PERSONAL HYGIENE RELATED KNOWLEDGE AND PRACTICES AMONG IN-SCHOOL ADOLESCENTS IN SELECTED PUBLIC SCHOOLS IN IBADAN SOUTH EAST LOCAL GOVERNMENT AREA, IBADAN, OYO STATE

BY

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B.Ed. HEALTH EDUCATION (IBADAN)
MATRIC. NO.: 156683

A Project in the Department of Health Promotion and Education submitted to the Faculty of Public Health

In partial fulfillment of the requirement for the degree of

MASTER OF PUBLIC HEALTH

of the

UNIVERSITY OF IBADAN

FEBRUARY, 2021

CERTIFICATION

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DEDICATION

This work is dedicated to God Almighty and to the two women I most admire.

Friends whose touch warmed me.

Mentors whose wisdom guided me.

Encouragers whose words lifted me.

Leaders I love to follow.

My lovely aunt and my mum.

Rev. Sr. Juliana Bimpe Egbeleke and Mrs Juliet Alaba.

ACKNOWLEDGEMENTS

Great is the Lord's faithfulness unto me. I give all glory and honor to God Almighty for His love, guidance and protection for seeing me through this journey successfully.

To my knowledgeable, wonderful and principled supervisor; Professor Oladimeji Oladepo, for his fatherly patience, guidance and kindness during this work. May God Almighty repay you abundantly.

I am grateful to the Acting Head of Department and every lecturer in the Department of Health Promotion and Education for their relentless contributions, advice, corrections, encouragement, and time throughout the period of my programme in the Department. God will remember you all for good.

Also, my gratitude goes to my mother; Mrs Alaba Juliet for her timely support spiritually, financially and morally. I really appreciate you mum and I pray may you live to eat the fruit of your labor and to my dad of blessed memory may God rest your soul.

My sincere gratitude goes to Most. Rev. Dr. Gabriel Leke Abegunrin (Archbishop of Ibadan) for his fatherly care and moral support, may the good Lord reward you abundantly.

More so, my appreciation goes to that special one, Rev. Sr. Egbeleke Bimpe Juliana, for the love, understanding, financial and moral support you have shown me all along. You are the best aunty any one could ever want.

To my lovely siblings, Patricia, Samson and Augustina who have been my best friends, my favorite and best companion. Words would not be enough to quantify how I feel. May God keep and protect you all.

To all my friends, Soji, Temidayo, Timilehin, Opelopejesu, Aunt Ope, Aunt Odun and Posi Aduroja who have been there and also tolerate me, May God bless you all.

To the 2018 set and all Health Promotion and Education students generally in the Premier University, thanks for giving me the opportunity to know you. I love you all and wish you the very best in life.

ABSTRACT

Personal Hygiene is fundamental to prevention and control of communicable diseases and maintaining good health. There has been increase push for the need to maintain good hygiene practice among adolescents in Oyo state. There is dearth of studies that have assessed the personal hygiene practices of adolescents and available facilities in secondary schools in Nigeria. The main goal of this study was to investigate the personal hygiene practices and knowledge among in – school adolescents and available facilities for promoting the behavior in selected public schools in Ibadan South East Local Government Area, Ibadan, Oyo state, Nigeria.

The study adopted a cross-sectional research design and gathered data from four hundred and nineteen (419) in-school adolescents in IBSELGA, Ibadan. The schools were stratified into wards followed by random selection of one school from the six wards by balloting. A structured questionnaire which include a 21-knowledge, 13-perception, 25-practice and 14-facility-question items was used for data collection. Knowledge scores of ≤9, >9 to ≤ 13 and > 13 were rated as poor, fair and good respectively. Perception scores of >7 were classified as positive while practice score of >4 was rated as good. Data analysis was done using descriptive and inferential statistics at 5% level of significance.

Frequency distribution revealed that more of the respondents, 199 (47.5%) were between 15 and 17 years old, followed by 168 (40.1%) who were less than 15 years. Mean knowledge, perception and practice scores were 16.2±2.2, 8.7±3.2 and 5.9±1.9 respectively. Respondents with positive and negative perception were 68.5% and 31.5% respectively. Nearly two thirds majority of the respondents engage in good personal hygiene practices 95.9%. Findings revealed that there exists significant and positive relationship between perception of personal hygiene and personal hygiene practices (x^2= 1.017; P=.335). In respect of availability of facilities and materials that can promote students' personal hygiene and which can lower the incidence of communicable diseases, observational data revealed that none of the schools had soap, tissue paper/ towel for cleaning hands after toilet use, bore hole water and hand- washing basins.

Knowledge and perception impact moderately on personal hygiene of the studied secondary school students. It is therefore recommended that deliberate educational interventions including special lectures, practical exercises supplemented by information, education and communication materials such as comics and charts should be implemented in collaboration with the Parents, Teachers Association (PTA). In addition, government should ensure the provision of infrastructure and materials such as running portable water and handwashing platforms that would facilitate personal hygiene practices in the school setting.

Keywords: Personal hygiene related Knowledge, Perception, Practices, In-school Adolescents, Public school

Word count: 417

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GLOSSARY OF ABBREVIATIONS

LGA	-	Local Government Area
IBSELGA	-	Ibadan South – East Local Government Area
WHO	-	World Health Organization
UNICEF	-	United Nation for Children's Emergency Fund
FMOE	-	Federal Ministry of Education

OPERATIONAL DEFINITION OF TERMS

Hygiene – These is the practice of keeping the environment and oneself clean so as to prevent the spread of diseases.

Personal hygiene – This is defined as the principle of maintaining a reasonable amount of cleanliness and grooming of the external body.

Adolescents: This is a transitional stage of physical and psychological development that generally occurs during the period of puberty to legal adulthood in which the age range falls between 10 and 19 years.

In-School Adolescents: This is a transitional stage of physical and psychological development that generally occurs during the period of puberty to legal adulthood in which the age range falls between 10 and 19 years that are in schools.

Public school: Public school are schools owned and control by the government.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Personal hygiene can be defined as the art of maintaining a reasonable amount of cleanliness and grooming of the external body (Johnson, 2015). It also refers to all activities, actions and practices carried out by an individual to keep the body clean and healthy. This includes the activity of self-care, including bathing and grooming, care of the skin, hair, nails, mouth, teeth, eyes, ears and nose. It is the first step to good grooming and good health and this involves all measures taken by individual to preserve his or her health (Johnson, 2015).

There are so many benefits attached to personal hygiene, such as prevention of diseases, quick recovery from illnesses, social acceptance by people, emotional satisfaction and good personal appearance. Improved standard of hygiene will prevent health problems like dandruff, athletes' foot, body odour, pin worms, excessive ear wax, gastro-intestinal diseases (Web Health Centre, 2015). However, poor personal hygiene practices, according to Ion Doaga (2019), have serious health consequences such as:

I. Body odour and allergies which can result from behavior such as not bathing regularly, repeated wearing of smelly socks, not airing out shoes from time to time, not washing the feet, wearing smelly, stained or dirty clothes daily and not changing underwear.

II. Smelly mouth, bad breath, gum disease and tooth decay resulting from behavior such as not brushing the teeth regularly. Not cleaning the white coating from the surface of the tongue, eating spoilt smelly foods, drinking acidic drinks too often and heavy smoking.

III. Body lice results from behaviors such as not showering regularly, not changing the bedding at least once a week and wearing of unwashed clothes. Others include dandruff, athletes' foot, pin worms, excessive ear wax and gastro-intestinal diseases (Web Health Centre, 2015).

Furthermore, the performance of personal hygiene can be affected by external and internal factors.

Personal factors affecting personal hygiene include the influence of the family since children learn most of their hygiene practices at home and in their personal environment; cultural norms related to hygiene practices; Socio economic status especially financial status affecting a person's ability to purchase hygiene products; Religion as some religions observe specific rules related to personal hygiene and a person's health status.

External factors affecting proper personal hygiene practices include non-availability of water, soap, toilets, sanitary towel and disposal bins. Many can experience unsanitary conditions that force them to practice poor personal hygiene. Therefore, eradication of open defecation, improved hand washing practices and ensuring that all liquid and solid waste are properly managed are practices that can help in ensuring proper personal hygiene practices. While water and sanitation infrastructure provides the physical facilities needed for hygiene but cannot independently prevent the transmission of diseases in the school setting, unless they are used in a hygienic manner (WHO, 2009). Too often, school is one of the places where children become ill. For example, the cholera epidemic in schools in Latin American cities was caused by deteriorated water supply and poor hygiene conditions. Schools in Peru were hit by a similar cholera epidemic which caused the country an estimated 200 billion US dollars in lost lives, decreased production, exports and tourism (Hutton, Guy and Laurence, 2004). There is therefore little doubt that access to clean water and sanitation facilities should be available in schools to influence good personal hygiene practices. While some studies have examined situation of sanitation in schools in Oyo state, there is dearth of information on personal hygiene knowledge and practices among in-school adolescents in public schools in Ibadan South-East Local Government Area of Oyo state.

1.2 Statement of the Problem

Few studies have examined the prevalence of diseases related to poor personal hygiene among adolescents in secondary schools in Nigeria. Olaseha, Sridhar and Babatola in 2003 reported that one out of every fifteen individuals are at risk of contracting diarrhea and related diseases due to the poor level of hygiene practice and that adolescents at pre-adolescent level are more at risk of contracting diseases related to unhygienic behavior. A

study by Cajetan *et al* (2016) which determined the health problems among 1463 adolescent boys and girls in secondary schools in Obollo-Afor education zone of Enugu state showed that boys reported higher rates of skin rashes than did girls and that respiratory track diseases, mouth odor, abdominal pain were more common among girls. Furthermore, anecdotal evidence from school principals during the author's field practice work pointed to high existence of skin rashes, scabies, sores, tooth decay, worm infestation, diarrhea and dysentery.

Poor supply of clean water and unhygienic environment are related to hygiene problems such as diarrhea and other diseases. Thus, the availability of water and sanitary sanitation in the school setting could affect the practice of personal hygiene and lead to occurrence of diseases. A study conducted by Ana et al (2008) in 8 secondary schools in Oyo state showed that worm infestation, and diarrhea disease were common–water, sanitation and personal hygiene related diseases. In one of the school 20% reported diarrhea and 26% worm infestation, in another school 30.6% reported diarrhea and 8.3% worm infestation, in the third school, 36%, 2% and 4% reported diarrhea, typhoid and rashes respectively while in the fourth school 30.6%, 10% and 8.3% reported diarrhea, typhoid and worm infestation respectively. This indicates that water and sanitation facilities are inadequate in the schools. This among other reasons informed the researcher to investigate personal hygiene practices and knowledge among in – school adolescents in public schools in Ibadan south-east local government area, Ibadan, Oyo state and to make available the findings from this study available to both the local and state government.

1.3 Justification of Study

The result of this study is useful, as baseline information that can be used in the design of educational interventions aimed at equipping adolescents with knowledge and skills for taking responsibilities for their personal hygiene.

Personal hygiene is comprehensive, embracing the care of all the parts of the body, therefore this study has provided information to assist in the school principals and teachers to revise secondary school's health education curriculum for adolescent's in secondary schools in Ibadan South-East Local government.

Furthermore, the outcome of the study reveals gaps in knowledge as well as inappropriate practices and perceptions which further research could be used to explore. Such an

exploration will have an ultimate goal of generating more comprehensive information overtime for guiding evidence-based policy formulation relating to personal hygiene among adolescents.

1.4 Research Questions

The following research questions will be answered at the end of the study:

1. What is the level of personal hygiene knowledge among adolescents in secondary schools in Ibadan South-East Local government, Ibadan, Oyo state?
2. What are the respondents' perceptions of personal hygiene?
3. What are the respondents' personal hygiene practices?
4. What facilities are available for promoting personal hygiene in the respondents' schools at the time of conducting the study?

1.5 Broad Objective

The broad objective of the study is to explore personal hygiene related knowledge and practices among In - School Adolescents in Public Schools in Ibadan South-East Local Government Area, Ibadan, Oyo- state.

1.5.1 Specific Objectives

The specific objectives of the study are to:

1. To assess respondents' knowledge of personal hygiene practices.
2. To explore respondents' perception of personal hygiene.
3. To establish respondents' current practices on personal hygiene.
4. To assess available facilities for promoting personal hygiene in respondents' schools at the time of conducting the study

1.6 Research hypotheses

HO_1: There is no relationship between respondents' socio- demographic characteristics and personal hygiene practice

HO_2: There is no relationship between respondents' knowledge and personal hygiene practice

HO_3: There is no relationship between respondents' perception and personal hygiene practice

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual clarification

Personal hygiene refers to all activities, actions and practices carried out by an individual to keep the body clean and healthy. This includes the activity of self-care, including bathing and grooming. Care of the skin, hair, nails, mouth, teeth, eyes, ears and nose.

It is the first step to good grooming and good health and this involves all measures taken by individuals to preserve his or her health (Johnson, 2015). This study adopts the list of personal hygiene habits reported in "Environmental Health Practitioner Manual: A Resource Manual for Environmental Health Practitioners Working with Aboriginal and Torres Strait Islander Communities" (2010). The personal hygiene habits includes: washing the body often with water; cleaning the teeth at least once a day after each meal and after breakfast and immediately before going to bed; washing the hair with soap or shampoo at least once a week; washing hands with soap after going to the toilet; washing hands with soap before preparing or eating food, changing into clean clothes that have been washed with soap and hung in the sun to dry, turning away from other people and covering the nose and mouth with a tissue or the hand when coughing or sneezing.

2.2 Prevalence of poor hygiene related diseases among students/ Adolescents

The prevalence of poor hygiene related diseases among adolescents in schools is scanty, however, it has been reported that health and health related problems are prevalent among school children, and adolescents in low income countries. It has been estimated that in 2012 a total of 842,000 diarrhea deaths were caused by inadequate WASH (502,000 from water, 280,000 from sanitation and 297,000 from hand hygiene). This represents over half of diarrheal diseases, or an estimated 1.5% of the total disease burden (Pruss-Ustun et al., 2014). It was estimated that 194million school days would be gained due to less diarrheal disease if MDG targets for sanitation were met (WHO, 2004).

However, studies on poor hygiene related diseases among adolescents in the school setting can be extrapolated from community studies in Nigeria. Diseases such as diarrhea, typhoid and cholera in cities of developing countries have been on the increase over the decades

largely due to unsafe water, inadequate sanitation and poor hygiene among human population in these areas. A study conducted in Ibadan (where this current study was conducted) involving data on 1334 cases of various water-borne diseases collected from eight public hospitals with catchments covering the study area showed that typhoid fever had the highest occurrence (39.3%) followed by bacillary dysentery and cholera. Nearly half (45%) of the water-borne diseases were reported in July to September of the previous year. An association was found between water-borne diseases morbidity pattern and water quality in parts of the city (Oguntoke, Aboderin and Bankole, 2009).

In the same study, a survey of 350 residents of the selected areas aimed to elicit information on water sourcing, handling and storage showed that 77.1% of the respondents depended on wells as the major source of domestic water and faecal coliform contamination of water samples ranged between 0.1 x 10^4 CFU ml^{-1} and 1.8 x 10^4 CFU ml^{-1}. Secondary schools in the areas bear similar disease burden thus putting the lives of the adolescents in jeopardy. A similar study conducted in one local government in Ibadan among adolescents on dental health knowledge, attitude and perception on the occurrence of dental caries revealed that the percentage of dental caries occurrence was 6.1% and this was found to be prevalent among females (69.2%), among the age bracket 14-16years (61.5%) and those attending public schools (76.9%) (Ogundele and Ogunsile, 2008).

Another study in Nigeria shows that the cholera outbreak in Nigeria began in Borno state in August 2017 till December 2017 with a total of 5,365 cases and a final death toll of 61 people including children. The outbreak was caused by multiple underlying factors including poor sanitary conditions and lack of clean water and other basics services, overcrowding in internally displaced persons (IDP) weak national health systems, inappropriate distribution of basic amenities and bad attitude towards personal hygiene. (UNICEF 2018, WASH as a cornerstone for conquering the 2017 cholera outbreak in Borno State, Northeast Nigeria).

Oral disease burden is significantly higher among poor and disadvantaged population with an increase in developing countries (Lin and Mauk. Diseases in Rural India. Implementing Public Health Interventions in Developing Countries) Globally, poor oral hygiene occurring due to increasing plague and calculus deposits with increasing age have been

reported among children and adolescents (Mbawalla, Masalu and Åstrøm (2010), Socio-demographic and behavioral correlates of oral hygiene status and oral health related quality of life, the Limpopo - Arusha school health project (LASH): A cross-sectional study. BMC Pediatric, 2010). In India, dental caries affects more than four fifths of children (6-19years) and the prevalence of periodontal ranges from 55% in adolescents to 80% in adults (Broadbent, Thomson, Boyens, Poulton. Dental plaque and oral health during the first 32 years of life. Journal of the American Dental Association).

2.3 Students and Adolescents Knowledge of Personal Hygiene

Personal hygiene related diseases have been found to be a serious problem in secondary schools. A study conducted in Ile -Ife on personal hygiene knowledge and practices of senior secondary school, Ile–Ife, Osun State, Nigeria showed that majority of the respondents (98.2%) had good knowledge of personal hygiene and accurately identified the components and some harmful consequences of not engaging in sufficient personal hygiene practices (Ilesanmi, 2017). Another study conducted in Ibadan among 476 students revealed that those with poor, fair and good knowledge in PJSS (Participants in junior secondary school) were 4.9%, 80.1% and 15.0%respectively while those in the PSSS (Participants in senior secondary school) were 0.5%, 56.1% and 43.4% respectively. (Balogun, 2015).

A study conducted in south Africa revealed that the level of knowledge about waterborne diseases was relatively high (76.7± 1.75%), knowledge on transmission route was inadequate, majority of the respondents had no knowledge when it comes to water-based diseases and their prevention (Jerry and Jabulani Ray, 2013). A study conducted in Nepal to explore the existing knowledge and practice of personal hygiene among the students studying at secondary level in four schools revealed that majority of the respondents (88.5) had good knowledge level on personal hygiene (Ajay Kumar Rajbhandari *et al*, 2018). In a similar study conducted among 671 secondary school students on oral health knowledge, attitude and practices findings revealed that the level of dental caries and periodontal diseases were relatively low, however, only one fourth of the students had received professional fluoridation and almost 50% of the participants had never visited a dentist. (Omole, 2014).

In addition, a study in Rajasthan on knowledge and practice regarding personal hygiene among students of government schools in Bikaner revealed that more that 90% of the respondent's had knowledge about body, cloth and teeth hygiene (Rekha shekhawat et al, 2019). Furthermore, in a study conducted among 420 public and private schools on knowledge and perception of the role of water, sanitation and hygiene in containment of Ebola virus disease among secondary school students in Ibadan, Nigeria revealed that majority of the respondents (71%) had good knowledge of EVD. (faith I. Edoror et al, 2019).

To implement daily hygienic practices and avoid hygiene-related diseases, people need to possess knowledge of, and appreciation for, the importance of good hygiene. It is the only way people can make informed decisions regarding hygienic practices. Evidence shows that when hygiene education accompanies the provision of water and sanitation, the number of deaths caused by diarrheal diseases is reduced by an average of 65 percent. Hygiene education and promotion encourages people to replace their unsafe practices with simple, safe alternatives. Most people are only too happy to use clean water and safe sanitation facilities once they are readily available, but without knowledge of good hygienic practices, the health benefits will be greatly reduced.

Good knowledge of personal hygiene by all students will go a long way in improving the health of individual and the communities at large. Most infections, especially colds and gastro enteritis are caught when people passed germs from unwashed hands into the mouth and this can be prevented through personal hygiene (Rahman, 2001). However, when students are educated on basic skills related to personal hygiene at different stages of their lives, it will not be difficult for them to continue this throughout life (Ademuwagun, Ajala Oke, Moronkola and Jegede 2002).

2.4 Adolescents' perception of personal hygiene

People believe that there are some bad habits they can get away with; which make them not to desist from such bad habits related to poor personal hygiene (Nardo, 2013). Among such are not bathing regularly, nail biting, keeping long nails, sharing of underwear, and picking the ears with objects (Ghose, Rahman, Hassan, Khan and Alam, 2012). Some students have perception which may not promote desirable health behaviors. For instance,

some are of the perception that the wearing of long nails improves one's physical appearance, little do people realize that perceptions such as this could be harmful (FDA, 2009). The habit of going to salons for pedicure and manicure among students should be discouraged, unless they carry their own kit with them (Leonard, 2014). Personal hygiene does not end at looking good, it also aids in preventing ill health caused by diseased pathogens (Lucas and Gilles, 2012).

In a study conducted on knowledge, perception and practice of personal hygiene among secondary school students in Ibadan findings revealed that majority of the respondents (72.9%) had positive perception of personal hygiene (Balogun, 2015). In a similar study carried out on knowledge and perception of the role of water supply, sanitation and hygiene (WASH) in the containment of Ebola virus disease (EVD) among secondary school students in Ibadan, Nigeria, carried out among 420 students from 8 schools (public and private) findings revealed that majority of the respondents (92%) had a good perception of the role of WASH in EVD containment. (Faith I. Edoror et al, 2019). Personal hygiene related knowledge has great influence in improving and enhancing students' perception and capacity to adopt health promoting behaviors as well as equipping them with needed skills to serve as peer educator and community educators (Madaras, 1998).

When people follow good personal hygiene, they do not only help themselves but also others. By keeping clean, one does not spread germs to others and one does not make them sick (MediTrends, 2000). According to WHO (2011), it is believed in many African cultures that children's feces are harmless and do not cause disease. This is patently not true; the feces of children contain as many germs as that of adults. It is very important to collect and dispose children's feces quickly and safely. Water Aid America (2011) stated that a starting point for a hygiene education project is initiating a discussion with communities about what they know, do and want in relation to hygiene. Actively involving communities in decision-making ensures that projects will enjoy sustainability because of alignment with culturally based belief systems. Water Aid America and its partners recognize that people are not motivated to adopt good hygienic practices solely because they understand the health benefits, but also because they experience

improvements in privacy, convenience, environmental cleanliness, self-esteem and social status which help to motivate the necessary behavioral changes.

2.5 Personal Hygiene Practices among Adolescents

The increased burden of communicable diseases among adolescents due to poor personal hygiene practices and inadequate sanitary conditions remains a concern on the public health agenda in developing countries (Murray & Lopez, 2014). Adolescents are particularly vulnerable to neglect of basic personal hygiene due to lack of knowledge and practice (Vivas, et al., 2010). Poor knowledge, practice and attitudes to personal hygiene such as hand washing play major roles in the high incidence of communicable diseases and therefore has negative consequences for a child's long-term overall development (Sarkar, 2013).

In addition, studies have also shown that adolescents with better knowledge and practices of personal hygiene have fewer sick days and absenteeism in school and achieve higher grades (Water and Sanitation programs, 2016). A study conducted in Ile -Ife on personal hygiene knowledge and practices of senior secondary school, Ile –Ife, Osun State, Nigeria by Oluwafemi Temitope Ilesanmi in 2017 showed that majority of the respondents had good personal hygiene practices which include taking bath (99.6%), brushing teeth (98.2%) and washing hand (65.9%). Also, in another study by Balogun (2015), found that 48.8% of the respondents in Public Junior Secondary School (PJSS) and 54.0% in Public Senior Secondary School (PSSS) engaged in good practices). A study conducted on knowledge and perception of the role of water, sanitation and hygiene in containment of Ebola virus disease among secondary school students in Ibadan revealed that schools had satisfactory sanitary facilities only few (21%) sustained good hygiene practices at the end of the Ebola outbreak in Nigeria (Faith I. Edoror et al., 2019).

In a study conducted by Purdue University, Indiana, United states in 1993, it was reported that a rigorous hand-washing plan among adolescents led to a decrease in the incidence of cold (Begum, 2000). Hygiene behaviors such as hand-washing, food hygiene, not sharing personal effects with others, daily bathing and proper care of the different parts of the body prevents the transmission of water and sanitation related diseases (Bateman, 2015).

Children and youth tend to respond better to health education in the development of desirable attitudes and desirable health practices than older people. Therefore, the earlier an individual learns the elements of healthful living, the more likely their application (Leonard, 2014). There is a greater likelihood in personal hygiene practices among adolescents in urban settlements than those in urban settlement slum due to inadequate facilities in the urban settlement slum. This means that investment should be improved and expanded (Nutbeam, 2015). Water Aid America (2011) stated that good hygienic practices, such as hand washing and the safe disposal of feces, are essential for maximizing the health benefits of safe water and sanitation facilities.

Important practices and facilities that improve hygiene are: Adequate sanitation facilities (such as flush toilets, latrines or improved ventilated pit latrines), Proper handling and disposal of solid excrement and urine, washing hands after defecation (also children's hands), washing hands before touching food or containers of water and using clean water. Canadian Centre for Occupational Health and Safety (2010) stated that the most important way to reduce the spread of infections is by hand washing. Hands should always be washed regularly with soap and water. Individuals observe their own standards of hygiene, and these were either actively taught by, or learned through observation of, others. Personal hygiene, if practiced conscientiously, helps to prevent the spread of disease, the outbreak of epidemics or even pandemics. Observing very basic practices may help prevent coughs and colds from spreading from one person to another (Hygiene Expert (UK), 2000-2009). The key to spreading the practice of hand washing with soap resides in promoting behavioral change through motivation, information and education. There are a variety of ways of accomplishing this, for example, through high-profile national media campaigns, through peer-to-peer education techniques, by way of hygiene lessons for children in schools, and subsequent encouragement of those children to demonstrate good hygiene to their families and communities (United Nations Children's Fund, 2008a).

2.6 Factors affecting Personal Hygiene among Secondary School Students/ Adolescents

2.6.1 Personal factors

Despite the fact that personal hygiene can go a long way to prevent communicable diseases, many still do not take it seriously as they should. The reason is not farfetched.

People believe there are some bad habits they can get away with; therefore, they do not desist from such bad habits (Nardo, 2013). Among such includes sharing of under wear with family and friends, nail biting, not bathing regularly, sharing of sunshade and picking the ears with objects (Ghose, Rahman, Hassan, Khan and Alam, 2012). Some students have perception which may not promote desirable health behaviors. For instance, some are of the believe that the wearing of long nails improves one's physical appearance, little do people realize that perceptions such as this could be harmful (FDA, 2009). The idea of going to salons for pedicure and manicure is a habit that should be discouraged among students especially adolescents, unless they carry their own kit with them (Leonard, 2014). Personal hygiene does not end at looking good, it also aids in preventing ill health caused by diseased pathogens (Lucas and Gilles, 2012). Some students do not see it as important to take good care of their body. Training received from home on personal hygiene have an important role to play in the life of the adolescents. In some schools where basic amenities for personal hygiene is available, some adolescents do not make use of them and in some cases the students destroy the facilities been provided by the government for good hygiene practice. The believe of the adolescents play a crucial role in practicing good hygiene, despite the fact that some adolescents have basic knowledge on personal hygiene, they still do not practice it.

2.6.2 External factors

Provision of personal hygiene facilities and materials is an important factor that can promote students' personal hygiene and this is the responsibility of the parents, school and the community. Students should have access to materials needed on personal hygiene. Lack of resources such as soap and water are two of the main reasons why adolescent do not wash their hands (Vivas, Bizu, Nigusu, Abera, Yemane and Williams, 2010). In addition to personal hygiene resources, it is necessary to equip adolescent with adequate knowledge relating to personal hygiene. Personal hygiene-related knowledge has great potential in enhancing students' capacity to adopt health promoting behaviors as well as equipping them with skills to serve as peer educators and community educators (Madaras, 1998).

According to Crofts and Fisher (2017), menstrual hygiene management has been an issue for almost half of the world's adolescent girls. It has been a cause of shame, stigma, and school absenteeism and contributes greatly to reproductive tract infections. Addressing

these hygiene practices particularly in public schools can bring the much-needed international attention to focus on these neglected issues. Schools, particularly those in rural areas often have inadequate water, toilets, hand washing soap and hand washing facilities making it difficult for some students to practice proper hygiene. Boys and girls are likely to be affected in different ways by this inadequacy and this may contribute to unequal learning opportunities.

Sometimes girls fail to practice proper hygiene as observed by Parker (2017) in a study carried out in Libode district in Zimbabwe where some girls reported dropping used sanitary towels in the pit latrines or throwing them in the nearby bushes since their sanitary towel disposal bins were always full and dirty. A study carried by Parker (2017) in West Bengal showed that girls missed school during menstruation since they could not use the sanitary towel disposal bins which were dirty and smelly. These practices interfere with the achievement of one of the Millennium Development Goals on ensuring environmental sustainability since this disposal of used sanitary towels is not ecologically friendly.

Another Millennium Development Goal on the promotion of gender equality will also not be achieved since girls, unlike boys, miss school during menstruation period. In most public schools, latrine to student ratio is a core concern with hundreds of students sharing a single toilet thus affording inadequate privacy especially for the girls. This is in contrast to recommendation by The Ministry of Public Health and Sanitation and Ministry of Education (2009) Nigeria, which recommend a ratio of 1 toilet for every 25 girls and 1 toilet for every 30 boys in order for the sanitation facilities to provide adequate privacy to all students. A study conducted in Machakos showed that an average of 64 students was sharing one toilet (WHO, 2018). Another study carried out by Curtis and Cairncross (2013) showed that in most public schools, toilets were divided into cubicles with no doors and had an open roof. Most of the toilets were dirty with feces on the walls and urine on the floor. Such conditions do not favor proper hygiene practices.

There is therefore need to build separate gender-appropriate toilets that provide privacy, adequate hand washing water, soap and disposal facilities for the entire school community. In addition, proper hygiene practices should be instigated in public schools since sanitary

conditions and basic personal hygiene practices such as hand washing using soap, proper disposal of used sanitary towels and proper use of toilets are still not widely practiced among students. Schools should provide an enabling environment where the students can learn these practices and implement them both in school and even at home.

A study conducted in Burkina Faso, Vietnam, Nicaragua, Nepal, Columbia and Zambia reported that public schools in these countries implemented this recommendation by constructing child friendly designed toilets which included separate toilets / urinals for girls and boys and ensured that these facilities were located within the school compound. In 4 out of 6 countries, the toilets and urinals that were constructed followed the international norms about the ratio of children per toilet which is 1:25 for girls and 1:30 for boys (WHO, 2009). However, the norms vary considerably ranging from 1 toilet/urinal for 25 girls or boys in one country up to 1 toilet for more than 100 children in another country (Zomerplaag and Mooijman, 2005).

During a water and sanitation workshop that was conducted at Burkina Faso in 2000 it was reported that 1 toilet was being used by 381 students and 1 urinal by 892 students (WHO, 2006). Insufficient number of water points in public schools and sometimes complete lack of water pose a big challenge, forcing some children to adopt a common practice of using a basin for washing hands instead of running water. This has been the case in several schools in Zambia as was reported by a participatory study carried out by UNICEF (2006). This is a poor hygiene practice which can contaminate the water in the basins when all the children use the same water. Running or flowing water from a tap, jug or a tippy tap is encouraged since it can easily eliminate germs (USAID, 2011). A participatory study conducted in Columbia in the year 2003 found that6 out of 10 schools that were studied, most children did not wash their hands after visiting the toilet despite the fact that there was water that had been provided inform of tippy taps (Zomerplaag, and Mooijman, 2005). In three (3) of the schools, an average of 60 students was using only 1 tippy tap for washing hands after visiting the toilet. In another study, a few girls in Malawi reported lack of water as a reason for not washing hands after visiting the toilet or bathing regularly during menstruation while a larger number did not give reasons for this poor hygiene practice but only said that they would have preferred a disposable sanitary product (Pilliteri, 2011).

The situation in Nigeria is equally pathetic even though the Ministry of Education (MOE) has recommended an average standard of one water point for every 50 students (Federal Ministry of Education FMOE, 1995). An assessment conducted by the Schools Sanitation and Hygiene Working Group in public schools in Kenya for example found that 90% of schools in rural Kenya do not have a source of water and lack even the simplest hand washing facilities. Out of the 10% of the schools where water is available, only a few students washed hands after visiting the toilet. In one of the schools where safe running water was available, the study found out that only about 20 out of 400 students washed hands after visiting the toilet (Orodho., 2003). Siwolo (2004) who conducted a study in public schools in Machakos found out that most students did not wash their hands after visiting the toilet. He observed that the few tippy taps that were available for hand washing were located near the teachers' toilets and none were found near the pupils' toilets.

According to Hutton, Guy and Haller (2007), one of the Millennium Development Goals (MDGs) targets is to halve the proportion of people without access to sanitation by the year 2015. However, research shows that over a century after the sanitation revolution in 19th century in Europe, 40% of the world's population still lack access to basic sanitation (UNICEF/WHO, 2008). During the World Summit on Sustainable Development which was carried out in the year 2002, the executive director of UNICEF recommended that every public school in the world should be equipped with separate sanitary facilities for boys and girls. Such facilities would ensure privacy to all students. However, the norms vary considerably ranging from 1 toilet/urinal for 25 girls or boys in one country up to 1 toilet for more than 100 children in another country (Zomerplaag and Mooijman, 2005). During a water and sanitation workshop that was conducted at Burkina Faso in 2000 it was reported that 1 toilet was being used by 381 students and 1 urinal by 892 students (WHO, 2006).

A study conducted in two schools in Zimbabwe by The Small Projects Foundation (SPF) showed that 400 girls out of 700 students in one of the schools were subjected to use four toilets for all their ablution needs while in another school, 262 girls out of 400 students had to use five toilets for similar needs. The toilets had no doors to provide privacy for the older girls particularly during their menstruation period (Sommer, 2009). In some cases,

the condition of the toilets makes them unusable by students as was noted by Marie (2010) in her study in a school in South Africa where she reported that students/adolescents could not use toilets since they were in a bad state. Some of the toilets had no doors to provide privacy while the remaining ones had badly rusted corrugated iron sheets and broken doors thus passersby could look into the toilets. Most of the toilets had no water for hand washing. This was in contrast to USAID (2011) which stated that water should be kept beside the toilets to make it convenient and much more likely for students to wash their hands after visiting the toilet. In a study conducted in 6500 public schools in the Eastern Cape Province in South Africa, it was reported that most of the schools and community had poorly maintained pit latrines and most of them were full and therefore no longer in use (Maria, 2010). The study revealed that the awful state of the toilets led to poor school attendance by girls during menstruation period. Sommer, (2011) noted that even where the toilets are well used and maintained, girls feel uncomfortable when there is no privacy from other girls particularly during urination and menstrual management. This poses a big challenge to such schools in relation to hygiene practices.

A variety of resources are needed in the home by students to enable them practice personal hygiene. These include the following: uniforms, shoes, clothes, toothbrushes and toothpastes, body cream, deodorant, disinfectants, hair cream, oil, restrooms soap for washing hands, underwear, towels, nails cutters, bathrooms, iron, personal plates, spoons and cups. In addition to appropriate information provided by schools, parents should make all these materials available to them. Despite the fact that a student has appropriate information from the school, there is still the need to have all the materials and facilities needed to promote his personal hygiene at home.

2.7 Conceptual Framework: The PRECEDE Model (Green et al, 1980)

The PRECEDE model was developed by Dr. Lawrence W. Green and colleagues in the 1970's to address the lack of direction and adequacy of public health promotions to sufficiently plan before implementing interventions (Glanz, Rimer, and Lewis, 2002). The PRECEDE model is a program planning model that uses an ecological approach to health promotion. The PRECEDE is an acronym that stands for Predisposing, Reinforcing, Enabling Constructs in Educational/Environmental Diagnosis and Evaluation. The model explains the casual factors of any given public health behavior. The three key concepts of this model are predisposing, enabling and reinforcing factors:

The predisposing factors – which are factors which motivate a reason for behavior, they include knowledge, attitudes, cultural beliefs, perceived needs and abilities or readiness to change.

The Enabling factors – these are factors which enable a person to act on their predisposition and this includes available resources, accessibility, money time and services.

Reinforcing factors – these are factors that come into play after behavior has been initiated. This includes social support (family and peers, health care system and the media.

Application of the Model

Numerous studies have supported the positive impact the PRECEDE model has had on the effectiveness of health promotion programmes. This study employs the use of this model to explain personal hygiene related knowledge and practices among in – school adolescent in public schools in IBSELGA, Ibadan, Oyo State.

Using the various constructs of the model, it was applied to the current research as follows:

Predisposing factor: the various factors that motivate the respondents (in – school adolescent) to practice good personal hygiene were assessed. This includes personal hygiene knowledge, beliefs, perceptions, personality and attitude.

Enabling factors: these are what enables the respondents to act on the predispositions. In this study, this include availability of facilities such as adequate water supply, dustbin,

toilet, tissue for anal cleaning, soap, washing hand basin and towel for cleaning hand in the schools' classrooms.

Reinforcing factors: they include what encourage the practices of good personal hygiene among in – school adolescent. For this study, they include role model, teachers, family peers and media.

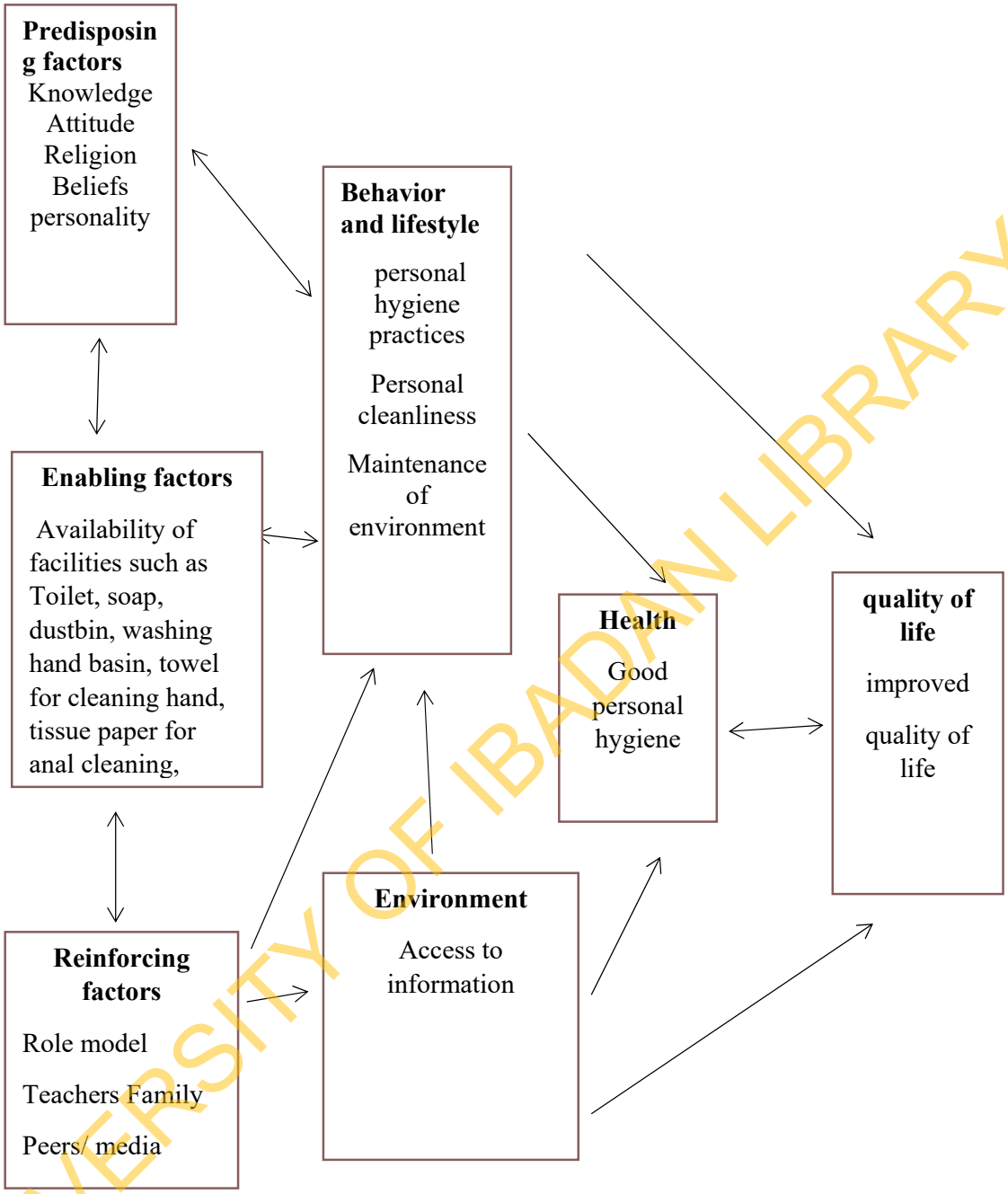

Figure 1: The PRECEDE model and its application to the personal hygiene knowledge and practice among in – school adolescents

CHAPTER THREE

METHODOLOGY

3.1 The Study Design

This study adopted a cross-sectional survey research design. The design is suitable for this study because it will allow data to be collected at a point in time.

3.2 Description of the Study Area

Ibadan South-East LGA is a Local Government Area (IBSELGA) in Oyo State, Nigeria. Its headquarters is at Mapo Hall. Ibadan South East Local Government Area was carved out of the defunct Ibadan Municipal Government (IMG) in 1991. The Local Government Area inherited the Administrative Headquarter of the IMG at Mapo. It covers a land area of 58.251 square kilometers with 2010 estimated population of 301,775, using a growth rate of 3.2% based on 2006 census. It has a population density of 5,181 persons per square kilometer. The Local Government area shares boundaries with Ibadan South West and North East Local Government Areas. Oluyole Local Government Area also bound it to the south. It is an urban area and therefore no farming activity is taking place. It is inhabited by the Yorubas and other ethnic groups. The residents are engaged in various economic activities which include trading, transportation business and civil service (Ibadan SELGA, 2019). IBSELGA is subdivided into 12 wards.

There is a total of 21 public secondary schools in IBSELGA and 91 registered private secondary schools. As regards primary schools, there are a total of 13 primary public primary schools in IBSELG and 49 privately owned registered primary schools. There is no tertiary institution in IBSELG. The LGA consists of both private and public owned schools located at Bere, Esu Awole, Elekuro, Odinjo, Eleta, Orita Apeerin, Bode, Orita Challenge, Molete, Kudeti and Oju- odo, the LGA consists of some areas that are yet to develop in terms of good planning, settlement and sanitation. Some of the characteristics of the LGA are lack of infrastructural facilities, no layout and planning, the people are predominantly poor and illiterate, lack of water, poor sanitation practice and lack of facilities to promote good hygiene. People still engage in open defecation in the LGA and indiscriminate disposal of solid and liquid waste, people still buy water in the LGA and

those that did not buy fetch water mainly from the well. The school policy on personal hygiene was put in place to protect the health of the school community and help students manage their personal hygiene routines, the school policy on hygiene include hand washing, face washing especially after eating, blowing and wiping of nose, menstruation management for those who needs reassurance or verbal support, provision of soap, hand sanitizers in schools where there is no running water or well. The aforementioned policy has not been well implemented in schools in this LGA.

3.3 Study Population

The study population was In - School Adolescents in Public Schools in Ibadan South-East local government area, Ibadan, Oyo-state. Both male and female students in both junior and senior secondary schools were included in the study. Majority of them were between the ages of 10-19 years.

3.4 Study – site

Ibadan South East LGA was the site selected due to the fact that the LGA has larger number of adolescent and little or no research has been done in the LGA on personal hygiene related knowledge and practices among in – school adolescent. However, it has been discovered that so many research work had been carried out in Ibadan North LGA. In the selected LGA, the environment in some public schools was not very conducive and there was lack of basic sanitation facilities. The population of the students in IBSELGA public secondary school was also large enough which would help in choosing a sample population that could be used for generalization.

3.5 Inclusion and Exclusion Criteria

The inclusion criteria are as follows;

1. Must be In - School Adolescents in Public Schools in Ibadan South- East local government
2. Must be willing to participate
3. Must be between the age of 10 and 19 (WHO 2000, UNICEF 2009)

The exclusion criteria are as follows

1. Unwillingness to participate
2. Out of school adolescents
3. More than the age criteria (less than 10yeras and greater than 19 years).

3.6 Sample Size determination

Sample size determination is the act of choosing the number of observations to include in a sample. The sample size is crucial for any empirical study in which the goal is make inferences about large a population from a sample. A formula is usually used to yield such a representative sample. The formula adapted for the determination of the study sample is; as follow credited to

$$N = \frac{z^2pq}{d^2}$$

n = sample size

z = confidence level (1.96)

P = 50%

q = (1-p)

d = degree of freedom

$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2}$

n = 384.16=384

Non response rate of 10% of the sample size will be added as follow

384.16 + 38.04 = 422.2

3.7 Sampling Technique

Probability sampling technique was adopted. The sampling process involved the following stages:

Stage 1: the public schools was stratified by wards; then one school was selected from six wards by balloting.

Stage 2: the total sample size was divided by the number of selected wards to know the number of Questionnaire to be administered in each selected schools

Stage 3: in each selected school, students were randomly selected from JSS2, JSS3, SS2 and SS3 using balloting.

Stage 4: the number of questionnaire to be administered in each schools was shared among the four selected classes. JSS2 (17), JSS3 (18), SS2 (17) and SS3 (18) making a total of 70 respondents in each selected school. The students were selected using systematic random selection and this was done through the use of the class register, every twos were selected.

3.8 Training of Research Assistants

Four (4) Research Assistants (RAS) were recruited for this study. This include health promotion and education students of the faculty of Public Health. They were trained for two days to ensure good data collection from participants. The training focuses on interview skills and how to establish rapport with respondents; objectives of the study and ethical issues to be respected during the study.

The training was conducted using methods which includes; brief lecture, role play, discussion, demonstration and return demonstration. After the training, the research assistants were asked to do a return demonstration and role play.

3.9 Instruments used for data collection

Two instruments were used for data collection, a questionnaire and a checklist.

3.9.1 The questionnaire

The questionnaire consists of five sections. Section A: comprise of socio-demographic Information of respondents including sex, age, class of study, and so on. Section B: focus on issues relating to the knowledge of personal hygiene. Section C: contains questions on personal hygiene practices among the students. Section D: focuses on the perception of the students about personal hygiene. Section E: contains list of facilities used for personal hygiene.

Observational checklist

Facilities available within the school environment and personal hygiene kits in the classrooms that could influence the personal hygiene practices of the student were observed using the observational checklist. The checklist consists of a list of items that should enable students to practice good personal hygiene and the checklist enabled the researcher to identify the available facilities and what was not available.

The observation was made by going around the schools to identify the available materials and facilities. The observational checklist was completed by the researcher by ticking the available materials and facilities in the schools. The data was collected at a period when the school had just resumed for the session therefore JSS1 and SSS1 students could not partake in the study.

3.9.2 Validity and Reliability of Research Instrument

Validity

Validity refers to how much a measurement is close to the true value. The smaller the number of the errors, the closer the measurements are to the true values and hence the higher the accuracy/validity (Sofoluwe, Schram and Ogunmekan 1996). The questionnaire and other instruments were given in-house pretesting. This involves giving them to my supervisor and other experts (lecturers) in the Department of Health Promotion and Education in the Faculty of Public Health to peruse. Suggestions offered by them was used to improve the instruments.

Reliability

Reliability refers to the ability of an instrument to be able to measure with precision what it supposes to measure and the same result obtained if the process is repeated (Bamigboye, 2006). In order to ensure this, the research instruments were pretested among in – School Adolescent in Christ the King secondary school, Agugu, Ibadan North-East Local Government. The pretest was conducted among 10% (42) of the sample size. The RAS were made to participate in the pretest so as to create opportunity for them to acquire practical experience relating to the study. The pretested questionnaire was cleaned, coded and entered into an SPSS computer package and a Statistical Reliability Analysis was conducted to test the reliability of the questionnaires. The value of the Alpha model of reliability obtained was 0.7 which shows a good degree of internal consistency.

3.9.3 Data Collection Process

Data was collected in six (6) different schools using four (4) research assistants for four (4) days, this was done by writing out all the wards in the Local Government and balloting was done. The arms of class to be used were selected, sample size for each of the arm selected was determined, visiting of each of the school selected was also done. Permission was obtained from the selected school authorities, briefing of the school authorities, teachers and the students about the nature of the study was also done and they were being shown the approval given by the Ministry of health ethics committee.

3.9.4 Data Analysis and presentation

Both descriptive and inferential statistics was utilized in this study. Descriptive statistics include the use of frequencies and percentages, graphs and charts. F-test and Chi square constitute the inferential statistics that was used to analyze the data, the data was presented using tables and charts. Copies of the questionnaire used was checked for consistencies. They were cleansed and sorted out. A coding guide was designed by the researcher for the different sections of the research instruments, which was used to facilitate the coding of the data. The entry of the data was done using SPSS. Knowledge scores of ≤9, >9 to ≤ 13 and > 13 were rated as poor, fair and good respectively. Perception scores of >7 were classified as positive while practice score of >4 was rated as good, frequency tables, graphs and chart were generated. The observational checklist used for each school is also included in the appendix 3.

3.9.5 Ethical Consideration

Ethical approval of the study was given by the Oyo State Ministry of Health. The principal of all school was visited for permission to carry out the research in their various schools. There was voluntary participation of respondents and strict confidentiality was ensured by the researcher and the research assistants.

The ethical rules involved in dealing with human subjects involved in research was strictly observed. Such ethical issues will relate to the following:

Informed Consent: inform consent was obtained from the principal.

Voluntary Participation: The principals were told that participation in the study is voluntary and that they can withdraw at any time they wish.

Confidentiality: The names, residential address or any information that revealed the personal identity of the respondents were made confidential by the researcher. Also, information gathered was treated with utmost confidentiality.

Non-maleficence: there was no medical test or risks invasive procedure involved throughout the field work and respondents were forced to divulge any information they are not comfortable with.

Beneficence: the school principals were being informed that they will not enjoy any special benefit by participating. However, the results will be useful in future for designing educational interventions relating to the promotion of personal hygiene of in – school adolescents in public secondary schools in IBSELGA.

3.9.6 Limitations of the Study

The study was limited by various factors which includes limited time, number of instrument, method of data collection, type and number of instrument, method of analysis and the scope of the study. The limitation of the study was overcome by making wise use of the available time and appropriate method of data collection.

CHAPTER FOUR

RESULTS

This chapter presents the results of the study.

4.1 Respondent's socio-demographic characteristics

Table 4.1 presents the results on the demographic distribution of the respondents. Sex distribution revealed that more of the respondents 221 (52.7%) were males, while the other 198 (47.3%) were females. As regards age distribution, more of the respondents 199 (47.5%) were between 15 and 17 years old, 168 (40.1%) were less than 15 years, while the other 52 (12.4%) were above 17 years old.

As regards class of study, some of the respondents 108 (25.8%) were JSS 3 students, 107 (25.5%) were SSS 3 students, 103 (24.6%) were JSS 2 students, while the other 101 (24.1%) were SSS 2 students. Also, more of the respondents 335 (80%) were from monogamous family, while the other 84 (20%) had polygamous family background. Ethnicity distribution revealed that an overwhelming proportion of the respondents 405 (96.7%) were from Yoruba ethnic group, 9 (2.1%) belong to Hausa, while the other 5 (1.2%) indicated been Igbo. Finally, religion distribution revealed that more of the respondents 253 (60.4%) were Muslims, 163 (38.9%) were Christians, while the other 3 (0.7%) were traditionalist.

Table 4.1: Respondents' Socio-Demographic characteristics

N= 419

Variables	Frequency	Percent
Sex		
Male	221	52.7
Female	198	47.3
Age		
< 15 yrs	168	40.1
15-17 years	199	47.5
Above 17 years	52	12.4
Class of study		
JSS 2	103	24.6
JSS 3	108	25.8
SSS 2	101	24.1
SSS 3	107	25.5
Family type		
Monogamous	335	80
Polygamous	84	20
Ethnicity		
Yoruba	405	96.7
Hausa	9	2.1
Igbo	5	1.2
Religion		
Christianity	163	38.9
Islam	253	60.4
Traditional	3	0.7

4.2 Respondents' Knowledge of personal hygiene

Table 4.2a and 4.2b presents results on the knowledge of personal hygiene among the respondents. When asked about the source of information on personal hygiene, an overwhelming proportion of them 307 (73.3%) indicated school, 66 (15.8%) signified that they learnt about personal hygiene from their parents, 18 (4.3%) learnt about personal hygiene from reading books, 13 (3.1%) learnt about personal hygiene from radio stations, 7 (1.7%) learnt about personal hygiene from mosque, 5 (1.2%) learnt about it from church, while the other 3 (0.7%) learnt about personal hygiene from friends. Also, majority of the respondents 396 (94.5%) indicated true that personal hygiene practices include things done by an individual to care for his/her health and well-being through cleanliness. Also, almost all of the respondents 402 (95.9%) signified true that personal hygiene includes cleanliness of the body. In addition, more of the respondents 348 (83.1%) indicated that personal hygiene includes regular brushing of the teeth.

More of the respondents 387 (92.4%) correctly indicated that personal hygiene includes regular and proper hand washing, while some of the respondents 344 (82.1%) indicated that personal hygiene includes eating of balanced diet. In addition, respondents 367 (87.6%) signified that personal hygiene includes cutting of the nail, respondents 263 (62.8%) indicated that combing of the hair is not part of personal hygiene, 149 (35.6%) indicated that combing of the hair is part of personal hygiene, while the other 7 (1.7%) were not sure.

Respondents 262 (62.5%) indicated that cleaning of the inner part of the ear with cotton bud is not a bad behavior, 153 (36.5%) indicated that it is a bad behavior, while the other 4 (1%) were not sure. Also, more of the respondents 250 (59.7%) indicated that washing one's clothes regularly is part of personal hygiene, while the others 169 (40.3%) indicated false. Further, some of the respondents 289 (69%) indicated that changing of underwear every day is a good personal hygiene, while the other 130 (31%) signified that it is not a good practice. In addition, respondents 279 (66.6%) indicated that washing of hand after toilet use is part of personal hygiene, while the other 140 (33.4%) indicated that washing of the hand is not part of personal hygiene.

More of the respondents 241 (57.5%) indicated that poor personal hygiene lead to body odour, while the other 178 (42.5%) indicated that poor personal hygiene does not lead to body odour. Finally, some of the respondents 323 (77.1%) indicated that poor personal

hygiene can lead to ringworm, while the other 96 (22.9%) indicated that poor personal hygiene cannot lead to ringworm.

4.2 Respondent's Knowledge of Personal Hygiene

Table 4.2a: Knowledge of personal hygiene **N=419**

Knowledge	True (%)	False (%)	Not sure (%)
Personal hygiene practices include things done by an individual to care for his/her health and well-being through cleanliness?	396(94.5)*	19(4.5)	4(1.0)
Personal hygiene includes cleanliness of the body	402(95.9)*	10(2.4)	7(1.7)
Personal hygiene includes regular brushing of teeth	348(83.1)*	68(16.2)	3(0.7)
Personal hygiene includes regular and proper hand washing	387(92.4)*	30(7.2)	2(0.5)
Personal hygiene includes eating balanced diet	344(82.1)*	61(14.6)	14(3.3)
Personal hygiene includes cutting of our nails	367(87.6)*	41(9.8)	11(2.6)
Combing of the hair is not part of personal hygiene	149(35.6)	263(62.8)*	7(1.7)
Cleaning the inner part of the ear with cotton bud is a bad health behavior	153(36.5)	262(62.5)*	4(1.0)

Correct response *

Table 4.2b: Knowledge of Personal Hygiene

N=419

Knowledge	True (%)	False (%)
Washing one's clothes regularly is not part of personal hygiene	250(59.7)	169(40.3)*
Changing of underwear every day is not a good personal hygiene	130(31.0)	289(69.0)*
Washing of hand after toilet use is part of personal hygiene	279(66.6)	140(33.4)*
Poor personal hygiene does not lead to body odor	178(42.5)	241(57.5)*
Poor personal hygiene can lead to ringworm	323(77.1)*	96(22.9)

Correct response *

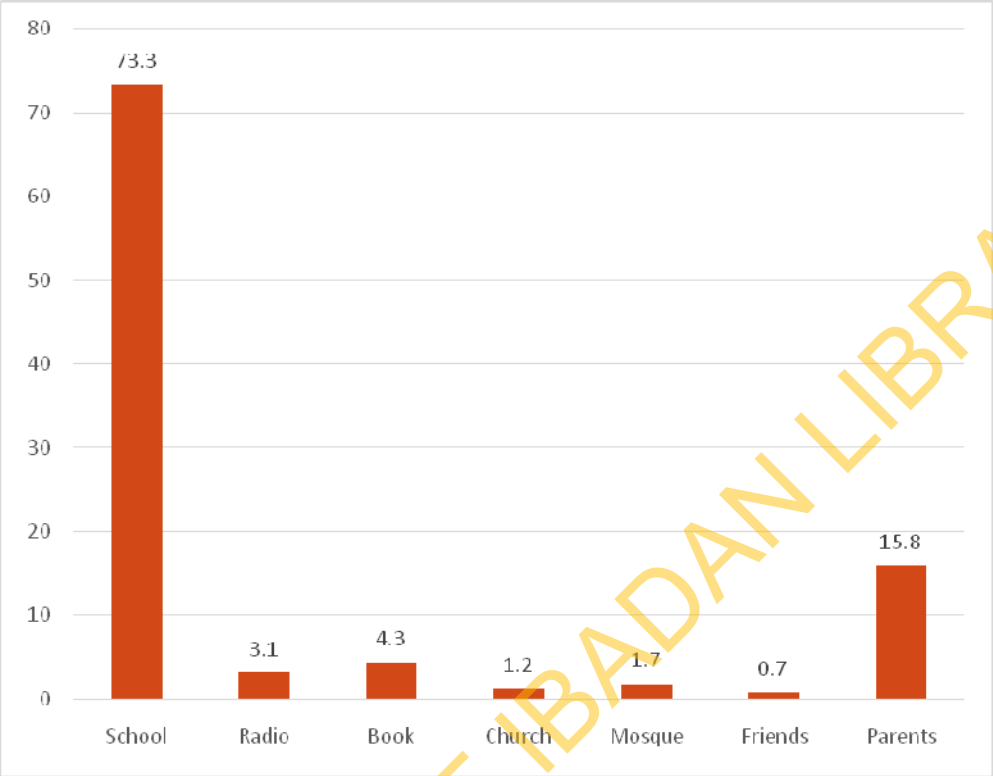

Figure 2: Source of information on personal hygiene.

Table 4.2c presents results on responses to health conditions associated with poor personal hygiene among secondary school students. It is shown that more of the respondents 80.2% correctly indicated that having lice on the body is an indication of poor personal hygiene; respondents 79.7% signified that having ringworm on the body is a sign of poor personal hygiene. Also, majority of the respondents 345 (82.3%) indicated that having scabies on the body is a sign of poor personal hygiene, while the other 74 (17.7%) indicated that it does not necessarily mean that having scabies on the body is a sign of poor personal hygiene. In addition, more of the respondents 319 (76.1%) signified that diarrhea is a sign of poor personal hygiene, while the other 100 (23.9%) indicated that it is false.

Majority of the respondents 344 (82.1%) indicated that dental caries is a sign of poor personal hygiene, while the other 75 (17.9%) disagreed. In addition, respondents 324 (77.3%) signified that cholera is a sign of poor personal hygiene. Finally, more of the respondent 312 (74.5%) indicated that worm infestation is a sign of poor personal hygiene, while the other 107 (25.5%) indicated false.

Table 4.2c: Health conditions that can result from poor hygiene

N=419

Health conditions	True (%)	False (%)
Lice on the body	336(80.2)*	83(19.8)
Ringworm	334(79.7)*	85(20.3)
Scabies	345(82.3)*	74(17.7)
Diarrhea	319(76.1)*	100(23.9)
Dental caries	344(82.1)*	75(17.9)
Cholera	324(77.3)*	95(22.7)
Worm infestation	312(74.5)*	107(25.5)

Correct response *

Table 4.2d presents results on the distribution on knowledge of personal hygiene among secondary school students. It is shown that more of them 79.7% had good knowledge about personal hygiene, 18.4% had fair knowledge about personal hygiene, while the other 1.9% had poor knowledge of personal hygiene, using the scale of 0≤9 as poor knowledge, >9≤13 as fair knowledge and >13 as good knowledge.

Table 4.2d: Composite of Knowledge of Personal Hygiene among Secondary School students

	Frequency	Percent	Average
Good	334	79.7	16.2 ± 2.2
Fair	77	18.4	
Poor	8	1.9	

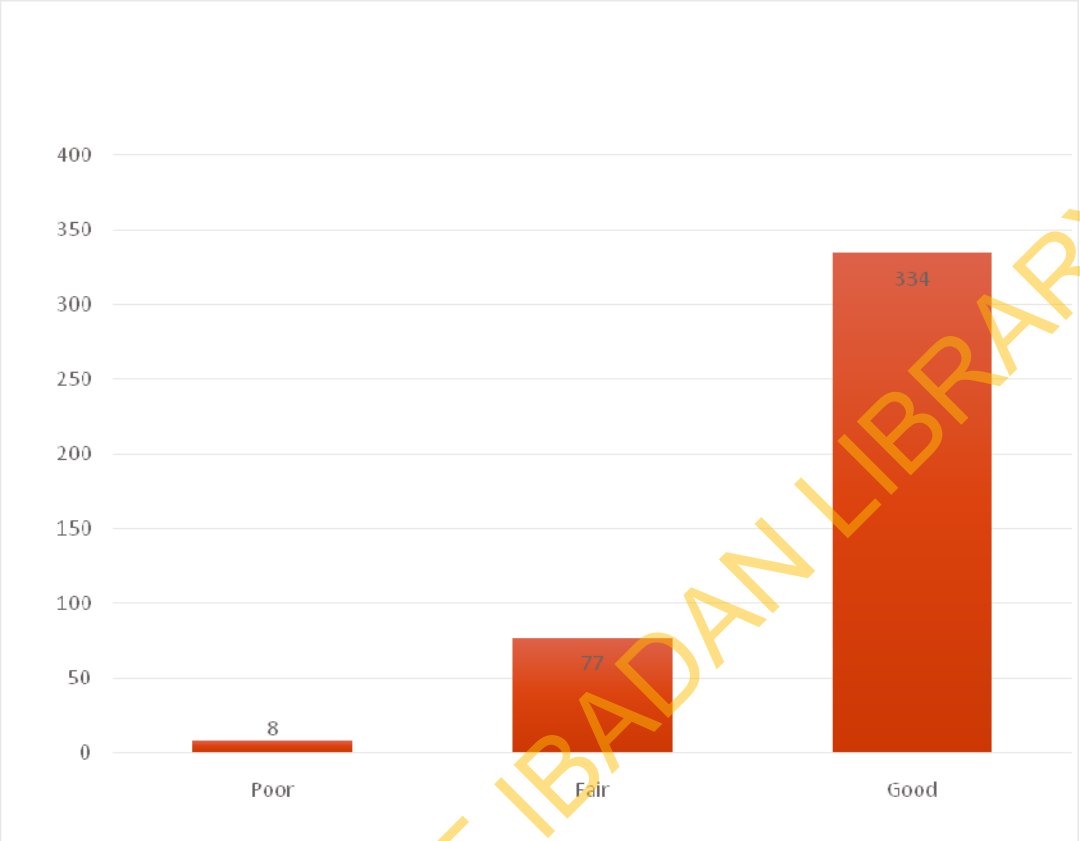

Figure 3: Respondents' Knowledge of Personal Hygiene

4.3 Respondents' Perception of personal hygiene

Table 4.3 Presents results on the perception of personal hygiene among secondary school students. It was shown that more of the respondents 60.6% disagreed that washing of hair daily by male students is not necessary, 127 (30.3%) agreed, while the other 9.1% were undecided. Respondents 59.4% disagreed that combing one's hair only makes one look good, but it is not part of one's personal hygiene, 28.2% agreed, while the other 12.4% were undecided. In addition, more of the respondents 69.5% disagreed that the nostrils do not need any special care to make them clean, 19.6% agreed, while the other 11% were undecided.

Some of the respondents 58.9% disagreed that the nose needs to be cleaned only when it is having mucus, 32% agreed, while the other 9.1% were undecided, respondents 73.7% disagreed that it is not always possible to wash one's hand before eating, 18.6% agreed, while the other 7.6% were undecided. In addition, more of the respondents 66.3% disagreed that chewing stick clean the teeth better than a toothbrush and toothpaste, 23.9% agreed, while the other 9.8% were undecided. More of the respondents 57.5% agreed that too much sweat on the body can lead to bad odour, 30.3% disagreed, while the other 12.2% were undecided.

Respondents 70.9% disagreed that there is nothing wrong in keeping long fingernails, 19.3% agreed, while the other 9.8% were undecided. Also, more of the respondents 70.2% disagreed that not bathing regularly cannot cause serious body odour, 21% agreed, while the other 8.8% were undecided. Finally, 70.9% of the respondents disagreed that diseases caused by poor personal hygiene are not always serious, 16.5% agreed, while the other 12.6% were undecided.

Table 4.3a: Respondents' Perception of Personal Hygiene

N=419

Perception	Disagree (%)	Undecided (%)	Agree (%)
Washing of hair daily by male students is not necessary	254(60.6)*	38(9.1)	127(30.3)
Combing one's hair only makes one look good, but it is not part of one's personal hygiene	249(59.4)*	52(12.4)	118(28.2)
The nostrils do not need any special care to make them clean	291(69.5)*	46(11.0)	82(19.6)
The nose needs to be cleaned only when it is having mucus	247(58.9)*	38(9.1)	134(32.0)
It is not always possible to wash one's hand before eating	309(73.7)*	32(7.6)	78(18.6)
Chewing stick clean the teeth better than a toothbrush and toothpaste	278(66.3)*	41(9.8)	100(23.9)
Too much sweat in the body can lead to bad body odor	127(30.3)	51(12.2)	241(57.5)*
There is nothing wrong in keeping long nails	297(70.9)*	41(9.8)	81(19.3)
Not bathing regularly cannot cause serious body odor	294(70.2)*	37(8.8)	88(21.0)
Disease caused by poor personal hygiene are not always serious	297(70.9)*	53(12.6)	69(16.5)
Not bathing regularly cannot make one get ringworm	283(67.5)*	55(13.1)	81(19.3)
Not bathing regularly cannot make one get disease	299(71.4)*	37(8.8)	83(19.8)
It is not always convenient to wash one's hands after toilet use	292(69.7)*	33(7.9)	94(22.4)

Correct response *

Table 4.3b presents results on perception of personal hygiene among the respondents. The average on perception of personal hygiene is 8.67 ± 3.24. It is shown that more of the respondents 287 (68.5%) had positive perception of personal hygiene and 132 (31.5%) had negative perception about personal hygiene.

Table 4.3b: Composite of Respondents' Perception of Personal Hygiene

N=419

Perception of Personal Hygiene	Frequency	Percent	Average
Negative	132	31.5	8.7 ± 3.2
Positive	287	68.5	

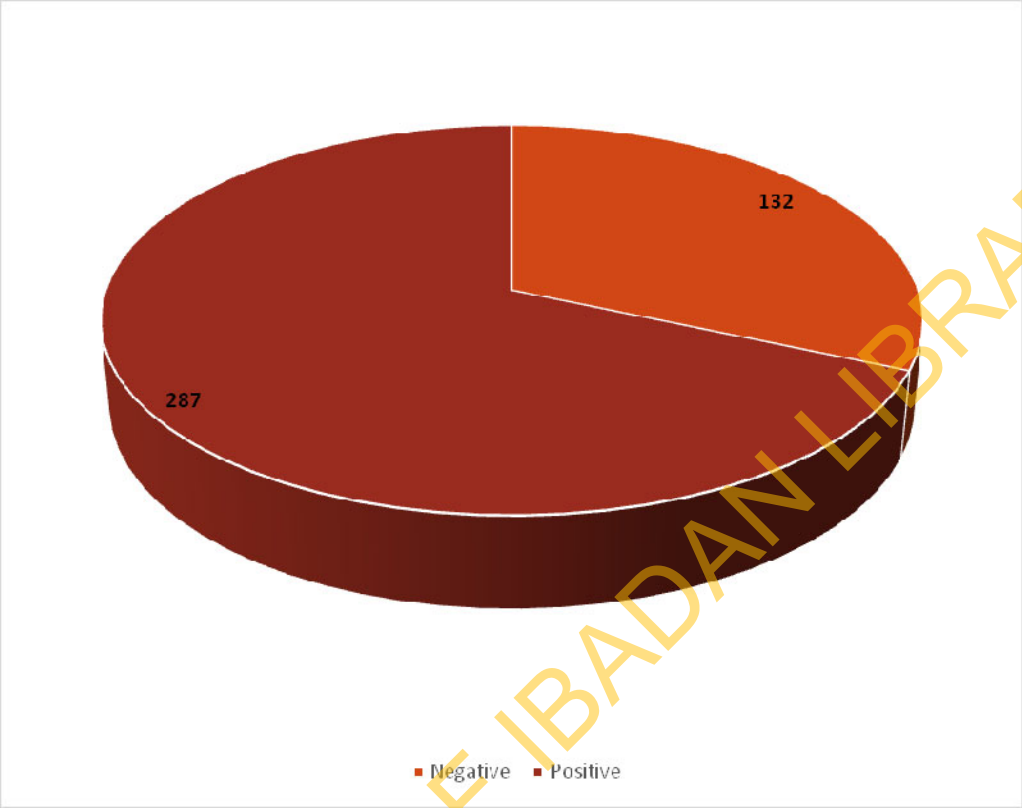

Figure 4: Respondents' Perception of Personal Hygiene

4.4 Respondents' Personal Hygiene Practices

When respondents were asked to indicate whether they always, sometimes or never performed the set of personal hygiene practice, the following were answers given. Overall most of the respondents practiced good personal hygiene as 375 (89.5%) indicated that they never share their underwear with family members and, 67.8% reported that they never keep long nails. In addition, more of the respondents 72.6% indicated that they never eat fruits without washing them. Further, more of the respondents 77.3% signified that picking the nose with the fingers was never their practice.

More of the respondents 67.1% reported that bathing without soap is never their practice. Also, more of the respondents 86.9% indicated that sharing of toothbrush with other people (brothers, sisters) was never their practice of keeping personal hygiene. Further, respondents 70.4% indicated that they always wash their hands before and after eating. Finally, 59.2% of the respondents indicated that bathing at least twice a day is always their practice.

Table 4.4: Respondents' Personal Hygiene Practices

N=419

Practices	Sometimes (%)	Always (%)	Never (%)
Sharing of underwear with family members	30(7.2)	14(3.3)	375(89.5)*
Keeping long nails	88(21.0)	47(11.2)	284(67.8)*
Eating fruits without washing them	78(18.6)	37(8.8)	304(72.6)*
Picking the nose with the fingers	59(14.1)	36(8.6)	324(77.3)*
Bathing without soap	88(21.1)	50(11.9)	281(67.1)*
Sharing of toothbrush with other people (brothers, sisters)	27(6.4)	28(6.7)	364(86.9)*
Washing of hands before and after eating	55(131)	295(70.4)*	69(16.5)
Bathing at least twice a day	96(22.9)	248(59.2)*	75(17.9)

Correct response *

Table 4.4b presents results on the frequency distribution according to respondents' personal hygiene practices. The average mean on personal hygiene practice is 20.45 ± 3.68. It is shown that more of the 402 (95.9%) has good practice of personal hygiene, while the other 17 (4.1%) has poor practice of personal hygiene.

Table 4.4b: Composite of Respondent's Personal Hygiene Practices

N=419

Personal Hygiene Practices	Frequency	Percent	Average
Good practice	327	78.0	5.9 ± 1.9
Poor practice	92	22.0	

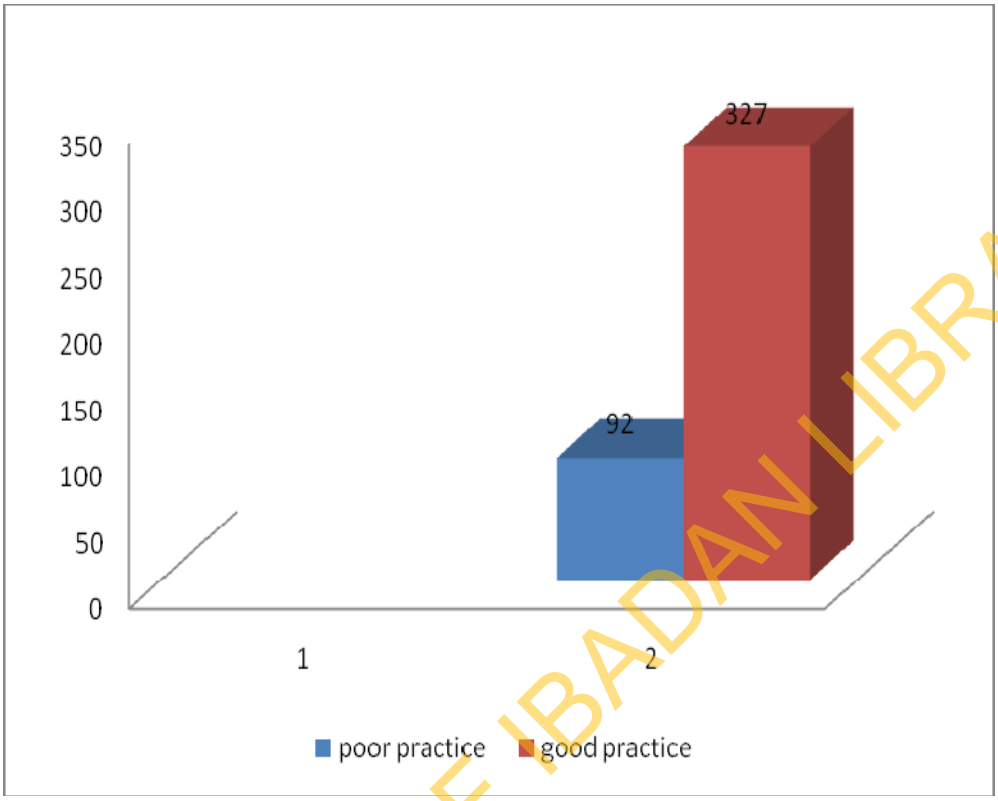

Figure 5: Composite of Personal Hygiene Practices

4.5 Availability of facilities and materials for promoting personal hygiene in the house/home for use by respondents

Table 4.5a and 4.5b presents results on the availability of facilities and materials for promoting personal hygiene in respondents' house/home for use. It was shown that more than half of the respondents 92.6% indicated that toothpaste is always available, 79.5% signified that toothbrush is always available for each person at home or where they live, 73% signified that pure water is always available for them. More of the respondents 64.7% indicated that there is always availability of borehole for use.

73.3% of the respondents indicated that bathing sponge is always available for each person wherever they are, 56.8% indicated that nail cutters/blade for each person is always available for use, 71.1% indicated that handkerchief is always available for each person. Also, more of the respondents 70.6% signified that towels/napkins for cleaning hands after eating is always available, 64% indicated that disinfectants like Izal and Dettol were always available for use.

From the table above, 77.1% respondents indicated that dustbin is always available for use wherever they are. Some of the respondents 81.6% signified that soap in the toilet for washing hands after toilet use is always available, respondents 84.7% signified that personal towel for cleaning body after bathing is always available. While lastly, 80.4% signified that well water is always available for use and 65.6% signified that pipe borne water is always available for use

Table 4.5: Availability of Facilities and Materials for Promoting Personal Hygiene in the house/home for use by respondents **N=419**

Facilities	Always available (%)	Sometimes available (%)	Never available (%)
Toothpaste	388(92.6)	20(4.8)	11(2.6)
Tooth brush for each person	333(79.5)	27(6.4)	59(14.1)
Pure water	306(73.0)	79(18.9)	34(8.1)
Borehole	271(64.7)	76(18.1)	72(17.2)
Bathing sponge for each person	307(73.3)	38(9.1)	74(17.7)
Nail cutters/blade for each person in the family	238(56.8)	86(20.5)	95(22.7)
Handkerchiefs for each person	298(71.1)	60(14.3)	61(14.6)
Towels /napkins for cleaning hands after eating food	296(70.6)	62(14.8)	61(14.6)
Disinfectants like izal and Dettol	268(64.0)	101(24.1)	50(11.9)
Dustbin	323(77.1)	43(10.3)	53(12.6)
Soap in the toilet for washing hand after toilet use	342(81.6)	43(10.3)	34(8.1)
Personal towel for cleaning body after bathing	355(84.7)	41(9.8)	23(5.5)
Well water	337(80.4)	56(13.4)	26(6.2)
Pipe borne water	275(65.6)	83(19.8)	61(14.6)

4.6 Availability of facilities and materials for promoting personal hygiene in the schools

Of all the six schools used for data collection, it was observed that only two schools had toilet facilities which is been made use of by both male and female students while others do not, the students engage in open defecation. The main source of water in all the observed schools is well, some schools had waste bin at the entrance of the school. None of the schools had soap, tissue paper, towel for cleaning hands after toilet use and bole hole water, separate toilet for male and female student and washing hand basin. The most common toilet seen in the observed schools was pit flush. Some of the schools were not health promoting and this made it difficult for students most times to practice good personal hygiene. There was no dustbin made available for each class but dustbin is being placed at the entrance of the schools.

4.7 Hypotheses

4.7.1 Hypothesis One

There is no relationship between socio- demographic characteristics of the respondent and personal hygiene. This was tested using Chi-square analysis and the result is presented on Table 4.6.

Personal hygiene practice of the respondents and socio-demographic characteristics of the respondents were cross tabulated to determine if personal hygiene practice had an influence on socio- demographic characteristics

Table 4.7 presents the relationship between socio-demographic factors and personal hygiene among secondary school students. It is shown that age (X^2 = 5.721; P= .057) and class of study (X^2 = 40.722; P= .000), sex (X^2 = .342; P= 637), family type (X^2 = 1.099; P=.304), ethnicity (X^2 = .918*; P=.762) and religion (X^2 = 2.515*; P=.251) had no significant relationship with personal hygiene among secondary school students in Ibadan. The null hypothesis, which stated that there is no association between socio- demographics characteristics of the respondents and personal hygiene practice, was therefore not rejected.

Table 4.7.1: Chi-square Analysis Showing the Relationship between Socio-Demographics and Personal Hygiene Practice

Demographics	Personal Hygiene		X^2	P
	Poor (%)	Good (%)		
Sex				
Male	51(55.4)	170(52.0)	.342	637
Female	41(44.6)	157(48.0)		
Age				
Less than 15 years	46(50.0)	122(37.3)	5.721	.057
15-17 years	39(42.4)	160(48.9)		
Above 17 years	7(7.6)	45(13.8)		
Class of study				
JSS 2	45(48.9)	58(17.7)	40.722	.000
JSS 3	19(20.7)	89(27.2)		
SSS 2	9(9.8)	92(28.1)		
SSS 3	19(20.7)	88(26.9)		
Family type				
Monogamous	70(70.1)	265(81.0)	1.099	.304
Polygamous	22(23.9)	62(19.0)		
Ethnicity				
Yoruba	90(97.8)	315(96.3)	.918*	.762
Hausa	2(2.2)	7(2.1)		
Igbo	0(0.0)	5(1.5)		
Religion				
Christianity	30(32.6)	135(40.7)	2.515*	.251
Islam	61(66.3)	192(58.7)		
Traditional	1(1.1)	2(0.6)		

*Fisher exact test

4.7.2 Hypothesis Two

There is no relationship between knowledge and personal hygiene. This was tested using Pearson r correlation and the result is presented on Table 4.7;

Table 4.7 presents results on the relationship between knowledge of personal hygiene and personal hygiene practices. It was shown that there is relationship between knowledge of personal hygiene and personal hygiene practices ($x^2 = 4.421$; P=.109).

The null hypothesis, which stated that there is no relationship between knowledge and personal hygiene practice, was therefore not rejected

Table 4.7.2: Chi-square Analysis Table Showing the Relationship between Personal Hygiene Practice and Knowledge of Personal hygiene

	Bad practice (%)	Good practice (%)	x^2	P-valve
Poor Knowledge (%)	16(17.4)	43(13.1)	4.421	.109
Fair knowledge (%)	42(45.7)	123(37.6)		
Good knowledge (%)	34(37.0)	161(49.2)		

4.7.3 Hypothesis Three

There is no relationship between perception and personal hygiene. This was tested using chi- square and the result is presented on Table 4.9;

Table 4.9 presents results on the relationship between perception of personal hygiene and personal hygiene practices among secondary school students in IBSELGA. It was shown that there exists significant and positive relationship between perception of personal hygiene and personal hygiene practices (x^2 = 21.463; P=.000). This connotes that the higher the perception of the need for good and adequate personal hygiene, the higher the practice of personal hygiene, student's perception on the importance of good hygiene practice increases the likelihood of practice.

The null hypothesis, which stated that there is no relationship between perception and personal hygiene practice was therefore rejected and the alternate that the respondent's personal hygiene perception had a role to play in the practice of good personal hygiene is therefore accepted.

Table 4.7.3: Chi- square Analysis Table Showing the Relationship between Personal Hygiene Practice and Perception of Personal Hygiene

	Bad practice (%)	Good practice (%)	x^2	P-value
Negative Perception of personal hygiene	7(7.6)	68(20.8)	21.463	.000
Neutral Perception of personal hygiene	35(38.0)	162(49.5)		
Positive perception of personal hygiene	50(41.2)	97(29.7)		

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CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter presents the discussion, conclusions and recommendations of the study based only on the findings of the study.

5.1 Discussion

The study investigated personal hygiene related knowledge and practices among in-school adolescents in public schools in Ibadan South-East Local Government Area, Ibadan. Four objectives as well as three hypotheses guided this study. Discussion will be done according to the socio- demographic characteristics of the respondents, objectives of the study and the observation of the researcher in the schools.

5.1.1 Socio – Demographic Characteristics

In this study, majority of the respondents were mostly Yoruba and this is because Ibadan is inhabited by Yoruba ethnic group and this can be linked to the fact that the local government is mostly inhabited by the Yorubas The common religion among the respondents were Islam and Christianity. Previous studies conducted in Ibadan including that of Adeola Bosede (2015), Olaseha, Babatola and Shrindhar (2003), and Dirisu (2014) similarly revealed the same religion.

5.1.2 Personal hygiene - related Knowledge

Majority of the respondents (79.7%) in this study had good knowledge on personal hygiene. and this can be attributed to the fact that the respondents are being taught personal hygiene in the school based on the existing curriculum. In addition, respondents' parents might have been placing more emphasizes on the need to practice good hygiene at the home level and their peers in school might have been shaming them when they are dirty. Moreover, that might have role models such as teachers who are always looking healthy and also there might have been reward and punishment for good and poor personal hygiene in the schools. This finding is similar to those published by Ilesanmi Oluwafemi among senior secondary school students in Ile- Ife where majority of the respondents (97.8%) have heard about the term "personal hygiene. This is also strengthened by the fact

that majority of the respondents found out about it from the school followed by parents with books, radio, mosque, church and friends. The result is supported by a similar study by Bastos (2010) that shows that the concept of personal hygiene is not taken too seriously outside the confines of the academic environment. Furthermore, majority of the respondents (94.5%) agreed that personal hygiene includes all the practices performed by an individual to care for one's bodily health and wellbeing through cleanliness, the result obtained in this study is supported by a similar study of Bastos (2010) which show that all respondents agreed to the definition. In another similar study by Kumar et al, 2015, about 85.5% of the respondents knew correctly the meaning of personal hygiene.

5.1.3 Perception of Personal Hygiene

In this study, 69.7% of the respondents agreed that it is always convenient to wash one's hand after toilet use and 73.7% agreed that it is always possible to wash one's hand before eating, a study conducted on personal hygiene perception among school-age children in Baghdad City/Resafa side by Leila Aburaghif, 2015 reported that 91% of the respondents reportedly washed their hands after using the toilet which was considered to be very vital in ceasing the gastrointestinal infections.

In this study, few respondents agreed that chewing stick can clean the teeth better than toothpaste and toothbrush. Such perception may be as a result of what they are being told at home by their parents or what they see their parents doing especially the frequent use of chewing stick and unavailability of toothpaste in their various homes. Despite this perception, the findings of this study reveal that more of the respondents (66.3%) used toothbrush when compared with those who used chewing stick. The frequency of respondents who sees "combing one's hair does not only make one good but it is part of one's personal hygiene" was high and this shows a good perception of good personal hygiene, it also shows that they understand all the component of personal hygiene.

Furthermore, in this study, 70.9% of the respondents agreed that diseases caused by poor personal hygiene are always very serious, this might be attributed to seeing many of their peers have serious illnesses or diseases associated with poor hygiene at home, schools and community levels. It is also probable that their parents previously talked about the

negative effect of poor hygiene, and teachers in schools also talking about what poor personal hygiene can cause.

Few of the respondents in this study had the misperception that there is nothing wrong in keeping long nail. This might be because some of them keep long nails for fashion or their friends are keeping it, fight with it or use it to scare people away in case there is any fight in the school. From the study of Ghose, Rhaman, Hassan, Khan & Alam (2012), most of the students (74.2%) were found trimming their nails once a week. In this study, close to half of the respondents agreed that keeping long nail is a bad personal hygiene behavior. Nail is a part of the body, which must be kept neat and tidy, free of dirt and every form of contamination. The fingernails and toenails should be taken care of by cutting them short to prevent them from harboring germs and dirt. Also, a study by Rahman (2001) revealed that most of the students, (93.3%) were found trimming their nail once a week. Secondary School Students should be informed that unkempt nails, not washing of hands before eating and after toilet use can be linked to transmission of diseases.

5.1.4 Personal Hygiene Related Practices

In this study59.2% of the respondents' claimed to have their bath at least twice a day and 67.1%reportedly bath with soap. This finding, can be attributed to availability of water and soap in their homes and access to basic hygiene facilities and materials. In a similar study by Ali et al, 2013, 85.17% were accustomed to taking their bathe regularly and it can also be supported by a study conducted by Ilesanmi Oluwafemi in which 99.6% respondents claimed to have their bath every day and89.5% of the respondents said they do not share their under wear with family members. This suggests that they see it as unhygienic, their needs are provided by their parents, they see it as a bad habit and their parents are not in support of it.

The practice of respondents about washing of hands before and after eating is 70.4% which is very encouraging. This implies that they are probably being taught the importance of hand hygiene, are aware of the diseases that they can contact through poor hand hygiene, there is adequate supply of water for washing hands in their various homes and their culture support washing of hands before and after eating. Regular hand washing cannot be practiced in the face of unreliable water supply. Water is not readily available in so many schools (Agbhaji, 2014). In spite of the reality of water scarcity in schools, efforts

should be made to stress the importance of hand washing which include the prevention of diarrheal diseases (UNICEF, 2014). In 2007, UNICEF launched the Water, Sanitation and Hygiene (WASH) program which is designed to promote hand washing and sanitation practices in low income countries including Ethiopia. In a study by Yalcin and Altin (2014), it was noted that 99.2% of the adolescent students (first grade) uses soap and water for washing hand before and after taking meal and after defecation. Vivas et al. (2010), in their study reported that almost all the students washed their hands before meals however, only about one-third used soap. Begum (2000) also found that 33.9% and 77.6% students used soap and water for hand washing before taking meal and after defecation, respectively. The simple act of washing hands with soap and water has for instance been found to reduce Shigella and other types of diarrhoea by up to 35% (WHO 2009). Secondary school students must therefore be enlightened on proper hand washing, oral hygiene, body hygiene techniques to prevent them from the spread of communicable diseases, also school authorities should try as much as possible to lay more emphasizes on the need to practice good personal hygiene in school and at home. Adolescents should be made to know that cleanliness leads to godliness and it is through good personal hygiene practices that one can prevent the outbreak of disease in homes, schools and communities at large.

5.1.5 Facilities used for promoting personal hygiene

During the World Summit on Sustainable Development which was carried out in the year 2002, the executive director of UNICEF recommended that every public school in the world should be equipped with separate sanitary facilities for boys and girls. Such facilities would ensure privacy to all students, thereby increasing their readiness to practice good personal hygiene in school and their various homes.

Majority of the respondents in this study reportedly had personal bathing sponge (73.3%), soap in the toilet for washing hands, and toothpaste/brush available for them always at the home-level. This suggests that the respondents' needs are being provided by their parents thus, promoting good personal hygiene practices as materials for promoting good hygiene are readily available. However, close to half of the respondents do not have nail cutters, 64% of the respondents have disinfectants like Izal or Dettol for use always and these have the potentials for promoting good PH practices. It was also noted that some of the students

share materials like towels, handkerchiefs, bathing sponge and soap, nail cutters with other members of the family which implies that more personal hygiene materials are still needed in some homes. It was observed during the data collection that many students do not have access to basic facilities needed to practice good personal hygiene in the schools which might trigger the incidence of communicable diseases among the students. Ready access to water is an important resource that cannot be overlooked, as hygiene practice is closely linked with the availability of water and sanitation facilities (Agbhaji, 2014), while not all the schools used for this research had access to water supply. According to many respondents' they go to another school to source for water. Almost all the respondents had access to borehole or well water in their homes.

5.1.6 Availability of facilities and materials for promoting personal hygiene in the schools

It was observed during the period of data collection for the research that some of the schools used for the research were not health promoting and this made the respondents not to practice good personal hygiene. From this study, it was observed that some facilities and materials were lacking in the schools which can make it difficult for students to practice good personal hygiene as it is expected and among these were toilets, urinals, insufficient dustbins, soaps, tissue paper, and borehole water, well water. The situation is of deep concern though the Ministry of Education (MOE) has recommended an average standard of one water point for every 50 students (Federal Ministry of Education FMOE,1995). An assessment conducted by the Schools Sanitation and Hygiene Working Group in public schools in Kenya for example found that 90% of schools in rural Kenya do not have a source of water and lack even the simplest hand washing facilities.

5.2 Conclusions

Based on the foregoing, the following conclusions were drawn;

The objectives of this study were met, as the level of the knowledge, perception and practices of the secondary students relating to Personal hygiene were identified. The study revealed several perceptions which have potential for promoting poor personal hygiene practices among them.

It could be concluded from this study that there is no significant and positive relationship between knowledge of personal hygiene and personal hygiene practices. This implies that

the more adequate the knowledge of personal hygiene is, the higher the practice of personal hygiene.

Finally, this study concludes that there exists significant and positive relationship between perception of personal hygiene and personal hygiene practices. This connotes that the higher the perception of the need for personal hygiene, the higher the practice of personal hygiene.

5.3 Implication of findings for schools Health Promotion and Education

Health education is the main and at the same time an integral part of complementary health promotion. The main assumption underlying the essence of health education is an assertion that the health of an individuals and, consequently of communities they belong to is significantly conditioned by the behavior of inter- subject variability which can be pro-healthily shaped by the educational impact.

At present, Health education is practically included in all health and strategic programmes carried out at different levels of social life e.g. in a family, school, work, towns and cities, regions, global societies and international communities. The examples include White Paper – Together for Health (a national programme against Diseases of Affluence, National Health Program for Fighting Cancer, Strategy of Development of Healthcare in Poland, Strategy of Changes in Healthcare or an idea of a many-sided health education in schools recommended by UNESCO).

An implication of the findings of this study is needed to update the knowledge and practice of the students on personal hygiene. From the findings of this study health education strategies and methods like educational interventions, lectures, role play, demonstration and return demonstration, film show and IEC can be used to improve the personal hygiene knowledge and practice of the students. The school curriculum should be developed and organized in a way that it meets the health needs of the students. Parents, teachers and caregivers should be encouraged during the PTA (Parent, Teacher Association) meeting to lay more emphasizes on the need to practice good personal hygiene both at home and in school, through this student will be able to learn the basic knowledge needed for good personal hygiene. NGOs (Non- governmental Organizations) and health promoters should be given the opportunity to have access to all schools, so that

they can also help in enlightening the students on the need to practice good hygiene. IEC (Information, education and communication materials) should be made available in schools. The result of the findings of any study carried out on personal hygiene should be made available to all schools, local government and the state government for utilization. Providing accurate scientific health information provides a factual basis for the children's health attitudes and health behavior (Ademuwagun, 1984)

Government should provide fund to schools for the provision of basic personal hygiene facilities, it should be noted that having adequate knowledge of health matters is not enough; there is the need to empower people with resources that will make it easy for them to adopt health promoting innovations (Green and Kreuter, 1999). This implies that for students to translate knowledge into action relating to PH, the required sanitary resources should be made available and kept functional. Among the facilities and materials needed for personal hygiene within the schools are: good infrastructures like separate toilet for male and female students, sanitary wells and boreholes, sanitary urinals, hand sanitizers, washing hand basin, towel for cleaning hand after toilet use, disinfectants, tissue papers, water bowls, soap, dustbins and safe playground among others. Policy on personal hygiene should be put in place in schools and it should be taken seriously by all school administrators and teachers.

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5.4 Recommendations

The following recommendations were made from the findings of the study;

1. Based on the above conclusions, it is recommended that more researches should be conducted on personal hygiene among adolescents in Ibadan and the findings of the research should always be made available to the local and state government for utilization.
2. This study also recommends that public awareness on the advantages of keeping personal hygiene be made. Efforts can be made in linking personal hygiene to the outbreak of Ebola some years ago. It should be made known that personal hygiene prevents a lot of diseases in schools and in the society.
3. Further, this study recommends that cognitive re-orientation about cleanliness be emphasized to secondary school students.

4. Finally, 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.

5.5 Suggestions for Further Research

1. More focus should be placed on personal hygiene knowledge and practices among Adolescent.
2. Teachers should be motivated to place more emphasis on the need of good hygiene practice among adolescents.
3. Reward for good hygiene practices should be included in all school curriculum.
4. Parents and care givers should be encouraged to advice their wards to practice good hygiene both at home and in school.

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APPENDICE

APPENDIX I

INFORMED CONSENT LETTER

PERSONAL HYGIENE RELATED KNOWLEDGE AND PRACTICES AMONG IN SCHOOL ADOLESCENTS IN PUBLIC SCHOOLS IN IBADAN SOUTH EAST LOCAL GOVERNMENT AREA, IBADAN, OYO STATE

Dear Participant,

I am a post graduate student at the department of Health Promotion and Education, Faculty of Public Health, University of Ibadan. The purpose of this study is to gather information about the PERSONAL HYGIENE RELATED KNOWLEDGE AND PRACTICES AMONG IN SCHOOL ADOLESCENTS IN PUBLIC SCHOOLS IN IBADAN SOUTH EAST LOCAL GOVERNMENT AREA, IBADAN, OYO STATE.

Please note that your participation in this study is entirely voluntary because the main intention behind the study is not to associate any individual's response with their real identity but to assess your knowledge. All information that would be collected during this study will be treated with utmost confidentiality.

APPENDIX II

QUESTIONNAIRE

DEPARTMENT OF HEALTH PROMOTION AND EDUCATION FACULTY OF PUBLIC HEALTH, COLLEGE OF MEDICINE, UNIVERSITY OF IBADAN.

Dear respondent,

My name is ALABA, OLUWAKEMI FLORENCE I am a postgraduate student of the above department and institution, carrying out a research on Personal Hygiene Related Knowledge and Practices among In-School Adolescents in Public Schools in Ibadan South-East Local Government Area of Oyo State. The findings of the study will assist in formulation of policy in the improvement of poor hygiene knowledge and practices among adolescent within Oyo state and Nigeria at large. There are no right or wrong answers and under no circumstance will your responses be divulged to a third party. Please, truthfully and sincerely respond to the items for the success of the exercise.

Thank You.

SECTION A: Socio-Demographic Characteristics of Respondents

In this section, please tick (√) any of the responses that apply to you in the boxes provided or complete the blank space provided as applicable

1. Sex: Male ☐ Female ☐
2. Age: _____(Years)
3. Class of study: J.S.S.2 ☐ J.S.S. 3 ☐ S.S. 2 ☐ S.S.3 ☐
4. Family type: Monogamous ☐ Polygyny (i.e. father has 2 or more wives) ☐
5. Ethnic group: Yoruba ☐ Hausa ☐ Igbo ☐ Others (specify) _____
6. Religion: Christianity ☐ ☐ Islam Tradition ☐ rica religion Others(specify) _____

SECTION B: Knowledge of Personal Hygiene

Kindly respond to the following questions truthfully by ticking (√) in the boxes provided below

7. From where did you learn about personal hygiene? Scho☐ F☐lio ☐Books Church ☐ Mosque ☐ Friends ☐ Parents ☐
8. Personal hygiene practices include things done by an individual to care of his/her health and wellbeing through cleanliness? True ☐ False ☐ Not sure ☐
9. Personal hygiene includes cleanliness of the body? True ☐ False ☐ Not sure ☐
10. Personal hygiene includes regular brushing of teeth? False ☐ True ☐ Not sure ☐
11. Personal hygiene includes regular and proper hand washing? True ☐ False ☐ Not sure ☐
12. Personal hygiene includes eating balanced diet? False ☐ True ☐ Not sure ☐
13. Personal hygiene includes cutting of our nails? True ☐ False ☐ Not sure ☐
14. Combing of the hair is not part of personal hygiene? True ☐ False ☐ Not sure ☐
15. Cleaning the inner part of ear with cotton bud is a bad health behavior. False ☐ True ☐ Not sure ☐
16. Washing one's clothes regularly is not part of personal hygiene? True☐ False☐
17. Changing of underwear every day is not a good personal hygiene? True ☐ False☐
18. Washing of hand after toilet use is not part of personal hygiene? False ☐ True ☐
19. Poor personal hygiene does not lead to body odour True ☐ False ☐
20. Poor personal hygiene can lead to ringworm? True☐ False ☐
21. Table 1 contains a list of health conditions. For each tick (√) True if it can result from poor personal hygiene or tick (√) False if poor personal hygiene cannot cause it to happen.

Table 1

Sn		**Can result from poor personal hygiene (√)**	
		True	**False**
21.1	Lice on the body		
21.2	Ringworm		
21.3	Scabies		
21.4	Diarrhea		
21.5	Dental caries		
21.6	Cholera		
21.7	Worm infestation		

SECTION C: Perception of Personal Hygiene Practices

22: Table 4 contains list of perception related statements. For each tick whether you disagree with it, undecided or you agree with it

SN	Perception related statements	Disagree	Undecided	Agree
22.1	Washing of hair daily by male students is not necessary.			
22.2	Combing one's hair only makes one look good, but it is not part of one's personal hygiene.			
22.3	The nostrils do not need any special care to make them clean.			
22.4	The nose needs to be cleaned only when it is having mucus.			
22.5	It is not always possible to wash one's hand before eating.			
22.6	Chewing stick clean the teeth better than toothbrush and toothpaste.			
22.7	Too much sweat on the body can lead to bad odor			
22.8	There is nothing wrong in keeping long fingernails			
22.9	Not bathing regularly cannot cause serious body itching			
22.10	Diseases caused by poor personal hygiene are not always serious			
22.11	Not bathing regularly cannot make one get ring worm			
22.12	Not bathing regularly cannot make one get disease			
22.13	It is not always convenient to wash one's hands after toilet use			

SECTION D: Personal Hygiene Related Practices

23. *Table 3 contains a list of practices. For each tick (√) to indicate how you practice it*

	Practices	How practiced		
		Sometimes	Always	Never
23.1	Sharing of under wear with family members			
523.2	Keeping long nails			
23.3	Eating fruits without washing them			
23.4	Picking the nose with the fingers			
23.5	Bathing without using soap			
23.6	Sharing of toothbrush with other people (brothers, sisters)			
23.7	washing of hands before and after eating			
23.8	Bathing at least twice a day			

SECTION E: Facilities

24: *Table 5 contains a list of facilities used for promoting personal hygiene.*

For each tick (√) whether it is available in your house/home for use "always" "sometimes" or "never available".

SN	Facilities	Always available	Sometimes available	Never available
24.1	Toothpaste			
24.2	Toothbrush for each person			
24.3	Pure water			
24. 4	Bore hole			
24.5	Bathing sponge for each person			
24.6	Nail cutters/Blade for each person in the family			
24.7	Handkerchiefs for each person			
24.8	Towels/napkins for cleaning hands after eating food			
24.9	Disinfectants like Izal and Dettol.			
24.10	Dustbin.			
24.11	Soap in the toilet for washing hand after toilet use			

24.12	Personal towel for cleaning body after bathing			
24.13	Well water			
24.14	Pipe borne water			

THANK YOU.

APPENDIX III

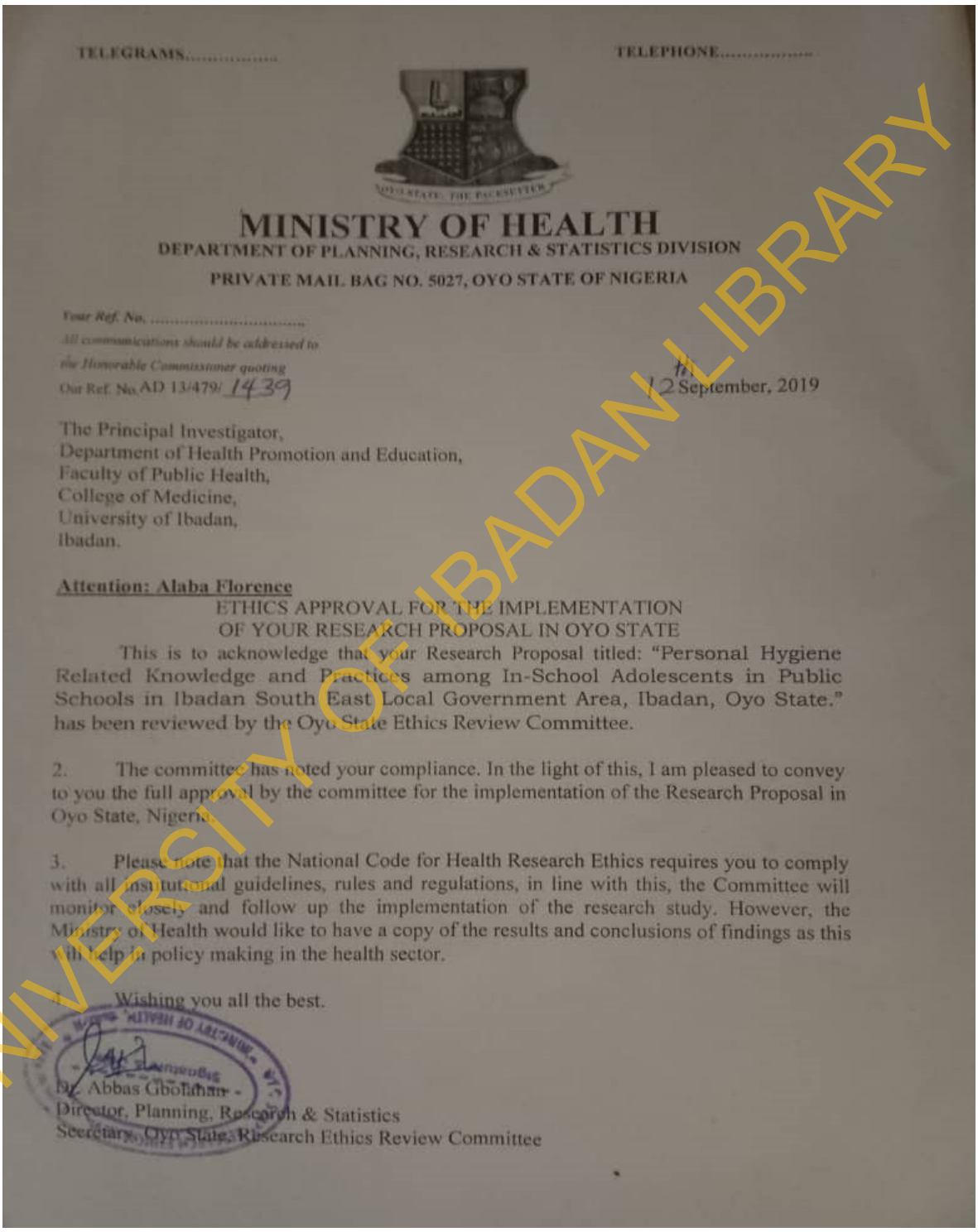
OBSERVATIONAL CHECKLIST

An Observational Checklist for Personal Hygiene Related Knowledge and Practices Among In-School Adolescents in Public Schools in Ibadan South–East Local Government Area, Ibadan, Oyo State.

Facilities	Available	Not available	comment on condition if available
Sources of water supply Borehole Stream Well None			
Dustbin			
Separate toilet for male and female students			
Towel for cleaning hand after toilet use			
Washing hand basin for each class			
Toilet/toilet type/soap in the toilet			
Bucket for flushing toilet after use			
Tissue paper			
Broom			

APPENDIX IV

ETHICAL APPROVAL LETTER



TELEGRAMS..... TELEPHONE.....

MINISTRY OF HEALTH
DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION
PRIVATE MAIL BAG NO. 5027, OYO STATE OF NIGERIA

Your Ref. No. .....
All communications should be addressed to the Honorable Commissioner quoting
Our Ref. No. AD 13/479/ 1439

12 September, 2019

The Principal Investigator,
Department of Health Promotion and Education,
Faculty of Public Health,
College of Medicine,
University of Ibadan,
Ibadan.

Attention: Alaba Florence

ETHICS APPROVAL FOR THE IMPLEMENTATION
OF YOUR RESEARCH PROPOSAL IN OYO STATE

This is to acknowledge that your Research Proposal titled: "Personal Hygiene Related Knowledge and Practices among In-School Adolescents in Public Schools in Ibadan South East Local Government Area, Ibadan, Oyo State." has been reviewed by the Oyo State Ethics Review Committee.

2. The committee has noted your compliance. In the light of this, I am pleased to convey to you the full approval by the committee for the implementation of the Research Proposal in Oyo State, Nigeria.

3. Please note that the National Code for Health Research Ethics requires you to comply with all institutional guidelines, rules and regulations, in line with this, the Committee will monitor closely and follow up the implementation of the research study. However, the Ministry of Health would like to have a copy of the results and conclusions of findings as this will help in policy making in the health sector.

Wishing you all the best.

Dr. Abbas Gbolahan -
Director, Planning, Research & Statistics
Secretary, Oyo State Research Ethics Review Committee