Knowledge, attitudes and practices
LI	Legislative Instrument
LMKM	Lower Manya Krobo Municipality
NGO	Non-Governmental Organization
PH	Personal Hygiene
SHEP	School Health Education Programme
SSHE	School Sanitation and Hygiene Education
UN	United Nations
WASH	Water, Sanitation, and Hygiene
SPSS	Statistical Package for Social Sciences
SGD	Sustainable Development Goal

ABSTRACT

Background: A recent area of interest on a social scale is School Sanitation and Hygiene Education (SSHE) which is also attracting political attention. Hygiene is the discipline that supports health and well-being through simple activities. It is a determinant of health and could vary from one culture or society to another.

General Aim: The primary aim of this research is to explore factors associated with hygiene behaviors among students in Akuse Methodist Senior High Technical School in the Lower Manya Krobo Municipality, Ghana.

Methodology: A cross-sectional descriptive study design was conducted and a total of 271 students were selected from Akuse Methodist Senior High Technical School (AMEST) in the Lower Manya Krobo Municipality in the Eastern Region of Ghana. Data was collected using a questionnaire which included demographic characteristics of the selected sample. The Statistical Package for Social Sciences (SPSS v.20) software was used for data analysis and frequencies with confidence intervals as well as chi-square with a p-value set as 0.05 were used.

Results: A total of 271 respondents participated in the study. The result shown in Table 1 indicate that (42.1%) of the respondents were male students, while (57.9%) were female. 1.1% were African traditionalists, 11.1% were Muslims and 87.8% were Christians. The study also showed that 30.6% and 23.6% indicated their mothers and fathers have no formal education respectively while 69.4% have literate mothers 76.4% have literate fathers.

According to the findings most of participants have correct knowledge of hygiene practices, majority of the students 265 (97.8%) indicated that boiling water kill germs and 6 (2.2%) indicated

that boiling water does not kill germs. 269 (99.2%) revealed that water container needs cleaning and covering while 2 (0.8%) said water container does not need cleaning and covering.

From the study findings, it is evident that 82% of the students indicated that their school did not provide them with soap. However, in some situations where provisions were made, the soap was located far from the toilets. In the study, the researcher discovered that location had the most significant impact on the implementation of hygiene practices when measuring hand washing after using the toilet and the proper use of toilets, out of the indicators of soap used (type, location, and provision).

Conclusion: Based on the findings, it can be inferred that the majority of high school students practiced hand washing after using the restroom, before and after meals, and after using the toilet. However, it was noted that most of them did not use soap to wash their hands before eating.

Keywords: Factors, Hygiene, Behavior, Students, Ghana.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 BACKGROUND

A recent area of interest on a social scale is School Sanitation and Hygiene Education (SSHE) which is also attracting political attention (Zormal, 2016). Hygiene is the discipline that supports health and well-being through simple activities. It is a determinant of health and could vary from one culture or society to another. (Ghosh *et al.,* 2020).

Specific health-promoting attitudes and behaviors can be taught to primary school children although they may not fully grasp the linkage between that and health. (Sarkar, 2013). School, as a social institution, plays a crucial role in helping children and adolescents develop into healthy citizens. By incorporating education on personal hygiene and lifestyle, schools can better prepare students to maintain their own health and that of their families as they mature into adulthood. (Ghosh *et al.,* 2020).

Water is crucial for maintaining hygiene, but many people around the world struggle to access it. In Bangladesh, there are several issues with the water, sanitation, and hygiene sector. Sadly, less than 30% of the population use soap and water to wash their hands or even use ashes after they use the toilet. The primary obstacle to achieving better sanitation coverage is the low level of awareness about the importance and health benefits of having a safe latrine. Issues such as poverty, limited space, and a "Preferential inclination towards open defecation also pose as challenges to better sanitation. (Akter and Ali, 2014).

In Southeast Asia and Africa, 62% and 31% of all deaths, respectively, are due to infectious diseases. Research by the Global Public-Private Partnership for Hand Washing (GPPPHW), spanning from Kenya, Senegal, Tanzania, and Uganda, recorded less than 20% of the respondents washing their hands with soap after using the toilet, with 45% using only water without soap. The unavailability of water and soap coupled with scarce sanitation infrastructure, are among the many reasons children do not engage in proper hygiene practices.(Vivas *et al.,* 2010.)

In remote parts of Ethiopia, just 8% of the population can access adequate sanitation facilities. In the rural Amhara region, only 21% of latrines were equipped with hand washing facilities, and not even one of them was furnished with soap, and only a few homes had adequate sanitation facilities (Vivas *et al.,* 2010).

In Kenya, the situation is also challenging. Research conducted by the Schools Sanitation and Hygiene Education Group in public schools in Machakos, Kiambu, and Nairobi revealed that a single washroom was shared by an average of 64 students. The state of washrooms in a school reflects the school's status which has the likelihood of affecting the attitude, behavior, and health of the students. As the children's commissioner for Wales stated in one of his reports, many children believe society has no respect and priority for them when they consider the lack of basic amenities accessibility.(Mbula, 2013).

In Ghana, more than 10,000 Ghanaian children die each year from diarrhea and pneumonia.(Dubik *et al.,* 2018). Washing hands with soap can help stop germs from spreading diarrhea by up to 50% and pneumonia by 25%. Surprisingly, only 20% of Ghanaians practice this important habit. Awareness about the significance of hand washing remains low, with a slow growth rate of 8%

over the last three years. Regular hand washing with soap could save thousands of lives in Ghana (Dubik *et al.,* 2018.).

The relationship between learning, hygiene, and health is significant. When children are afflicted with illnesses due to poor hand washing, they may either miss school or struggle academically. These diseases can spread rapidly in the school environment, especially when many children spend extended periods together.(Dubik *et al.,* 2018.).

Proper sanitation, good hygiene, and safe water are essential for healthy development even socially and economically. In 2008, the Prime Minister of India quoted Mahatma Gandhi from 1923 saying, ‘‘*sanitation is more important than independence’’* emphasizing the importance of these factors. (Mara *et al.,* 2010).

Schools with proper water, sanitation, and hygiene (WASH) facilities should have the following: a dependable water system that provides safe and adequate water for hand-washing and drinking; an adequate number of private, safe, clean, and culturally and gender-appropriate toilets for students and teachers; hand-washing facilities with water located near toilets; and ongoing hygiene promotion.(McMichael, 2019).

The promotion of good hygiene and sanitation practices is well recognized as a cost-effective, easy-to-practice, convenient, and useful public health measure to prevent and control the spread of infectious diseases and promote good health. Kabir et al. (2021) stated that promoting proper sanitation and hygiene practices has been supported in various international policy documents and global commitments. The United Nations (UN) has highlighted the importance of access to improved sanitation and good hygiene practices as part of the Sustainable Development

Goals.(SGD target 6), indicating that it is likely to achieve sustainable economic growth and a better future (Kabir *et al.,* 2021.).

1.2 Problem statement

Sanitation and hygiene have become critical issues worldwide, particularly in schools. Inadequate sanitation facilities, lack of safe drinking water, and insufficient hygiene education contribute to low attendance and poor student performance.(Zormal, 2016). Research indicates that students in low to medium-income countries, such as Ghana, exhibit insufficient knowledge and poor hygiene practices. It is imperative to enhance their understanding and promote better hygiene habits. (Prah *et al.,* 2018).

In 2015 school-based study conducted in the Mion District, Ghana for instance found that 85% of schools had no hand-washing facility mounted on their premises and that only 30% of the schools had a functional water point close to the school premises (Kweku *et al.,* 2020).

Globally, school-based WASH interventions aim to reduce the incidence of diarrhea and other hygiene related diseases; improve school enrolment, school performance, and attendance; and influence hygiene practices of parents and siblings whereby children act as agents of change in their households and communities (McMichael, 2019).

However, most schoolchildren in Ghana do not even know the proper way of washing their hands lest they put it into practice both at school and at home, due to the lack of resources and inadequate sanitation facilities (Dubik *et al.,* 2018). Earlier studies on hygiene practices in students conducted in Ghana were mostly done among primary and secondary-level students (Prah *et al.,* 2018). There is, however, a dire need for further learning and research to assess the factors associated with

hygiene behaviors among just High School students. Hence, the case study at Akuse Methodist Senior High Technical School in the Lower Manya Krobo Municipality, Ghana.

1.3 Rational of study

Regular monitoring and education in schools can help prevent illness and death related to water, sanitation, and hygiene (WASH) issues. Insufficient knowledge and poor WASH practices can negatively impact a child's health. Implementing WASH in schools can improve access to quality education.(Vishnupriya *et al.,* 2015). Efficient learning, increased school attendance, and overall performance of children are all linked to awareness about health and WASH-related practices. The rationale of this study is to contribute to knowledge on hygiene and sanitation with the intent of influencing policies on the subject.

1.4 Conceptual framework

The conceptual framework for this study was adopted from Hubley's BASNEF Model of Health Practices developed in 1993 intending to understand change in behavior among people. According to Hubley, the likelihood of a behavior change is high when an individual can perceive the returns as beneficial. Other peoples' opinions may also influence a person's decision to adopt a new behavior. There are also enabling factors like skills and resources that have the tendency to alter behavior.

The concepts put forth by Hubley (1993) appear to be highly applicable to this study. It is evident that inadequate hygiene practices on a global scale contribute significantly to the proliferation of diseases, which in turn poses a substantial barrier to societal progress. While addressing this issue must begin at the individual level, a more enduring remedy was implemented within the school

environment. Here, students' comprehension of hygiene was notably bolstered through peer influence, as they observed and emulated others practicing proper hygiene habits. This approach not only fostered a culture of good hygiene among students but also laid the groundwork for sustained behavioral change. According to Hubley, the success of implementing hygiene practices largely depended on both encouraging proper hygiene and building water and sanitation facilities. These factors enabled students to turn their new attitudes and beliefs into good hygiene practices. As a result, students were healthier, learned better, and became productive members and change drivers of society, (Mbula, 2013).

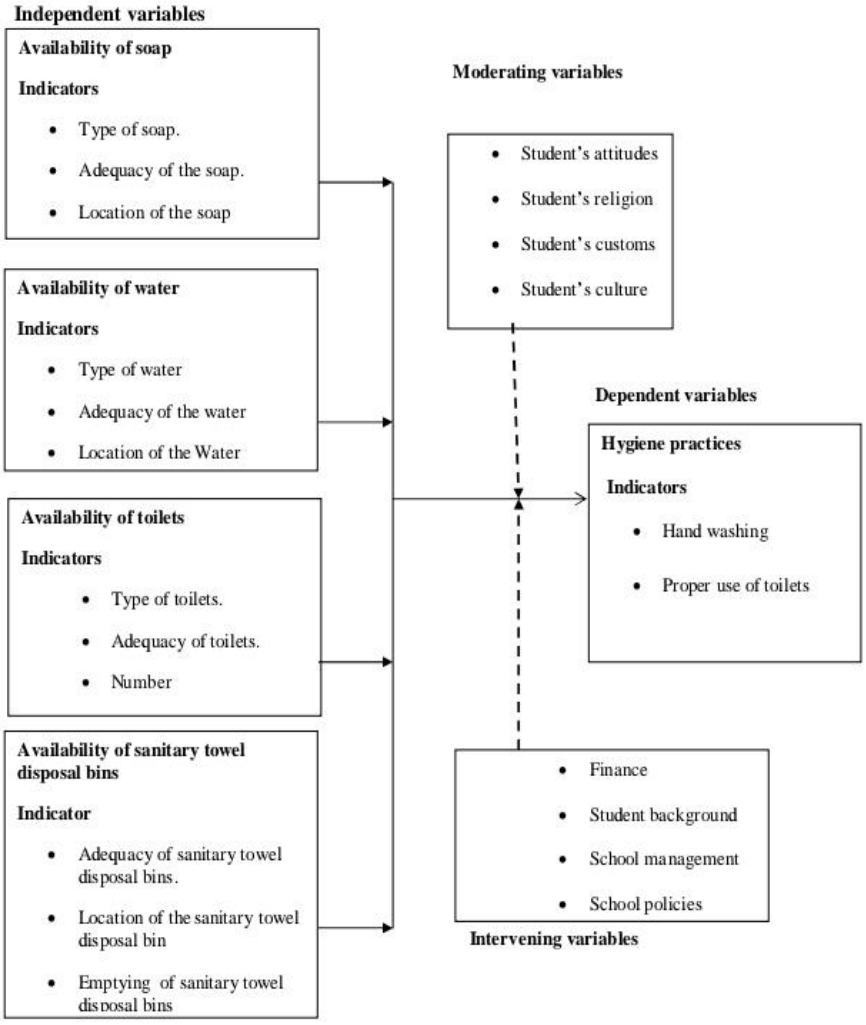


Fig 1. Modified Conceptual Framework (Mbula, 2013).

1.5 Research Questions

1. What is the level of knowledge of hygiene practices of students in Akuse Methodist Senior High Technical School?
2. What is the attitude of students' hygiene practices in Akuse Methodist Senior High Technical School?
3. What are the factors associated with hygiene practices among students in Akuse Methodist Senior High Technical School?

1.6 General Objective

The general objective of this study is to assess the factors associated with hygiene behaviors among students at Akuse Methodist Senior High Technical School in the Lower Manya Krobo Municipality, Ghana.

1.7 Specific Objectives

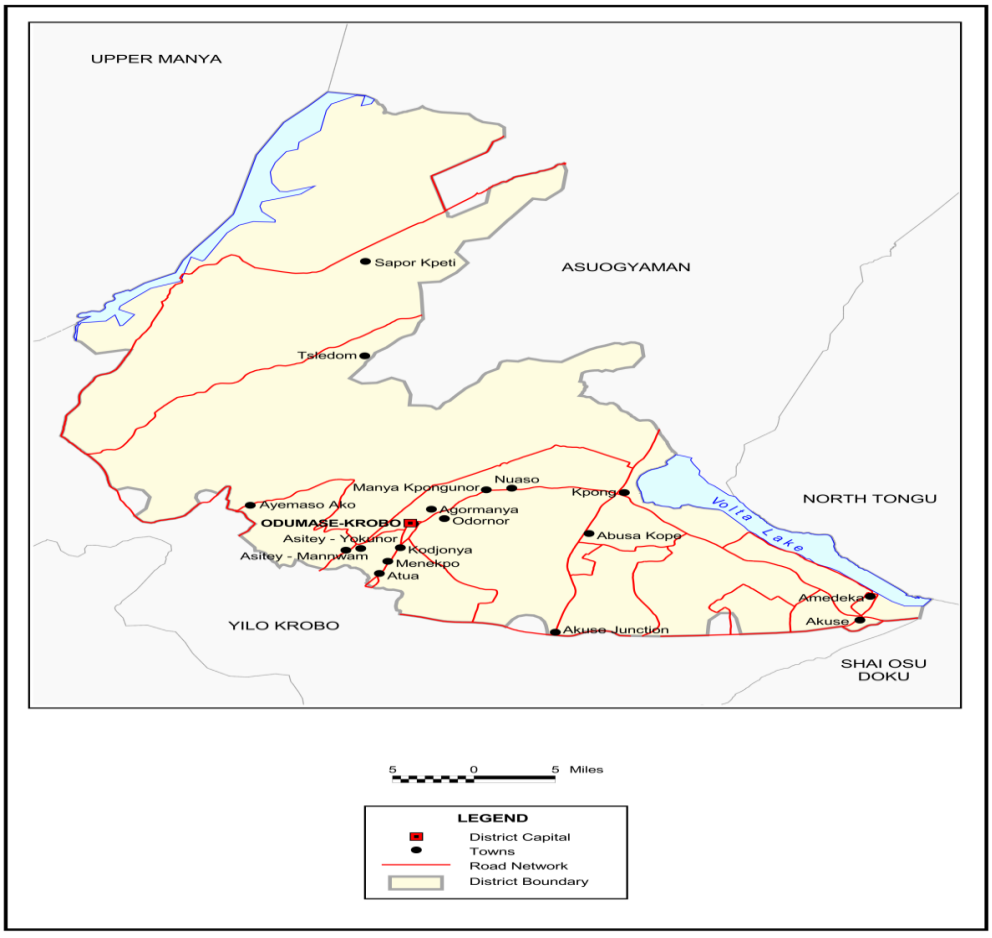
1. To assess the level of knowledge of hygiene practices of students in Akuse Methodist Senior High Technical School?
2. To explore the attitude of students' hygiene practices in Akuse Methodist Senior High Technical School?
3. To investigate factors associated with hygiene practices among students in Akuse Methodist Senior High Technical School.

1.8 Profile of the study area

The Lower Manya Kobo Municipal (LMKM) is one of the 33 administrative districts in the Eastern Region of Ghana. The Municipal came into existence as a result of the split of the then Manya Krobo District into Lower and Upper Manya Krobo in 2008. A Legislative Instrument (L.I.) 4026

elevated it to Municipality in July 2012 with Odumase Krobo as the Municipal capital. It covers an area of 304.4 sq. km, constituting about 1.7 % of the total land area within the Region (18,310 km). The major towns in the district include Odumase Township (which incorporates Atua, Agormanya and Nuaso), Akuse and Kpong. The district shares boundaries with Upper Manya Krobo District to the north, to the south with Dangme West and Yilo Krobo respectively, to the west with Yilo Krobo Municipal and to the east with Asuogyaman District.

DISTRICT MAP OF LOWER MANYA



1.9 Scope of the Study

The study was mainly focused on the Akuse Methodist Senior High Technical School in the Lower Manya Krobo Municipality. The issue of inadequate sanitation and hygiene facilities is evident in all schools. Therefore, the study's focus is to find out the factors associated with hygiene behaviors among students in the Lower Manya Krobo Municipality, Ghana. The study was equally focused on stakeholders in education, the Ghana Education Service in the Lower Manya Krobo Municipality.

1.10 Significance of the study

The issue of sanitation is one of the most pressing concerns in the country. Ghana has been a country that is challenged with sanitation problems, which is causing a very serious environmental health crisis. Poor sanitation poses serious threat to the health of people. It is in response to this compelling situation that this study is being undertaken. The study will provide inputs into school sanitation policy formulation in the country in general, and the study Municipality in particular. Enhancing sanitation in schools will boost the moral, confidence and hygiene behaviors of students.

The findings from this study may be utilized by the Ministry of Education to develop guidelines for hygiene practices. These guidelines may shared with all stakeholders involved in hygiene like teachers and district education offices as well as teacher training institutes and community health workers.

1.11 Organization of the thesis

This thesis is organized in six chapters. Chapter One, the introduction, contains the general background to the study, problem statement, research questions, research objectives, scope of the study, relevance of the study, and the organization of the thesis.

In the second chapter, a literature review is conducted, introducing the chapter. The chapter also examines empirical literature on the concepts of sanitation and factors that are associated with hygiene behaviors.

Chapter Three outlines the methodology employed in the current study, encompassing both the research methods and design. It delineates the essential procedures necessary for the successful execution of the research project.

Chapter Four presents the findings, comprising a summary of the prevalence of hygiene behaviors among students, socio-demographic, and factors associated with hygiene behaviors among students in Akuse Methodist High Technical School in the Lower Manya Krobo municipality.

In Chapter Five of this thesis, the key findings are discussed by placing them in context and establishing connections with previous research on factors associated with hygiene behaviors among students. This chapter also delves into the implications of the findings.

In conclusion, Chapter Six provides the study's final insights and offers recommendations for public health practice, policy, and further research concerning factors associated with hygiene behaviors among students in the Lower Manya Krobo Municipality.

CHAPTER TWO

2. 0 LITERATURE REVIEW

2. 1 Introduction

This chapter looks at previous studies conducted globally on the idea of hygiene behaviors and the variables related to hygiene behaviors in high school students.

There are five subsections inside it. The idea of hygienic practices is covered in the first subsection, as well as global sanitation. The second subsection provides an overview of global factors related to focusing just on high schools in the Lower Manya Krobo Municipality in terms of hygiene standards in Ghana's Eastern Region. In the subsections three and four, the theoretical framework and the study's conceptual framework is developed, indicating the variables related to practices related to hygiene. Ultimately, a synopsis of the examined literature is outlined.

2. 2 The concepts of sanitation and hygiene behaviors

Hygiene originates from "Hygeia," the Greek goddess of health. It is the science of health and encompasses all elements contributing to a healthy lifestyle. Personal hygiene involves bathing, wearing clean clothes, and practicing hand hygiene after using the toilet, as well as caring for nails, feet, and teeth. The objective of personal hygiene is to uphold cleanliness standards within the living environment.(Pal and Pal, 2017)

The term "hygiene" means keeping yourself and your surroundings clean to avoid getting sick. Hygiene involves cleaning to remove germs that can make you sick. Promoting good personal hygiene habits among family members and students can contribute to the prevention of many health issues. Inadequate personal hygiene and poor school cleanliness are major issues in

schools, particularly for younger children. If schools had clean water and good sanitation, most illnesses related to diarrhea could be prevented (Minda, 2022).

Hygiene is the practice that helps maintain an individual's health and is a key determinant of good health, varying according to one's morals and practices.(Ghosh *et al.,* 2020).

Hygiene behavior plays a critical role in preventing diseases related to water and sanitation. While water supply and sanitation facilities facilitate hygiene practices, the mere provision of these facilities has shown to be less effective. In 1991, Esrey unequivocally demonstrated that improved hygiene practices, including handwashing, food protection, and domestic cleanliness, led to a substantial 33% reduction in diarrhea incidence, surpassing the average reduction of only 15-20% achieved through improved water supply.(Bolt, 2020).

Maintaining good hygiene, which involves keeping oneself and the surroundings clean, is crucial for preventing illness and the spread of diseases. This practice plays a vital role in safeguarding an individual’s complete well-being, mainly in the fight against communicable diseases. In developing countries like Ethiopia, where preventable diseases are widespread and account for 80% of illnesses, promoting hygiene becomes even more essential. Higher education institutions (HEIs) in the country should focus on promoting hygiene among students to combat the prevalence of these diseases. Enhancing sanitation, cleanliness, and access to wholesome water is vital for substantially reducing the prevalence of infectious diseases. One of the most crucial infection control strategies is practicing good hand hygiene since it prevents the spread of bacteria, particularly in healthcare facilities (Gebreeyessus and Adem, 2018).

The fundamentals of social and economic development must include proper hygiene and sanitation practices, and provision of safe water, hence the quote from Mahatma Gandhi in 1923, ‘‘sanitation

is more important than independence''(Mara *et al.,* 2010). Sustained efforts geared towards enhancing any of these fundamental components have high positive returns on health thereby reducing morbidity and mortality and inadvertently improve the quality of life of the populace most importantly children in developing countries (Mara *et al.,* 2010).

Inadequate and unclean conditions, polluted water, and poor sanitation behaviors have a obvious impact on the disease burden. In the developing world, hygiene-related behavior is an epidemic that feeds the spread of illnesses linked to poor sanitation and hygiene. Improvements in hygiene behavior are crucial for preventing infectious diseases and reducing the risk of exposure (Assefa and Kumie, 2014).

In the field of medicine, hygiene practices are used to minimize disease transmission. The term is used in various contexts such as body hygiene which refers to the practices individuals undertake to maintain their physical well-being and health via cleanliness. The drive for hygiene on an individual level includes reducing personal illness, recovering from illness, maintaining optimal health and well-being, social acceptance, and preventing the spread of disease to loved ones. Personal hygiene can be maintained by adhering to high standards of personal care, and humans have recognized the importance of hygiene for thousands of years (Chowdhury *et al.,* 2024). The following practices are essential for preventing many diseases, especially contagious ones:

- Toilet hygiene: Remember to wash your hands after using the restroom.

- Shower hygiene: The frequency of showering depends on personal options, but it will be better for most people to take a shower at least every other day.

- Nail, hand and mouth cleanliness

- Sickness hygiene

Most health problems affecting children, like as diarrheal illnesses, skin disease, worm infestation, and oral disease, can be prevented by encouraging hygienic practices through proper health education. Educators, being the first point of contact in schools, play a crucial role in educating school children about basic personal hygiene, as they are vulnerable to neglecting these practices. (Chowdhury *et al.,* 2024). In Africa and South Asia, it has been reported that 62% and 31% of all deaths, respectively, are as a result of communicable diseases. According to the World Health Organization (WHO), 3.8 million children under five years old die from diarrhea and acute respiratory tract infections each year. Out of the total diarrheal deaths, 88% were estimated to be because of contaminated water, poor hygiene, and inadequate sanitation. Additionally, social rejection, bullying, low confidence, and low self-esteem can result from poor hygiene. A person's mental health can also affect how they take care of themselves. An integrated approach by parents, schools, and social circles will be beneficial to enhance hygiene practices (Chowdhury *et al.,* 2024).

Around the world, there are about 2.4 billion people who do not have daily access to proper sanitation, 758 million have no access to clean water, and 673 million still go to the bathroom in open areas. This results in about 80% of diseases in low-middle-income countries with 2million diarrheal cases every year. Poor personal hygiene in children can lead to significant developmental shortfalls, such as increased absenteeism, spreading infections to others, and causing parents to miss work. On average, about 1.9 billion cumulative days are lost each year due to preventable sickness in schools. Water-related illnesses result in approximately 443 million missed school days annually in the developing world, significantly contributing to school absences. (Minda, 2022). In Ethiopia, over 250,000 children die annually from WASH-related illnesses. Consistent person-to-

person contact in areas with poor hygiene status pose a significant risk to children and regrettably, many schools in Ethiopia do not have good water supply or toilet facilities for sanitation and hygiene purposes. (Minda, 2022).

Hygiene is a broad term that covers various activities, including hand hygiene (such as handwashing and using hand sanitizers like alcohol-based hand rubs), Food hygiene, dental hygiene, hygienic conditions in healthcare institutions, and control of menstrual hygiene. One problem is that there isn't a precise, globally accepted definition of hygiene. The World Health Organization (WHO) has created hand hygiene recommendations for use in medical settings and updates relevant materials on a regular basis. However, there is no internationally recognized definition or standard guidance on hand hygiene for households, schools, and other settings.(UNICEF and WHO, 2021).

The report by UNICEF and WHO in 2021 indicates that nearly 2.3 billion people, which is equivalent to three out of ten individuals globally, lack access to a basic facility with water and soap for handwashing in their homes. Shockingly, 670 million people have no handwashing facility at all. Furthermore, the lack of hand hygiene facilities extends to healthcare facilities, schools, and public places, despite evidence indicating that the availability of such facilities significantly influences regular hand hygiene practices in households and healthcare settings.

The COVID-19 pandemic has brought attention to the importance of hand hygiene in controlling diseases and has provided a platform to address it as a policy issue. The World Health Organization (WHO) emphasized the need for frequent hand hygiene as part of the comprehensive preventive measures to control COVID-19. However, there is a risk that the focus on hand hygiene during the pandemic may not continue in the long term. This report highlights the challenge of ensuring hand

hygiene is accessible in various settings including healthcare and educational institutions and other corporate and public spaces. It also presents successful instances from different countries and outlines key actions that governments and their partners should take to make hand hygiene accessible to everyone (UNICEF and WHO, 2021).

In Kenya, almost half of the residents lack access to safe water and 52% lack access to appropriate sanitation. A 2003 study in the Korogocho slums of Nairobi found that residents had very low knowledge of hygiene practices, with only 29% having received any hygiene training (Bolt, 2020).

In Uganda, there is delayed progress in the water sector, which has reduced the effectiveness of water and sanitation projects. The conventional approach has primarily concentrated on improving water supplies. As a result, 80% of disease occurrences in Uganda are attributed to inadequate sanitation (Bolt, 2020).

In developing countries, diseases related to hygiene and sanitation are a major problem. Many people get sick and even die because of these diseases. Improving hygiene behavior is the best way to prevent communicable diseases. When people exhibit the right attitude and have the right facilities, they can reduce their risk of getting sick (Assefa and Kumie, 2014b).

Maintaining good hygiene is essential in our daily lives. This includes keeping our homes, food and drinks, surroundings, and workspaces clean, as well as taking care of our personal hygiene to stay healthy (Pertiwi, and Nasiatin, 2022).

Hygiene problems are directly connected to many diseases, including skin, respiratory, and digestive diseases. These diseases are contagious in communities, especially in low-income and

unclean areas. They are also found in places where people interact frequently, such as dormitories or boarding schools (Pertiwi, and Nasiatin, 2022).

The interaction of factors like peer pressure, the availability of facilities and information, parents' education and career, have an impact on children's personal hygiene habits. In contrast to the 58% of kids in the negative category, 42% of students in Islamic board schools reported practicing personal cleanliness, according to a previous study. The study also discovered a relationship between information provision and knowledge on personal hygiene. It is crucial to have a basic understanding of personal hygiene to maintain good health (Pertiwi, and Nasiatin, 2022).

A study by Feachem R. G. found that our behaviors around neatness affect how easily diarrhea spreads. Simple actions like washing hands with soap can protect children from common deadly illnesses like diarrhea and lung infections. Just providing clean water and toilets isn't enough to lower sickness and death rates. We need to combine clean water, good toilets, and better habits to really reduce diarrhea and support lasting changes in behavior. Our attitudes, what we know, and what we believe all affect how we act. Not knowing or caring enough about personal cleanliness can harm a child's long-term health. In Ethiopia, a study found that 60% of students didn't know that diseases can spread through human waste (Assefa and Kumie, 2014).

Pertiwi and Nasiatin's 2022 study found that students lacking information/socialization about personal hygiene (69.2%) show less prevalent hygiene behavior compared to those who receive information/socialization (46.9%). Boarding school students (53.13%) are more likely to receive information/socialization about good personal hygiene than public-school students (less than 30.8%) (Pertiwi, and Nasiatin, 2022). In a study involving school adolescents across multiple

countries, it was found that 80% reported brushing their teeth daily. However, more than 5% of students admitted to brushing their teeth "less than once a day or never" in half of the countries, with the highest percentage (10.0%) in Zambia.

Twenty-two percent of school-age adolescents in nine African countries had poor oral hygiene (brushing less than twice daily), sixty-two percent had poor hand hygiene (not always washing hands before meals), fifty-eight percent had poor hand hygiene (not always washing hands after using the restroom), and thirty-five percent had poor hand hygiene (not always using soap). 17.1% of people in six Southeast Asian nations had poor oral hygiene, 44.8% had dirty hands before meals, 31.9% had dirty hands after using the restroom, and 55.8% had dirty hands after using soap (Pengpid and Peltzer, 2020).

Making sure that all can access clean water, good sanitation, and practices proper personal hygiene can greatly reduce the risk of diseases like cholera, typhoid, dysentery, diarrhea, and intestinal worms that are related to water and sanitation. Just providing water and sanitation facilities is not enough to decrease these diseases. To make a real difference, it's important to also encourage people to use and take care of these facilities properly by changing their behaviors to avoid practices that increase the risk of hygiene and sanitation-related diseases (Bolt, 2020).

2. 3 Knowledge and Attitude of Hygiene Behaviors

In crowded environments such as schools, outbreaks of illness are common. To improve school health and promote student well-being, it's important for health policymakers to implement effective personal hygiene education programs and evaluate students' knowledge and practices. This evaluation can also guide future research in this area. By promoting hygienic practices

through appropriate health instructions, teachers can help prevent common health issues among children. (Khamaiseh and Leimoon, 2024).

Public health issues in developing countries include the need for pupils to have better comprehension of personal hygiene practices which will minimize sick days and school absenteeism and increase attainment of higher grades (Khamaiseh and Leimoon, 2024).

To prevent communicable diseases and help primary school students lead healthy and fruitful school lives, proper personal hygiene knowledge and practices are crucial. Personal hygienic practices that can prevent communicable diseases among children include handwashing with soap under running water, brushing teeth, taking baths, and clipping nails. The development of positive values about health and using health services are all dependent on a sense of responsibility for personal hygiene that begins in childhood. Personal hygiene among children is affected by various factors such as family, community, and individual attitudes. The lack of awareness of the health benefits of personal hygiene contributes to poor health among schoolchildren (Morsy *et al.,* 2023).

Childhood is a fundamental stage in life to encourage hygiene practices which will translate to healthy adulthood fostering positive perceptions about health and healthcare practices. The inability to do this results in poor health outcomes. Previous studies have revealed that gastrointestinal and respiratory symptoms are less likely to be reported in children who practice hand hygiene (Rahman *et al.,* 2019).

It is imperative to instill the right knowledge about hygiene in children and adolescents considering these stages of life are critical windows. This will become a habit in adulthood and can be passed on from generation to generation. Therefore, schools must be engaged in developing healthy habits in children (Rahman *et al.,* 2019).

One of the major concerns regarding public health in developing countries is the burden of communicable diseases. Recently, a rise in communicable diseases has been seen which could be attributed to a lack of personal hygiene. Such factors could be fixed and taught during childhood. The most common health problems associated with poor personal hygiene include diarrheal diseases, skin infections, worm infestations, and respiratory tract infections, among others (Morsy *et al.,* 2023). The schools are a supportive environment that plays a key role in health promotion activities and at the same time, it is a spot where the spread of infections occur from one to another. School teachers are supposed to play a key role in educating children about the essential behaviors that should be followed for the prevention of infections, which improve their attitude and behavior towards personal hygiene. The lack of personal hygiene coupled with poor sanitation favors the spread of infections. Chronic infections which are common among school children in developing countries often exacerbate the poor health they already have, causing them to miss school and perform poorly in the classroom, in addition, to increasing morbidity and mortality (Morsy *et al.,* 2023).

It can be overemphasized that personal hygiene and good sanitation contribute to positive health outcomes in communities. This has been revealed in many studies some of which have indicated hygiene's contribution to microorganism transmission, infections of the gum, and reproductive tract infections (Chaovirachot, 2022). Hand hygiene and proper fecal disposal are among a variety of healthy practices homes should adapt to continue disease prevention (Prah *et al.,* 2018). In Ethiopia, more than half of children recruited for a study indicated a lack of knowledge about disease spread through human waste (Assefa and Kumie, 2014). Thus, knowledge transfer and awareness creation should be emphasize to influence perceptions on hand hygiene. In Ghana, it

has been found that inaccessible hygiene facilities in schools and home contribute to children's inability to translate knowledge gained on hygiene into practice (Assefa and Kumie, 2014).

School hygiene involves maintaining health and preventing diseases among students and staff in educational settings, encompassing personal hygiene practices like handwashing and dental care, as well as environmental factors. School hygiene is a crucial practice in educational settings to ensure the health and well-being of students and staff. School hygiene promotes cleanliness, health, and a safe environment, including personal hygiene habits like handwashing and dental care, fostering healthy behaviors among students for their well-being and academic success (Chakraborty and Ray, 2024). It involves maintaining clean and sanitized facilities, proper waste disposal, regular cleaning schedules, and adequate ventilation. Personal hygiene habits like handwashing, covering mouth and nose when coughing or sneezing, and maintaining cleanliness of personal belongings contribute to overall hygiene standards. These practices not only reduce absenteeism but also foster a conducive learning environment. Implementing comprehensive hygiene protocols based on evidence-based guidelines ensures schools remain safe and healthy environments for all involved. Effective school hygiene is important curbing the transmission of infectious diseases and improving overall student attendance and performance (Chakraborty and Ray, 2024).

A study conducted in Cape Coast, Ghana, showed that the students had knowledge and engaged in hygiene practices such as washing fruits and vegetables before consumption and do not repeat undergarments (Prah *et al.,* 2018). Other researchers have also reported that although some students have knowledge of hand hygiene, when asked to demonstrate, they did it in the wrong manner, which could also lead to hygiene-related illnesses (Dubik *et al.,* 2018). As reported by the study, only a few students wash their hands with good running water and soap. There was also the

assumption of washing hands with ash and mud in place of the soap. While many believed one could not wash with ash and water, there were others who believed mud can be used in place of the soap. However, the majority opined that soap was the best to use for washing hands (Dubik *et al.,* 2018).

Schools are not the only centers with hygiene problems, health facilities across the globe particularly in developing countries also lack adequate hand hygiene facilities and products. The issue of hygiene is of global importance and it is part of the Sustainable Development Goals (SDGs). Goal 6 mandates that by 2030, all parties on planet Earth have access to sanitary supplies (UNICEF and WHO, 2021). Advocacy for handwashing worldwide will go a long way to decrease the transfer of diseases such as during the COVID-19 pandemic which gave much attention to basic handwashing. Regardless of the efforts with international support to promote hand hygiene, it is still lagging and this rate could mean inaccessible hygiene facilities to about 1.9 billion people by 2030 (UNICEF and WHO, 2021).

2. 4 The Availability of Soap and its influence on the Implementation of Hygiene Practices

Hand hygiene is a practice that has been proven to help the control of infectious diseases. This goes miles to decrease the burden of disease globally. It has been established by the WHO that this basic practice should be done with soap and water to clean dirt and microorganisms (Sultana *et al.,* 2016). There is evidence that washing hands with soap and water is less costly in the prevention of diseases and has the potential to minimize diarrheal conditions up to 47% and pneumonia up to 50% (Berhanu *et al.,* 2022). Handwashing is a proven conqueror in the fight against outbreaks like Ebola and cholera. Many still do not consider the benefits of this act, there are reports to

demonstrate that many practice this act less than five times in a day with only a few (22.5%) washing their hands more than eleven times in a day. For some, it was because they kept forgetting and for others, the availability of hand sanitizers was a go to than washing hands (Sultana *et al.,* 2016).

Many may engage in handwashing but without soap due to its availability. Berhanu and colleagues found in their study that only 193 out of the total participants washed their hands with soap and clean water (Berhanu *et al.,* 2022). Many infectious disease-related deaths can be avoided if handwashing could be done with soap as this helps remove germs contracted from using toilets, coughing, playing and touching contaminated surfaces. Unfortunately, less than half of households recruited for a 2015 study in 54 countries practiced handwashing with soap, an alarming figure that needs to be addressed (Omari *et al.,* 2022).

Reducing child mortality by 2030 according to SDG 3 may be far-fetched for Ghana if records are showing over 10,000 children lose their lives annually from diarrhea and pneumonia. To achieve this, handwashing with soap and clean water should be encouraged and amenities provided to encourage this practice and increase the current 20% of the populace engaging in the right act of handwashing. (Dubik *et al.,* 2018). The knowledge level of handwashing is quite impressive as found in many studies, yet the practice is gravely low. The knowledge levels of the essence of handwashing must be impressed on many especially school children and measures must be implemented to enhance the practice of the knowledge in the proper manner (Dubik *et al.,* 2018). In the absence of soap and water, one can utilize ABHR which when used correctly could also be effective (UNICEF and WHO, 2021)

2. 5 The Availability of Water and its influence on the Implementation of Hygiene Practices

A UNICEF evaluation reported that only 51% and 49% of schools in low-income countries had enough water and sanitation resources respectively. These schools provide students with consistent access to clean water for washing and drinking (McMichael, 2019). For instance, Bangladesh faces a major challenge in the water, sanitation, and hygiene sector (Akter and Ali, 2014).

Many developing countries are challenged with water issues even for drinking and cooking. This makes it more difficult to consider water for handwashing which for many is negligible.

2. 6 The Availability of Toilets and its influence on the Implementation of Hygiene Practices

The disposal of human waste must be done in a proper way to contribute to health promotion. The availability of toilet facilities also necessitates good hygiene practices. According the WHO, the provision of facilities for disposing human waste is a major component of sanitation. Improper disposal of human waste contaminates water and soil used for agricultural and household purposes causing persistent conditions like cholera and malnutrition (Ganguly and Satpati, 2019). Taking Bangladesh as a case study, almost half of the people live below the poverty line. Among these, about one-third resort to open defecation for the lack of facilities. This contributes greatly to the pollution of the environment which becomes unsafe not only for the entire population but mainly for children who are still developing.

Records show 88% of the 1.5 million children who die form diarrheal diseases is due to insufficient hygiene and sanitation conditions as well as lack of clean drinking water (Akter and Ali, 2014).

In the Kintampo area of Ghana, a study revealed only 39.88% of the study participants washed their hands with soap and water because these were available as well as a designated place of excretion (Dubik *et al.,* 2018).

Behavior change spans over a period with the right information and facilities. Toilet facilities must be part of every constructed house to prevent open defecation which can contribute to forgetfulness of washing hands. The availability of infrastructure is very crucial in altering behaviors. It has been demonstrated, for example, that the availability of handwashing facilities serves as a cue or reminder and helps to mitigate some of the factors that may discourage handwashing (UNICEF and WHO, 2021).

Interventions aimed at promoting hand hygiene must to be planned with an awareness of people's concerns in mind. They should also incorporate pertinent social norms to incite and reinforce hygiene behavior as well as ulterior motives and feelings that will alter people's long-term perspectives. These are repulsion (the want to stay away from anything polluting), nurturing (the desire to tend to, watch over, and protect children), and affiliation (building a sense of solidarity in the home and society).Programs to change hygiene behavior have been shown to be effective when they employ multimodal approaches, address a variety of determinants, and alter behavioral settings by putting in place infrastructure with visual cues—sometimes called "nudges"—to alter the setting in which behavior takes place (UNICEF and WHO, 2021).

CHAPTER THREE

3. 0 METHODOLOGY

3. 1 Introduction

The techniques used to gather information from the respondent are covered in this chapter including the data collection procedure, ethical issues and analysis.

3.2 Research Methods and Design

A quantitative cross-sectional survey was employed in this study to allow for the collection of numerical data, making it easier to quantify and measure the number of students who face the factors associated with hygiene behaviors. This is because data was collected at one time. The main advantage of this research design is that it allows for gathering a relatively large data within a short period of time. However, it is limited by its inability to account for transient influences on the variables of interest.

3.3 Data collection and tools

Data was obtained from Akuse Methodist High Technical schools in the Lower Manya Krobo Municipality in the Eastern Region of Ghana in June 2024. Self-administered questionnaires were distributed to the participants in the school by the researcher and a trained research assistant. The questionnaire used for the study was in four major parts. Part one of the questionnaire measured the socio-demographic, it gathered information such as, gender, form, family background, religion.

Part two measured knowledge of hygiene practices; it gathered information such as boiling water killed germs, water containers needed cleaning and covering, human feces contained germs, materials used for anal cleaning, and materials used for bathing.

Part three measured attitude of hygiene practices, included, handwashing every day, brushing teeth, reason for skipping handwashing, availability of soap for handwashing at home.

Part four measured factors associated with hygiene practices, included, availability of water, soap and toilets.

3.4 Study Population

The study was conducted at Akuse Methodist High School in the Lower Manya Krobo Municipality, Ghana. The data was collected from 271 students through a questionnaire that was made and administered to all selected High School students, from form 1 to form 3.

3.5 Study variables

3.5.1 Outcome Variables

The outcome variables in the study were knowledge and attitude of hygiene practices, availability of soap, water and toilets.

3.5.2 Explanatory Variables

The explanatory variables in this study were socio-demographic factors such as gender, form, parents' background and Religion.

3.6 Inclusion Criteria

All students who were present and selected at Akuse Methodist High Technical School in Lower Manya Krobo Municipality during the study period from 1st May to 30th August 2024.

3.7 Exclusion Criteria

All students who were not present and also present but did not consent to the study were excluded from the study. The study also excluded any student who was on campus but sick and has been excused to take a sick rest.

3.8 Sample Size and Sampling Technique

The Cochran formula was used to arrive at the sample size as shown below:

$$n = \frac{Z^2 \times (P)(1-P)}{d^2}$$

Where;

Z = Reliability co-efficient (1.96 of 95% CI)

P = Proportion of study population = 0.8, (Seidu *et al.,* 2021)

d = margin of error (0.05 or 5%).

n= the estimated sample size

Therefore,

$$n = \frac{1.96^2 \times (0.8)(1-O.8)}{0.05^2} = 245.86 \approx 246$$

A 10% non-response rate was estimated on the calculated sample (≈ 25) and then added to it bringing the total working sample to 271.

3.8.1 Sample Technique: The researcher used the systemic sampling, where he gathered students in the School's Conference Hall and he distributed the questionnaires to them, two students were considered as interval between those who were getting questionnaires, after that he told those who did not get questionnaires to rejoin their respective classrooms.

3.9 Pre-Testing

The pretesting of the questionnaires for the study was done among a sample of 15 students who were randomly selected from King David College in Lower Manya Krobo Municipality. The pre-test was made it possible to test the participants' level of understanding and help to further refine questionnaires. Necessary changes were made after the pre-testing

to ensure the reliability of responses. It helped to test the participant's level of understanding of the questionnaire. Results from the pretesting were not included in the main study.

3.10 Data Handling

All data was confirmed for consistency, coded, and keyed into Microsoft Excel spreadsheet 2016. The principal investigator was in charge of data handling. Data collected with questionnaires was assessed for completeness and errors. All data sets and work done were sent to the investigator by email and external drive which were under data protection, all hard copies were retrieved and stored appropriately.

3.11 Data Collection Procedure and Analysis

The survey was conducted to gather data on sociodemographic traits, high school students' knowledge and attitudes about hand washing, and whether or not schools had facilities for students to wash their hands. To avoid interfering with instructional time, the researcher was available to explain the questions to students who found them difficult to read and comprehend on their own during break times. A total of 32 questions which took about 15-20 minutes for each participant to complete.

The importance of respondents' involvement in the study and their rights as respondents was explained to the consenting target population. Participants were assured of the confidentiality and anonymity of any information provided on the questionnaire. The questionnaires were both self-administered and researcher-assisted to the respondents after seeking their informed consent. Only consenting participants were included in the study. All individuals within the population who declined to participate were excluded.

Data analysis was done after the data had been entered into excel and cleaned with the Statistical Package for Social Sciences (SPSS) software, version 20.0. Percentages in tables was computed for variables.

3.13 Ethical Issues

Ethics encompass fundamental principles of proper conduct, particularly in research involving the gathering of data on individuals. In order to safeguard privacy, confidentiality was ensured. Prior to commencing the study, ethical clearance was sought from the Ethical Review Committee of Ensign Global College. Also, administrative consent was requested from the Municipal Education Directorate and the leadership of the school prior to data collection. Throughout the research process, ethical principles was observed to ensure that the outcomes of the study meet

set standards. Informed consent was obtained from all participants guaranteeing their voluntary participation and the confidentiality of their personal information. Information that is easily understood regarding the goals, methods, advantages and disadvantages, and voluntary nature of

of the participation was given to students. The privacy and confidentiality of research participants were protected.

3.14 Dissemination of results

The results of this study will be shared with the various participants, Ensign Global College and the Ghana Health Service. Finding will also be presented at conferences and published in a peer-reviewed journal of high reputation.

3.15 Limitations of the Study

During the data collection at Akuse Methodist High Technical School, we included Form 1, 2 and 3, but once on the field we found form 2 and 3 writing their exams we could not reach them, we then gathered form one in the Conference Hall and we shared the questionnaires among them by using systematic sampling technique, where considered two students as an interval between those who received the questionnaires and those who did not receive the questionnaires the researcher told them to rejoin their respective classrooms.

3.16 Assumptions

The study assumed each participant was of sound mind and that they were very truthful with the answers provided. It was also assumed that each student participant willingly offered to be part of the study without any form of coercion. The study further assumed that knowledge and attitude toward hygiene practices vary from one student to another. It was further assumed that socio-

demographic factors and parents' background would significantly influence the level of knowledge of hygiene practices in the selected students.

CHAPTER FOUR

4. 0 RESULTS

4. 1 Introduction

The data gathered from students at Akuse Methodist High School in the Lower Manya Krobo Municipality in Ghana's Eastern Region regarding aspects related to hygienic behaviors is analyzed, presented, and interpreted in this chapter. Data interpretation is based on the research questions and the information gathered. Students from the school that was the subject of the study provided data via questionnaires. Using descriptive statistics, the analysis was carried out. In order to make important decisions about the study's several objectives, the replies were compiled and presented as frequencies and percentages.

4. 2 Demographic characteristics of respondents

A total of 271 respondents participated in the study. The finding in Table 1 revealed that (42.1%) were male students while the remaining (57.9%) were female. On exploring the residential status of respondents, the study showed that about 38% of the total participants were in the rural area, and 62% were in the urban area. With respect to the professed belief system of the respondents, 1.1% of the study participants ascribed to the African Traditional religion, 11.1% were Muslims and 87.8% were Christians. The study also showed that 30.6% have their mothers not being literates in English, the official language of the country, 69.4% have their mothers being literates and 23.6% have their fathers not literate, 76.4% have their fathers being literates.

Table 1: **Distribution of Students by Gender**

Variables	Frequency	Percentage
Gender		
Female	157	57.9%
Male	114	42.1%
Class of students		
Form 1	271	100%
Family residence background		
Rural area	103	38%
Urban area	168	62%
Religion		
African Traditional religion	3	1.1%
Christianity	238	87.8%
Islam	30	11.1%

Fathers' literate status		
Yes	207	76.4%
No	64	23.6%
Mothers' literate status		
Yes	188	69.4%
No	83	30.6%

Source: *Field data, 2024*

4.3 Knowledge of hygiene practices

To ascertain the knowledge and practices level of hygiene by the respondents, several questions were posed directly to each of the study participants.

From Table 2, most of the students 265 (97.8%) indicated that boiling water kill germs and 6 (2.2%) indicated that boiling water kill germs. 269 (99.2%) revealed that water container needs cleaning and covering while 2 (0.8%) said water container does not need cleaning and covering. The study showed that 174 (64.21%) use paper for anal cleaning, 89 (32.86%) use water, 6 (2.21%) use leaf, 1 (0.36%) uses stone and 1 (0.36%) uses nothing. 265 (98%) said that they use brush and toothpaste, 4 (1,5%) use twigs and 2 (0.5%) use other. To hear about hygiene 167 (62%) said that they heard about hygiene at school, 97 (36%) said at home and 7 (2.6%) said from other.

Table 2: **Knowledge of hygiene practices**

Variables	Frequency	Percentage
Boiling water kill germs		
Yes	265	97.8%
No	6	2.2%
Water container needs cleaning and covering		
Yes	269	99.2%
No	2	0.8%
Human feces contain germs		
Yes	209	77.1%
No	62	22.9%
Materials use for anal cleaning		
Paper	174	64.21%
Leaf	6	2.21%
Stone	1	0.36%
Water	89	32.86%
Nothing	1	0.36%
We can get infected through human waste		
Don't know	16	5.9%
No	15	5.5%
Yes	240	89%
Which materials do you use for bathing?		

Water and soap	271	100%
Which materials do you use for cleaning teeth?		
Twigs	4	1.5%
Brush and toothpaste	265	98%
Other	2	0.5%
Where did you hear about hygiene?		
Home	97	36%
School	167	62%
other	7	2.6%

Source: *Field data, 2024*

4.4 Attitude of hygiene practices

The students were asked to know their attitude of hygiene practices. According to the findings in Table 3, 238 (88%) wash their hands every day and 33 (12%) do not wash their hands every day, 257 (95%) wash 1-2 time a day and 14(5%) after each meal and also 153 (56%) keep forgetting was their raison not to wash their hands every day, 41 (15%) was no available time, 30 (11%) was poor water supply, 26 (9.6%) was no need and 21 (7.7%) was far from water and soap. The study also showed that only 255 (94%) were having soap available for hand washing at home and 16 (6%) were not having soap available for hand washing at home.

Table 3: **Attitude of hygiene practices**

Variables	**Frequency**	**Percentage**
Do you wash hands everyday		

Yes	238	88%
No	33	12%
If yes how many times a day		
1-2 times	257	95%
After each meal	14	5%
What are the reasons for skipping handwashing at home		
No need	26	9.6%
No available time	41	15%
Keep forgetting	153	56%
Far from water and soap	21	7.7%
Poor water supply	30	11%
Do you have soap available for handwashing at home		
Yes	255	94%
No	16	6%

Source: Field Data, 2024

4.5 Regular Availability of soap for Hand Washing after visiting the Toilet

Students' responses on a Likert scale regarding the provision of soap to wash hands after using the restroom showed 221 (81.6%) indicating that the school did not provide students with soap for handwashing after visiting the toilets and 50 (18.4%) said that they school provided students with soap after visiting the toilets, in those who yes 45 (16.6%) said the type of soap was liquid and 5 (1.8%) said the bar soap, 193 (71%) disagreed about the availability of soap after visiting the toilets, 55 (20%) agreed and 23 (9%) were neutral.

Table 4: **Availability of Soap for hand washing**

Variables	**Frequency**	**Percentage**
Does the school provide students with soap for handwashing after visiting the toilets?		
Yes	50	18.4%
No	221	81.6%
If Yes, what types of soap does the school provide?		
Bar soap	5	1.8%
Liquid soap	45	16.6%
Soap for hand washing after visiting the toilets is always available		

Disagree	193	71%
Neutral	23	9%
Agree	55	20%

Source: *Field Data, 2024*

4.6 Regular Availability of Water for Hand Washing after Visiting the Toilet

Students were also asked if they always had water to wash their hands after visiting the washroom. Their responses were based on a Likert scale. Findings are summarized in Table 5 below, where the majority of students 202 representing (75%) revealed that the school provide students with drinking water and 69 (25%) said that the school did not provide students with drinking water. 103 (38%) said the drinking water was safe, 93 (34%) said the drinking water was unsafe, 75 (28%) said that they could not say. 209 (77%) said that the school provide students with water for handwashing after visiting the toilets, 62 (23%) said that the school does not provide water students with water for handwashing after visiting the toilets. And 139 (51%) agreed that water for handwashing was always available, 96 (35%) disagreed that water for handwashing was not always available, and 36 (13%) was neutral.

Table 5: **Availability of Water**

Variables	**Frequency**	**Percentage**
Does the School provide students with drinking water		
Yes	202	75%

No	69	25%

What do you think about drinking water in your school

Safe for drinking	103	38%
Unsafe for drinking	93	34%
Can’t say	75	28%

What is the best way to drink water

With a clean container	265	98%
With hands	4	1.5%
Don’t know	2	0.7%

Water is provided by the school for handwashing

Yes	209	77%
No	62	23%

The water is always available

Disagree	96	35%
Neutral	36	13%
Agree	139	51%

There are enough water stations for hand washing		
Disagree	141	42%
Neutral	54	20%
Agree	103	38%
Students always wash their hands after visiting the Toilets		
Disagree	87	32%
Neutral	54	20%
Agree	130	48%

Source: *Field Data, 2024*

4.7 Availability of Toilets

Again, students were asked about the availability of toilets on a Likert Scale. From the results in table 6, the majority of students 265 (98%) indicated that the type of toilets that the school had, were pit latrine and 6 (2%) said the flush toilets. 164 (61%) disagreed that the toilets were not regularly cleaned, 61 (23%) agreed that the toilets were always cleaned and 46 (17%) were neutral. Also 124 (46%) said that the school provide girls with disposal bins for their sanitary pads while 147 (54%) said that the school does not provide girls with sanitary towel disposal bins.

Table 6: **Availability of Toilets**

Variables	Frequency	Percentage
Type of toilet in the school		
Pit latrine	265	98%
Flush toilets	6	2%
All toilets have lockable doors that provide privacy		
Disagree	232	86%
Neutral	15	5.5%
Agree	24	8.5%
Toilets are frequently cleaned and are always used properly by students		
Disagree	164	61%
Neutral	46	17%
Agree	61	23%
There is sanitary towel disposal bins		

Yes	124	46%
No	147	54%
If yes, where are the disposal bins located		
Inside the toilets	41	15%
In the bathrooms	21	8%
Far from the toilets	209	77%
Sanitary towel disposal bins in the school are emptied regularly		
Disagree	114	42%
Neutral	47	17%
Agree	110	41%
Students always wash hands after visiting the Toilets		
Disagree	135	50%
Neutral	54	20%
Agree	82	30%

Students always dispose used sanitary towels in the disposal bins		
Disagree	120	44%
Neutral	33	12%
Agree	118	44%

Source: *Field Data, 2024*

4.8 Factors associated with hand washing among High School Students.

In the absence of other factors (Bivariate analysis), the school provides students with water for hand washing after visiting the toilets with the (p<0.001), presence of soap for hand washing (p<0.001), gender (p>0.005), these factors were found to be linked to hand washing practices at 95% level of significance. Other factors father literate (p>0.9), mother literate (p>0.5), religion (p>0.9) were not associated with hand washing practices.

Table 7: Bivariate analysis Results for factors associated with hand washing among High School Students.

Characteristic	1 Disagree (D), N = 96[1]	2 Neutral (N), N = 36[1]	3 Agree (A), N = 139[1]	p-value[2]
The school provides students with water for washing hands after visiting the toilets				
Yes	55 (57%)	29 (81%)	125 (90%)	<0.001
No	41 (43%)	7 (19%)	14 (10%)	
Soap for hand washing after visiting the toilets is always available				
1 Disagree (D)	87 (91%)	20 (56%)	86 (62%)	<0.001
2 Neutral (N)	2 (2.1%)	8 (22%)	13 (9.4%)	
3 Agree (A)	7 (7.3%)	8 (22%)	40 (29%)	
Gender				
Female	68 (71%)	20 (56%)	69 (50%)	0.005
Male	28 (29%)	16 (44%)	70 (50%)	
Father's Literate Status				
Yes	74 (77%)	28 (78%)	105 (76%)	0.9
No	22 (23%)	8 (22%)	34 (24%)	

Mother's Literate Status				
Yes	65 (68%)	28 (78%)	95 (68%)	0.5
No	31 (32%)	8 (22%)	44 (32%)	
Religion				
African Traditional religion	1 (1.0%)	0 (0%)	2 (1.4%)	0.9
Christianity	84 (88%)	34 (94%)	120 (86%)	
Islam	11 (11%)	2 (5.6%)	17 (12%)	

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

Discussion of the findings in comparison with previous literature is undertaken. It also highlights the contextual explanations and implications of these findings for students' health and well-being. The chapter is divided into four sub-themes, and these include socio-demographic characteristics, knowledge of hygiene practices, attitude toward hygiene practices, and factors associated with hygiene practices among students.

The main objective of this research was to identify predicting factors of hygiene among students in Akuse Methodist High Technical School in the Lower Manya Krobo Municipality, Ghana. This came about following an extensive analysis of the literature, which showed that the majority of the schools in the research area had a preponderance of unhygienic behaviors.

The specific objectives were, to evaluate the level of knowledge of hygiene practices of students in Akuse Methodist Senior High Technical School, to explore the attitude of students' hygiene practices, to investigate factors associated with hygiene practices among students in AMEST The researcher targeted 271 students from the Akuse Methodist High Technical School. The details of the various themes are discussed with reference to relevance literature.

5.3 Summary of the Findings

The findings are presented in alignment with the specific objectives of the study.

5.4 Knowledge of hygiene practices

269 (99.2%) participants revealed that water container needs cleaning and 265 (97.8%) indicated that boiling water kill germs. The researcher found that students in Akuse Methodist High Technical School had sufficient knowledge on hygiene practices which correlates with the study conducted by Omari et al where a total of 82.2% of respondents had good knowledge of the materials that are used for handwashing (Omari *et al.,* 2022).

5.5 Attitude of hygiene practices

The students were asked to know their attitude of hygiene practices. From the study findings 238 (88%) wash their hands every day and 33 (12%) do not wash their hands every day. The researcher found that the majority of students had an attitude of handwashing every day just like (Benja, 2021) who found out that over 77% of senior high students in the Kabale District Uganda, who visited the restroom washed hands with soap and water.

5.6 Regular Availability of soap for Hand Washing after visiting the Toilet

81.6% (221) indicated that the school did not provide soap for them to wash their after visiting the toilets and 50 (18.4%) indicated otherwise. The availability of soap was most significant in students washing their hands after using the toilet.

5.7 Regular Availability of Water for Hand Washing after visiting the Toilet

Again, the majority of students 209 (77%) responded that there was provision of water to wash hands after using the toilets, while 62 (23%) said that the school did not provide water students with water for handwashing after visiting the toilets. The researcher found yet again that this had a positive influence on the engagement in hygiene practices among the students.

5.8 Availability of Toilets

A Likert scale was used to seek responses on the availability of toilet facilities. From the findings, the majority of students 265 (98%) indicated that the type of toilets that the school had, were pit latrine and 6 (2%) said the flush toilets. 164 (61%) disagreed that the toilets were not regularly cleaned, 61 (23%) agreed that the toilets were always cleaned and 46 (17%) were neutral. practices.

5.9 Socio-demographic characteristics and hygiene practices

57.95% of the respondents were males while 42.1% were male. The study showed that most of respondents 62% were from urban area and 38% were from rural area, and also most of them, 76.4% had their father literate and mother 69.4% and that has a notable impact on hygiene practices which aligns with the study conducted by (Khamaiseh and Leimoon, 2024).

5.10 Knowledge of hygiene practices

The results of the study indicated that most of the respondents knew hygiene practices among high school students at Akuse. The majority of people were correctly informed about food habits and personal cleanliness of daily bathing with water and soap 100%, cleaning teeth with brush and toothpaste 98%, most of students use paper for their anal cleaning 65.7% and water 36.5%. the majority 97.8% revealed that boiling water kill germs while 2.2% indicated that boiling water does not kill germs, also 77.1% declared that water container needs cleaning and covering, only 22.9% were opposed and most of respondents 62% heard about hygiene in school, 36% home and 2.6% other areas. This suggests that the participants were aware that taking a daily bath helps to remove any dirt they may have picked while using the lavatory. If students are to have a clean body at all times, this should also be encouraged. This corresponds with the health belief model assuming that knowing the benefits of a behavior is enough to illicit the change needed.

This aligns with the findings of (Pal and Pal, 2017) who found out that over 64.53% of students bath and cleansing of mouth after feeding 47.4%, in an urban slum.

The study also found, the majority 89% declared that we can be infected through human waste which contrasts the Ethiopian study which reported that more than half of the participants had no knowledge of how human waste contribute to the spread of diseases (Assefa and Kumie, 2014).

5.11 Attitude of practice hygiene (hand washing among high school students)

The majority of hand washing activities, which engaged 88% of the high school pupils, happened after they had used the restroom. This suggests that they knew washing hands helps to remove filth. If kids are to always keep their hands clean, this should also be emphasized. The findings are in line with those of (Benja, 2021) who found out that over 77% of secondary school children in the Kabale District Uganda, who visited the restroom washed their hands with soap and water. There was an indication that although students washed their hands, the frequency was not enough to help prevent diseases, ranging from three to five times a day. Compared to their homes where a separate soap was available for washing hands, students were likely to forget to wash their hands and may sometimes also not see the need to do so.

In a study involving health workers, when asked why they do not wash their hands, “forgetting”, and “being busy” were among the factors. These results are in agreement with a survey that was undertaken by (Sultana *et al.,* 2016) which showed that the majority of the students in Bangladesh did not exercise proper hand washing as a result of lack of access to hand washing supplies such as soap, towel and a source of clean, running water.

Furthermore, they concur with a survey conducted by Prah et al. (2018), in which the majority of participants stated they always wash their hands with soap and water. Some respondents

acknowledged not washing their hands after using the restroom, and the lack of soap and water was cited as the primary cause of this behavior.

In comparison with 88% of respondents who always washed their hands to a study conducted in Cape Coast, Ghana which showed that majority of the students (88.5%) reported that they always washed their hands before eating (Prah *et al.,* 2018).

Dubik and his counterparts in their study found that all the children surveyed iterated the importance of washing hands with soap and water. Less than half of them mentioned why they wash their hands, that is to prevent diseases. The study showed that (54%) of students knew the appropriate time for hand washing and stated them correctly which agrees with Mohammed Hussein et al (Hussein *et al.,* 2021).

5.12 Factors associated with hand washing among secondary school students

The provision and location of soap were significant in predicting handwashing behaviors among the students. Students reported that soap was hardly provided by the school and in cases where the school provided, it was positioned in areas distant from where they wash their hands. Other factors necessary for practicing hand hygiene among students were the availability and sufficiency of water and neat hygiene facilities. This was reported by 77% of the students who stated that the school had access to water for them to wash their hands. A similar finding was reported by (Benja, 2021) which and (Mbula, 2013).

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the conclusion, recommendations, and areas for consideration in further research.

6.2 Conclusions

The quest to minimize communicable diseases can be achieved and sustained with good hygiene practices like handwashing. Many studies on the subject has revealed the countries challenge in keeping up with SDG 6 which emphasizes the need for clean water and sanitation.

To make headway on this global agenda as a country, WASH initiatives especially in schools must be improved as well as intensified awareness creation on hygiene within schools and communities. The focus should also be channeled to young children. Interventions targeting increased parental support in improving hygiene behaviours are also essential in promoting better hygiene practices among in-school adolescents (Seidu *et al.,* 2021).

Drawing from the results of the study, it can be concluded that the majority of high school students washed their hands after they had been in the rest room; after using the toilet, and before and after eating food. Although the majority of the students washed their hands, many of them did this without soap, especially before eating food.

Moreover, according to the findings, most of students had knowledge on hand washing with water and soap after using the toilets.

The factors associated with hand washing practices were presence of water for hand washing**,** presence of soap for hand washing and cleanliness of hand washing stations. It was indicated that

most high schools could not provide soap for hand washing to students and though the school provided soap but it was always far from the toilets.

Although students had a moderate, knowledge but there is still the additional need for effective hand washing education in the schools.

6.3 Recommendations

To improve hand hygiene practices among the students, collaborative effort must be mobilized by all stakeholders to provide hygiene and sanitation facilities in schools like Akuse Methodist to allow the students to translate acquired knowledge into practice. More specifically,

The School Health Education Programme (SHEP) Unit of Ghana Education Service should collaborate with hygiene-oriented organizations to increase awareness on the benefits of hand hygiene in schools. This will bridge the gap knowledge and alter the way that students wash their hands. The Ghana Education Service ought to think about incorporating hand washing instruction into the curriculum, which would use instructors as intermediaries to impart the knowledge to the students. To help students apply what they learn in the classroom, hand-washing facilities ought to be provided in every school. Tippy taps are one affordable technique for doing this

Moreover, authorities and teachers should promote this habit during gatherings such as assemblies and club meetings. In addition to keeping restrooms and hand washing stations clean at all times to prevent contamination between students and teachers, this would aid in preventing diseases linked to inadequate hand hygiene practices among students.

The government, school administrators together with the teachers in Lower Manya Krobo Municipality Constituency should allocate enough funds to provide adequate hygiene facilities to motivate better hygiene practices for all students in the schools.

The researcher admonished that hygiene stations in schools should be clean at all times to influence students to practice handwashing.

6.4 Areas for further research

The researcher recommends subsequent studies to be carried out on the following areas:

i. A qualitative study in the school to establish whether similar factors are associated with hand-washing practices in Ghana.

ii. Future research should explore the role of guidance by teachers, parents and caretakers to promote hand-washing practices among students in secondary schools

REFERENCES

Sarkar, M., (2013). Personal Hygiene Among Primary School Children Living In A Slum Of Kolkata, India. *J Prev Med Hyg* 2013; 54: 153-158

UNICEF and WHO: State Of The World's Hand Hygiene, 2021.

Akter, T., Ali, A.,(2014). Factors Influencing Knowledge And Practice Of Hygiene In Water, Sanitation And Hygiene (Wash) Programme Areas Of Bangladesh Rural Advancement Committee. *Rural Remote Health*. 2014; 14(3):2628.

Assefa, M., Kumie, A., (2014). Assessment Of Factors Influencing Hygiene Behavior Among School Children In Mereb-Leke District, Northern Ethiopia: A Cross-Sectional Study. *Bmc Public Health* 14, 1000 (2014). https://Doi.Org/10.1186/1471-2458-14-1000

Benja, T., (2021). Factors Associated With Hand Washing Practices Among Secondary School Students In Ndorwa East Constituency In Kabale District. *Texila International Journal Of Public Health.* 9(4) Pg. 1-15 http://Dx.Doi.Org/10.1177/11786302231156299

Berhanu, A., Mengistu, D.A., Temesgen, L.M., Mulat, S., (2022). Hand Washing Practice Among Public Primary School Children And Associated Factors In Harar Town, Eastern Ethiopia: An Institution-Based Cross-Sectional Study. *Front Public Health.* http://Dx.Doi.Org/10.3389/Fpubh.2022.975507

Bolt, E., 2020. Personal Hygiene Behaviour. Water Engineering and Development Centre School of Architecture, Building and Civil Engineering Loughborough University Leicestershire

Chakraborty, B., Ray, S., (2024). Students' Knowledge and Attitude Towards School Hygiene: A Micro Study In Murshidabad District. World Journal of Advance Research and Reviews, 2024, 23(01), 1161-1168

Chaovirachot, N., (2022). Knowledge, Attitude And Practice Of Personal Hygiene Among Adolescent In Bangkok, Thailand: A Cross Sectional Study. *International Journal Of Healthcare Sciences* Vol. 9, Issue 2, Pp: (38-43): Www.Researchpublish.Com

Chowdhury, N.S., Adrita, E.A., Jahan, H., Chowdhury, N.N., Khandu, S., (2024). Knowledge and Practice about Personal Hygiene among Secondary School Children. *Primera Scientific Surgical Research And Practice* 3.6 (2024): 21-27.

Dubik, S.D., Addo, H., Amegah, K.E., Ojo, L., Loveland, F., Bechala, B.D., Benjamin, B.B., N.D. Hand Washing Knowledge And Practices Among Public Primary Schools In The Kintampo Municipality Of Ghana. *International Journal Of Community Medicine And Public Health*, *5*(6), 2205–2216. https://Doi.Org/10.18203/2394-6040.Ijcmph20182146

Ganguly, L., Satpati. Sanitation and Hygiene Status Among School Students: A Micro Study On Some Selective Schools Of North Dumdum Municipality Area, West Bengal. Journal Issues Irjpeh.19.015 |Pages: 127-131 |Vol.6(6),September 2019 https://doi.org/10.15739/irjpeh.19.015

Gebreeyessus, G.D., Adem, D.B., (2018). Knowledge, Attitude, And Practice On Hygiene And Morbidity Status Among Tertiary Students: The Case Of Kotebe Metropolitan University, Addis Ababa, Ethiopia. *Journal of Environmental And Public Health* https://Doi.Org/10.1155/2018/2094621

Ghosh, S., L Kabir, Md.R., Khan, Md.M.I., , Shill, L.C., Alam, S.S. Knowledge, Attitude, And Practice (Kap) Regarding Personal Hygiene Among Primary School Going Children In

Sadar Upazilla, Noakhali District, Bangladesh. *Indian Journal Of Public Health Research & Development.* https://Doi.Org/10.37506/Ijphrd.V11i6.10601

Hussein, A.M., Salih, A., Adam, S., Khattab, A., Burma, A., (2021). 81a Knowledge, Attitude And Practices Among Pupils Towards Hand Washing In Basic Schools-Ombadda Locality-Khartoum State. *Journal Of Epidemiology And Public Health Review* 2021.

Kabir, A., Roy, S., Begum, K., Kabi, A.H., Miah, M.S. Factors Influencing Sanitation And Hygiene Practices Among Students In A Public University In Bangladesh. Plos One. 2021 Sep 22;16 (9):E0257663.

Khamaiseh, A., Leimoon, H., (2024). Knowledge, Attitude, and Practice Of Personal Hygiene Among Primary School Students In Southern Jordan: A Cross-Sectional School-Based Study: https://Doi.Org/10.21203/Rs.3.Rs-3849230/V1

Kweku, M., Amu, H., Adjuik, M., Ayanore, M.A., Manu, E., Narh, C., Aku, F.Y. School-Based Hand Washing Using The 'Tippy-Tap' Intervention In Basic Public Schools Ghana: A Pre- And Post- Descriptive Study In The Volta Region. I*nternational Journal Of Infection Control* Vol. 16 No. 4 (2020)

Mara, D., Lane, J., Scott, B., Trouba, D. Sanitation And Health. 2010. Plos Med 7(11): E1000363. https://Doi.Org/10.1371/Journal.Pmed.1000363

Mbula, Es. (2013). Factors Influencing Implementation Of Hygiene Practices In Public Secondary Schools In Central Division Of Machakos District In Machakos County. Unpublished thesis.

Mcmichael, C. Water, Sanitation and Hygiene (Wash) In Schools in Low-Income Countries: A Review Of Evidence Of Impact. Int J Environ Res Public Health. 2019 Jan 28; 16(3):359.

Minda, G.H., (2022). Personal Hygiene Practice and Associated Factors among Elementary School Students in Fiche Town, Oromia, Ethiopia, Research Square: https://Doi.Org/10.21203/Rs.3.Rs-4173841/V1

Morsy, S.A., Alnezawi, R.A., Tulbah, A.H., Ahya, N.F., Alharbi, A.A., Ali, S.O.B., (2023). Knowledge, Attitude, and Practice Regarding Personal Hygiene Among Primary School Children In Jeddah, Kingdom Of Saudi Arabia. Bibliomed 2023; 7(8): 1081-1088

Omari, R., Baah-Tuahene, S., Zotor, F., Arthur, W., (2022) Handwashing knowledge, attitudes, and practices in Ghana. J Prev Med Hyg. 2022 Apr 26;63(1):E59-E68. doi: 10.15167/2421-

Pal, J., Pal, A.K.(2017), Knowledge, Attitude And Practice Of Personal Hygiene And Its Predictors: A School-Based Study Among Adolescent Girls In An Urban Slum. International Journal Of Medical Science And Public Health 6(9):16(9):1

Pengpid, S., Peltzer, K., (2020). Prevalence And Associated Factors Of Hand And Oral Hygiene Behaviour Among Adolescents In Dominican Republic, Suriname And Trinidad And Tobago. *Int. J. Environ. Res. Public Health 2020, 17*, 7860.

Pertiwi, W.E., Nasiatin, T., (2022). Prevalence And Factors Associated With Personal Hygiene Practice Among Students At Boarding School In Indonesia. Malaysian Journal Of Medicine And Health Sciences

Prah, J., Abdulai, M., Lasim, O., Ampofo-Asiama, A. (2018) Assessment Of Hygiene Practices Among Students At The University Of Cape Coast, Ghana. International Re-Search Journal Of Public Health, 2018

Rahman, Md.M. Ali, Md.A. Parvez, A., Shahriar, M., Rahman, T., Shameem, D., (2019) Knowledge And Practice Of Personal Hygiene Among Primary School Students In Dhaka, Bangladesh. Journal Of Pharmaceutical Sciences And Research 11(9):3140-314411(9):3140-3144

Seidu, A.-A., Amu, H., Salihu, T., Hagan, Jr, J.E., Agbaglo, E., Amoah, A., Abodey, E., Boateng, M.A., Ahinkorah, B.O. (2021) Prevalence And Factors Associated With Hygiene Behaviours Among In-School Adolescents In Ghana. *J 2021*, *4*(2), 169 181; https://Doi.Org/10.3390/J4020014

Sultana, M., Mahumud, R.A., Sarker, A.R., Hossain, S.M.(20111116) Hand Hygiene Knowledge And Practice Among University Students: Evidence From Private Universities Of Bangladesh. Risk Manag Health Policy. 2016 Feb 12;9:13-20. Doi: 10.2147/Rmhp.S98311.

Vishnupriya, S., Prasad, S., Bala Kasav, J., Trout, K., Murthy, S., Surapaneni, K.M., Joshi, A. (2015) Water And Sanitation Hygiene Knowledge, Attitudes And Practices Among School Settings In Rural Chennai. *Journal Of Water Sanitation And Hygiene For Development, 5* (2), 192-200. https://Doi.Org/10.2166/Washdev.2014.052

Vivas, A.P., Gelaye, B., Aboset, N., Kumie, A., Berhane, Y., Williams, M.A. (2010) Knowledge, Attitudes and Practices (Kap) Of Hygiene Among School Children In Angolela, Ethiopia. J Prev Med Hyg. 2010 Jun;51(2):73-9. Pmid: 21155409;

Zormal, F., (2016). School Sanitation, Hygiene, and Coping Strategies among Girls in Junior High Schools in the Wa Municipality, Ghana. Unpublished Thesis

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P. O. BOX 49
ODUMASE - KROBO

22ND APRIL, 2024

Email: lowermanyakrobo.edu@gmail.com/ lowermanyakrobo@ges.gov.gh

AKUSE METH SNR. ASCH / TECH. SCH.
P. O. BOX 47, AKUSE - E/R
RECEIVED
DATE 30-5-24

ALAIN KOUROUMA
ENSIGN GLOBAL COLLEGE
KPONG.

Dear Sir,

RE-PERMISSION TO CONDUCT YOUR RESEARCH AT THE AKUSE METHODIST SENIOR HIGH TECHNICAL SCHOOL.

You have been granted permission to conduct your research on the topic "Factors associated with hygiene behaviours among students" in the above named school.

Kindly ensure that you follow all standard ethical practices during your research activities in the school.

Should you encounter any challenge with regards to your engagements with the school, contact **Mr. Evans Tamatey on 0246414166** for further assistance.

We are eager to know your findings and recommendations.

All the best.

SAMUEL KWESI TETTEH
MUNICIPAL DIRECTOR

MUN. DIRECTOR OF EDUCATION
LOWER MANYA
ODUMASE - KROBO, E/R.

Cc:

- The Headmaster, Akuse Meth. Snr. High Technical School
- File

ENSIGN GLOBAL
COLLEGE

OUR REF: ENSIGN/IRB/EL/SN-253/02
YOUR REF:

April 29, 2024.

INSTITUTIONAL REVIEW BOARD SECRETARIAT

AKUSE METH SNR. HIGH / TECH. SCH.
P. O. BOX 47, AKUSE - E/R
RECEIVED
DATE 30-5-24

Alain Kourouma
Ensign Global College
Kpong.

Dear Alain,

ETHICAL CLEARANCE TO UNDERTAKE POSTGRADUATE RESEARCH

At the General Research Proposals Review Meeting of the *INSTITUTIONAL REVIEW BOARD (IRB)* of Ensign Global College held on Thursday, April 11, 2024, your research proposal entitled **"Factors Associated with Hygiene Behaviours Among Students in Akuse Methodist High School in the Lower Manya Krobo Municipality of the Eastern Region of Ghana"** was considered.

You have been granted Ethical Clearance to collect data for the said research under academic supervision within the IRB's specified frameworks and guidelines.

We wish you all the best.

Sincerely,

Dr. (Mrs.) Rebecca Acquaah-Arhin
IRB Chairperson

Approved
HEADMASTER
AKUSE METHODIST SNR. HIGH TECH. SCH
P. O. BOX 47
AKUSE - E/R.

Ensign Global College
Tema – Akosombo road
Kpong
June 12, 2024

The Head
Akuse Methodist Senior High Technical School

Dear Sir/Madam,

Request for Approval to Conduct Research at Akuse Methodist SHTS

I would be grateful for your approval and support in conducting my Master of Public Health research in your school. Your support letter is a requirement in my application for ethical clearance with the Institutional Review Board (IRB) of Ensign Global College.

I have also got a permission letter from the Ghana Education Service, Lower Manya Krobo Municipality to conduct the study at Akuse Methodist SHTS. Please see attached a copy.

My proposal topic is "factors associated with hygiene behaviours among students in akuse methodist high school in the eastern region of ghana". I believe the study outcomes will be beneficial to your institution.

Counting on your kind consideration.

Your Sincerely,

Dr Alain Kourouma

Approved
HEADMASTER
AKUSE METHODIST SNR HIGH TECH. SCH.
P. O. BOX 47
AKUSE - E/R.

APPENDIX 2

STUDY TITLE: FACTORS ASSOCIATED WITH HYGIENE BEHAVIOURS AMONG STUDENTS IN AKUSE METHODIST HIGH SCHOOL IN THE LOWER MANYA KROBO MUNICIPALITY IN THE EASTERN REGION OF GHANA

Section 1: Background Information (Please tick/fill where appropriate)

1. What is your gender?

a) Male ☐ b) Female ☐

2. What Form are you in?

a) Form 1 ☐ b) Form 2 ☐ Form 3 ☐

3. What is your Family residence background?

a) Rural area ☐ b) Urban area ☐

4. What is your Religion?

a) Christianity ☐ b) Islam ☐ b) African traditional religion ☐

5. Is your father Literate?

a) Yes ☐ b) No ☐

6.Is your mother Literate?

a) Yes ☐ b) No ☐

<u>Section 2</u>: Knowledge of hygiene practices (Please tick/fill where appropriate)

7. Does boiling water kill germs?

a) Yes ☐ b) No ☐

8. Does water container needs cleaning and covering?

a) Yes ☐ b) No ☐

9. Does Human feces contain germs?

a) Yes ☐ b) No ☐ c) Don't know ☐

10. Which materials do you use for anal cleaning?

a) Paper ☐ b) Leaf ☐ c) Stone ☐

e) Grass ☐ f) Water ☐ g) Nothing ☐

11. Do you know that we can get infected through human waste?

a) Yes ☐ b) No ☐ c) Don't know ☐

12. Which materials used for bathing?

a) Water and soap ☐ b) Water only ☐ c) Nothing ☐

13. Which materials do you use for cleaning teeth?

a) Twigs ☐ b) Water only ☐ c) brush and toothpaste ☐ d) Other ☐

14. where did you hear about hygiene?

a) Home ☐ b) School ☐ c) other ☐

<u>Section 3</u>: Attitude of hygiene practices (Please tick/fill where appropriate)

15. Do you wash hands every day?

a) Yes ☐ b) No ☐

16. Do you brush your teeth?

a) Yes ☐ b) No ☐

if yes, how many time a day?

a) Never b) 1-2 times ☐ c) After each meal ☐

17. How many times a day do you wash your hands?

b) Never ☐ b) 1-2 times ☐ c) 3-5 times ☐

d) 6-10 times ☐ e) 11 or more ☐

18) What are the Reasons for skipping handwashing at home?

a) No need ☐ b) No available time ☐ c) Keep forgetting ☐

d) Far from water and soap ☐ e) Poor water supply ☐

19. Do you have soap available for handwashing at home?

a) Yes ☐ b) No ☐

Section 4: Availability of Soap (Please tick/fill where appropriate)

20. Does the school provide students with soap for hand washing after visiting the toilets?

a) Yes ☐ b) No ☐

If yes, what type of soap does the school provide?

a) Bar Soap ☐ b) Liquid Soap ☐

21. How far is the soap located from the toilets?

a) Next to the toilets ☐ b) Far from the toilets ☐

22. Please tick under the level that best represents your opinion on the adequacy of soap as indicated in the key below

3 Agree (A) 2 Neutral (N) 1 Disagree (D)

Statement	**A**	**N**	**D**

	3	2	1
Soap for hand washing after visiting the toilets is always available			
Soap for hand washing is used effectively by the students			

Section 5: Availability of Water (Please tick/fill where appropriate)

23. Does the school provide students with drinking water?

a) Yes ☐ b) No ☐

24. What do you think about drinking water in your school?

a) Safe for drinking ☐ b) Unsafe for drinking ☐ c) Can't say ☐

25. What is the best practice to drink water?

a) With a clean container ☐ b) With hands ☐ c) Don't know ☐

26. Does the school provide students with water for washing hands after visiting the toilets?

a) Yes ☐ b) No ☐

If yes, what type of water does the school provide?

a) Tapped ☐ b) Water in basins ☐ c) Water in buckets fitted with taps ☐

d) Any other specify ……...

27. Please tick under the level that best represents your opinion as indicated in the key below

3 Agree (A) 2 Neutral (N) 1 Disagree (D)

Statement	**A** **3**	**N** **2**	**D** **1**
Water for washing hands after visiting the toilets is always available			
The number of water points are adequate for hand washing after visiting the toilets			
Water for washing hands after visiting the			

toilets are located near the toilets			
Students always wash hands after visiting the Toilets			

<u>Section 6:</u> Availability of Toilets (Please tick/fill where appropriate)

28. What type of toilet does the school have?

a) Pit latrines ☐ b) Flush toilets ☐

c) Any other specify ……...

29. How many student toilets does the school have? _____

30. Please tick under the level that best represents your opinion as indicated in the key below

3 Agree (A) 2 Neutral (N) 1 Disagree (D)

Statement	**A** **3**	**N** **2**	**D** **1**
The number of toilets is adequate for all students in the school			

All toilets have lockable doors that provide Privacy			
The school toilets are regularly cleaned and Disinfected, toilets are always used properly by students			

<u>Section 7:</u> Sanitary towel disposal bins (Please tick/fill where necessary)

31. Does the school provide girl students with sanitary towel disposal bins?

a) Yes ☐ b) No ☐

If yes, where are the disposal bins located?

a) Inside the toilets ☐ b) In the bathrooms ☐

c) Far from the toilets ☐

32. Please tick under the level that best represents your opinion as indicated in the key below

3 Agree (A) 2 Neutral (N) 1 Disagree (D)

Statement	**A** **3**	**N** **2**	**D** **1**
Sanitary towel disposal bins in the school are emptied regularly			
Sanitary towel disposal bins are cleaned Regularly			
Students always dispose used sanitary towels in the disposal bins			