© University of Cape Coast https://ir.ucc.edu.gh/xmlui

PRESBYTERIAN UNIVERSITY COLLEGE, GHANA

FACULTY OF DEVELOPMENT STUDIES

DEPARTEMENT OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

KNOWLEDGE AND PRACTICES OF HAND HYGIENE AMONG SELECTED JUNIOR HIGH SCHOOLS IN THE JOMORO MUNICIPALITY.

BY

SEGBEDZI SENA ERASMUS

2020

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

PRESBYTERIAN UNIVERSITY COLLEGE, GHANA

FACULTY OF DEVELOPMENT STUDIES

DEPARTEMENT OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

KNOWLEDGE AND PRACTICE OF HAND HYEGIENE AMONG SELECTED JUNIOR HIGH SCHOOLS IN THE JOMORO MUNICIPALITY.

Dissertation submitted to the Department of Department of Environmental and Natural Resources Management of the Faculty of Development Studies at Presbyterian University College, Ghana in partial fulfilment of the requirements for the award of Master of Science degree in Environmental Health and Sanitation

BY

SEGBEDZI SENA ERASMUS

SEPTEMBER 2020

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

DECLARATION

Candidate's Declaration

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

Name: SEGBEDZI SENA ERASMUS

Supervisor's Signature: …… Date: ……

Supervisor's Declaration

I hereby declare that the preparation and presentation of the Dissertation were supervised in accordance with guidelines on supervision of dissertation laid down by the Presbyterian University College, Ghana.

Name: ……..……..…

Supervisor's Signature: ……... Date: ……

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

ABSTRACT

The purpose of the study was to assess knowledge and practice of hand hygiene among Junior High School students in the Jomoro Municipality. The study was conducted in the Jomoro District among three selected schools in the district. An exploratory cross-sectional survey was used in the study. Quota sampling method was used to select 295 students to participate in the study. A self- administered questionnaire was used for the data collection. The data gathered was analyzed using the Statistical Package for Social Sciences (SPSS) version 23. The study found that 100.0% of the respondents have heard of hand hygiene before from their parents, teachers and from television. Majority (86.4%) of the respondents washed their hands before meal and some 48.1% washed their hands after meal. However, closed to half 69.8% sometimes washed their hand when they returned from school. Most of the students (83.7%) had hand sanitizer; two schools had plastic containers with a tap for clean running water made available to the school children for rinsing their hands. It was observed that all the schools had alcohol-based hand rub or sanitizers. The study concluded that majority of the students from the three schools had fair knowledge on hand hygiene and practiced good hand hygiene at critical times. The study recommended that adequate potable water, hand hygiene information and provision of sanitary aids for both students and teacher usage in the schools should be provided by administrators and government to support and sustain the acquired knowledge and practices relating to hand hygiene.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

ACKNOWLEDGEMENTS

I first of all thank God for his mercies and grace, which has seen me to the completion of this task which serves an important milestone in my life.

My utmost gratitude goes to my supervisor, Dr. Richard Amfo-Otu for his unconditional support and guidance right from the beginning to the last chapter of this project. I truly appreciate his effort.

I am also grateful to my wife Mrs Regina Lydia Segbedzi for his support and encouragement throughout my study.

My indebtedness goes to all the staff of Presbyterian University College, Ghana for their love, guidance and tuition throughout my study period. I also want to seize this opportunity to thank the various authors whose work I used, and have contributed greatly to the success of the studies.

A special thank goes to my colleague who helped me out in completing the project, where they all exchanged their own interesting ideas and thoughts especially Ps. Claude Dickens. I wish to thank my parents for their personal support. God richly bless everyone.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

DEDICATION

To my wife, my children, Selorm Erasmus Segbedzi Jnr, Elikem Segbedzi, Sedem Reginald Segbedzi.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

TABLE OF CONTENTS

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

LIST OF TABLES

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

LIST OF FIGURES

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

LIST OF ABBREVIATIONS

CDC	Centre for Disease control
GHS	Ghana Health Service
GPPHW	Global Public-Private Partnership for Hand Washing
NGOs	Non-governmental Organisations
SPSS	Statistical Package for Social Sciences
UNICEF	United Nations Children's Fund
WHO	World Health Organisation
WSP	Water and Sanitation Program

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Poor hand hygiene makes hands a major path way through which faecal-oral diseases are transmitted among children (Ruban & Sasikala, 2014). According to Global Public-Private Partnership for Hand Washing (GPPHW) (2014), 80% of the world's communicable diseases are transmitted by a mere touch of unhygienic hands. Quick (2013) defined hygiene as the study and practice of preventing illness or stopping it from spreading, by keeping things clean. The concept also refers to the set of practices associated with the preservation of health and healthy living. It is a concept related to medicine as well as to personal, professional care and practices affecting most aspects of living; although it is most often associated with disease preventive measures. Hygiene can also be referred to as the science that deals with the promotion of health (Victoria State, Department of Health, 2015).

Personal hygiene is the science of healthy livings and embraces all those day to day activities that contribute to health and wellbeing of an individual (Ghose, Rahman, Hassan, Khan, & Alam, 2012). The diseases that arise due to deficiency of personal hygiene remain one of the major public health concerns, particularly in developing countries (Paliwal, Paliwal, Fatma, & Chaturvedi, 2014; Tambekar & Shirsat, 2012; AlBashtawy & Hasna, 2012). While everybody is susceptible, younger children are predominantly more prone than older counterparts (Ahmadu *et al*., 2013 and Assefa, & Kumie, 2014). Ghanim, Dash, Abdullah, Issa, Albarazi, & Al Saheli, Z. (2016), in their studies assert that school children with better knowledge and practices of personal hygiene have fewer sick days and absenteeism in school and achieve higher grades.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Good grooming implies decent clothing, well-kept hair, clean teeth, fresh breadth, clean skin, and well-manicured nails. All these minute details about a person's body add up to his level of physical health and sense of well-being. One of the most effective ways of someone getting protected from illness is good personal hygiene (Lucas & Gilles, 2012). This entails washing hands, body, taking good care of your ears, eyes, teeth, nails, feet and other aspects of your body. It also involves taking care of personal effects. Good looks are usually the result of great care and attention paid to personal hygiene. There are some materials that people generally share with others which may be detrimental to health; such materials include hair clippers, manicure and pedicure kits. It is important for students to be aware of this and take necessary precautions.

Poor knowledge, practice and attitudes to personal hygiene such as hand washing with soap under running water play major roles in the high incidence of communicable diseases and therefore has negative consequences on pupil's long-term overall development (Bolon, 2016).Improving knowledge, creating awareness and good hand washing practices particularly by school pupils at the primary level can help tremendously to reduce or bring to the barest minimum the transmission and spread of diseases associated with gastrointestinal and respiratory problems which affects school children the most globally (Ali, 2018; WHO, 2017). According to Steiner-Asiedu *et al.*, (2011), good hand washing with soap under running water practice can help to reduce the incidence and infection rate of these disease burdens which affects children of school going age at the primary school level by almost 50%. Also, studies have proven that primary school pupils who indulge in good hand washing with soap practices hardly fall sick and for that matter are not very much like to miss school for days due to ill health (CDC, 2017).

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

The best place for children of school going age to obtain knowledge or gain information regarding needed personal hygiene practices is the school environment or setting since children at this age spent almost eight to nine hours in school on daily bases which more than the hours they spend at home (Water and Sanitation Programme, & UNICEF, 2015). Hand washing behaviour is affected by lack of hand washing facilities like the number of water points for hand washing, access to water point, availability of water and soap (Nandrup-Bus, 2009). Time spent by a child to wash the hands when necessary due to the large number of children to a water point and the number of hours' children spend in school can be an impediment to regular hand washing practice (Lopez-Quintero & Freeman, 2009).

School is the place where health education regarding important aspects of hygiene, environment and sanitation, as well as social customs is being imparted (Dongre, Deshmukh, Boratne, Thaware, & Garg, 2017). Health is a key factor in school entry, as well as continued participation and attainment in school. The teacher is the guardian of the child in school and plays a pivotal role in the whole process of primordial prevention (Deb, Dutta, Dasgupta, & Misra, 2010). Bearing in mind that school children have been consistently implicated in the spread of communicable diseases and that the school has been recognized as a vital setting for health promotion (Varu, 2018). This study is planned to assess knowledge and practice of hand hygiene among Junior High School students in the Jomoro Municipality. The aim of this study was to investigate existing knowledge and practices related to hand hygiene among Junior High School students in the Jomoro Municipality. The results from the study will help to understand the factors

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

influencing the hand hygiene behaviours among Junior High School students and to overcome barriers in acquisition of proper knowledge and practices.

1.2 Statement of the Problem

Hand washing with soap under running water has helped tremendously in reducing the spread of faeco-oral diseases and other communicable diseases among school pupils. However, this simple personal hygiene practice is still on the low side in developing countries because of the challenges associated with the provision of regular water supply and hand washing facilities in basic schools (Setyautami, Sermsri, & Chompikul, 2012).Poor practice of hand washing with soap increase the mode of transmission of pathogens into the human system (Lucas & Gilles, 2012). Often times than not, school children may not frequently wash their hands before eating, after playing, after visiting the toilet and after touching the surface of substances which can be a medium of disease transmission. This increase the risk of certain communicable disease among the school children (Lopez-Quintero & Freeman, 2009). Pathogens burden, gastrointestinal infection including microbial flora on the skin surface is increased when children refuse to practice regular hand hygiene with soap (Boycc & Pittett, 2013).

In the past, there was regular inspection of students which is no longer a common practice (Ghana Health Service, 2013). In addition, other barriers to control infectious diseases in the area include inadequate sanitation, lack of knowledge about the biology and ecology of some microbiology causing the diseases. The enabling conditions for improving the personal hygiene of students are not available in some instances. Trachoma can be prevented by improving sanitation, reducing the breeding sites of flies and teaching children to wash their faces and hands with clean water. Trachoma caused by microscopic Chlamydia

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

trachomatis remains the leading cause of preventable blindness with an estimated 6 million people suffering loss of sight and 146 million acute cases worldwide (WHO, 2015).

There is the need to get information on the areas where the students are having problems with their personal hygiene. Some students are involved in bad habits like nail biting, sneezing without covering their mouth, washing hands only with water after leaving the toilet and cleaning their ears with hair pins. There is dearth of information on the present facilities that will make the students observe their personal hygiene properly (GHS, 2017). Not many studies have been carried out holistically on the personal hygiene practice of students in Ghana. This research work is therefore designed to focus on the assess knowledge and practice of hand hygiene among Junior High School students in the Jomoro Municipality.

1.3 Research Objective

The main objective of the research was to assess knowledge and practice of hand hygiene among Junior High School students in the Jomoro Municipality.

Specific Objectives

1. To assess the knowledge of pupils on hand hygiene practices.
2. To analyse the hand hygiene practices among the primary school pupils
3. To identify available hand hygiene facilities in the schools that facilitates hand hygiene practices.
4. To examine the factors influencing hand hygiene practices among primary school pupils.

1.4 Research Questions

1. What is the level of knowledge of pupils on hand hygiene practices in the Jomoro Municipality?

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

2. What are the hand hygiene practices of the students?
3. What are the facilities in the school that can promote the practice of hand hygiene among students?
4. What are the factors influencing the hand hygiene of students?

1.5 Significance of the Study

The study will come out with some relevant suggestions that could help inform further research in other schools in the Municipality. The findings of the research can help the Ghana Education Service (GES) and the District Directorate of Education to come out with policies and programmes that will sharpen the skills of pupils and create awareness on the need for good hand hygiene practices. Another significance of the study was that, the findings was helpful in improving access to good hand hygiene practices which is a critical step towards reducing the impact of these sanitary related diseases such cholera, diarrhea, which in greater extend will help create physical environments that enhance safety, dignity and self-esteem among school children. This document will help guide activities related to improving and sustained health of school children. The study will also add to the literature already existing on the topic under study towards the fight for good hand hygiene.

1.6 Delimitation of the Study

According to Leedy and Omrod, (2010), delimitation(s) are characteristics that limit the scope and define the boundaries of a study. This could refer to the number and type of participant selected for the study. This helps to identify if they are subjects or observers. The research was carried out within the Jomoro Municipality to assess knowledge and practice of hand hygiene among Junior High

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

School students. A quantitative approach using survey was used to collect data. It covered only students who will be available during the data collection.

1.7 Limitations of the Study

Limitations are the potential weakness in a study which is out of the researcher's control (Simon, 2011). Every study is prone to limitations; either by the adopted research methods or during the research process. The scope of this study could have been widened to cover all public and private primary schools in the Jomoro Municipality but the study was limited to three schools in the Municipality namely; Roman Catholic Junior High School, Graceland Academy Junior High School and Jesus Never Fails Preparatory School. A CCTV camera could also have been installed at vantage points on the school compound to capture footages and monitor hand washing practices among the school children before, during and after the study for a much better understanding, but this could not be achieved due to time constraints and the limited budget for this study.

1.9 Organization of the Study

The study was divided into five chapters. Chapter One consist of the introduction, background of the study, problem statement, research questions, research objectives, the significance of the study, delimitations & limitations of the study and definition of terms. Chapter Two reviewed literature of closely related studies. Chapter Three focused on the methodology that was adopted for the study. It outlines the research design, population of the study, sampling, instrumentation, data collection and ethical considerations. Chapter Four contains the presentation of the result, analysis, and discussion of findings of the study. Finally, chapter Five contains a summary of findings, conclusion and recommendations.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

10.0 Definition of Terms

Personal hygiene: Personal hygiene refers to all actions and practices carried out by an individual, in order to stay fit, clean and healthy.

Practice: Usual way of doing something, habit and performance.

Hand hygiene: Hand hygiene is considered a behavior of cleaning the hands that includes handwashing with soap and water and hand-rubbing using hand sanitizer without water (WHO, 2009).

Handwashing: handwashing is "washing hands with plain or antimicrobial soap and water

(WHO, 2009).

Infectious diseases: Infectious diseases are diseases caused by pathogenic microorganisms, such as bacteria, viruses, parasites or fungi and can be spread, directly, from one person to another through contact (WHO, 2018).

Hand hygiene knowledge: is defined as having adequate understanding about hand hygiene (Jemal, 2018).

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Introduction

This chapter presents a review of literature for the study. This includes a general overview of hand hygiene among students. In addition, previous studies on knowledge of pupils on hand hygiene practice of the students, facilities in the school that can promote the practice of hand hygiene among students, and factors influencing the hand hygiene of students in this chapter. Sources of information from 2008 to date were used for this review and information were gathered from related health text books and journals from the school library. Other important health related internet search engines like Medscarpe, Medline, Hinari were also used.

2.2 Concept of Hand Hygiene

Hand hygiene is considered a behaviour that includes hand washing with soap and water and/or hand-rubbing using hand sanitizer without water (WHO, 2009a). Washing hands with soap and water removes pathogens mechanically and may also chemically kill contaminating and colonizing flora. It has long been known that practicing hand hygiene; either washing the hands with water and soap or using alcohol-based hand rub is the most effective way of preventing the spread of infectious diseases (Anderson et al., 2018). Hand hygiene is simple, easily implemented and an effective practice that can reduce the risk of infection (Zakeri, Ahmadi, Rafeemanesh, & Saleh, 2017) and also recognized to be a convenient and cost-effective means of preventing communicable diseases (Tao, Cheng, Lu, Hu, & Chen, 2013).

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Public health authorities recommend a thorough washing and scrubbing of the hands before meals, during meal preparations and after using the toilet (Nadakavukaren, 2011). Washing should last for at least twenty seconds, using soap and water, drying hands with a paper towel; and turning off the faucet with a paper towel to avoid hand-to-surface contact (CDC, 2018b). The practice of washing hands with water only or with soap may be influenced by both knowledge of best practice and availability of water and soap (Curtis et al., 2011). In addition to this, hand washing may require infrastructural, cultural, and behavioural changes, which take time to develop, as well as substantial resources such as trained personnel, community organization and provision of water supply and soap (Luby, 2011). Hand sanitizers are an appropriate alternative to handwashing for hand cleansing and may offer additional benefits in the school setting (Vessey, Sherwood, Warn, & Clark, 2017).

2.3 Importance of Hand Hygiene in Disease Prevention

In healthcare settings, hand hygiene is globally recognized as the leading measure to prevent cross-transmission of microorganisms, reduce the incidence of health care associated infections and prevent the spread of antimicrobial resistant pathogens (Boyce & Pittet, 2012). It is also an economical method for reducing healthcare associated infections (Pittet *et al.*, 2016). Hand hygiene is considered an important intervention measure for pandemic public health threats, such as severe acute respiratory syndrome and avian influenza (Lau, Tsui, Lau, & Yang, 2014; Muller & McGeer, 2016; Rothman et al., 2016). Infections preventable by improved hand hygiene include gastrointestinal infections (Aiello *et al*., 2008; Ejemot-Nwadiaro *et al*., 2018) respiratory infections (Aiello *et al*., 2018; Rabie & Curtis, 2016) trachoma (Emerson *et al.,* 2000) and possibly worm infections

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

(Franziska *et al*., 2013). Several studies have demonstrated that hand hygiene interventions using alcohol gel sanitizers can reduce the rates of infection and absenteeism (Guinan, McGuckin, & Ali, 2012; White *et al*., 2013).A meta-analysis on 30 hand hygiene studies found that improvements in handwashing reduced the incidence of upper respiratory tract infections by 21% and gastrointestinal illnesses by 31% (Aiello *et al*., 2018). It has been shown that handwashing with soap could reduce the risk of diarrheal diseases by 42%–47%, and handwashing promotion could save millions of lives (Curtis & Cairncross, 2013).

2.4 Health Behaviour Theory of Hand Hygiene

Most assessments of hand hygiene have measured knowledge (cognitive domain) and practices (behavioural domain). A theoretical model in which to frame an assessment of knowledge and practices is the Theory of Planned Behaviour. The Theory of Planned Behaviour (TPB) predicts an individual's intention to engage in behaviour at a specific time and place. It posits that individual behaviour is driven by behaviour intentions, where behaviour intentions are a function of three determinants: an individual's attitude toward behaviour, subjective norms, and perceived behavioural control (Ajzen, 1991). According to this theory, the immediate cause of a planned behaviour as in a case of hand hygiene is intention to perform the behaviour, which, in turn, is shaped by personal attitude (feelings or affective regard for the behaviour), perceived behavioural control (a person's perception of the ease or difficulty in performing the target behaviour), and subjective norms (a person's perception of the social pressure to perform or not perform the behaviour) (Ajzen,1988).Thus, intention is assumed to be the most immediate factor to determine a behaviour. Attitude toward a given behaviour is determined by beliefs about the consequences of the

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

behaviour and the evaluation of these (Ajzen, 1988). Identification of individual cognitive factors associated with intention to perform hand hygiene may help build successful promotion strategies.

2.5 Empirical Studies on Hand Hygiene among Pupils

2.5.1 Knowledge of pupils on Hand Hygiene Practices

Hand hygiene behaviour among students depends on the knowledge acquired concerning hand hygiene practice. A study by Hoque, (2013), shows that the high incidence of diarrhoea diseases and other communicable diseases among school children may be due to poor knowledge and practice of personal and environmental hygiene. Poor knowledge and practice of, and attitudes to personal hygiene, such as hand washing, have negative consequences for a child's long-term overall development. Critical times for hand washing include after using the toilet, after cleaning a child, and before handling food (Scott, 2017). Children acquire the knowledge of hand washing from institutes such as schools and homes. According to a study done in Indonesia, parents were considered as the major human source of information concerning knowledge about hand washing practices with 91.86%, followed by health workers (50%), teachers (34.9%) and friends (2,3%) (Setyautami, 2012). A study done in Zimbabwe reported that 50% of the children acquired their knowledge about good hygiene practices from their homes (Blessing, 2011). In addition, a study conducted in Egypt among children in primary school reported that 59.3% of the children demonstrated low rate of hand washing knowledge which was before implementation of hand washing training and the percentage was improved to 78.15% after the implementation (Maha-Mousa, Nagwa, &Rehab, 2015).

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

A study conducted by the United Nations Children's Fund (UNICEF) and the Ethiopian Ministry of Health found that study participants in rural Ethiopia had poor status regarding knowledge, attitudes, and practices of hygiene. Approximately 60% of children surveyed did not know about the possible transmission of diseases through human waste (Abera-Kumie, 2015). College students have been found to inadequately wash their hands, which would seemingly increase their chances in contracting infectious diseases (Aiello et al., 2018). In addition, it was revealed that 63% of female college students washed their hands after using the bathroom, but only 38% used soap and water (Drankiewicz & Dundes, 2013). In an alternative study, 58.3% of college students washed their hands or used a hand sanitizer after using the bathroom (Anderson *et al.*, 2008). People presented with the benefits and consequences of hand hygiene are more likely to wash their hands (Guinan, McGuckin, & Ali, 2012). Handwashing is viewed as a social norm, and hand hygiene may contribute to social acceptance thus people are more likely to wash their hands after using the restroom when others are present (Monk-Turner et al., 2005). Although proper hand hygiene is a well-established norm, maintaining good hand hygiene is considered a major challenge in infection control (Pittet, 2011). High level of knowledge related to basic personal hygiene especially hand hygiene through hand washing among children can contribute to the teaching of hygiene in homes (Rabbi SE, 2013). A study conducted in Angolela in Amhara regional state of Ethiopia reported 52% of the children were classified as having appropriate knowledge of proper hygiene (Lopez-Quintero, 2009). Another study in Tanzania reported 575 of primary school children knew the importance of hand washing (Rita, 2010).

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Having standard facilities of sanitation and hygiene do not have any significance on the level of knowledge among children. A study done in Malawi revealed that 71% of pupils had Escherichia coli on their hands and large scale of open defecation in school grounds yet latrines and hand washing facilities were in place (Anthony, 2013). This indicated that apparent knowledge was not being put into practice, the pupils and teachers showed poor understanding of principle of disease transmission. A study conducted in Ethiopia reported that 52% of children had adequate knowledge on proper hygiene and 99.0% washed hands before meals but only 36.2% used soap (Vivas, 2010a). Although 76.7% of children reported that washing hands after defecation was important, only 14.8% reported actually following this practice, thus children with adequate knowledge of proper hygiene were more likely to maintain proper hand hygiene (Alyssa, 2010).

2.5.2 Hand Hygiene Practices of the Students

Globally, hands are washed with soap on less than 20% occasions when they are supposed to be washed that is; on critical moments (UNICEF, 2018). This indicates that hand hygiene practice, worldwide is very low especially at critical moments that is; before eating and after visiting the toilet. A study conducted in Ghana reported that most school children did not wash hands due to unavailability and inaccessibility of hand washing facilities, soap and clean running water (Steiner-Asiedu, 2011). However, 63.6% of children in private schools were less likely to wash their hands after using the toilet and 51% less likely to wash their hand before eating (Steiner-Asiedu, 2011). A study done in Kersa Woreda district of Eastern Ethiopia, indicated that hand hygiene practice in households after defecation was 5.1% and only 8.3% had hand hygiene practice near latrines (Yimam, 2014). Moreover, 76.7% of children in Ethiopia knew the importance of

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

hand washing after defecation and only 14.8% actually followed hand washing practice (Alyssa, 2010). Another study done in Colombia reported that 36.6% of the children washed hands with soap after using toilet and before eating and only 3% washed their hands whenever hands were contaminated but these rarely washed their hands after coughing or sneezing (Lopez-Quintero, 2009).

A cross sectional study done in India revealed that when children were asked about the critical moment for washing hands, only 18% mentioned after toilet use, 0.7% practiced five steps of hand washing and only 1% practiced four steps of hand washing (Priyanka, 2016). This means hand washing practice among children is not well practiced which put them at a risk of contracting diseases related to poor hand washing practice. In Uganda, 54% of children wash their hands after using toilet and only 5% use soap (WSP, 2007). Therefore, this shows that appropriate hand washing practice is still a major problem among children. This has to be implemented at household level so that hand washing practice becomes a habit among children. Washing hands with soap at right moments especially after contact with faeces, before handling food or feeding the baby can reduce the incidence of childhood infections (Robert Aunger, 2010). According to a study in Northern Ethiopia on knowledge, attitudes and practices of hygiene among school children revealed that the preference for hand washing was 98.8% before meals and 53.1% after meals (Alyssa, 2010).

2.5.3 Facilities in the School that can promote the Practice of Hand Hygiene among Students

Presence of hygiene facilities such as water, hand washing stations, soap and toilets can influence hand washing practice among children. Worldwide, 780 million people do not have access to an improved water source (WHO, 2019). A

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

"hand washing facility" can be defined as “a facility, providing a basin, container, or outlet with an adequate supply of potable water, soap and single-use towels (Kesavan *et al*., 1998). In ensuring proper hand washing practices, a well-functioning school sanitation and hand washing facilities can play a major role according to (Tay, 2005). Having regular supply of clean water for washing hands with soap helps greatly reducing diarrhoea related diseases and respiratory infections. Studies conducted by the centre for disease control even when a hand washing facility is present but several people use it to wash their hands inside the same basin does not make the hands clean enough. The availability of clean water and soap for hand washing can help to reduce infections by almost 30 %. (CDC, DX 2017). Unfortunately, many schools in developing countries rarely make available adequate hand washing facilities and those schools that do provide such facilities have issues the adequacy of those facilities, proper places to site them and sometimes not very much accessible by pupils (Morgan *et al*., 2017). One study indicated that even if schools have hygiene enabling facilities available, there is underutilization of the facilities. There was a lack of supervision of toilets as they were poorly used and maintained by the school children (Blessing, 2012).

Adequate and well-functioning school sanitation and hand washing facilities play a major role in ensuring good hand washing practices. Simple hand washing with soap helps to protect children from the two biggest global paediatric killers: diarrhea and lower respiratory infection (Kinley, 2011; Allison, 2018; Rabie, 2016). One of the most important hygiene behaviours to promote among schoolchildren is hand washing with water and soap (or ash) at least before eating and after using the toilet (John, Yves, & Jackie, 2009). A study conducted in Ghana indicates that having knowledge about hand washing does not always translate into

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

practice inadequate opportunities and lack of sanitation facilities at schools and homes did not allow them to practice the hand washing knowledge they had acquired (Allison, 2018; Rabie, 2016). These diseases kill >3.5 million children under the age of 5 every year. In addition to this, evidence from large studies in less developed countries shows that simple hygiene measures, especially hand washing, reduce respiratory infections and diarrhoeal diseases significantly (Fewtrell, 2015; Luby, 2015)

Lack of resources, namely soap and water, as well as inadequate sanitation facilities may be two of the main reasons why children do not wash their hands (Oswald, Cabrera, Leontsini, & Pan, 2018). Study findings on hand washing with soap behaviour in Kenya Hand washing facilities in most schools are located far from the toilets, sometimes even in the opposite direction. This led to some pupils forgetting to wash hands; they would rush to class immediately after using the toile. This study indicates that the barriers to hand washing can be deduced from reasons why children in study classes refused to wash hands with soap. Overall, 81% of 587 children in the study, in upper primary classes, claimed that they used soap after placement while 19% did not use the soap (Jason-Cardosi, & Rufus, 2007). Therefore, to promote hand washing, hand washing-facilities must be easily accessible and available at all times with the right materials necessary to make the process a success.

2.5.4 Factors Influencing the Hand Hygiene of Students

Studies in developing countries consistent have shown that lack of soap is one of the barriers to hand washing in public schools; since most of these schools have neither soap nor appropriate hand washing facilities (Pinney, 2010). Lopez-Quintero and Freeman (2009) also asserted that several developing countries

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

consistently reported lack of soap and unavailability of water. Since proper hand washing with soap under running water requires the use of soap and only a small amount of clean running water from a tap, or an improvised tap (Pinney, 2010), huge plastic buckets and "polytanks" (hard plastic containers purposively designed for water storage) are appropriate tools and were the commonly improvised hand washing facilities in the schools.

An estimated 2.5 billion people lack access to improved sanitation which is more than 35% of the world's population (Pruss-Ustu, 2018). According to World Health Organization (WHO) and UNICEF, the lowest coverage of improved sanitation in 2006 were; 31% in Sub-saharan Africa, 33% in Southern Asia, 65% in Eastern Asia (Pruss-Ustu, 2018). Hand hygiene can be promoted through hygiene education, germ-health awareness, use of posters, leaflets, comic books, songs, and drama (Regina, 2015). In Bangladesh, home visits, posters, guide hand books, folk songs and street plays related to health and good hygiene are among the factors used to promote and increase knowledge on hygiene related behaviour such as hand washing (Akter, 2014). Hand washing facilities should be easily accessible and available for children to use at all times with necessary right materials (Mulubirha, 2014). A study research done in Colombia, reported 7% of children had regular access to soap and clean water, 18.9% did not wash their hands due to lack of clean water and 16.7% also did not wash their hands due to lack of soap (Lopez-Quintero, 209). Another study conducted by Oswald and colleagues in Peru revealed that lack of soap and water as well as sanitation facilities like hand washing stations was the main reason as to why children did not wash their hands (Oswald, 2018). The location of hand washing facilities can make children to forget

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

washing hands at critical moments (Oswald, 2008). Availability of water has a crucial impact on frequency of hand washing among individuals.

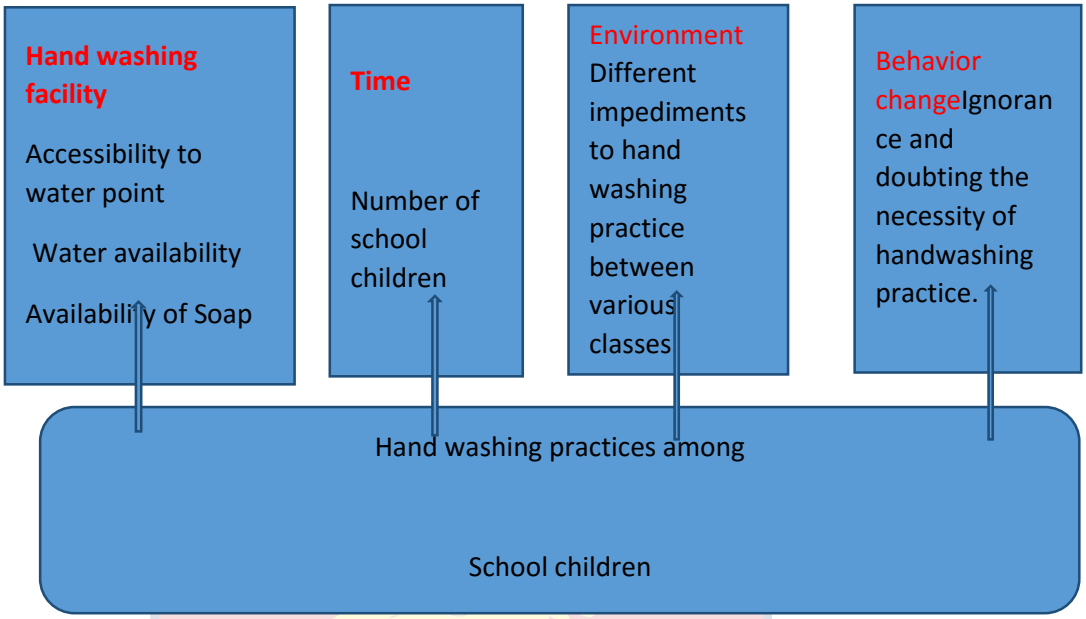
A study in Bangladesh revealed that education of household heads; water availability and access to media have a great positive impact on hand washing with soap (Rabbi, 2013). A study in Ghana reported that 79% of the schools had hand washing facilities, 83% had soap and 53% shared hand washing containers which delayed hand washing among children (Isaac, 2014). Similarly, another study in Ghana reported that hand washing practice is mainly affected by availability and accessibility of hand washing facilities such as soap, towel and clean running water (Papoe, 2011).

2.6 Conceptual Framework on Hand Hygiene Practices

Hand washing with soap under running water which has been proven to be one of the most effective ways of reducing microbial infections is not often practiced by school children especially in public primary schools of which SDA primary school is no exception. Hand washing behaviour is affected by lack of hand washing facilities (Logistics) like the number of water points for hand washing, access to water point, availability of water and soap. Time spent by a child to wash the hands when necessary due to the large number of children to a water point and the number of hours' children spend in school can be an impediment to regular hand washing practice. Ignorance on the health benefits of hand washing with soap under running water and behavioural change factors like the mindset of school children doubting the necessity of hand washing practice was carefully looked at in this study. The graphical representation of socio-demographic characteristics, pupils' knowledge on the health benefits, and availability of resources can be shown in Figure 2.1.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui



Source: From (www.wsp.org)

Figure 1:Conceptual Framework on Hand Washing Practices

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the procedures that were used in collecting data and the tools for analysis that was used in interpreting the data. This covers the profile of the research design, study area and the source of data for the study. The instrument used for data collection, sampling and sampling procedure, sample size and technique of pretesting of instruments and data analyses are also shown in this chapter**.**

3.2 Description of Study Area

The Jomoro municipal is one of the 22 districts in the Western Region. The district, which used to be part of the then Nzema District was created by Legislative Instrument 1394 in 1988. The capital town of the district is Half Assini. The municipal has ten area councils (Jomoro District MTDP, 2010). Jomoro Municipal is located in the south western part of the Western Region of Ghana. It is located between Latitudes 4°, 80″ N and 5^0, 21″ N and Longitudes 2°, 35″ W and 3°, 07″ W. It shares boundaries with Wassa-Amenfi and Aowin-Suaman to the north, Nzema East District to the east and la Côte d'Ivoire to the west and the Gulf of Guinea to the South. The district covers a total land area of 1,495 square kilometres. This is about 5.6 percent of the total land area of the Western Region (Ghana Districts, 2013). The Jomoro Municipal is one of the 260 metropolitan, municipal and district assemblies (MMDAs) in Ghana and forms part of the 14 MMDAs in the Western Region. Jomoro Municipal, which used to be part of the then Nzema East Municipal was created by Legislative Instrument 1394 in 1988 with the administrative capital of the Municipality as. Half Assini. The Jomoro Municipal

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

is located in the south-western corner of the Western Region of Ghana and covers a total land area of 1,495 square kilometres.

It is bounded on the south by Latitude 4', 80" N and the Atlantic Ocean {Gulf of Guinea}. It is bounded in the north by Latitude 5', 21" N and the Nini River. It also lies between Longitude 2', 35" W to the east and 3', 07" W to the west. The municipality shares boundaries with Amenfi West Municipal and Aowin Municipal to the north, Nzema East Municipal to the east and la Côte d'Ivoire to the west and the Gulf of Guinea to the south. The population of the Municipality according to 2010 population and housing census stands at 150,107 with 73,561 males and 76,546 females. Elubo is a town in the Jomoro Municipality. Elubo is a town in the western region of Ghana almost on the border with la Côte d'Ivoire. Elubo lies some distance from the Western Region's coast. The Municipality has 315 schools which are made up of 119 kindergartens, 115 primary, 81 junior high school and 5 senior high schools.

Source: www.google.com

Figure 2:Geographical Map of Jomoro Municipality

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

3.3 Research Design

This is a systematic approach that a researcher uses to conduct a scientific study. It is the overall synchronization of identified components and data resulting in a plausible outcome (Muhammad, 2017). A quantitative method emphasizes objective measurement and the statistical, mathematical, or numerical analysis of data collected through polls, questionnaires, and surveys, or by manipulating pre-existing statistical data using computational techniques (Babbie, 2010). A cross-sectional study is defined as an observational research type that analyzes data of variables collected at one point in time across a sample population (Bhat, 2019). A cross-sectional design was selected because the people under study have similar characteristics but differs in a key factor of interest such as age, language spoken, or socio-economic status. An exploratory cross-sectional survey was used to assess the knowledge and practice of hand hygiene among junior high school students in the Jomoro Municipality.

3.4 Target Population

Population is an entire group about which some information is required to be ascertained (Banerjee & Chaudhury, 2010). It consists of the target population and the accessible population. The target population refers to the entire set of individuals who meet the sampling criteria and the accessible population is the part of the target population to which the researcher has researchable access (Banerjee & Chaudhury, 2010).The target population were students of Roman Catholic Junior High School, Graceland Academy Junior High School, and Jesus Never Fails Preparatory School located at Jomoro Municipality in the Western Region. The total number of students from JHS 3 is shown in Table 1.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Table 1: Names of the School selected for the Study

Name of Junior High School	Number of students
Roman Catholic Junior High School	104
Graceland Academy Junior High School	112
Jesus Never Fails Preparatory School	95
Total	311

Source: Field Survey (2020)

This population was chosen to find out the level of knowledge and practice of hand hygiene among Junior High School students in the Jomoro Municipality.

3.5 Sampling Technique and Sample Size

Sample is subset of a population that is used to represent the entire group as a whole (Cherry, 2017). Sampling is the process of selecting units from a population of interest so that by studying the sample researchers may fairly generalize their results back to the population from which they were chosen (Trochim, 2016). Sample size is the entire number of people who were involved in the research. The total population of the students was 311 of which 166 were males and 145 females. A sampling method is the process of selecting a group of people, events, behaviours or other elements that are representative of the population being studied (Burns & Grove, 2012). The questionnaires were handed to every student of Roman Catholic Junior High School, Graceland Academy Junior High School, and Jesus Never Fails Preparatory School located at Jomoro Municipality in the Western Region. Quota sampling method was used to select the students. Quota sampling method is a non-probability sampling and it can be defined as a sampling method of gathering representative data from a group (Saunders, Lewis, & Thornhill, 2012). Quota sampling was selected because it ensures that sample

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

group represents certain characteristics of the population chosen by the researcher. Quota sampling method was used to select 295 students to participate in the study. The purpose of the study was explained to the respondent and an informed consent was taken from them. The use of the research data collected was explained to the respondents. The respondents were assured of confidentiality and anonymity. This method affords the research less cost and time (Ofori & Dampson, 2011).

3.6 Data Collection

Data collection is a systematic approach to gathering information from a variety of sources to get a complete and accurate picture of an area of interest (Taylor, 2008).

3.6.1 Source of data collection

To undertake a research there is the need to obtain the right/required data. This could sometimes be existing whereas in other cases data may not be available (Kumar, 2011). Saunders *et al.* (2007) indicate that, basically, there exist two main sources of data for conducting research, which are primary and secondary data. According to Maholtra and Birks (2007), primary data originates from the researcher for specific purposes of addressing a particular problem while secondary data consists of data gathered for other purposes than the current issue at hand. There are various ways of gathering primary data (Kumar, 2011). These include, and are not limited to, observation, questionnaires, and semi-structured, in-depth and group interviews (Saunders *et al.*, 2007). Data collected from census, government and organisational publications, journals, magazines, newspapers, personal records among others constitute secondary data, which is information collected for purposes other than what is at stake (Kothari, 2004). This study

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

adopted primary sources for data collection as it is deeming essential in obtaining direct responses

3.6.2 Data Collection Instrument

Instrumentation refers to the tools that researchers use to collect data from the field. Without these tools, researchers cannot carry out any significant study. Therefore, this study used the questionnaire as data collection tool. Questionnaires are "inexpensive, easy to collect and analyze in a relatively short period of time than any other instrument (Powell &Connaway, 200 4). The researcher designed a self- administered questionnaire to gather data from the field. The questionnaire was administered to the students to solicit information on knowledge and practice of hand hygiene. The questionnaires were semi-structured, based on the objectives of the study. The questionnaire contained five sections: Section A- covered the demographic data of the respondents; Section B- highlighted the knowledge of pupils on hand hygiene practices in the Jomoro Municipality; Section C focused on the hand hygiene practices of the students; Section D- dealt with the facilities in the school that can promote the practice of hand hygiene among students**;** Section E- gathered data on factors influencing the hand hygiene of students.

3.6.3 Data Collection Method

The success of a research study largely depends on the quality of data that is gathered. Good research design and a representative sample will not guarantee a successful study if the analysis is based on inaccurate data (Creswell, 2012). The administration of the questionnaires was scheduled for one month. Earlier, an introductory letter was taken from the faculty of education, Presbyterian University College, Ghana, to seek permission from the headmaster and also to introduce the researcher before embarking on the study. The questionnaires were personally

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

administered by the researcher and a teacher in the school to the students, and then collected immediately after the respondents had finished answering them.

3.7 Validity and Reliability

Saunders *et al.* (2009) expressed the view that the validity and the reliability of the data a researcher collects as well as the response rate achieved depend to some extent, on the design and structure of your questionnaire. The term validity refers to the meaningfulness and appropriateness of the interpretation to be made from test scores and other evaluation results, about a particular use. In other words, validity of a test is the extent to which it measures what it claims to measure. Validity refers to how well a test measures what it is purported to measure (Phelan & Wren, 2011). An instrument is said to valid if it is able to measure to a high degree what the quality it sets to measure (Hair et al., 2012). The questionnaires were scrutinized by the supervisor and statistician for analysis and also the necessary corrections and modification were done to ensure its validity. Reliability is the degree to which an instrument produces consistent results repeatedly when using in similar conditions. Reliability is confirmed by ensuring that the questionnaire is consistent with-it measurement. Reliability for quantitative analysis concentrates on largely on stability and consistency (Polit & Beck, 2016). The data gotten from the pretesting was statistically tested using the Cronbach's alpha.

$$\alpha = \frac{N \cdot \bar{C}}{\bar{V} + (N-1) \cdot \bar{C}}$$

Where N is equal to the number of items, c-bar is the average inter-item covariance among the items and v- bar equals the average variance. The questionnaires were pre-tested at Gbawe Presbyterian Junior High School to ensure consistency and accuracies. Pre-testing of questionnaire helped the researcher to test the adequacy

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

of the research instruments; assess the feasibility of the full-scale study and also to identify logistical problems which might occur (Teijlingen & Hundley, 2011). After the questionnaires were pre-tested, changes were made to some of the sections through the assistance of the supervisor and the statistician, before administering it to the respondents.

3.8 Pretest of Instrument

A pretesting was carried out with 10 questionnaires to respondents with similar characteristics as the target population. It was the pre-tested questionnaires that were subjected to the reliability test. The reliability co-efficient of Cronbach's alpha was 0.78.

3.9 Data Analysis

Data analysis is the process of evaluating data using analytical and statistical tools to discover useful information and aid in business decision making (Sridhar, 2018). Administered questionnaires were examined to check completeness, accuracy and consistency of responses in order to detect and eliminate errors. After the data for were checked for accuracy and completeness, they were then kept safely in a large brown envelope for analysis. Data were entered into a computer and analyzed with Statistical Package for the Social Sciences (SPSS) version 23. The relevant information was retrieved in a standard form using tables, figures, frequencies and percentages for analysis and interpretation of the information.

3.10 Factors Influencing Hand Hygiene Practices

Using a scale of 1-5, with 1 being the least and 5 being the highest, respondents were asked to indicate your level of satisfaction by ticking () in the spaces under the numbers. Strongly Agree (SA); Agree (A); Uncertain (U); Disagree (D) and Strongly Disagree (SD).

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

3.11 Ethical Considerations

Permission was sought from the Jomoro Municipal Education Directorate for approval since the study site is in their administrative jurisdiction. The information shared by participants during the study was confidential to the key researcher of the study; in view of this participants were given codes to identify them than using their names respectively. There was not to be any circumstance whereby the information obtained was shared with others. The names of respondents or participants was not disclosed to any other person before, during, and after the study was conducted successfully.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter covers analysis and discussion of the data gathered from the respondents. The study sort to explore the 'knowledge and practice of hand hygiene among Junior High School students in the Jomoro Municipality. Data collected has been coded and presented in tables, graphs and charts.

4.2 Sociodemographic Information of Respondents

The sociodemographic information of the respondents covered the gender, age, ethnicity, religious Affiliation, highest level of education of respondents, father's level of education, mother's level of education, occupation of parents.

4.2.1 Gender distribution of the Students

On the gender distribution of the students, the study reported that majority 160(54.2%) were female and 135(45.8%) were males.

Table 2:Gender of Respondents

Variable	Frequency	Percent
Male	135	45.8
Female	160	54.2
Total	295	100.0

Source: Field Survey (2020)

4.2.2 Age Distribution of Students

Finding from the depicted that most of the respondents that is 110(37.3%) were between 12-13 years, followed by 76(25.8%) who were aged between 14-15 years, 71(24.1%) were 15 years and above and rest 38(12.9%) were less than 12 years old.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Table 3:Gender of Respondents

Variable	Frequency	Percent
Less than 12 years	38	12.9
12-13 years	110	37.3
14-15 years	76	25.8
15 years and above	71	24.1
Total	295	100.0

Source: Field Survey (2020)

4.2.3 Ethnicity of Students

With regard to respondent's ethnicity, the researcher found that almost all, 221(74.9%) of the students were Nzema, 42(14.2%) were Akans, 16(5.4%) were Ga. The rest of the results have been illustrated on the Table 4 below.

Table 4:Ethnicity of Students

Variable	Frequency	Percent
Ga	16	5.4
Ewe	10	3.4
Akan	42	14.2
Nzema	221	74.9
Others	6	2.0
Total	295	100.0

Source: Field Survey (2020)

4.2.4 Religious Affiliation of Students

The area was dominated by Christians 204(69.2%), followed by Muslims 89(30.2%) and the rest 2(0.7%) were traditionalists.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Table 5:Religious Affiliation of Students

Variable	Frequency	Percent
Christian	204	69.2
Muslim	89	30.2
Traditionalist	2	.7
Total	295	100.0

Source: Field Survey (2020)

4.2.5 Highest Educational Level of Students

On respondents' highest level of education to attain, majority 209(70.8%) stated university whereas 86(29.2%) said college of education.

Table 6:Religious Affiliation of Students

Variable	Frequency	Percent
College of education	86	29.2
University	209	70.8
Total	295	100.0

Source: Field Survey (2020)

4.2.6 Father's Educational Level

On respondents' fathers' educational background, some 126(42.7%) said Tertiary Education C.O.E, Polytechnic, University, 79(26.8%) had no formal education, 61(20.7%) have had their primary education certification and 29(9.8%) have had their secondary certification.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Table 7:Father's Educational Level

Variable	Frequency	Percent
No formal education	79	26.8
Primary education	61	20.7
Secondary education	29	9.8
Tertiary education C.O.E, Polytechnic, University	126	42.7
Total	295	100.0

Source: Field Survey (2020)

4.2.7 Students Mother's Educational Level

On respondent's mother's educational background, the study revealed that 87(29.5%) respectively stated no formal education and Tertiary education Colleage of. Education, Polytechnic, University, 75(25.4%) had their secondary certification and 46(15.6%) have had their primary certification.

Table 8:Mother's Educational Level

Variable	Frequency	Percent
No formal education	87	29.5
Primary education	46	15.6
Secondary education	75	25.4
Tertiary education C.O.E, Polytechnic, University	87	29.5
Total	295	100.0

Source: Field Survey (2020)

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

4.2.8 Occupation of parents (Father)

The study found that most 110(37.3%) of the student's fathers were farmers, 87(29.5%) were traders, 52(17.6%) were not working and 46(15.6%) were civil servants.

Table 9:Table 9: Occupation of parents (Father)

Variable	Frequency	Percent
Farmer	110	37.3
Civil servant	46	15.6
Trader	87	29.5
Unemployed	52	17.6
Total	295	100.0

Source: Field Survey (2020)

4.2.9 Occupation of Parents (Mother)

Finding from the study showed that close to 87(29.5%) of the students' mothers were into trading, 52(17.6%) were seamstress, 51(17.3%) were civil servants, 38(12.9%) were food vendors. The rest of the results have been presented on Table 10 below.

Table 10:Occupation of Parents (Mother)

Variable	Frequency	Percent
Trader	87	29.5
Nurse	29	9.8
Civil servant	51	17.3
Unemployed	38	12.9
Food vendor	38	12.9
Seamstress	52	17.6
Total	295	100.0

Source: Field Survey (2020)

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

4.3 Knowledge of Students on Hand Hygiene

4.3.1 Have you ever heard of hand hygiene?

The study revealed that all 295(100.0%) of the respondents have heard of hand hygiene before.

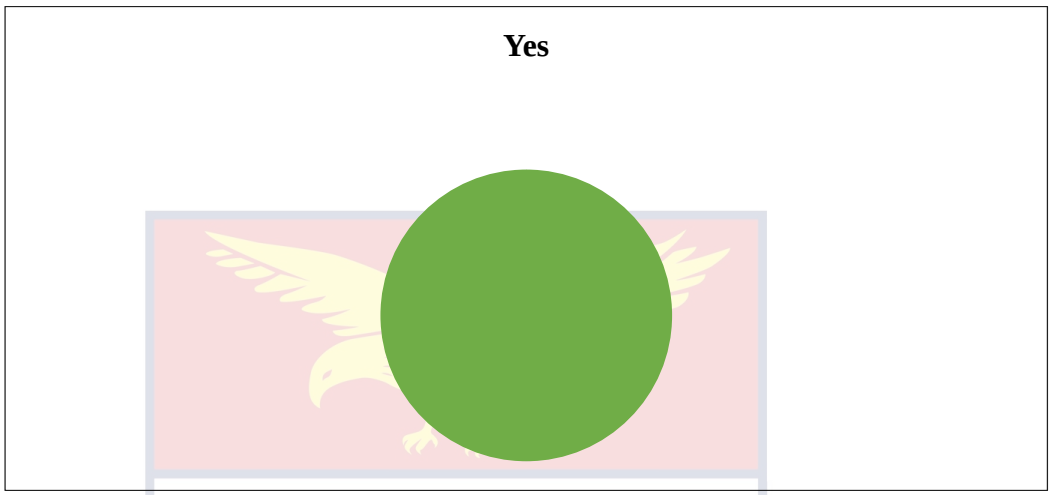


Figure 3:Have You Ever Heard of Hand Hygiene?

Source: Field Survey (2020)

4.4 Sources of Information on Hand Hygiene

On respondent's source of information to hand hygiene, about one-third said that is 110(37.3%) stated parents, teacher and TV, followed by 82(27.8%) said teacher and TV, 56(19.0%) stated "all of the above", 19(6.4%), 14(4.7%), 9(3.1%) and 5(1.7%) said TV, books, parents and teachers only.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Table 11:Sources of Information on Hand Hygiene

Variable	Frequency	Percent
Parent. teacher and TV	110	37.3
Teacher and TV	82	27.8
All of the above	56	19.0
TV	19	6.4
Books	14	4.7
Teacher	5	1.7
Parent	9	3.1
Total	295	100.0

Source: Field Survey (2020

4.5 Meaning of Hand Hygiene

Majority of the students 287(97.3%) were able to define what hand hygiene is whereas 8(2.7%) could not tell what hand hygiene is.

Table 12:Meaning of Hand Hygiene

Variable	Frequency	Percent
Define hand hygiene	287	93.7
Cannot define hand hygiene	8	2.7
Total	295	100.0

Source: Field Survey (2020)

4.6 Knowledge on Hand Hygiene among Students

Study findings on students' knowledge on hand hygiene showed a substantial knowledge on hand hygiene among the students since almost all 256(87.5%) disclosed that being neat and clean kept them healthy. However,

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

26(8.8%) said sometimes and 11(3.7%) did not know whether being neat and clean kept them healthy. About 275(93.2%) of them alluded that brushing their teeth with paste prevented their teeth problems whereas 12(4.1%) said it sometime did prevent their teeth problems and 8(2.7%) did not know whether brushing their teeth with paste prevented their teeth problems. Finding from the study showed that almost all, 294(99.7%) agreed that washing hands with soap is much better than using water only. But 1(0.3%) did not know.

Higher number 278(94.2%) of the respondents agreed that biting their nail with their teeth was unhealthy, 12(4.1%) said sometimes and 5(1.7%) did not know whether biting their nail with their teeth was unhealthy or not. Significant number 269(91.2%) postulated that taking shower every day is needed to keep one clean. Nonetheless, some 17(5.8%) did not know and 9(3.1%) stated sometimes. Again, majority 287(97.3%) established that diseases can be prevented through hand hygiene whereas 8(2.7%) did not know whether diseases can be prevented through hand hygiene or not. Almost all, 283(95.9%) of the respondents agreed that proper hand hygiene using soap & water or alcohol /sanitizer is important. But 12(4.1%) did not know whether proper hand hygiene using soap & water or alcohol /sanitizer is important or not.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Table 13:Table 13: Knowledge on Hand Hygiene among Students

Statement	Agree	Disagree	I don't Know	Mean	Std. Deviation
Being neat and clean keeps you healthy	258 (87.5%)	26(8.8%)	11(3.7%)	1.16	.460
Brushing your teeth using tooth paste prevents teeth problems	275 (93.2%)	12 (4.1%)	8 (2.7%)	1.09	.375
Washing your hand using soap is much better than using water only	294 (99.7%)	-	1 (0.3%)	1.01	.116
Biting your nail with your teeth is unhealthy	278 (94.2%)	12 (4.1%)	5 (1.7%)	1.07	.321
Taking shower every day is needed to keep you clean	269 (91.2%)	9 (3.1%)	17(5.8%)	1.15	.490
Diseases can be prevented through hand hygiene.	287 (97.3%)	-	8 (2.7%)	1.05	.325
Proper hand hygiene using soap & water or alcohol /sanitizer is important.	283 (95.9%)	-	12(4.1%)	1.08	.396

Source: Field Survey (2020)

4.7 Hand Hygiene Practices

Using a scale of 1-3, with 1 being the highest and 3 being the least, respondents were asked to indicate their level of satisfaction by ticking the box () in the spaces under the numbers. Always (A); Sometimes (SA) and Never (N) on how they often do their wash hands with soap and running water.

4.7.1 Hand Hygiene Practice among Students in the Jomoro Municipal

With regard to hand hygiene practice among students in the Jomoro district, the researcher found that out of the 295 students sampled for the study from the various schools, almost all 255(86.4%) washed their hands always before meal whereas 40(13.6%) sometimes do wash their hands before meal. Study finding depicted that closed to half 142(48.1%) always wash their hands after mean, 106(35.9%) sometimes wash their hands after meal and 47(15.9%) never washed

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

their hands after meal. The study reported that some 108(36.6%) washed their hands after using the toilet. Nevertheless, 98(33.2%) never washed their hands after using the toilet and 89(30.2%) said they sometimes do. Surprisingly, the researcher found that majority that is 214(72.5%) sometimes wash their hands after games/sports/play, 55(18.6%) said always and 26(8.8%) never washed their after games/sports/play. Again, about 206(69.8%) sometimes wash their hands when they return from school and 53(18.0%) never washed their after they have returned from school. However, 36(12.2%) always wash their hands after school.

The study reported that higher number 201(68.1%) washed their whenever they touch dirty object, followed by 72(24.4%) who sometimes do wash their hands after touching dirty objects and 22(7.5%) never washed their hands after touching dirty objects. About 184(62.4%) of the respondents sometimes wash their hands before eating fruits, 58(19.7%) said they always wash their hands before eating fruits and 53(18.0%) never washed their hands before eating fruits. Also, the researcher found that about half 181(61.4%) of the respondents sometimes washed their hands after eating fruits, 58(19.7%) always and 56(19.0%) never. The study result revealed that 181(61.4%) of the students sometimes wash their hands before eating snacks, 58(19.7%) always wash their hands and 56(19.0%) never washed their hands. Majority, 182(61.7%) sometimes wash their hands after eating snacks, 58(19.7%) always and 55(18.6%) never washed their hands after eating snacks.

Furthermore, the study showed that 182(61.7%) of the students sometimes wash their hands after blowing or wiping their nose, 58(19.7%) always wash their hands after wiping their nose and 55(18.6%) never wash hands after blowing or wiping nose. About half, 183(62.0%) of the respondents established that they sometimes wash their hands after handling raw food, 59(20.0%) always and

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

53(18.0%) never washed their hands after handling raw food. Significant number of the students 181(61.4%) agreed that they sometimes wash their hands after handling live animals, 58(19.7%) said they always wash their hands after handling live animals and 56(19.0%) said they never washed their hands after handling live animals. On the question "Do you wash your hands before touching genital e.g. Urinate, menstruate?" majority 184(62.4%) said sometimes, 58(19.7%) said always and 53(18.0%) said never. Most of the students 182(61.7%) said they sometimes wash their hands after touching genitals, 58(19.7%) said they always do and 55(18.6%) said they never washed their hands after touching genitals.

Table 14:Hand Hygiene Practice Among Students in The Jomoro Municipal

Statement	Always		Sometimes		Sometimes		Never	Mean Std
	N	%	N	%	N	%		
Before meals	255	86.4	40	13.6		-	-	1.14 .3423
After meals	142	48.1	106	35.9	47	15.9	1.80	.693
After games/sport/play	55	18.6	214	72.5	26	8.8	1.90	.516
When return from sch.	36	12.2	206	69.8	53	18.0	2.06	.547
Whenever you touch Dirty objects	201	68.1	72	24.4	22	7.5	1.39	39 623
Before eating fruits	58	19.7	184	62.4	53	18.0	1.98	.614
After eating fruits	58	19.7	181	61.4	56	19.0	1.99	.623
Before eating snacks	58	19.7	181	61.4	56	19.0	1.99	.623

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Table 14 Continued

Statement	Always		Sometimes		Sometimes		Never	Mean Std
	N	%	N	%	N	%		
After blowing or wiping nose	58	19.7	182	61.7	55	18.6	1.99	.620
After handling raw food	59	20.0	183	62.0	53	18	1.98	.617
After handling live animals	58	19.7	181	61.4	56	19	1.99	.623
before touching genital e.g. urinate, menstruate	58	19.7	184	62.4	53	18	1.98	.614
After touching genitals	58	19.7	182	61.7	55	18.6	1.99	.620

Source: Field Survey (2020)

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

4.8 Hand Hygiene Practice among Students in the Jomoro Municipal

The study recorded that majority of the students 182(61.7%) sometimes wash their hands after waking up in the morning, 60(20.3%) said they always wash their hands after waking in the morning and 53(18.0%) never washed their hands after waking up in the morning. The study showed that about 183(62.0%) sometimes wash their hands after eating breakfast, 58(19.7%) said always and 54(18.3%) never washed their hands after eating breakfast. The researcher found that significant number 181(61.4%) of the students sometimes wash their hands after eating lunch, 58(19.7%) said always and 56(19.0%) never washed their hands after eating lunch.

Majority that is 181(61.4%) of the respondents sometimes wash their hands after eating sweets, followed by 58(19.7%) said always and 56(19.0%) never washed their hands after eating sweets. Results from the study revealed that 181(61.4%) of the students sometimes wash their hands after eating dinner, 58(19.7%) always and 56(19.0%) never washed their hands after eating dinner. About 181(61.4%) of the students asserted that they sometimes wash their hands before sleeping, 58(19.7%) said they always wash their hands before sleeping and 56(19.0%) never washed their hands before sleeping.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Table 15:Hand Hygiene Practice Among Students in The Jomoro Municipal

Question	Never		Always		Sometimes	
	N	%	N	%	N	%
After waking up in the morning?	60	20.3	182	61.7	53	18.0
After eating breakfast?	58	19.7	183	61.4	56	19.0
After eating lunch?	58	19.7	181	61.4	56	19.0
After eating sweet?	58	19.7	181	61.4	56	19.0
After eating dinner?	58	19.7	181	61.4	56	19.0
Before sleeping?	58	19.7	181	61.4	56	19.0

Source: Field Survey (2020)

4.9 Do you have a hand sanitizer?

The study found that most of the students 247(83.7%) had hand sanitizer whereas 48(16.3%) did not have hand sanitizer.

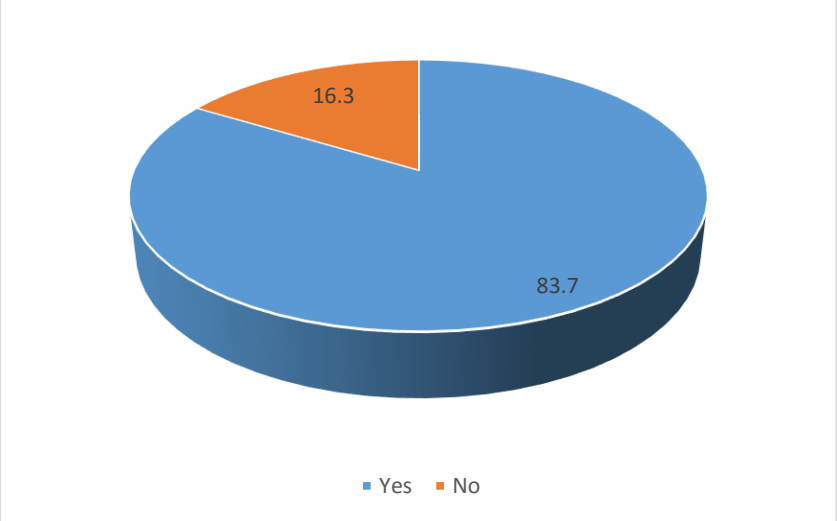


Figure 4:Figure 4 Do You Have A Hand Sanitizer?

Source: Field Survey (2020)

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

4.15 How often do you use hand sanitizer instead of hands washing in school?

Most of the students 114(38.6%) always uses their hand sanitizers instead of washing their hands in school whereas 110(37.3%) said sometimes and 71(24.1%) said they never used their hands sanitizers.

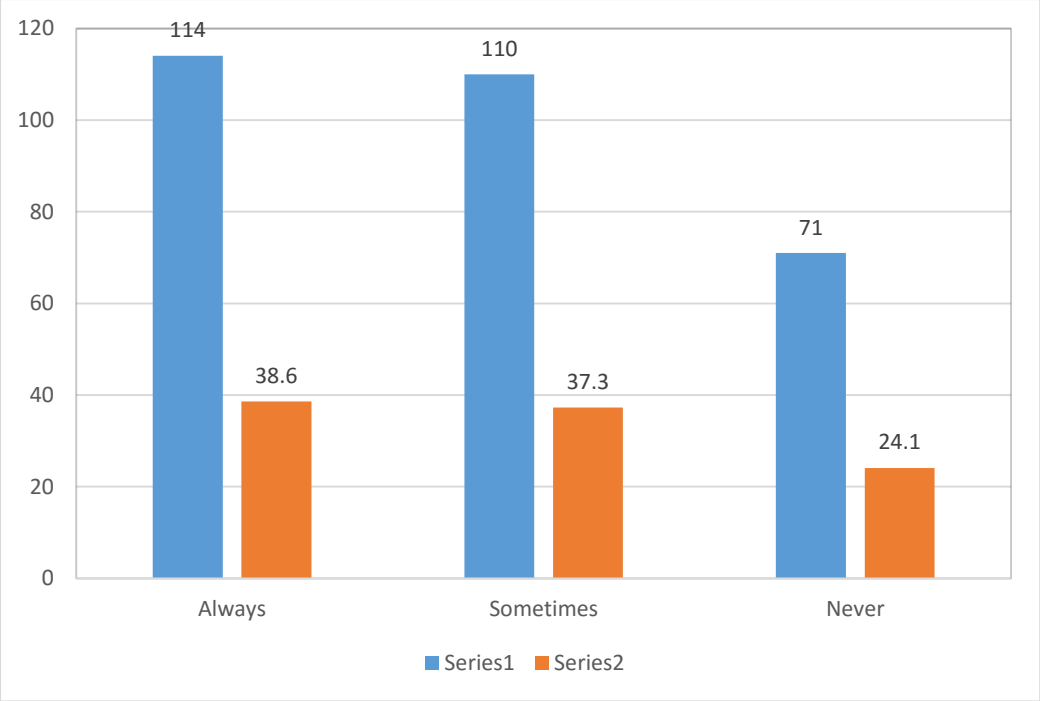


Figure 5:: How Often Do You Use Hand Sanitizer Instead of Hands Washing in School?

Source: Field Survey (2020)

4.8 What is the main reason for skipping hand washing?

The researcher sought to know some reasons why students' skips hand washing. The study revealed that 106(35.9%) respondents were far from the sink, 69(23.4%) said they always forget, 67(22.7%) said there is no need to wash their hands and 53(18.0%) had no time to wash their hands.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

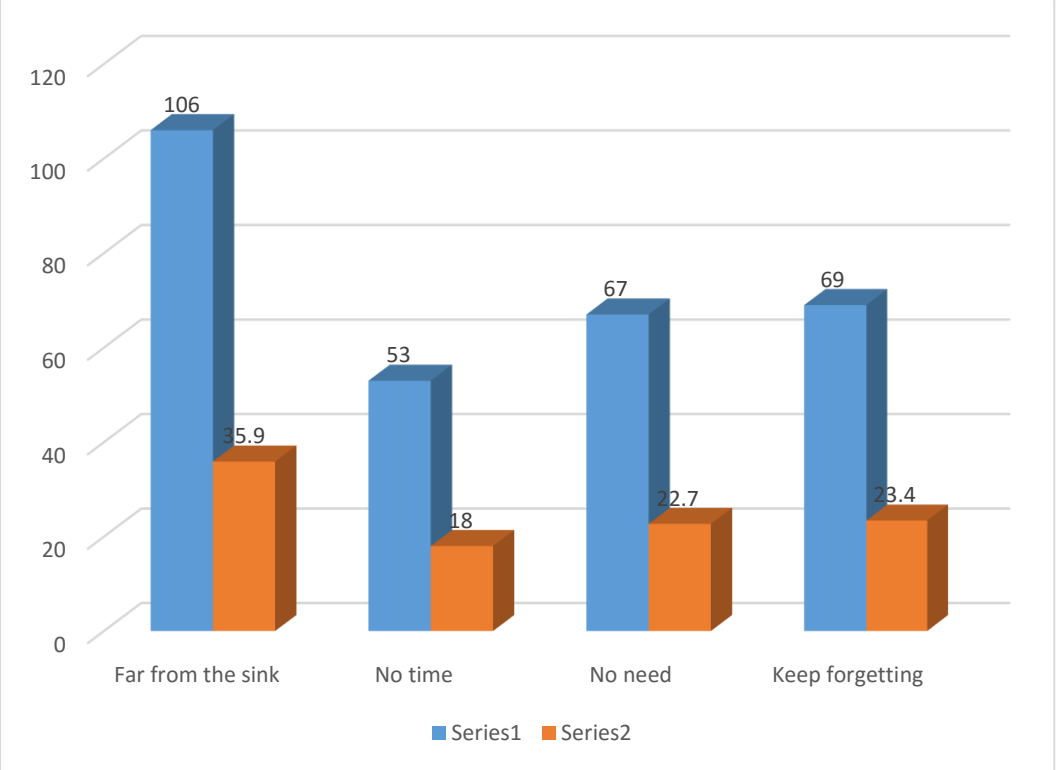


Figure 6:What is the main reason for skipping hand washing?

Source: Field Survey (2020)

4.10 Distribution of hand hygiene facilities in schools

The study took a record of these facilities using the checklist, in 3 schools. Table 16 showcased the availability of such facilities in schools. Out of the three schools observed, only two schools had both a functional handwashing sink with clean running water and improvised handwashing facilities at the same time. The other school had sinks, which were faulty with leaking pipes. All of the three schools used makeshift receptors for communal handwashing. Two schools had plastic containers with a tap for clean running water made available to the school children for rinsing their hands. In one school, soap was made available for the children. While in all the schools, there were no towels for wiping hands after wash. However, there were tissues provided to wipe their hands. The study found that there were no machine hand dryers in all the schools sampled for the study.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

However, the researcher observed that all the schools had alcohol-based hand rub or sanitizers.

Figure 7:Distribution of Hand Hygiene Facilities in Schools

Hand washing Facilities	Number Present in schools
Availability of one or more sinks with running water	2
Availability of one or more receptors used for communal hand washing	3
Availability of one or more plastic containers with tap running water	2
Presence of soap in all facilities	1
Presence of soap in some facilities	0
Availability of towels in all facilities	0
Availability of towels in some facilities	3
There are clean towels or tissue in the school to dry hands.	0
There are machine hand dryers in the school.	3
There are alcohol-based hand rub or sanitizers in the school.	
Total	14

Source: Field Survey (2020)

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

4.11 Factors Influencing Effective Hand Hygiene Practices

On factors influencing hand hygiene practices of students in the Jomoro Municipality Table 17 shows that with a mean value greater or equal to 4.0 majority of the respondents disagreed to the following statement about hand hygiene: (4.27) Damages skin and cause irritation, (4.17) Lack of clean water, (3.73) Not important, (3.65) Facilities are not in convenient location. Also, the study found that 95(32.2%) of the students agreed that non accessibility of sink or the alcohol based hand rub affected their practice of hand hygiene, 68 (23.1%) disagreed to the statement, 60(20.3%) were undecided to the statement and 54(18.3%) strongly disagreed that non accessibility of sink or the alcohol based hand rub did not affect their practice of hand hygiene. About 242(82.0%) agreed and strongly agreed that forgetfulness was a factor which influenced their hand hygiene practice. However, 28(9.5%) of the students strongly disagreed that forgetfulness did not influence their hand hygiene practice and 14(4.7%) disagreed to the statement. Finding from the study alluded that about 232(78.7%) agreed and strongly agreed that time was a factor that affected their practice on hand hygiene whereas 33(11.2%) strongly disagreed that time was not a factor influencing hand hygiene practice and 16(5.4%) were not sure whether time was a factor that influence hand hygiene or not.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Table 16:Factors Influencing Effective Hand Hygiene Practices

Statement	SA		A		U		D		SD		MEAN	STD DEVT.
	N	%	N	%	N	%	N	%	N	%		
Non availability Of sink or alcohol Based hand rub	18	6.1	95	32.2	60	20.3	68	23.1	54	18.3	3.1	1.229
I forgot	85	28.8	157	53.2	14	4.7	11	3.7	28	9.5	2.2	
Damage skin	85	28.8	157	53.2	14	4.7	11	3.7	28	9.5	2.12	1.153
causes irritation	6	2.0	11	3.7	3	1.0	152	51.5	123	41.7	4.27	.830
I do not have time	76	25.8	156	52.9	16	5.4	14	4.7	33	11.2	2.23	1.209
facilities are not in vantage point	29	9.8	30	10.8	-	-	193	65.4	43	14.6	3.65	1.148
Not important	27	9.2	35	11.9	22	7.5	117	39.7	94	31.9	3.73	1.275
Lack of clean water	1	.3	3	1.0	24	8.1	183	62.0	84	28.5	4.17	639

Source: Field Survey (2020)

4.12 Discussion

The study aimed at assessing knowledge and practice of hand hygiene among Junior High School students in the Jomoro Municipality. The variable considered under this study included the level of knowledge of pupils on hand hygiene practices in the Jomoro Municipality, hand hygiene practices of the students, facilities in the

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

school that can promote the practice of hand hygiene among students and factors influencing the hand hygiene of students. These were examined under four research questions. A critical analysis of the results and comparison of the results with similar studies has been done in the discussion. The following are the discussion of the findings in line with the study objectives.

4.13 Knowledge of Students on Hand Hygiene

With regard to students' knowledge on hand hygiene, the study reported that most of the respondents had substantial knowledge on hand hygiene since all 100.0% of the students have ever heard of hand hygiene before. This could be as a result of their level of awareness on hand hygiene practice. This different from the finding by Scott (2017), who asserted that poor knowledge and practice of, and attitudes to personal hygiene, such as hand washing, has negative consequences for a child's long term overall development Also, the study disclosed that students' sources of information to hand hygiene was through parents, teacher and TV. Setyautami, (2012), reported that children acquire the knowledge of hand washing from institutes such as schools and homes. In the study finding of Setyautami, (2012), it was observed that health workers, teachers and friends. This current study opined that almost all 97.3% of the student knew what hand hygiene was.

More so, the study showed another encouraging knowledge on hand hygiene practice among the students since higher percentage of them agreed to statement; (87.5%) Being neat and clean keeps you healthy, (93.2%) Brushing your teeth using tooth paste prevents teeth problems, (99.7%) Washing your hand using soap is much better than using water only, (94.2%) Biting your nail with your teeth is unhealthy, (91.2%) Taking shower every day is needed to keep you clean, (97.3%) Diseases can be prevented through hand hygiene and (95.9%) Proper hand hygiene using soap &

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

water or alcohol /sanitizer is important. These findings are not different from the results of Ghana, Dash, Abdullah, Issa, Albarazi, & Al Saheli, Z. (2016), who established in their studies assert that school children with better knowledge and practices of personal hygiene have fewer sick days and absenteeism in school and achieve higher grades. Lucas and Gilles, (2012) also reported that good grooming implies decent clothing, well-kept hair, clean teeth, fresh breadth, clean skin, and well-manicured nails.

According to GHS, (2017) some bad habits most usually engaged themselves in which is a subject to their health are nail biting, sneezing without covering their mouth, washing hands only with water after leaving the toilet and cleaning their ears with hair pins. This not different from this current study since higher number of the respondents presented biting of nail with teeth as unhealthy and bad habit. In a study by Victoria State, Department of Health, (2015), they concluded that practicing good hand hygiene is associated with disease preventive measures. WHO, (2015), Anderson et al., (2018), Tao, Cheng, Lu, Hu, & Chen, (2013), reported that most diseases such as gastrointestinal infections, primordial, can be prevent through good hand hygiene practice. According to Steiner-Asiedu *et al*., (2011), good hand washing with soap under running water practice can help to reduce the incidence and infection rate of these disease burdens which affects children. This result is similar to this current study when about 95.9% of the students eluded that proper hand hygiene using soap & water or alcohol /sanitizer is important. Again Anderson et al., 2018, found in their studies that washing the hands with water and soap or using alcohol-based hand rub is the most effective way of preventing the spread of infectious diseases.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

4.14 Hand Hygiene Practices

Assessing hand hygiene practices among the three schools selected for the study, it was revealed that majority 86.4% of the students always wash their hands before taken their meals and 48.1% after meal. About 36.6% of the students indicated that they wash their hand after using the toilet. This study finding support that of Nadakavukaren, (2011), who disclosed that public health authorities recommend a thorough washing and scrubbing of the hands before meals, during meal preparations and after using the toilet. Vivas, (2010) found that school children in Ethiopia had adequate knowledge on hand hygiene practice since 99.0% washed hands before meals. However, about 72.5% of the explained that they sometimes wash their hands after games/sports/play. This study finding affirms that of Lopez-Quintero, & Freeman, (2009) who declared that often times than not, school children may not frequently wash their hands before eating, after playing, after visiting the toilet and after touching the surface of substances which can be a medium of disease transmission.

Again, majority of the students 69.8% proclaimed that they sometimes wash their hands when they had returned home from school. About 68.1% postulated that they always wash their hands after touching dirty object. This finding contradicts to that of Lopez-Quintero, & Freeman, (2009) who declared that often times than not, school children may not frequently wash their hands before eating, after playing, after visiting the toilet and after touching the surface of substances which can be a medium of disease transmission. Significant number of the respondents 62.4% stressed that they sometimes wash their hands before taken their fruits and 61.4% said they did after eaten the fruits. Another, 61.4% professed those they sometimes wash their hands before eating snacks. Closed to 61.7% acknowledged that they sometimes wash their

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

hands after blowing or wiping nose. Sixty-two percent of the students asserted that they sometimes wash their hands after handling raw food. The study is in congruence with Scott, (2017), who affirmed critical times for hand washing include after using the toilet, after cleaning a child, and before handling food. In addition, Robert Aunger, (2010), reported that washing hands with soap at right moments especially after contact with faeces, before handling food or feeding the baby can reduce the incidence of childhood infections.

Furthermore, the study concluded reported that majority of the students agreed that they sometimes wash their hands; (61.7%) after waking up in the morning, (62.0%) after eating breakfast, (61.4%) after eating sweets, (61.4%) after eating lunch, (61.4%) after eating dinner and (61.4%) before sleeping. A study by Lopez-Quintero, & Freeman, (2009) disclosed that often times than not, school children may not frequently wash their hands before eating, after playing, after visiting the toilet and after touching the surface of substances which can be a medium of disease transmission. This increase the risk of certain communicable disease among the school children. However, the study found that 95.3% of the students often brush their teeth every day. Majority of the students had hand sanitizer whereas 16.3% did not have hand sanitizer. This could be as a result their adequate awareness on hand hygiene behaviour as reported by WHO, (2009a), that hand hygiene is considered a behaviour that includes handwashing with soap and water and/or hand-rubbing using hand sanitizer without water. The study found most of the student skipped hand washing due to the distance of the accessibility of the sink, forgetfulness, less time and some felt there was no need to do so. This finding is not different from that of Jason-Cardosi, & Rufus, (2007) who proposed that inaccessibility of facilities for hand washing led

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

to some pupils forgetting to wash hands; they would rush to class immediately after using the toilet.

4.15 Hand Hygiene Facilities in the Schools

With respect to hand hygiene facilities in the selected schools for this study, out of the three schools observed, only two schools had both a functional handwashing sink with clean running water and improvised handwashing facilities at the same time. Some other schools had sinks, which were faulty with leaking pipes. All of the three schools used makeshift receptors for communal handwashing. This is not different from similar study reported by WHO (2019) that presence of hygiene facilities such as water, hand washing stations, soap and toilets can influence hand washing practice among children. Tay, (2005) also affirmed that in ensuring proper hand washing practices, a well-functioning school sanitation and hand washing facilities can play a major role. Two schools had plastic containers with a tap for clean running water made available to the school children for rinsing their hands. A similar study finding by Pinney (2010), showed that huge plastic buckets and "polytanks" (hard plastic containers purposively designed for water storage) are appropriate tools and were the commonly improvised hand washing facilities in the schools. In one school, soap was made available for the children. This could be as a result of the awareness on the school had of soap on hand hygiene. This affirms to study by Kinley, (2011), Allison, (2018) and Rabie, (2016) who opined simple hand washing with soap helps to protect children from the two biggest global paediatric killers: diarrhoea and lower respiratory infection While in all the schools, there were no towels for wiping hands after wash. However, there were tissues provided to wipe their hands. Similarly, another study in Ghana reported that hand washing practice is mainly affected by availability and accessibility of hand washing facilities such as soap; towel and clean running water (Papoe, 2011).

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

The study found that there were no machine hand dryers in all the schools sampled for the study. However, the researcher observed that all the schools had alcohol-based hand rub or sanitizers. This could be as a result of its ability to kill germs and bacterial as postulated by Vessey, Sherwood, Warn, & Clark, (2017) that hand sanitizers are an appropriate alternative to handwashing for hand cleansing and may offer additional benefits in the school setting. Also, studies by Guinan, McGuckin, & Ali, (2012), White *et al.,* (2013) disclosed that hand hygiene interventions using alcohol gel sanitizers can reduce the rates of infection and absenteeism.

4.17 Factors Influencing Hand Hygiene Practices

Assessing factors influencing effective hand hygiene practices, the study found that non accessibility of sink or the alcohol-based hand rub affected hand hygiene practice in the schools. Steiner-Asiedu, (2011) reported similarly that most school children in Ghana did not wash their hands due to unavailability and inaccessibility of hand washing facilities, soap and clean running water. Also, Papoe, (2011) disclosed that hand washing practice is mainly affected by availability and accessibility of hand washing facilities such as soap, towel and clean running water. Majority 82.0% of the respondents agreed and strongly agreed that forgetfulness made them not practice hand hygiene. This could be as a result of the distance of the facilities as declared by Jason-Cardosi, & Rufus, (2007) that hand washing facilities in most schools are located far from reaching students and had led to some pupils forgetting to wash hands; they would rush to class immediately after using the toilet.

From the study, the mean value greater or equal to 4.0 majority of the respondents disagreed to the following statement about hand hygiene; (4.27) Damages skin and cause irritation, (4.17) Lack of clean water. Similar study by Lopez-Quintero, (2009) showed that significant number of children in the study area had regular access

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

to soap and clean water. Having regular supply of clean water for washing hands with soap helps greatly reducing diarrhoea related diseases and respiratory infections (CDC, 2017). (3.73) found hand hygiene to be more important as stressed by John, Yves, &Jackie, (2009) that one of the most important hygiene behaviour to promote among schoolchildren is hand washing with water and soap (or ash) at least before eating and after using the toilet. According to Zakeri, Ahmadi, Rafeemanesh, & Saleh, (2017), hand hygiene is simple, easily implemented and an effective practice that can reduce the risk of infection and also recognized to be a convenient and cost-effective means of preventing communicable diseases (Tao, Cheng, Lu, Hu, & Chen, 2013). From this current study, it was observed that most of the students disclosed that facilities were in convenient location.

According to Lopez-Quintero & Freeman (2009), time spent by a child to wash the hands when necessary due to the large number of children to a water point and the number of hours' children spend in school can be an impediment to regular hand washing practice. Similarly, this current study recorded about 52.9% of the students who stressed that time hindered them from practicing hand hygiene regularly.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of findings captured in the study based on the objectives set up by the researcher. The summary set a response to the research questions that were asked by the researcher by way of research questions. The summary was followed by conclusions and a set of recommendations to aid truncate the problem being researched about.

5.2 Summary

The study was mainly to explore knowledge and practice of hand hygiene among Junior High School students in the Jomoro Municipality. Specific objectives set were to assess; the level of knowledge of pupils on hand hygiene practices in the Jomoro Municipality, hand hygiene practices of the students, facilities in the school that can promote the practice of hand hygiene among students and factors influencing the hand hygiene of students. A quantitative cross-sectional study design was adopted for this study. The study targeted three schools (Roman Catholic Junior High School, Graceland Academy Junior High School, and Jesus Never Fails Preparatory School) in the Jomoro Municipality of which one Two hundred and Ninety-five (295) students were sampled to participate in the study. Quota sampling technique was used for the study. Data collection was completed within two (2) weeks. The data was keyed into statistical software (Statistical Product for Service Solutions, SPSS version 23.0), collated and summarized into tables and graphs and interpretations done to clearly describe significant trends in the results.

On the sociodemographic information of respondents, finding from the study revealed that majority that is 54.2% were females and 45.8% were males. The study

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

depicted that most that is 37.3% were between 12-13 years, followed by 25.8% who were aged between 14-15 years, 24.1% were 15 years and above and rest 12.9% were less than 12 years old. Findings asserted that almost all 74.9% of the students were Nzema, 14.2% were Akans, 5.4% were Ga. Results from the study reported that Christians 69.2%dominated the area. On respondent's highest level of education to attain, majority 70.8% stated university whereas 29.2% said college of education. On respondents' fathers' educational background, some 42.7% said Tertiary Education Colleage of. Education, Polytechnic, University, 26.8% had no formal education, 20.7% have had their primary education certification and 29(9.8%) have had their secondary certification. Also, on respondent's mother's educational background, the study revealed that 29.5% respectively stated no formal education and Tertiary education Colleage of Education, Polytechnic, University, 25.4% had their secondary certification and 15.6% have had their primary certification.

Assessing the level of knowledge of pupils on hand hygiene practices in the Jomoro Municipality. The study disclosed that majority of the students from the three schools had fair knowledge on hand hygiene since all (100.0%) have ever heard of hand hygiene before from parents, teacher and TV. Also, about 97.3% were able to tell what hand hygiene was. The study results showed that higher number of the students believed that being neat and clean keeps one healthy. More so, closed to 99.7% stressed that washing your hand using soap is much better than using water only. Majority of them said taking shower every day is needed to keep you clean. Study finding revealed that proper hand hygiene using soap & water or alcohol /sanitizer is important. Furthermore, about 97.3% announced that diseases can be prevented through hand hygiene.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Findings from the study showed that respondent's practice on hand hygiene was sufficient. As about 86.4% claimed they washed their hands before meal and after (48.1%) meal. Also, some 36.6% said they washed their hands after visiting the toilet. However, significant number 72.5% of the students announced that they sometimes wash their hands after games/sports/play. Majority 69.8% of the students sometimes wash their hands after returning from school. Again, the study depicted that students sometimes wash their hands after blowing or wiping nose. Most of the students sometimes wash their hands after waking up in the morning, eating breakfast, eating lunch, after eating sweets, after eating dinner and before sleeping. Furthermore, the researcher found that about 83.7% of the students had hand sanitizer. Also, majority of them said they always uses their hand sanitizers instead of washing their hands in school.

On facilities in the school that can promote the practice of hand hygiene among students, using a checklist in 3 schools, the study revealed that two schools had both a functional handwashing sink with clean running water and improvised handwashing facilities at the same time. The other school had sinks, which were faulty with leaking pipes. All of the three schools used makeshift receptors for communal handwashing. Two schools had plastic containers with a tap for clean running water made available to the school children for rinsing their hands. In one school, soap was made available for the children. While in all the schools, there were no towels for wiping hands after wash. However, there were tissues provided to wipe their hands. The study found that there were no machine hand dryers in all the schools sampled for the study. However, the researcher observed that all the schools had alcohol-based hand rub or sanitizers.

On the factors influencing the hand hygiene among the students, the study found that non-accessibility of sink or the alcohol-based hand rub hindered students

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

hand hygiene practice. Also, most of the students forgot to wash their hands. Time became a hindrance to hand hygiene among some students. However, 65.4% buttressed that location of facilities was not a factor which influenced their hand hygiene practice. Furthermore, substantial percentage of the study argued that lack of clean water was not a factor to practicing hand hygiene.

5.3 Conclusion

Also, the study concluded that all of the students have ever heard of hand hygiene from their parents, teachers and Television. The study results showed that higher number of the students believed that being neat and clean keeps one healthy. More so, it is concluded from the study that washing your hand using soap is much better than using water only. Majority of them said taking shower every day is needed to keep you clean. Study finding revealed that proper hand hygiene using soap & water or alcohol /sanitizer is important. Moreover, the study concluded that most students washed their hands before meal and after meal. Again, most of them sometimes wash their hands after waking up in the morning, eating breakfast, eating lunch, after eating sweets, after eating dinner and before sleeping. The study finding concluded that the students had hand sanitizer. Also, majority of them said they always uses their hand sanitizers instead of washing their hands in school. Furthermore, the study concluded that two schools out of the three had both a functional handwashing sink with clean running water and improvised handwashing facilities at the same time. All of the three schools used makeshift receptors for communal handwashing. Two schools had plastic containers with a tap for clean running water made available to the school children for rinsing their hands. In one school, soap was made available for the children. Finally, the study concluded that substantial percentage of the study argued that lack of clean water was not a factor to practicing hand hygiene. Time became a hindrance to hand

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

hygiene among some students. However, non-accessibility of sink or the alcohol-based hand rubs hindered students hand hygiene practice.

5.4 Recommendations

Base on the finding from the study, the following recommendations were made;

1. School administrators and government are expected to provide adequate water, sustainable health information and provision of sanitary aids for both students and teacher usage.
2. Students should practice effective hand washing before eating food and wash hands after use of toilet or cleaning the nose.
3. All the facilities needed for personal hygiene by the schools should be provided for them through the help of the government, Non-Government Organizations, Community and Parents and Teachers Associations. This can be achieved through advocacy.
4. There should be adequate provision and maintenance of sources of water in all the schools with a view to facilitate the practice of personal hygiene among students.
5. Emphasis should be laid on proper hand hygiene practice by the government to promote healthy school days.
6. Teachers should be encouraged to teach students how to practice hand hygiene. Adequate hand hygiene facilities should be provided to help eliminate any hindrance to handwashing practice by students.
7. Hand hygiene campaigns should be carried out and they can be made more effective when the students are targeted directly to achieve behavioural change.
8. Television being the most used media source of information for people in households, I recommend that television programmers should at least add a hand washing promotion skit in each program

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

9. There should be a partnership between the health directorate and the education directorate for periodic health talks about hand hygiene to be given to the students.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

REFERENCES

Abera-Kumie, A. A. (2015). An overview of environmental health status in Ethiopia with particular emphasis to its organization, drinking water and sanitation: A literature survey. *Ethiopian Journal of Health Development*, *19*(2).

Ahmadu, B. U., Rimamchika, M., Ibrahim, A., Nnanubumom, A. A., Godiya, A., & Emmanuel, P. (2013). State of personal hygiene among primary school children: A community-based cohort study. *Sudan Journel of Paediatr*, *13*(1), 38–42.

Ajzen, I. (1988). *Attitudes, personality, and behaviour: A Review of Its Applications to Health-Related Behaviours*. Buckingham, United Kingdom: Open University Press.

Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, *50*(2), 179–211.

Akter, T. A. (2014). *Factors influencing knowledge and practice of hygiene in Water, Sanitation and Hygiene (WASH) programme areas of Bangladesh Rsural Advancement Committee*.

AlBashtawy, M., & Hasna, F. (2012). Pediculosis capitis among primary-school children in Mafraq Governorate, Jordan. *East Mediterr Health J*, 18 1 ,43–8.

Ali, S. H. (2018). *Children mark global handwashing day in remote Pakistan village world vision, Pakistan.*

Allison, A. (2018). Effect of hand hygiene on infectious disease risk in the community setting: a meta-analysis. *American Journal of Public Health*, 98(1372-81).

Anderson, J. L., Warren, C. A., Perez, E., Louis, R. I., Phillips, S., Wheeler, J., & Cole, M. (2018). Gender and ethnic differences in hand hygiene practices among college students. *American Journal of Infection Control*, 36, 361-368.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Acres, R. V. (1964). Wash your hands! *Royal Society of Health Journal*, *84*(6), 318–318.

Assefa, M., & Kumie, A. (2014). Assessment of factors influencing hygiene behaviour among school children in Mereb-Leke District, Northern Ethiopia: a cross-sectional study. *BMC Public Health*, 14:1000.

Banerjee, A., & Chaudhury, S. (2010). Statistics without tears: Populations and Samples. *Ind*.

Blessing, D. J. (2012). Factors leading to poor water sanitation hygiene among primary school going children in Chitungwiza. *Journal of Public Health in Africa*, *3*(e7).

Bolon, M. K. (2016). Hand hygiene. *Infectious Disease Clinics of North America*, *30*(3), 591–607.

Burns, J., Maughan-Brown, B., & Mouzinho, A. (2018). Washing with Hope: Evidence of improved handwashing among children in South Africa from a pilot study of novel soap technology. *BMC Public Health*, *18*, 709.

Chiang, I. A., Jhangiani, R. S., & Price, P. C. (2015). *Research Methods in Psychology*. Washington.

Curtis, V., Schmidt, W., Luby, S., Florez, R., Touré, O., & Biran, A. (2011). Hygiene: New hopes, new horizons. *Lancet Infectious Diseases*, 11(4), 312–21.

Deb, S., Dutta, S., Dasgupta, A., Misra, R. (2010). Relationship of Personal Hygiene with Nutrition and Morbidity Profile: A Study among Primary School Children in South Kolkata. *Indian Journal of Community Medicine*, 35(2): 280-284.

Dongre, A. R., Deshmukh, P. R., Boratne, A. V., Thaware, P., & Garg, B. S. (2017). An approach to hygiene education among rural Indian school going children. *Online J Health Allied Sci*, *6*(2).

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Ekwere, O. P. (2013). Hand washing practices among healthcare providers in a teaching hospital in Southern Nigeria. *American Journal of Tropical Medicine and Hygiene*, *85*(6), 444.

Fewtrell, L. (2015). Water, sanitation and hygiene in developing countries: interventions and diarrhoea -a review. *Water Sci Technol*, *52*(8).

Ghanim, M, Dash, N., Abdullah, B., Issa, H., Albarazi, R., Al Saheli, Z. (2016). Knowledge and practice of personal hygiene among primary school students in Sharjah-UAE. *Journal of Health Science*, 6(5);67-73.

Ghanim, M., Dash, N., Abdullah, B., Issa, H., Albarazi, R., Al Saheli, Z. (2016). Knowledge and practice of personal hygiene among primary school students in Sharjah-UAE. *Journal of Health Science*, 6(5);67-73.

Ghose, J. K., Rahman, M. M., Hassan, J., Khan, M. S., Alam, A. A. (2012). Knowledge and practicing behavior related to personal hygiene among the secondary school students of Mymensingh Sadar Upazilla, *Bangladesh. Microbes and Health*, 1(1):34-7.

Ghose, J. K., Rahman, M. M., Hassan, J., Khan, M. S., Alam, A. A. (2012). Knowledge and practicing behavior related to personal hygiene among the secondary school students of Mymensingh Sadar Upazilla, Bangladesh. *Microbes and Health*, 1(1):34-7.

Hoque, B. A. (2013). Handwashing practices and challenges in Bangladesh. *International Journal of Environmental Health Research*, 13(1):81-87.

M., I., A., A. M., & A, M. (2014). *Assessing hand hygiene practices in schools benefiting from the Ghana School Feeding Programme*.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Jason-Cardosi, J. M., & E, R. (2007). *Are your hands clean enough?* Behaviour: WSP-Africa Region Office.

Jerry E. Sibiya, J. R. G. (2013). Knowledge, Attitude and Practices (KAP) Survey on Water, Sanitation and Hygiene in Selected Schools in Vhembe District, Limpopo, South Africa.*Pediatric Infectious Disease Journal*, 33(2): 13-22.

John, A. J. B., Yves C., &Jackie S. (2009). Water, sanitation and hygiene standards for schools in low-cost settings: World Health Organization 2009.*Health Education Research*, 27(6), 1055–1068.

T, K. B. (2011). *Identifying and Modeling Perceptions of Risk Factors in Hand Hygiene during Healthcare*. Operations: North Carolina State University Industrial and Systems Engineering.

Lopez-Quintero, P. F., & Neumark, Y. (2009). *Hand washing among school children in* (Vol. 11, pp. 258–267). Vol. 11, pp. 258–267. Bogota Colombia.

Lord, Q. (2013). *Longman Dictionary of Contemporary English* (4th ed.). 4th ed.

Luby, S. (2011). The role of handwashing in improving hygiene and health in low-income countries. *American Journal of Infection Control*, 29(4), 239–40.

Luby, S. (2015). Effect of handwashing on child health. *A Randomized Controlled Trial Lancet*, *366*, 225–233.

Lucas, A., Gilles, H., O'Dempsey, T., & Ibrahim, T. (2017). *Short textbook of public health medicine for the tropics fifth edition* (5th ed.). London, England: CRC Press.

Maha-Mousa, N. H. A. A., Nagwa, R. M., & Rehab, H. E. (2015). Effectiveness of a training program on improving hand washing among children in primary

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

schools; Egypt. *Evidence-Based Child Health: A Cochrane Review Journal*, *4*, 893–939.

Merenu, I. A., K., U., C., D. K., B, D. C., & Chineke, H. N. (2015). *Knowledge, Attitude and Practice of Handwashing amongst Residents of Orlu Metropolis*.

Nadakavukaren, A. (2011). *Food quality. Our global environment: A health perspective*. Waveland Press, Incorporated.

Nandrup-Bus, I. (2009). Mandatory handwashing in elementary schools reduces absenteeism due to infectious illness among pupils: A pilot intervention study. *American Journal of Infection Control*, *37*(10), 820–826.

Nwankwo, B. C. (1992). Authority in government Nigeria and world politics in focus. *Almond Publishers*, (13/17).

(N.d.). Retrieved February 4, 2021, from Www, globalhandwashing.org website: http://www,globalhandwashing.org

(N.d.). Retrieved February 4, 2021, from Cdc.govweb site: https://www.cdc.gov/handwashing/whyhandwashing.html.

Grimason, A. M., Masangwi, S. J., Morse, T. D., Jabu, G. C., Beattie, T. K., Taulo, S. E., & Lungu, K. (2014). Knowledge, awareness and practice of the importance of hand-washing amongst children attending state run primary schools in rural Malawi. *International Journal of Environmental Health Research*, *24*(1), 31–43.

Oswald, L. A., Cabrera, L, Leontsini, E, & Pan W. K. (2018). Direct observation of hygiene in a Peruvian shantytown: not enough handwashing and too little water. *Trop Med Int Health*, 13:1421-1428.

Paliwal, V., Paliwal, C. K., Fatma, N., & Chaturvedi, S. (2014). Personal hygiene habits among school-going children in rural areas of Jaipur,

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Rajasthan, India. *International Journal of Scientific Research and Reviews*, 3(2):126-42.

Papoe, M., K., A. D., & K, A. A. (2011). *Hand Washing Practices among School Children in Ghana*.

Pati, S. C., & Chauhan, A. S. (2014). Hand hygiene behavior among urban slum children and their care takers in Odisha, India. *Psychiatry J*, *19*(1), 60–65.

Rabbi, S. E. (2013). *Exploring the gap between hand washing knowledge and praactices in Bangladesh: across sectional comparative study*.

Rabie, T. C. (2016). *Handwashing and risk of respiratory infections: A Quantitative systematic*.

Rita, M. (2010). *Factors that influence hand washing practices among primary school chiklдren*. Muhaimbili University of Allied Health.

Aunger, R., Schmidt, W.-P., Ranpura, A., Coombes, Y., Maina, P. M., Matiko, C. N., & Curtis, V. (2010). Three kinds of psychological determinants for hand-washing behaviour in Kenya. *Social Science & Medicine (1982)*, *70*(3), 383–391.

Scott B. (2017). Health in our hands but not in our heads: understanding hygiene motivation in Ghana: *Health Policy and Planning*, 22:225-233.

Setyautami, T., S. S., Chompikul J. (2012). Proper hand washing practices among elementary school students in Selat sub-district , Indonesia.*HealthEducation Research*, 27(6), 1055–1068. https://doi.org/10.1093/her/cys061

Setyautami, T., Sermsri, S., & Chompikul, J. (2012). Proper hand washing practices among elementary school students in Selat sub-district, Indonesia. *Journal of Public Health and Development*, 10(2), 3–20. https://doi.org/10.1177/0964663912467814

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Seturglo, M. J., Asiedu, D. K. A., & K, A. (2011). *Hand washing practices among school children in Ghana*.

Tambekar, D. H., & Shirsat, S. D. (2012). Minimization of illness absenteeism in primary school students using low-cost hygiene interventions. *Online J Health Allied Sci*, *11*(2).

Tao, S. Y., Cheng, Y. L., Lu, Y., Hu, H. Y., & Chen, D. F. (2013). Handwashing behavior among Chinese adults: a cross-sectional study in five provinces. *Public Health*, 127, 620-628.

B, R. (2018). *School Health Services in India. The social and economic context*. Sage Publications Pvt. Ltd.

Vessey, J. A., Sherwood, J. J., Warn, D., & Clark, D. (2017). Comparing handwashing to hand sanitizers in reducing elementary school students 'absenteeism. *Pediatric Nursing*, 33(4), 368-36872.

(N.d.). Retrieved February 4, 2021, from GOV.AUS website: http://GOV.AUS

Vivas A, G. B., Aboset N, Kumie A, Berhane Y, Williams M. A. (2010b). Knowledge, Attitudes, and Practices (KAP) of Hygiene among School Children in Angolela, Ethiopia.*BMC PublicHealth*, 18(1):1-11. https://doi.org/10.1186/s12889-018-5491-9

Vivas B.G, N. A., Abera Kumie, Yemane Berhane And Michelle A, Williams (2010). Knowledge, Attitudes, and Practices (KAP) of hygiene among school children in Angolela Ethiopia.*American Journal of Tropical Medicine and Hygiene*, 87(5), 429- 435.

Washing Practices among School Children in Ghana. *Current Research Journal of Social Sciences*, 3(4), 293-300.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

World Bank. (2011). *Water supply and sanitation in Ghana: Turning finance into services for 2015 and beyond*.

Retrieved from https://openknowledge.worldbank.org/handle/10986/17758

The Global Handwashing Partnership. (n.d.). Retrieved February 4, 2021, from Globalhandwashing.org website: http://globalhandwashing.org

UNICEF. (n.d.). Retrieved February 4, 2021, from Unicef.org website: http://www.unicef.org

WHO | Progress on drinking water and sanitation: (2016). Retrieved from https://www.who.int/water_sanitation_health/publications/jmp_report-2012/en/

Definition of terms. (2009). Genève, Switzerland: World Health Organization.

Organization, W. H. (2017). *The physical school environment: An essential component of a health-promoting school*. Health, WHO, Geneva.

(N.d.). Retrieved February 4, 2021, from Wsp.org website: https://www.wsp.org/sites/wsp.org/files/Handwashing_Behavior_Book

Yimam, K. A. G., & C, D. H. (2014). *Latrine utilisation and association factors among people living in rural areas of penbia, North West Ethiopia; a cross sectional study*.

Zakeri, H., Ahmadi, F., Rafeemanesh, E., & Saleh, L. A. (2017). The knowledge of hand hygiene among the healthcare workers of two teaching hospitals in Mashhad. *Electronic Physician*, 9(8), 5159-5165.

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

APPENDIX

PRESBYTERIAN UNIVERSITY COLLEGE, GHANA

FACULTY OF DEVELOPMENT STUDIES

DEPARTEMENT OF ENVIRONMENTAL AND NATURAL RESOURCES MANAGEMENT

RESEARCH QUESTIONNAIRES

Dear respondents,

I am undertaking a research on the topic: "KNOWLEDGE AND PRACTICE OF HAND HYEGIENE AMONG JUNIOR HIGH SCHOOL STUDENTS IN THE JOMORO MUNICIPALITY." I will be grateful if you will cooperate in responding to these questions below. The research is for academic purpose only, and you are assured of confidentiality and anonymity. Your name is not required on the questionnaire.

Please write or tick [ ]. You may tick more than one where appropriate.

SECTION A: SOCIODEMOGRAPHIC DATA OF RESPONDENTS

1. **Gender**

a) Male [ ]

b) Female [ ]

2. **Age**

a) Less than 12 years [ ]

b) 12-13 years [ ]

c) 14-15 years [ ]

d) 15 years and above [ ]

3. **Ethnicity**

a) Ga [ ]

b) Ewe [ ]

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

c) Akan [ ]

d) Mole Dagomba [ ]

e) Others, specify…….

4. **Religious Affiliation**

a) Christian [ ]

b) Muslims [ ]

c) Traditional [ ]

d) Others, specify……

5. **What is the highest level of education you hope to attain in life?**

a) W.A.C.E [ ]

b) College of education [ ]

c) Polytechnic [ ]

d) University [ ]

e) Others (indicate)……..

6. **Father's level of education**

a) No formal education [ ]

b) Primary education [ ]

c) Secondary education [ ]

d) Tertiary education C.O.E, Polytechnic, University. [ ]

7. **Mother's level of education [ ]**

a) No formal education [ ]

b) Primary education [ ]

c) Secondary education [ ]

d) Tertiary education, C.O.E, Polytechnic, University. [ ]

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

8. **Occupation of parents (Please write)**

a) Father……

b) Mother ……....

SECTION B: KNOWLEDGEON HAND HYGIENE PRACTICES

1. Have you ever heard of hand hygiene?

a) Yes [ ]

b) No [ ]

2. From where did you get the knowledge about personal hygiene? (you can choose more than one)

a) Parents [ ]

b) Teacher [ ]

c) TV [ ]

d) Books [ ]

e) Others, please specify ……

3. Hand hygiene involves any action of hand cleansing, rubbing your hands with an alcohol made hand rub or washing your hands with soap and water to avoid the growth of microorganisms on hands.

a) Yes [ ]

b) No[ ]

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

On a scale of 1-3, with 1 being the highest and 3 being the least, kindly indicate your level of satisfaction by ticking () in the spaces under the numbers. Always (A); Sometimes (SA) and I Don't Know.

Statement	**Agree**	**Disagree**	**I Don't know**
Being neat and clean keeps you healthy			
Brushing your teeth using tooth paste prevents teeth problems			
Washing your hand using soap is much better than using water only			
7. Biting your nail with your teeth is unhealthy			
8. Taking shower every day is needed to keep you clean			
9. Diseases can be prevented through hand hygiene.			
. Proper hand hygiene using soap & water or			

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

alcohol /sanitizer is important.			

SECTION C: HAND HYGIENE PRACTICES

On a scale of 1-3, with 1 being the highest and 3 being the least, kindly indicate your level of satisfaction by ticking () in the spaces under the numbers. Always (A); Sometimes (SA) and Never (N).

1. How often do you wash hands with soap and running water?

	Always	**Sometimes**	**Never**
Before meals			
After meals			
After using the toilet			
After games/sports/play			
When you return from school			
Whenever you touch dirty objects			
Before eating fruits			
After eating fruits			
Before eating snacks			
After eating snacks			
After blowing or wiping nose			
After handling raw food			

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

After handling live animals			
Before touching genital e.g. Urinate, menstruate			
After touching genitals			

2. Do you brush your teeth;

	Always	**Sometimes**	**Never**
After waking up in the morning?	[ ]	[ ]	[ ]
After eating breakfast?	[ ]	[ ]	[ ]
After eating lunch?	[ ]	[ ]	[ ]
After eating sweets?	[ ]	[ ]	[ ]
After eating dinner?	[ ]	[ ]	[ ]
Before sleeping?	[ ]	[ ]	[ ]

3. How often do you brush your teeth?

a) Every day [ ]

b) Every other day [ ]

c) Two times per week [ ]

d) Once per week [ ]

e) Less than once per week [ ]

4. Do you have a hand sanitizer? [ ]

a) Yes [ ]

b) No [ ]

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

5. How often do you use hand sanitizer instead of hands washing in school?

a) Always [ ]

b) Sometimes [ ]

c) Never [ ]

6. What is the main reason for skipping hand washing?

a) Far from the sink [ ]

b) No time [ ]

c) No need [ ]

d) Keep forgetting [ ]

e) Others ……..….

SECTION D: HAND HYGIENE FACILITIES IN THE SCHOOLS

Hand washing Facilities	**Number Present in schools**
Availability of one or more sinks with running water	
Availability of one or more receptors used for communal hand washing	
Availability of one or more plastic containers with tap running water	
Presence of soap in all facilities	
Presence of soap in some facilities	
Availability of towels in all facilities	
Availability of towels in some facilities	
There are clean towels or tissue in the school to dry hands.	

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

There are machine hand dryers in the school.	
. There are alcohol-based hand rub or sanitizers in the school.	

SECTION E: FACTORS INFLUENCING HAND HYGIENE PRACTICES

On a scale of 1-5, with 1 being the least and 5 being the highest, kindly indicate your level of satisfaction by ticking () in the spaces under the numbers. Strongly Agree (SA); Agree (A); Uncertain (U); Disagree (D) and Strongly Disagree (SD).

	SA	**A**	**U**	**D**	**SD**
Non accessibility of sink or the alcohol based hand rub					
I forgot					
Damages skin and cause irritation					
I do not have time					
Facilities are not in convenient location					
Not important					

Digitized by Sam Jonah Library

© University of Cape Coast https://ir.ucc.edu.gh/xmlui

Lack of clean water					

8. Others, please specify

……

……

……

Digitized by Sam Jonah Library