KNOWLEDGE, PERCEPTION, PRACTICE OF PERSONAL HYGIENE AMONG SECONDARY SCHOOL STUDENTS IN IBADAN NORTH WEST LOCAL GOVERNMENT AREA, IBADAN, OYO STATE, NIGERIA

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A DISSERTATION IN THE DEPARTMENT OF HEALTH PROMOTION AND EDUCATION SUBMITTED TO THE FACULTY OF PUBLIC HEALTH, COLLEGE OF MEDICINE, IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE DEGREE OF MASTER OF PUBLIC HEALTH (HEALTH PROMOTION AND EDUCATION) OF THE UNIVERSITY OF IBADAN

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DEDICATION

This dissertation is dedicated to God the father who is the ancient of days, the Lord Jesus Christ who is the author and finisher of my faith and the Holy Spirit, who is my helper and friend.

ABSTRACT

Personal Hygiene (PH) is fundamental to the prevention and control of communicable diseases and maintaining good health. Many communicable diseases of public health importance, which affect Secondary School Students (SSS), are caused by poor PH. Despite awareness of personal hygiene in Nigeria, there is the need to identify the level of practice by SSS. This study was therefore designed to determine the knowledge, perception and practices of PH among SSS in Ibarlan North West Local Government Area (LGA).

A cross-sectional study design was used. Public Junior Secondary School (PJSS) and Senior Secondary School (PSSS) in the LGA were stratified and three of 17 PJSS and two of 9 PSSS selected through simple random sampling. Systematic random sampling was used in selecting 476 respondents out of 724 students. An interviewer-administered semi-structured questionnaire, which included a 28 knowledge, 9 perception, and 31 practice scales, was used for data collection. Knowledge scores of ≤ 10, > 10 to < 20 and ≥ 20 were rated as poor, fair and good respectively. Perception scores of > 4 were classified as positive while practice scores of > 15 were rated as good. Two different sets of observational checklists were used to assess respondents' physical appearance, classrooms and the schools' environment. Data were analysed using descriptive statistics and Chi-square test at 5% level of significance.

Respondent's mean age was 13.9±2.0, 55.7% were females and 60.3% were in PJSS. Mean knowledge, perception and practice scores were 17.8±3.9, 5.8±2.1 and 15.4±4.7 respectively. Respondents with poor, fair and good knowledge in PJSS were 4.9%, 80.1% and 15.0%, while those in the PSSS were 0.5%, 56.1% and 43.4% respectively. Majority (72.9%) had positive perception of PH, 48.8% of the respondents in PJSS and 54.0% in PSSS engaged in good practices. The opinion of 45.6% was that hand washing with clean water alone was enough to make hands free of germs. Bad PH practices among respondents included sharing of bathing sponge with others (73.8%), cutting of fingernails with teeth (40.3%) and cleaning of nostrils

with fingers (31.5%). Significantly more respondents (66.4%) with good knowledge of PH engaged in good PH practices compared to those with poor knowledge that engaged in good PH practices (46.7%) with P-value of 0.01. Also more respondents (58.0%) with positive perception engaged in good practices, than 33.3% with negative perception who engaged in good PH practices. Majority (62.0%) of the observed respondents had neatly combed hair, 87.1% had clean teeth, 98.0% had foot wear on and 72.3% wore stockings. Only 2.9% of the classes observed had bowls for water, none had either soap or towel and only 17.6% of the classes had dustbins. The median number of toilets in the schools was 3.0 (range 0-6) and 80.0% of the schools had dug wells.

Majority of the respondents had positive perception of personal hygiene and their knowledge was fair. Furthermore, some of their practices have potential for putting them at risk of infection. Training and the provision of adequate sanitary facilities are needed to address the challenges.

Keywords: Secondary school students, Hygiene-related knowledge, Sanitary practices

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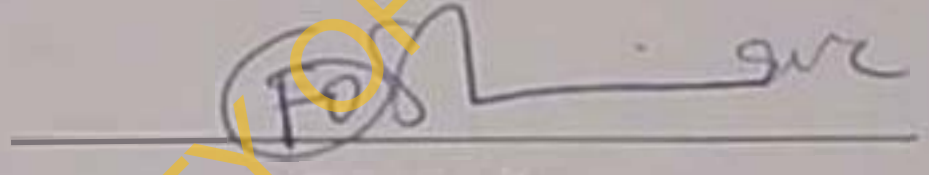
CERTIFICATION

I certify that Adeola Boscde BALOGUN carried out this research in the Department of Health Promotion and Education. Faculty of Public Health. College of Medicine. University of Ibadan, Ibadan, Nigeria.



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LIST OF ABBREVIATIONS

BHC - Better Health Channel

CCFC - Canadian Children's Fund, Canada

CDC - Centre for Disease Control

DC - Dental caries

FDA - Food and Drug Administration

FMOE - Federal Ministry of Education

FMOH - Federal Ministry of Health

GOVAUS - Government of Australia

LGA - Local Government Area

MOHEC - Ministry of Health Ethical Committee

NPC - Nntional Population Commission

NIH - National Institute of Health

PH - Personal Hygiene

SH - School Health

SHP - School Health Programme

UNICEF – United Nations Children Fund

WHC - Web Health Centre

WHO - World Health Organization

DEFINITION OF TERMS

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

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

Life skills - Acquired health education techniques or competencies for making healthy choices and adopting healthy behaviour by children throughout their lives.

CHAPTER ONE

INTRODUCTION

Background to the study

Lord Quick (2013) defined hygiene as the study and practice of preventing illness or stopping it from spreading, by keeping things clean. The concept also refers to the set of practices associated with the preservation of health and healthy living. It is a concept related to medicine as well as to personal, professional care and practices affecting most aspects of living; although it is most often associated with disease preventive measures. Hygiene can also be referred to as the science that deals with the promotion of health (Victoria State. Department of Health, 2015).

Personal hygiene (PH) can be described as the principle of maintaining cleanliness and grooming of the external body (Johnson, 2015). Personal Hygiene refers to all activities, actions and practices carried out by an individual to keep the body clean and healthy. 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. Personal Hygiene 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). 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).

Personal Hygiene can also be described as taking care of every part of the body including hands, legs, teeth, ears, hair, eyes and nose. People stay healthy or become ill often as a result of their own actions or behaviours (Leonard, 2014). Some examples of people's action or behaviours that can cause diseases are: not washing hands before eating, defecating anywhere on the open field, not washing hands after defecating, not washing clothes regularly and when necessary, not cleaning the mouth properly with the right materials (Adeniyi, 1994). Personal hygiene pertains to hygienic practices performed by the individual to care for one's bodily health and well-being through cleanliness. Attention to personal

hygiene will help a person look their best, feel their best and can help in avoiding diseases. Motivations for personal hygiene practice include reduction of personal illness, healing from personal illness, optimal health and sense of well-being, social acceptance and prevention of spread of illness to others. An individual's personality can be impaired by his failure to give proper care and attention to his body generally (Johnson, 2015).

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

Engaging in some very basic PH measures could help prevent coughs and colds from being passed from person to person. Social aspects could be affected, as many people will choose to avoid someone who has bad PH than tell him/her how to improve (Hygiene Expert, 2015). Personal Hygiene is personal, each individual has ways of taking care of his body, however this should not differ too much from what is generally acceptable worldwide. Hygienic practices vary widely and what is considered acceptable in one culture might not be acceptable in another. An example is the use of chewing sticks in cleaning teeth, which is peculiar to some African countries.

Cases of cholera had been estimated as 3 million yearly (WHO, 2014) and 500 million people are at risk of suffering from blindness from trachoma globally (Centre for disease control, (CDC), 2009). The estimated prevalence of ascariasis was 25% globally (Haburchak, 2014). Personal Hygiene is among the risk factors for contacting the infections among others. Good personal hygiene in relation to preventing epidemics or even pandemic outbreaks is very significant (Lucas and Gilles, 2012). In Nigeria, five common health problems of students are fever / typhoid (56%), headache (43%), stomach ache (29%), cough

/catarrh (38%) and malaria (40%) (Federal Ministry of Education. (FMOE) 2006). 30% of students have low Body Mass Index (BMI), 0.2% of students have lice on their heads. 3% of students have skin rashes, about 20% of students do not have normal visual acuity, lip sores were observed in 0.8% and 0.5% of the primary and secondary school students respectively. dental plaque was observed in more than 10% of students . 0.4% of students have sores on their tongue, about 19% of students do not have normal hearing (FMOE, 2006.).

The population to be used for this study is secondary school students who are mostly adolescents. The age of secondary school students differs from country to country. It is commonly considered to be between 12-17 years of age (UNICEF, 2015). According to World Health Organization (WHO, 2014), adolescents are grouped as individuals between 10 – 19 years, therefore majority of secondary students are adolescents. They constitute about 1.2 billion (20%) of the world's population (UNICEF, 2015). In their childhood years, they ought to have been trained on healthy practices and by the time they get to the secondary school, they should have formed their own personal hygienic habits. Adolescent's health needs and concerns can be met through the school by educating and empowering students to improve their practices on health The government, parents, teachers and the students themselves all have different roles to play in promoting PH.

A fundamental step in promoting PH among students is to first of all carry out a needs assessment relating to their knowledge, perception and PH related practices which can be relied upon as baseline information for action. Herein lays the basis and import of this study.

Statement of the problem

So many gastro intestinal diseases like diarrhoea, dysentery, typhoid and cholera can be prevented through personal hygiene (Lucas and Gilles, 2012). Other conditions that can be prevented through personal hygiene include head lice, dandruff, bad breadth, dental caries, dental calculus, ear wax accumulation, body odour, excessive perspiration, urinary tract infections, pin worms, impetigo, boil, ringworm, allergic reactions, body louse, ticks, black hairy tongue, trachoma, cystitis thrush, colds, helminthic infestations and athletes foot (Lucas and Gilles, 2012).

In the past, there was regular inspection of students which is no longer a common practice (Olascha, Sridhar and Babatola, 2003). Other barriers to control infectious diseases in the community include inadequate sanitation, lack of knowledge about the biology and ecology of some microbiology causing the diseases (Abdulumin, 1993). The enabling conditions for improving the personal hygiene of students are not available in some instances. Trachoma can be prevented by improving sanitation, reducing the breeding sites of flies and teaching children to wash their faces with clean water. Trachoma caused by microscopic Chlamydia trachomatis remains the leading cause of preventable blindness — with an estimated 6 million people suffering loss of sight and 146 million acute cases worldwide (WHO, 2015).

There is the need to get information on the areas where the adolescents are having problems with their PH. Some students are involved in bad habits like nail biting, sneezing without covering their mouth, washing hands only with water after leaving the toilet and cleaning their ears with hair pins. There is dearth of information on the present facilities that will make the students observe their personal hygiene properly (The Nigerian Child, 2007).

Not many studies have been carried out holistically on the personal hygiene practice of students in Nigeria; this research work is therefore designed to focus on the knowledge, perceptions and practices of personal hygiene among secondary students in Ibadan North West LG Area.

Justification of the study

The result of the study will be useful, as baseline information in the design of educational interventions aimed at equipping secondary school students 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 carrying out this study will provide a platform for improving the School Health Education Programmes for secondary schools in Nigeria. The findings from this study will also be useful in carrying out well planned, implemented and evaluated School Health Programmes with personal hygiene integrated into all the stages. The outcome of the study will also be a useful tool in promoting team work when carrying out intervention programmes on health in secondary schools.

Furthermore, the outcome of the study will reveal 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 adequate information overtime for guiding evidence based policy formulation relating to personal hygiene in school settings.

Research questions

1. What is the level of knowledge of students on personal hygiene?
2. What is the perception of students on personal hygiene?
3. What are the personal hygiene practices of the students?
4. What are the facilities in the home that can promote the personal hygiene of students?
5. What are the facilities in the school that can promote the practice of personal hygiene among students?
6. What are the factors affecting the personal hygiene of students?

Broad objective

The broad objective of the study was to investigate the secondary school students' knowledge, perception and practices relating to personal hygiene in Ibadan North West Local Government Area.

Specific objectives

The specific objectives that guided the design of this study were to;

1. Assess respondents' knowledge on personal hygiene.
2. Describe respondents' perception relating to personal hygiene.
3. Report respondents' practices relating to personal hygiene.
4. Identify factors that can influence students' practice of personal hygiene.
5. Appraise the facilities in schools that can influence students' practice of personal hygiene.
6. Describe the facilities in the respondent's homes that can influence their practice of personal hygiene.

CHAPTER TWO

LITERATURE REVIEW

Personal hygiene related knowledge, goals, principles and instruction in school settings.

Personal hygiene (PH) is fundamental in preventing and controlling the spread of diseases. It is also an important factor in maintaining health. According to Hornby (2014), hygiene was defined as the practice of keeping oneself and one's living/working conditions and areas clean, in order to prevent illness and diseases. Personal hygiene involves making the body clean through – bathing, hair grooming, care of the teeth, care of the feet, care of the eyes, care of the skin, ears, nose, hands and nails. Personal hygiene is related to all the activities and actions aimed at preventing diseases, staying healthy; keeping fit and recovering faster from illnesses. Hence, personal hygiene refers to the care of every part of the body including but not limited to the hands, nails, feet, teeth, ears, hair, eyes, and nose. One of the most effective ways of protecting ourselves and others from illness is good personal hygiene (Better Health Channel (BHC), 2015).

This entails taking good and appropriate care of every part of our body like not coughing or sneezing on others, cleaning things one touch when is not well, putting dirty items that contain germs in a dust bin. (BHC, 2015). Many diseases can be prevented if students take personal hygiene seriously. According to UNICEF (2014) in School health education numerous studies have revealed that development of communicable diseases results from unhygienic living or lack of hygienic precautions. Personal hygiene involves generally looking after oneself. People often have infections because they do not take good care of themselves physically, which can lead to emotional difficulties as well (Nardo, 2013). Personal hygiene is one of the best and easy ways of preventing communicable diseases. In Ethiopia unsafe water, unhygienic handling of food, storage of food at ambient temperature for a long time, poor domestic and personal hygiene have contributed to the gross contamination of weaning foods leading to increased diarrheal diseases in infants and children (Olawuni, 2007). Hygiene practice is closely linked to the availability of water and sanitation facilities, despite this, there are so many places where these are lacking and this

situation thus reduces the effectiveness of the personal hygiene of the people particularly students. Communal areas which offer facilities for hand-washing, bathing and laundry may effectively encourage good hygiene. In a study conducted by Jacobi et al (1998) Sao Paulo, Brazil, it was revealed that 94.4% of the respondents had access to water system, but 59.8% reported that the supply was unsatisfactory.

In the peripheral of Sao Paulo, the author (Capella De Soccoro) reported that 74.0% had problems with water supply and the effect of this was PH related problems. The health of communities can be enhanced if they were able to protect their water sources, dispose of solid waste and excreta sanitarily and provide wastewater drainage (Olawani, 2007). Research has it that despite the fact that hand washing can aid in preventing diseases, not many people wash their hands when necessary and in the correct way (Leonard, 2014). An individual's personality can also be impaired by his failure to give proper care and attention to his body generally (Datko, 2014).

People's attitude towards diseases does not always lead to hygienic living. Health is thought of merely as not being on sick bed. It is obviously more than this; therefore it is important for students to have good knowledge, positive hygienic attitudes and habits that will empower them to live healthy lives and so prevent absenteeism from schools (WHO, 2015). Cleanliness is often regarded as next to godliness and neglect of one's personal hygiene could cause health and social problems that one may not be aware of. Bad breadth for example is a problem which affects many people. Some people with the health related challenge are not often aware of it (Nanlo, 2015)

When students are provided with things needed to practice personal hygiene, including skills and necessary information, they will become empowered to put into practice hygienic habits that will promote their health (WHO, 2014) It should be borne in mind that it is not easy to form personal hygiene habits without adequate information and knowledge of what it all entails. 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, Monnkola and Jegede 2002).

Personal hygiene instructions should be presented creatively to students; personal hygiene for instance can be integrated and taught in subjects like integrated science,

nutrition, biology and health education. External resource persons who are specialists in field relating to personal hygiene could be invited to discuss with students. In passing across instructions people must be taught on issues they are already familiar with, before moving on to complex aspects. Local resources can be used to buttress this fact (Oshiname, 2013). This is fundamental principle of training which also applies to the provision of PH instructions. Multiple methods like role-play, demonstration, field trips when used will make learning very interesting. Opportunities outside the classroom should be fully utilized and teachers must have very good social relationship with adolescent students knowing the nature of adolescents - that they respect and confide in those who are approachable and trustworthy (WHO, 2015).

Personal hygiene can be maintained by high standard of personal care and human beings are aware of the importance of personal hygiene for thousands of years. The ancient Greeks spent hours in the bath, using fragrances and make up in an effort to beautify themselves and be presentable. Several studies have shown that it is essential that school pupils practice personal hygiene to improve their health which will enable them learn, live, grow and play their respective roles effectively in their various schools and communities (WHO, 2014). At the same time good knowledge of personal hygiene by students will go a long way in improving the health of communities. Most infections, especially colds and gastro enterius are caught when people passed germs from unwashed hands into the mouth and this can be prevented through personal hygiene (Rahman, 2001). The simple act of hand washing for at least 20 seconds according to the United States Food and Drugs Administration recommendations can prevent the spread of many food borne illnesses and upper respiratory tract infections (Federal Drug Agency (FDA), 2009). Hand washing with soap has been reported to reduce diarrheal morbidity by 44% and respiratory infections by 23% (Curtis, Danquah and Aunger, 2009).

School curriculum must include relevant aspects on personal hygiene should be reviewed regularly to enable all relevant and current issues discovered through research to be included. Teachers too must ensure that they teach all that is in the curriculum during the stipulated time. Teachers should be involved in improving the health of school pupils by giving them adequate training and knowledge on matters related to health. This should not

involve health teachers only but all the school teachers so that each will be able to handle the personal hygiene and other health problems of students within their classes according to their ability (UNICEF, 2015).

Since the health of students will affect their performance, it is essential that government invest a lot in improving their personal hygiene. Research carried out in both developing and developed countries demonstrate that school health programmes can simultaneously reduce common health problems, increase the efficiency of the educational system and thereby advance public health education, social and economic development in countries (Ademuwagun et al, 2002).

Personal hygiene practices and health

Each part of the body needs adequate care to ensure wholesome health. As defined by WHO in 1948, health is a state of physical, social, emotional and mental well-being, not merely the absence of diseases. So many gastro intestinal diseases like diarrhoea, dysentery, typhoid and cholera can be prevented through personal hygiene (Lucas and Gilles, 2012).Others are urinary tract infections, pin worms, impetigo, boil, ringworm, allergic reactions, body louse, ticks, black hairy tongue, trachoma, cystitis thrush, colds, helminthic infections and athletes foot (Lucas and Gilles, 2012).

The hair requires great care. It is necessary to wash the hair daily or at least once in a week with soap and water for those styling it. Care needs to be taken on type of hair shampoo used to prevent allergic reactions. Brushing the hair with a soft bristled brush 3 or 4 times a day can be of help. The scalp should be oiled once a week to prevent it from getting dry. Those involved with sports should endeavour to wash the hair after practice and games, especially for those with oily hair. Chemical treatment on the hair can also harm the hair when not used properly. As with the rest of the body, the hair is healthiest when the right type of food is eaten (Better health channel, 2015)

The human head has numerous hairs; each hair shaft has three layers, with cuticle or outside layer protecting the two inner layers. Shining hair is a sign of good hair care because the layers of the cuticle lie flat and reflect light. When the scales of the cuticle lie flat they overlap tightly, the inner layers are well protected from the sun, heat, chlorine and all other

hazards that come from living in the environment. A number of health problems can arise due to poor hair hygiene. Such diseases conditions include head lice. dandruff and seborrhoea (Victoria State. Department of Health, 2015).

The eyes also need to be taken perfect care of as it is a sensitive part of the body despite its size. Protecting the eyes will prolong its usage. The human eye is the organ which gives the sense of sight, allowing people to observe and learn more about the surrounding world. As one gets older the ciliary muscles become weakened as well as lessening of flexibility of the crystalline lens occurs causing presbyopia. It is also referred to as the inability of the eye to adjust for near vision and properly fitted reading glasses will solve the problem (Parks, 2011). Some students may find it difficult to cope when they are suffering from myopia and they are placed far away from the chalkboard. It is therefore essential for teachers to detect early students having such defects so that it can be corrected in time. Even people with normal vision need eye examination to screen for diseases and infection and changes in vision (Montgomery, 2008). The various ways of taking care of the eyes include preventing foreign objects like chemicals and dust from entering the eyes, avoiding trauma to the eyes and desisting from the use contaminated article in cleaning the eye (Parks, 2011). Too much use of cosmetics may provoke allergic reactions in some cases. Taking food rich in vitamin A and yeast promotes optical health (Health facts, 2014).

Another part of the body which requires routine personal hygiene practices is the ear. The ear is a delicate irreplaceable organ which requires a high level of care. There are a number of ear related practices which should be avoided and these include picking or fiddling with the ear with objects like hair grips, matchsticks or nail files which can harm the otitis media (WHO, 2015). The use of cotton buds to clean the ear is not necessary because the ear has naturally self-cleansing potentials. Rather than doing this, it is better to have regular hearing tests under a specialist examination to check for hearing loss or other disorders. this is a practice that should be adopted. Cerumen or ear wax can accumulate in the ear canal, as the ear secretions come out of the ear, daily wash with soap and water is enough to keep the outer ear clean (Web Health Centre, 2015).

It should be noted that children who lose their hearing faculty from infancy find it difficult to speak properly, and could even become unable to speak. It is therefore, necessary

to keep the external organs of the ear clean and to protect the internal ear from injury (UNICEF, 2013). The other ear-related health promoting practices that should be adopted include visiting the medical personnel once an injury, pain or an abnormal change is experienced in the ear. Cleaning the ear with care, and not putting anything smaller than an adult finger in the ear and avoidance of loud noise is also of value (UNICEF, 2013).

The nose facilitates breathing; it is an organ for smelling (Olabisi, 2012). The nose is also used to detect the odour of different things. In order to prevent air-borne infections, a clean tissue or handkerchief should be used to cover the mouth and nostrils when sneezing or yawning. The nose should be lubricated with Vaseline or olive oil to prevent dryness and breaking of the mucosal lining (Olabisi, 2012). It is necessary to breathe through the nose; probing the nose with fingers or any dirty object should be avoided. Clean handkerchief or tissue should be used to clean the nose and this should not be too often. Overcrowding and exposure to smoke and pollutants may affect the respiratory system (UNICEF, 2014).

Oral health care is an important component of general health care (BHC, 2015). If not cared for, oral health problems arise, for instance the combination of bacteria in the mouth, sugar in the diet, and susceptible teeth lead to decay/cavities, gum disease and sometimes loss of the teeth (Loochtan, 2013). Dental caries, periodontal diseases, dental calculus and malocclusion are the main diseases of the oral cavity (Moronkola and Okanlawon, 2003). Dental caries is caused by progressive destruction of the teeth by the plaque acid. Bacteria on the teeth surface metabolising dietary sugars generate this acid. The plaque holds the acid in direct contact with the tooth surface (Loochtan, 2013).

Gum disease can also be referred to as periodontal disease which is common amoog people with poor oral health care practices (Loochtan, 2013). Gum disease occurs when bacteria eat away at gum tissue, causing it to pull away from the teeth. This space between the tooth and gum is called a periodontal pocket which traps even more bacteria. Gingivitis, the first stage of gum disease is manifested by swollen gums, bleeding and inflammation (National Institute of Health (NIH), 2012). The teeth and mouth must be brushed correctly after every meal or at least twice in a day; that is first thing in the morning and the last thing at night before going to bed since brushing removes plaque. When bacteria in plaque come into contact with food, they produce acids. Those acids lead to cavities (UNICEF, 2013). In

order to promote good oral health, the tooth-brush should be replaced every 3–4 months and tooth-brush should never be shared with others (Victoria State, Department of Health, 2013).

The skin is an important organ and should be well kept; it contains millions of sweat glands (Johnson, 2015). These glands produce three quarts to one pint of sweat each day. In tropical countries more sweat is produced and the perspiration increases with an increase in physical exertion or nervous tension. An offensive smell is caused when bacteria that are present on the skin get to work on the sweat and decompose it. This is especially so in the groin under arms, feet or in the clothing that has absorbed sweat (WHO, 2015). Certain body creams and soaps can cause allergic reactions to the users. Some deodorants and soaps too can cause allergy. This comes in form of rashes and auticaria on the body.

Acute allergic dermatitis is the most common dermatological disease in the primary care clinic. Swelling and itching of the eyelids and genitals should suggest a diagnosis of contact dermatitis (Derrick, 2008). It is necessary for students not to use any kind of body cream or cosmetics that comes their way. Students are expected to take bath at least once or twice a day using soap, sponge and plenty of water. A mild soap can be used, not necessarily antiseptic soap; back brushes may be used. It is necessary to always bath after any strenuous physical activity (Victoria State, Department of Health, Australia, 2013).

The different types of worms that can affect students with poor personal hygiene practices include ascariasis, hookworm and tapeworm and this can occur when eggs get ingested through eating of contaminated foods or drinking contaminated water with the eggs of ascariasis lumbricoides. Hookworm affects people who work barefooted especially in the farms having *necator americanus*. This can pass into the soil due to indiscriminate passing of faeces (WHO, 2008).

Gastro intestinal diseases occur as a result of food contamination and contamination of water. They can also occur through contaminated fingers when hygiene is poor or indirectly through contaminated, food, milk, flies and articles of daily use. Poor personal hygiene-related diseases include cholera, diarrhoea, hepatitis A, poliomyelitis, salmonellosis and typhoid (Parks, 2011). Hand washing with soap and water is pivotal to the prevention and control of several communicable diseases. Hands should be washed before preparing meals and after every meal. In order to prevent diseases contacted through feaco-oral routes,

hands must be washed with water and soap after visiting the toilet and urinals (Better Health Channel, 2015). Proper hand washing include the following actions: Washing hands with warm running water and applying liquid or clean bar soap, running one's hands vigorously together for at least 15-20 seconds, scrubbing all surfaces including the back of one's hands, rinsing one's hands and drying hands with a clean disposable towel (FDA, 2009).

Personal hygiene includes proper care of the feet. Good feet hygiene can prevent fungal infections, warts, hammertoes and hookworms (WHO, 2008). Keeping the feet clean and dry can help prevent foot odour and fungal infection. In addition, feet should be washed daily with water and soap while wearing of light socks and shoes should be avoided (WHO, 2008). According to WHO (2008), long nails should be avoided as much as possible and teeth should not be used to cut nails. Personal clippers or new blades are preferred for cutting nails. Good personal hygiene among students includes proper care of one's clothes, uniforms, underwears, towels and handkerchiefs (Nardo, 2013).

Perception of students on personal hygiene

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 are thumb-suckling, nail biting and picking the ears with objects (Ghose, Rahman, Hassan, Khan and Alam, 2012). Some students have perception which may not promote desirable health behaviours. For instance, some are of the perception that the wearing of long nails improves one's physical appearance. little do people realise 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, 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).

Lack of personal hygiene resources or facilities can prevent students from adopting personal hygiene practices. Lack of resources such as soap and water are two of the main reasons why children do not wash their hands (Vivas, Bizu, Nigusu, Abera, Yemane and

Williams, 2010). In addition to PH resources, it is necessary to equip students with adequate knowledge relating to PH. Personal hygiene- related knowledge has great potential in enhancing students' capacity to adopt health promoting behaviours as well as equipping them with skills to serve as peer educators and community educators (Madaras, 1998)

Factors that can affect secondary school students' personal hygiene

Provision of personal hygiene facilities and materials is an important factor that can promote students' PH and this is the responsibility of the parents, school and the community. Students should have access to materials needed on personal hygiene. Students need various materials in the school as well as in the home before they can effectively carry out personal hygiene. In the school these materials are needed - a good restroom, potable and regular water supply for drinking and washing of hands and other items, personal plates, cups and spoons, water bottles, towels or napkins and a neat and decent environment. There should also be a recreational centre or playground that is safe and neat for the students (BHC, 2015).

The expert Committee established by WHO to work on school health programmes gave a vision of the future of school health programmes. This is one in which the schools around the globe place healthy human development at the core of their mission and use all their resources to achieve this goal (WHO, 1990). Organizations can be identified that can support and assist in provision of the personal hygiene materials for students. It is important to discover those areas of focus that will bring greatest benefit in public health. In most of the health studies where a significant impact was found, the provision of water supply or sanitation has been accompanied by improvement in hygiene. Hygiene may be promoted by better access to water and sanitation (WHO, 2015). A safe learning environment for students and a safe working environment for staff are essential. This includes provision of safe water and sanitary facilities. Provision of school clinics, safe and nutritious food and micronutrients to combat hunger and disease is also an important factor in promoting personal hygiene of students (Nutbeam, 2015).

In developing countries, preventable water related diseases affect the lives of the poor. Diseases resulting from poor personal hygiene rank among the leading causes of ill-health. Much of this suffering is needless because health provides an effective gateway for

development and poverty alleviation (WHO 2015). So many diseases and deaths can be prevented through simple, inexpensive measures. For example, trachoma remains the leading cause of preventable blindness; accounting for 146 million acute cases around the world and can be prevented through personal hygiene. It is essential that simple, safe and cost efficient and cost effective measures are integrated into diseases' control globally thereby enabling the rural poor to live healthier lives. Where water is always available it will promote personal hygiene and ability to have control over one's health. But diseases are almost unheard of in places where basic water supply and adequate sanitation to protect health are among basic human rights (WHO, 2015).

Studies have shown that school attendance by girls increases when separate latrines for boys and girls are installed. In a school in Bangladesh where UNICEF began promoting separate facilities in 1992 girls' school attendance has risen by an average of 11.0% per year. Maintaining a high level of hygiene will help to increase self-esteem and confidence while minimizing the chances of developing imperfections (WHO, 2015). Lack of water and sanitation provides means for fecco-oral diseases to thrive (Park, 2011). It has been noted that where a community improve its water supply, hygiene, and / or sanitation then health improves (Ghose et al. 2012). Deaths as a result of diarrhoea can be prevented through the adoption of personal hygiene and basic sanitation (Esrey, Potash, Roberts, & Sciff, 1990).

The simple act of washing hands with soap and water destroys different microbes causing diarrhoea diseases by 35.0% (Batran, 2015). The use of soap and water for personal hygiene helps prevent trachoma and scabies. Washing fruits and vegetables with good quality water is a recipe for good health (Lucas and Gilles, 2012). In secondary schools, water supply will be an essential factor in the students forming good personal hygiene habits which can last for a lifetime. A study of water and sewage facilities conducted by Health Canada and the Department of Indian Affairs examined 863 First Nations community water-treatment systems and 425 community sewage-treatment systems. It found that vast improvements in health, leading to economic development and poverty reduction, could be achieved by providing native communities with a good water supply and sanitation (WHO, 2014). Parents can rise up to the occasion to provide deep wells for schools that are not

having good water supply. Good hygienic habits are easy to adopt and maintain only if all the necessary materials are available.

Failure to protect water and food from contamination by faecal matter and ingesting such can cause infections (WHO. 2015). Contamination of food and water can be prevented through good personal hygiene. When the supply of water in homes and schools is adequate and of good quality, students will be able to take their bath easily, clean their teeth, wash their hands and hair as at when necessary. In controlling strong odour, students have to wash daily, when they have carried out any dirty job they should remove the fluid that is emitted from the apocrine glands with the aid of a mild or antiseptic soap. These fluids are located under the arms, around the genitals. (Leonard, 2014)

Large numbers of both urban and rural schools and health centres lack access to facilities that can promote personal hygiene (Agbhaji, 2014). These days in Nigeria, pipe-borne water is not a common sight. However, several simple interventions had been made available, such as improving the quality of water in the home as well as improving hygiene education at the household level. Poor people can take charge of their own destinies and improve their lives by applying some of these measures (Brundtland, 2015). But they need to know what works and how such interventions can be exploited.

Federal Ministry of Education, Nigeria (2006) in National School Health Policy emphasises the prevention and control of communicable and non-communicable diseases, through inspections, exclusions, educational measures, immunization, sanitation and epidemic control. Each school building should be in line with approved standards of sanitation. The major conditions required for healthful school environment include: location of schools away from potential environmental hazards, protection of the school community from excessive noise, heat, cold and dampness, provision of adequate buildings, constructed in line with approved standards, with particular emphasis on facilities for physically challenged learners and provision of an appropriate and adequate amount of furniture for learners and staff. (FMOE, 2006).

Part of the School educational policies include but not limited to provision of an adequate number of gender-sensitive toilet facilities, provision of adequate safe water supply and sanitation facilities for the school community, provision of proper drainage and waste disposal facilities provision of safe recreational and sport facilities, perimeter fencing of the school, observation of Annual School Health Days, promotion of healthy human relationships in the school community, promotion of health related-school policies, promotion of a maintenance culture (National Policy on Education (NPE), 2006).

World Water Day, celebrated on 22nd March, became an annual event after the 1992 Earth Summit in Rio de Janeiro, Brazil, and brought home to millions of people the importance of cherishing a valuable resource which affects our very existence. The theme for 2001, Water and Health, highlights the opportunities for promoting health and development through safe water. People everywhere can use this day to raise awareness of the high level of disease and misery that results from bad and inadequate water sources. People can learn that they need not be victims, but can take matters into their own hands to create good, clean water for better health (WHO, 2015).

All external parts of the body need attention, time and care and water plays a major role in ensuring this. To achieve international development target of halving the proportion of people without access to improved water and sanitation by 2015, 1.5 billion people will require access to water supply and about 2.2 billion people will require access to sanitation facilities (WHO, 2015). Other basic facilities needed in the schools include decent classrooms, water closet toilets, dustbins, water bowls, soaps, disinfectants, deodorants, tissue papers, good play grounds, napkins, incinerators (UNICEF, 2008).

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, underwears, 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

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promote his personal hygiene at home. Students needs materials like toothbrushes, soap, toothpastes, uniforms, shoes, socks and other items for good grooming (Beth and Jones, 2014).

A child's first contact is the parents. The life style of parents influences the lifestyle of the child therefore if they value personal hygiene, the child will also grow up to do the same. The attention given to the child as he/she grows up can affect his/her way of life. When the parents endeavour to inculcate good health values into the child, as well as providing personal hygiene facilities, he/ she is bound to practice it. There is the need for the community to contribute its quota in the promotion of the health of students. Communities are at the centre and recipient of many of these changes. Their active participation plays an essential role in promoting and protecting health as we move into the 21st century (Glaxosmithkline, 2007).

For instance in Ghana, over 425 girls in about 20 communities aged between 13 and 20 have each received a hygiene kit made available by the Christian Children's Fund of Canada (CCFC), a Canadian based registered charity and child centred international development organisation. The aim of the hygiene kit is to increase personal hygiene practice among teenage girls in primary school, junior and senior high schools and increase awareness of proper hygiene behaviour among teenage girls within the CCFCs operational areas (CCFC, 2007). This action is encouraged, to be performed by communities especially in Africa. We can no longer afford to ignore the concerns and needs of students, especially those specific health problems which students face.

Health is created by caring for oneself and others by being able to take decisions and have control over one's life circumstances and by ensuring that the society one lives in creates conditions that allow the attainment of health by all of its members. Health is nurtured in the family, the school and in the community as a whole (Beth et al, 2014). Communities can play an active role in supplying certain expendable materials for students like toothbrushes, toothpastes, soaps, body creams, towels and socks especially where there is lack of such things. Health education can advocate for the provision of toilets and urinals, classrooms, decent play-ground and environment. They can also create awareness on different ways students can improve their personal hygiene. (Glazosmithkleen, 2007)

Personal Hygiene practices

Personal Hygiene involves personal grooming that deals with maintenance of good personal and public appearance (Nardo, 2015). In a study done by Purdue University in 1993, it was reported that some children who followed a rigorous hand-washing plan greatly reduced their number of colds (Begum, 2000). Hygiene behaviours that can prevent the transmission of water and sanitation related diseases are numerous and varied and reflect a variety of mechanisms for interrupting disease transmissions (Bateman, 2015). Among these are hand-washing, food hygiene, not sharing personal effects with others, vector control, daily bathing and proper care of the different parts of the body.

Children and youth tend to respond better than do older people to health education in the development of desirable attitudes and desirable health practices. Therefore, the earlier that an individual learns the elements of healthful living, the more likely it is that they will be applied (Leonard, 2014). Personal hygiene practices of the students in private secondary schools will likely be better than those in the public secondary schools due to the fact that the facilities in the public schools are not enough and adequate. This means that investment in schooling should be improved and expanded (Bulbeam, 2015).

A study of behavioural factors can be carried out more quickly and much more cheaply than a health impact study, and its results would offer power to diagnose problems in an existing programme (Datko, 2014). A programme was organized by Glaxo Smithkline in 1998. It is a simple hand washing programme that helps to save lives. It was initiated by GSK after identifying personal hygiene and sanitation as a neglected health education priority. The aim of the programme was to reduce diarrhoea related disease associated with poor hygiene, and to improve children overall health and well-being – a goal that fits perfectly with that of save the children's School Health and Nutrition Programme (Save the children's lives, 2014).

The promotion of hygiene is another integral component of environmental health activities and is often included as the third part of any water and sanitation programme. It is widely recognized that the promotion of hygiene practice must be included alongside the provision of clean water and excreta disposal (Cairncross and Vijah, 2003). Various studies have shown that wealth, education and hygieneconsciousness/practices are associated with a

lower incidence of disease. Hence those having water and sanitation facilities will tend to have less disease. Many studies tend to support the view that water and sanitation can reduce the incidence of diarrhoea by about 25%. Water supply and sanitation can almost eliminate guinea worm (White, Snow, and Kim, 2008).

School policies on personal hygiene

There must be school policies on personal hygiene (WHO, 2014). Policy refers to a plan of action, statement of ideals, proposed or adopted by a government or a political party (Hornby, 2014). All secondary schools should have standing policies on personal hygiene of students. These policies will enable students to see personal hygiene as a must for them. Such policies will attract penalties for those who disobey them. School policies are those guidelines that are provided by the school authorities that must be strictly adhered to by the students. The policies serve to provide guidelines and regulations that will prevent misbehaviours and unruly actions by the students (WHO, 2014). There is the need to work towards a new public health which both recognises and meets the right of individuals and communities to participate in improving health as well as providing policies that will enable people carry out responsible and healthy actions (WHO, 2008). This emphasise the need for policies that will make students to be actively involved in personal cleanliness and that of the environment.

Federal school policy on personal hygiene and environment stated that school sanitation will be unsuccessful without a sustained hygiene education, which aims at making children value health as a desirable asset. Hand washing with soap before preparing food or handling food, hand-washing with soap after toileting, regular bathing, clean finger nails and tidy hair, cleanliness of uniforms, underwear, socks, no tattered or worn out clothes, cleanliness of the school environment including the toilets, cleanliness of the school kitchen and areas where food are stored, ensuring that food and drinking water are kept covered and away from contaminants, usage of sanitary dustbins for refuse collection and storage in and around the classrooms and hostels, timely disposal of refuse to final disposal site, ensuring proper sewage management and waste water drainage. These are among the school policies on hygiene and sanitation in the schools, but not limited to them (Nigeria Demographic

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Health Survey (NDHS), 2013).

Others are ensuring the provision of adequate and functional sanitary facilities in schools educate students on the proper use of sanitary facilities and also ensure regular maintenance of sanitary facilities. A health promoting school will implement policies and practices that respect human rights, and individual's well-being and dignity, provide multiple opportunities for success, and acknowledge good efforts and intention as well as personal achievements.

Steps to school health

Some steps essential for creating health promoting schools were identified and advocated for by the (World Health Organization. 1990). These steps are:

1. Investment in schooling - Every member state must provide education in school that meets the full stage of children's learning and developmental needs.
2. Full educational participation of girls – Improving and expanding educational opportunities for girls is one of the best health and social investment a country can make.
3. Safe learning and working environment - Schools must provide safe water and sanitary facilities and protection from diseases, violence and harmful substances.
4. Critical health and life skills - Skill based health education can enable children to make healthy choices and adopt healthy behaviour throughout their lives.
5. An entry point for health promotion and intervention – Schools should be healthy places in which one can work; it must therefore help prevent and treat the common health problems of children and staff, and provide referral as needed to appropriate health institutions.
6. International support - International support can be further developed to enhance the ability of member states, local communities and schools to promote health and education
7. Successful school health programmes – School health programmes can be well designed, monitored and evaluated to ensure successful implementation and outcomes.
8. Community and school interaction – The community and school must work together to support health and education.

9. Training teachers and school staff – Teachers and school staff must be valued and provided with the support necessary to enable them to promote health
10. Policies, legislations and guidelines – Policies, legislations and guidelines must be developed to ensure the mobilization, allocation and coordination of resources at all levels.

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Conceptual framework

The model adopted for this study is PRECEDE Model propounded by Lawrence Green and his colleagues. It is very useful in identifying problems associated with human behaviours. The PRECEDE stands for Predisposing, Reinforcing, and Enabling factors that influence human behaviours. The PRECEDE model was developed for problem solving and for the facilitation of health education planning (Green and Kreuter, 1999). It can be used as a conceptual framework for planning educational programmes through diagnosis of personal hygiene problems in the school settings. The model can be used to understand the factors that influence behaviour and developing interventions to promote healthy behaviours (Green and Kreuter, 1999). This model can be used in the development of programmes that can facilitate the solving of personal hygiene problems of students in Nigeria.

Predisposing factors are a category of factors which consists of behavioural antecedents that provides the rationale for behaviour to be performed. These include factors like values, knowledge, perceptions, attitude, beliefs, norms and customs of the people about health issues that can influence their health actions such as personal hygiene. The student's PH knowledge, perception, beliefs and customs on how to take care of the different parts of the body can be appraised and reports made on the reasons for gaps using PRECEDE model.

Enabling factors are those things that are needed to be available in order to carry out a particular behaviour and these include money, materials, items, time, skills, resources, facilities and supplies that are needed for PH. The model can be used to discover the reasons for some PH facilities and materials that are lacking in schools and find means of solving them. The reported PH practices on hair, eyes, teeth, hands, skin, feet, nails, nose, ears when identified, the model can be used to plan and implement programmes to bring about improvement.

Reinforcing factors are those that can influence someone in carrying out a particular behaviour or prevent them from doing it. These factors include but not limited to parents, peers, employers, supervisors, health personnel, siblings, uncles, aunties and neighbours. These factors serve as incentives to carrying out a particular behaviour and also causing the repetition of such behaviour. Those stakeholders who are and are not promoting PH in

schools and homes can be noted through this study by using precede model and advocacy can be used to address the problems.

The PRECEDE model is used as diagnostic tool to identify those areas and factors that are responsible for lack of various personal hygiene practices and also find out ways by which there can be improvemeot of personal hygiene practices. The application of the model to facilitate the understanding of the factors and their relationship is presented in figure 2.1. The PRECEDE model in this study was used to identify the knowledge, perceptions, diagnose the behaviours of secondary school students in relation to washing of hands, teeth brushing, bathing, good grooming, personal hygiene practices involving other parts of the body, assessing the roles of the authorities and identifying those facilities available for the students to use in practice of personal hygiene. This will be useful in throwing light on where intervention needed.

CONCEPTUAL FRAMEWORK USED FOR PERSONAL HYGIENE OF STUDENTS

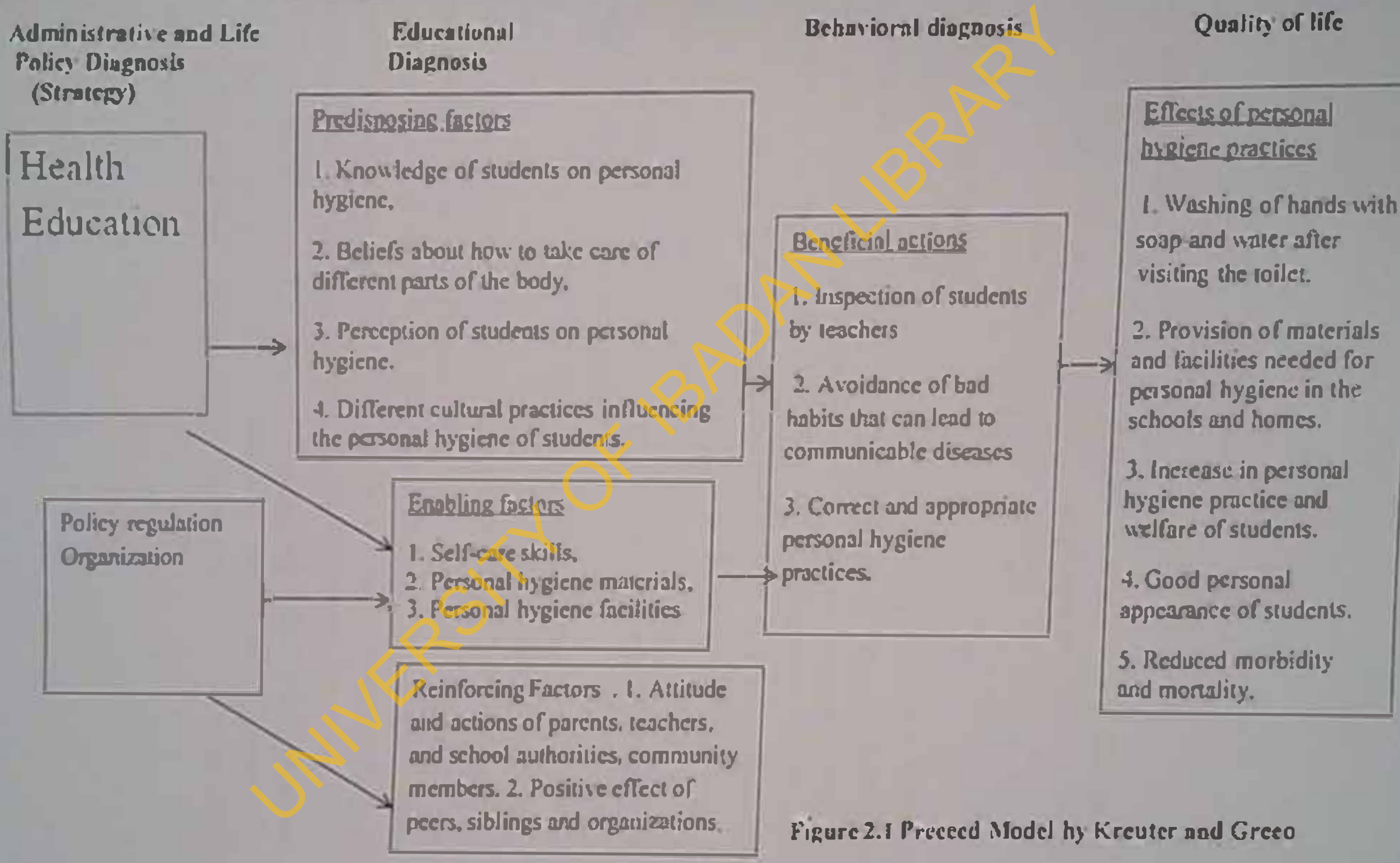

Figure 2.1 Preceed Model by Kreuter and Greeo

CHAPTER THREE

METHODOLOGY

Study design and scope

The design for the study was descriptive cross-sectional survey. It identifies the personal hygiene knowledge, perception and practice of secondary students in Ibadan North West Local Government Area (INWLGA).

Description of the study area

Ibadan North West Local Government Area is one of the 33 Local Government Areas (LGA) in Oyo State and it's among the five metropolitan LGAs in the first defunct Ibadan Municipal Government. Oyo State is located in the South West region of Nigeria. The headquarters of the LGA is in Onireke, Ibadan. It shares boundaries with Ido in the West, Ibadan South West LGA in the South and Ibadan North LGA in the East and in the North. The large part of the population living in Ibadan North West LGA is predominantly Yoruba although there are several other ethnic groups and foreigners. The LGA has urban and rural areas and the area is witnessing a rapid population growth and increase in commercial activities (Dirisu, 2014).

The LGA is divided into 11 political wards and covers an area of 26 km^2. The population of the LGA according to 2006 census is 154,029 (Male, 75,410; Female, 78,619). (Federal Republic of Nigeria, 2009). The approximate land area covered by Ibadan North West LGA is 45.5 hectares and the areas covered include Agbeni, Oke Seni, Ode Oolo, Ayeye, Eleyele, Jericho, Benjamin, Salvation Army, Idi Ishin, Aba Elewa and Oke Padre among others. The LGA can be accessed through Polytechnic-Eleyele Road, Jericho-Dugbe Road and Onireke-Eleiyele Road. There are 3 tertiary schools in INWLGA namely: College of Health Technology, Eleiyele, School of Nursing, Eleyele and Cooperative College, Eleyele. The LGA has 26 public secondary schools which involves both junior and secondary schools. The estimated population of the public primary schools is 35.

Study population

The study population was students in public secondary schools in the LGA studied and the estimated student population was 12. 606. There were male and female students in both junior and senior secondary schools used for the study. Majority of them were adolescents between the ages of 10 to 19 years. There are 3 non co-educational secondary schools while the remaining was co-educational.

Rational for study site selection

Ibadan North LGA was the site used by my group during the community diagnosis which would have been chosen for this study based on the findings during the group work. However it was discovered that so many research work had been had been carried out in the Ibadan North LGA; which made it necessary to choose a local government with a similar characteristics; INWLGA. In the LGA, the environment in some of the public schools was not very conducive and there was lack of basic sanitation facilities. The population of the students in IBNWLGA secondary schools was also large enough which would help in choosing a sample population that could be used for generalization.

Inclusion and Exclusion criteria

Students who were in public junior and senior secondary schools were eligible for the study. Both males and females who were in the selected schools and are willing to participate were eligible for the study. Students from all the classes and arms were chosen for the study including those who had just resumed school. Those who were from single sex schools were excluded from the study. Students from private secondary schools were also excluded from the study.

Sample size determination

Sample size determination is the act of choosing the number of observations or replicates to include in a statistical sample. The sample size is an important feature of any empirical study in which the goal is to make inferences about a population from a sample. In choosing a sample size, the objectives and circumstances of the investigation has to be considered. The choosing of sample size depends on non-statistical considerations and statistical considerations. The non-statistical considerations may include availability of

resources, manpower, budget, ethics and sampling frame. The confidence interval is the statistical measure of the number of times out of 100 that results can be expected to be within a specified range (Explorable com,2009).

For populations that are large, a fonnula was developed to yield a representative sample for proportions. That fonnula was adapted for determination of study sample size as follows:

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

d = degree of accuracy

p = proportional evidence

q = (1 – p)

n = Sample size

z = Confidence level (1.96)

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} = 384$$

The population of the target group was 12,606 which made it necessary to increase the number of the sample size from 384 to 476. There was the need to increase the number of the participants because the study population was larger than 10,000 (Akinsola, 2005). This will also take care of non-response and attrition. 500 questionnaires were administered for data collection so as to be able to retrieve adequate numbers of questionnaires back from the respondents. 20.0% of the total number of questionnaires administered was picked for observation (Olasehe et al, 2003). The total number of students who got enrolled in NWLG in the year 2007/2008 was collected from the ministry of education to aid in the determination of the sample to be used for the study.

Total number of students in Ibadan North West Local Government public schools (2007/2008)

Name of School	Population		Observed Schools
	Junior	Senior	
Eleyele Secondary school		591	
Eleyele Secondary school I Junior	444		
Eleyele Secondary school II	593		
Oba Abass Alesinloye Grammar School		805	
Oba Abass Alesinloye Grammar School I	450		
Oba Abass Alesinloye Grammar School II	450		
Eleyele High School		741	
Eleyele High School I Junior	450		✓
Eleyele High School II	450		
Eleyele High School III	591		
Eleyele High School II Sen.		279	
Urban Day Secondary School Sen.		487	✓
Urban Day Secondary School Jun.	450		✓
Anwaru Islam Grammar School, Eleyele		874	
Anwaru Islam Grammar School, I Eleyele	450		
Anwaru Islam Grammar School, II Eleyele	450		
A. U. D High School		491	
Army Barracks Grammar School	450		
Jericho High School I	300		✓
Jericho High School II		821	✓
Urban Day Secondary School II	296		
Sacred Heart Grammar School, Ode Ooto	150		
Onireke High School (Single sex schools)		458	
Onireke High School (Single sex schools)	450		
Onireke High School II Jun. (Single sex schools)	300		

Sampling technique

Sampling design can be grouped into two categories: Non-probability and probability sampling. The one used for this study is Probability sampling (Akinsola, 2005). The first stage was to define the study population after which the units of the population were listed. A sample of the units (subset) was chosen for the study which represents the study population (Explorable.com, 2009). The sampling was done in a way that made every student to have equal opportunity of being selected.

The sample used for this study was drawn using multistage sampling technique which involved four stages. The first stage was done through categorising the public secondary schools in Ibadan North West LGA into co-educational (3) and non-co-educational (23). The co-educational were thereafter stratified into senior and junior secondary school which was the second stage. The third stage involved selection of three schools from the remaining junior secondary co-educational schools and two from senior secondary co-educational schools through simple random sampling. The fourth stage involved selection of respondents from each stratum and from all the arms and classes. This was done through systematic random sampling. All the public schools within the local government area where the study took place were all day schools.

Training of Research Assistants

In order to ensure validity of data collected, four Research Assistants (RAs) were recruited; two Dental Nurses/ Health Educators and two undergraduates from University of Ibadan and Ladoke Akintola University, Ogbomoso. They were trained at the student's lounge of Health Promotion and Education department for the purpose of thorough data collection. This was done few days to data collection and they were trained by the researcher and another public health personnel.

The RAs were enlightened on the objectives of the study and made to go through each of the research instruments, so as to enable them have good understanding of how to administer it on the respondents with little or no mistake. They asked questions on issues they were not sure of; and this was explained to them adequately. Methods employed in the training of the RA's include role play, question and answer, as well as discussion. They were also shown methods of sampling, the importance of informed consent as well as the need for voluntary participation by respondents and the need for confidentiality.

Methods and instruments for data collection

Data were collected using qualitative and quantitative research instruments; quantitative data was collected through the use of semi-structured questionnaires while qualitative data was collected through the use of observation checklists. Semi-structured Questionnaires were also administered which consists of six sections. Three observational checklists were used. Observation of the school environment was done; the school classrooms were also observed. The third checklist was for the appearance of the students.

Semi-structured questionnaire

This consisted of 6 sections namely; Section A - Socio-demographic information had 9 items under it containing the respondents' age, tribe, and the parent's characteristics. Section B: Knowledge relating to personal hygiene on the care of the hair, nostrils, hand, teeth, skin, nails, feet, clothes, ears and eyes. This section contained twenty eight variables. Section C: Perception relating to personal hygiene identifying their beliefs and attitudes towards PH which contained nine items. Section D: Personal hygiene practices which indicated the actions of the respondents on PH containing twenty three items. Section E: Frequency of personal hygiene practices which highlighted variables on how often respondents carry out personal hygiene practices; daily, weekly or twice in a week. This contained nineteen items while Section F had facilities for personal hygiene in the house with 20 items and 8 items discussing on PH materials shared with others; totalling twenty eight.

The questionnaires were self-administered; however research assistants were available to put the respondents through any question that they did not understand. The knowledge questions were based on the care of the hair, clothes, skin, nose, mouth, nails, hands, feet and ears; 28 point knowledge scale was used. Those who scored ≤ 10, >10 to < 20 and ≥ 20 were rated as poor, fair and good respectively. The perception question items were measured on a nine point scale and respondents who scored more than four were classified as positive perception. The practice score of > 15 was rated as good personal hygiene practice while ≤ 15 was rated as poor personal hygiene practice, the maximum score being 31. Data on facilities available for respondents at home could only be collected through semi-structured questionnaires.

Observation Checklists

Facilities available within the school environment and personal hygiene kits in the classrooms that could influence the personal hygiene practices of the students were observed using the first observation checklist consisting of 3 sections namely: Section A – Sources of water in the school indicating the different ones; such as pure water, well water, borehole, pipe borne water, bottled water and stream water. Section B – Toileting facilities and activities; type of toilet facility in the schools, personal hygiene materials in the toilets, and state of the toilets and urinals for males/females and refuse management system were also indicated. Section C: Other personal hygiene related kits and materials within all the classrooms.

The second checklist contained variables on the appearance of the students. Participants were picked from each of the 5 schools for observation. Twenty participants including males and females were picked from each of the schools for observation; totalling 100 participants. This observation checklist had 5 parts: Condition of student's uniform, condition of student's hair, condition of footwear, condition of nails and the teeth The copies of the instruments were attached as appendixes.

Validity and reliability of Instruments

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 draft semi-structured questionnaire and other instruments were given in-house pretesting. This involves giving them to some experts (lecturers) in the Department of Environmental Health, Epidemiology and Health Promotion and Education in the Faculty of Public Health to peruse. Suggestions offered by them were 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 (Barnigboye, 2006). In order to ensure this, the research instruments were pretested among students of the Anglican Commercial Grammar School and Olabisi Onabanjo Secondary School, in Ibadan North LGA. Fifty respondents were selected in each of the schools. These schools and their students share the same characteristics with

the target population. 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 0.781 which showed a good degree of internal consistency.

Data collection process

The researcher carried out a pilot study by collecting necessary information on the population of each of the schools used for the study and also noted the available facilities for personal hygiene within the schools before the major data collection was done. Data were collected in five secondary schools, selected through multi stage sampling, three from the public junior secondary schools (PJSS) and two from the public senior secondary schools (PSSS), all within Ibadan North West LGA. This was done through balloting by writing out the names of all the schools and picking the required numbers. Three names were selected from PJSS and two names from the PSSS.

All the schools were informed about the approval given by the Ministry of Education and the principals of each of the schools showed their full support. The principals linked the researcher up with the vice principal academics who in turn introduced us to the teachers and students. Systematic random sampling was used to select respondents from the classes and the questionnaires given out to the respondents class by class after they had been intimated with the purpose of our study. Informed consent form was also read and signed by each of the participant. Observation was conducted on 20 students in each of the schools. It was done in such a way that contamination was avoided as much as possible. The data was collected at a period when the school had just resumed for the session therefore the number of the pupils found in the school were not as high as expected.

Semi-structured questionnaire

Five hundred questionnaires were administered by research assistants and after sorting them out, 476 of them were finally used for the study. In three of the schools visited, questionnaires were administered to all the pupils in them because the total population was not up to one hundred. In the remaining two schools where the population were more than 100 students, all the classes and arms were used, while systematic random sampling was used in selecting respondents and for observation.

Observation Checklist

A total number of 100 students were observed and they were picked in proportion to the number of classes within each school. This observation was done by checking the participant's hair for combing; how well cut it was for males and how well plaited it was for females. The nails were checked to note the length, shortness, cleanness or dirtiness, while the teeth were checked for cleanliness. The state of their uniform was observed, as well as the type of foot wear they had on. The facilities in the schools were observed and photographs of the sources of water, types and condition of the toilets, refuse disposal system and the condition of some of the classrooms were taken. Some of the photographs are attached as part of the appendices to serve as evidence of the observation. The functionality of the facilities was also noted.

Data processing and analysis

Copies of the questionnaires used were 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 correct answers by the respondents were generated and the mean scores for the knowledge, perception and practice were recorded. The entry of the data was done using SPSS statistical package version 17 and Microsoft word excel 2007. Frequency tables, graphs and charts were generated. To facilitate the accurate and prompt data entry and analysis, some public health practitioners and statisticians were contacted who willingly assisted. Analysis was done for qualitative data by entry into SPSS statistical package version 17 and analysis of data was done. The researcher herself worked on the data involving observation checklists using SPSS statistical package version 17. The result was presented in Chapter 4, integrated with the quantitative findings.

Ethical considerations

Ethical approval of the study was given by the Ministry of Education, Secretariat, Ibadan. The principal of all the schools visited gave permission and full support for the study and participation of students within their schools during the study. The investigator and the RAs were allowed to observe the students, the classrooms, the school environment and to carry out the data collection. All necessary information about the study, were passed across to the participants in a way they would understand it, after

which each of them had to sign the informed consent form. There was voluntary participation of respondents and strict confidentiality was ensured by the researcher and the research assistants. Relevant organizations were sought and informed of the result of the findings. Ethical approval was also given by the Oyo State Ministry of Health Ethical Committee, Ibadan.

Limitation of the study

The observed measurement or variables have many sub-variables that were not discretionary enough for scoring; therefore the findings in this respect should be taken with caution. It was not possible to go to the respondent's homes to observe the materials they had for personal hygiene as it was done for the schools, therefore the respondent's reports alone were the source of data available for respondent's facilities from homes.

CHAPTER FOUR

RESULTS

This chapter presents the results of this research. The result consists of findings generated from data collected using semi- structured questionnaire and three observation checklists. The results from the semi- structured questionnaire are organised in the following sections: Section A - Socio- demographic information, Section B - Knowledge relating to personal hygiene. Section C - Perceptions relating to personal hygiene, Section D - Personal hygiene practices, Section E - Frequency of personal hygiene behaviour of students, Section F - Facilities for personal hygiene. The results from the observation are organised into three subsections, 1. Classroom environment. 2. School environment 3. Student's appearance.

Respondent's socio-demographic characteristics by school, sex, class, age.

Table 4.1 highlight the socio-demographic characteristics of the respondents. a total of 476 students were interviewed using semi-structured questionnaire. The mean age was 13.9 ± 2.03 years. From Table 4.1, five schools were involved in the study, {3 Junior Secondary Schools (JSS) and 2 Senior Secondary Schools (SSS)}. 60.3% of the respondents were from Junior Secondary classes (44.3% males while 55.7% females). The age range was between 9 – 20 years. 71.6% were Yorubas, 14.7% Igbos, 9.9% Hausas and others 3.8%. Majority (60.5%) were Christians, thirty-nine and three percent were Muslims.

Table 4.1: Respondents' Socio demographic characteristics

Socio demographic characteristics	N=476	
	Nº	%
Schools		
Eleycle High School	96	20.2
Jericho High School Senior	91	19.1
Jericho High School Junior	95	20.0
Urban Day Secondary School Junior	92	19.3
Urban Day Secondary School Senior	102	21.4
Sex		
Male	211	44.3
Female	265	55.7
Class		
JS1	80	16.8
JS2	154	32.4
JS3	53	11.1
SS1	49	10.3
SS2	72	15.1
SS3	68	14.3
Ethnic group		
Yoruba	341	71.6
Igbo	70	14.7
Hausa	47	9.9
Others	18	3.8
Religion		
Christianity	288	60.5
Islam	187	39.3
Traditional religion	1	0.2

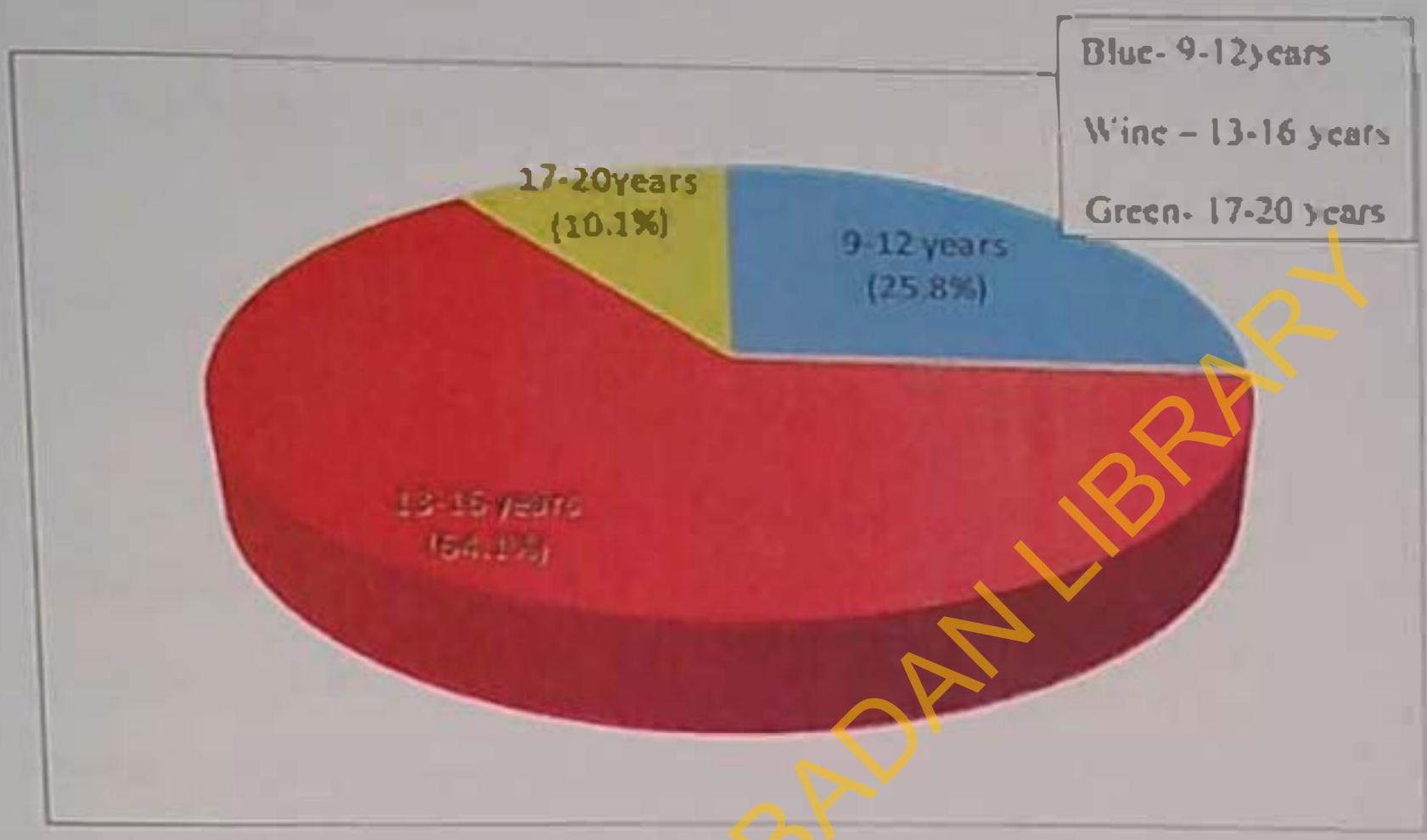

Figure 4.1: Age of respondents in years

Total number of boys and girls in the schools observed

Table 4. 2 reveal that the proportion of males and females in Eleyele High School (Junior) was 44.1% and 55.9% respectively. In Urban Day High School (Junior) the males were 48.1% while the females were 51.9%. The proportion of males in Jericho High School (Senior) was 47.3%, while that of the females was 52.7%, (Table 4.2).

Table 4. 2: Total number of girls and boys in the school observed

	Male	Female
School observed	No (%)	No (%)
Eleyele High School (Junior)	78 (44.1)	99 (55.9)
Urban Day High School (Junior)	76 (48.1)	82 (51.9)
Jericho High School (Senior)	70 (47.3)	78 (52.7)
Urban Day High School (Senior)	64 (46.7)	73 (53.3)
Jericho High School (Junior)	52 (50.0)	52 (50.0)

Socio-demographic characteristics of respondents' parents

Finding from this study also shows that 65.7% of the mothers were traders/business women, 13.3% of the respondents' mothers were civil servants, 9.3% artisans, 4.6% bankers and 0.4% self-employed. Mothers with 26.8% had bachelor degree, 10.1% with OND/HND, 44.7% had School Certificate and 7.0% had primary education. From Table 4, 37.9% of the respondent's fathers were traders, 25.2% civil servants 12.6% were into banking, 2.7%, 0.6%, 0.2%, were clergymen, self-employed and farmers respectively. Respondents' fathers with bachelor degree were about thirty eight percent while 13.1% and 32.4% had Higher National Diploma (HND) and School Certificate respectively (Table 4.3).

Table 4.3: Socio-demographic characteristics of respondents' mothers (N = 476)

Socio-demographic characteristics	No	%
Mothers' occupation		
Trader/Business	312	65.7
Civil servants	63	13.3
Artisan	44	9.3
Unemployed	33	6.7
Banker	22	4.6
Self employed	2	0.4
Mothers' Highest level of education		
University	127	26.8
OND/HND	48	10.1
NCE	33	7.0
Secondary	212	44.7
Primary	33	7.0
No formal education	21	4.4

Table 4.4: Socio-demographic characteristics of respondents' fathers

(N = 476)

Respondent's fathers' sociodemographic characteristics	No	%
Father's occupation		
Trader/ Business	180	37.9
Civil servant	119	25.2
Artisan	66	13.9
Banker	60	12.6
Unemployed	32	6.7
Clergy	13	2.7
Self employed	3	0.6
*Others	2	0.4
Fathers' highest level of education		
University	177	32.5
Higher National Diploma	62	13.1
NCE	29	6.1
Secondary	153	37.5
Primary	28	5.9
No formal education	23	4.9

* Others (Farming - 0.2%, Law enforcement agent – 0.2%)

Knowledge of respondents on Personal Hygiene

Table 4.5 shows the level of the knowledge of respondents on personal hygiene items. Very few (3.2%) had poor knowledge on personal hygiene, almost three quarters (70.6%) had fair knowledge while more than a quarter (26.3%) had good knowledge.

Table 4.5: Personal hygiene knowledge level

Personal Hygiene Knowledge Level	№	%
Poor Knowledge (0 - ≤ 10)	15	3.2
Fair knowledge (>10 - 20)	336	70.6
Good knowledge (≥ 20 - 28)	125	26.3
Total	476	100.0

Overall Mean Knowledge score – 17.79 ± 3.92

Respondents' socio-demographic characteristics and their knowledge on personal hygiene.

Table 4.6 highlights the relationship between respondents' socio-demographic characteristics and their knowledge on personal hygiene. Among respondents in 9-12 age group, a large majority, and 78.0% had fair knowledge on personal hygiene while less than a quarter (17.9%) had good knowledge. Only a few of the respondents (4.1%) had poor knowledge. Similarly, majority of the respondents within the 13 – 16 years age group had fair knowledge on personal hygiene while about thirty percent and less than five percent had good and poor knowledge respectively. Most of the respondents who were in 17 -20 age group (68.7%) had fair knowledge on personal hygiene while 31.3% had good knowledge. Male and female respondents with fair knowledge on personal hygiene were 70.6%. Among respondents with good knowledge there were more males (27.0%) than females (25.7%) although the difference was not significant.

Within the respondents who were in junior classes, a large majority (80.0%) had fair knowledge on personal hygiene while only 15.0% had good knowledge. More than half (56.1%) of the respondents in senior classes had fair knowledge on personal hygiene while 43.4% had good knowledge. Comparing respondents in junior classes and those in the senior classes, more respondents in the senior classes (43.4%) had good knowledge than those in the junior classes (15.0%). The overall mean knowledge of score of the participants was 17.79 ± 3.92, the total score being 28. The relationship between the classes and their knowledge of PH was statistically significant.

Table 4.6: Relationship between respondents' socio-demographic characteristics and personal hygiene related knowledge.

N=476

Variables	Personal hygiene knowledge				
Age	**Poor**	**Fair**	**Good**	**Total**	**p-value**
6-12	5 (4.1)	96 (78.0)	22 (17.9)	123	X^2= 0.10
13-16	10 (3.3)	207 (67.9)	88 (28.8)	305	P >0.05
17-20	0 (0.0%)	33 (68.7)	15 (31.3)	48	
Sex					
Male	5 (2.4)	149(70.6)	57(27.0)	211	X^2= 0.67
Female	10 (3.8)	187(70.6)	68(25.6)	265	P > 0.05
Class					
Junior classes	14 (4.9)	230 (80.1)	43 (15.0)	287	X^2 < 0.01
Senior Classes	1 (0.5)	106 (56.1)	82 (43.4)	186	P <0.05

Personal hygiene knowledge of respondents in relation to schools

Table 4.7 shows findings from this study indicating the distribution of personal hygiene knowledge among respondents by schools. Respondents from Eleyele High School had 15.6% with good personal hygiene knowledge. The respondents from Jericho High School (Senior) and Urban Day Senior Secondary School had little or no respondents (0.0% and 1.0%) respectively; among those with poor knowledge of PH. Urban day Senior Secondary school respondents had 52.9% with good knowledge of PH and 46.1% with fair knowledge of PH. There is a significant difference between the schools that participated and their knowledge of PH. Urban day high school had a little above halve with good knowledge of PH, while less than ten percent of the respondents from Urban day junior secondary school had good knowledge of PH. Just 1.0% of the senior school respondents had poor knowledge of PH.

Table 4.7: Personal hygiene knowledge among respondents by schools

N=476

Variables	Personal hygiene knowledge				
	Poor (%)	Fair (%)	Good (%)	Total	P value
Eleyele High school Junior	8(8.3)	73(76.0)	15(15.6)	96	$X^2=<0.01$
Jericho High School Senior	0(0.0)	61(67.0)	30(33.0)	91	$P < 0.05$
Jericho High School Junior	2(2.1)	74(77.9)	9(20.0)	95	
Urban Day Junior Secondary	4(4.3)	81(88.0)	7(7.6)	92	
Urban Day Senior Secondary	1(1.0)	49(46.1)	54(52.9)	102	

Knowledge of respondents on care of the nose, ears, eyes and the feet

Table 4.8 shows that less than half (41.5%) reported that covering the nose while sneezing is not part of personal hygiene. About a third (33.4%) of the respondents stated that cleaning the nostrils with one's fingernails is normal and those that agreed that the use of cleaning ear with cotton bud is bad health behaviour were 30.9% of the respondents. Majority (79.0%) stated that the ears should be protected from loud noise, while few, 21.0% of the respondents objected to this statement. A majority (71.9%) of the respondents agreed that the use of a sunshade is a way of protecting the eyes from the rays of the sun. About a quarter (26.9%) agreed that there was nothing wrong in walking barefooted.

Table 4.8: Knowledge of respondents on personal hygiene related to the care of nose, ears, eyes and feet

Knowledge related variable	No	%
Covering one's nostrils while sneezing is not part of personal hygiene (N = 468)		
True	194	41.5
False*	274	58.5
Cleaning of nostrils with one's fingernails is normal. (N=473)		
True	158	33.4
False*	315	66.6
Cleaning the inner part of ear with cotton bud is bad health behaviour (N = 472)		
True*	146	30.9
False	326	69.1
The ears need to be protected from loud noise to prevent them from being damaged (N=472)		
True*	373	79.0
False	99	21.0
Wearing sun-shade to protect one's eyes from rays of the sun is a way of protecting the eyes (N= 469)		
True*	337	71.9
False	132	28.1
There is no risk in walking barefooted (N= 464)		
True	125	26.9
False*	339	73.1

**No responses were excluded

*Correct responses

Respondent's knowledge on personal hygiene in relation to care of clothes and handwashing.

Findings show that more than half (59.2%) respondents believed that clothes are to be washed only when it appears dirty. About a third, 35.5% opined that sharing one clothes with others cannot lead to infections or any disease. About forty percent. (39.7%) agreed that sharing one's towels with other family members cannot lead to the spread of ringworm. A large majority (87.8%) believed that one's hand should be washed with soap and water after using the toilet. In addition 89.8% agreed that one's hand should be washed before preparing food and 91.8% of the respondents believed that one's hand should be washed before eating any type of food. Few, (34.1%) reported that the hands should be washed only when they are dirty. Less than half, (45.6%) respondents said hand washing with clean water alone is enough (Table 4.9).

Table 4.9: Knowledge of respondents on personal hygiene related to care of clothes and hand washing

Knowledge related variables	No	%
Clothes are to be washed only when they appear dirty (N= 468)		
True	277	59.2
False*	191	40.8
Sharing one's clothes with others cannot lead to infections (N= 470)		
True	167	35.5
False*	303	64.5
Sharing one's towels with other family members cannot lead to the spread of ringworm (N= 466)		
True	185	39.7
False*	281	60.3
One's hands should be washed with soap and water after using the toilet (N= 469)		
True *	412	87.8
False	57	12.2
One's hands should be washed before preparing food (N= 469)		
True*	421	89.8
False	48	10.2
One's hand should be washed before eating any type of food (N= 465)		
True *	427	91.8
False	38	8.2
Washing of one's hands should be done only when they are dirty (N= 464)		
True	158	34.1
False*	306	65.9
Hand washing with clean water alone is enough (N=461)		
True	210	45.6
False*	251	54.4

*Correct responses

Knowledge on care of the skin and teeth

Finding from this study shows that 91.7% respondents stated that bathing regularly can help to make the skin smooth and 52.3% of the respondents reported that taking one's bath daily cannot prevent skin diseases. A majority (74.5%) respondents maintained that brushing of the teeth can prevent oral diseases and 54.8% disagreed that brushing one's teeth cannot prevent mouth odour. A majority (69.2%) pointed out that taking sweet is one of the major causes of dental caries, however some respondents (30.8%) still believed that taking sweet cannot damage the teeth. A majority (70.8%) believed in the use of toothpowder in cleaning teeth. 61.4% respondents indicated that teeth brushing can prevent holes in the teeth. 53.6% agreed that any type of brush can be used in cleaning the teeth. Almost all (91.1%) reported that the tongue can also be cleaned.

Table 4.10: Knowledge of respondents on personal hygiene related to skin and teeth.

Knowledge related variables	№	%
Bathing regularly can help to make our skin to be smooth. (N = 469)		
True*	430	91.7
False	39	8.3
Taking one's bath daily cannot prevent skin diseases (N = 470)		
True	246	52.3
False*	224	47.7
Brushing of the teeth can prevent diseases that can affect the teeth. (N = 471)		
True*	351	74.5
False	120	25.5
Brushing one's teeth cannot prevent mouth odour. (N = 469)		
True	212	45.2
False*	257	54.8
Taking sweet cannot damage one's teeth (N = 471)		
True	145	30.8
False*	326	69.2
Use of tooth powder is ideal in cleaning the mouth (N = 469)		
True	250	53.6
False*	216	46.4
Teeth brushing prevents holes in the teeth (N = 461)		
True*	283	61.4
False	178	38.6
Any type of toothbrush can be used in cleaning the teeth (N = 469)		
True	250	53.6
False*	216	46.4
While brushing the teeth the tongue can also be cleaned (N = 450)		
True*	430	91.1
False	20	8.9

*Correct responses

Knowledge of respondents on brushing of the teeth.

Less than one –fifth (18.2%) were of the opinion that the best time to brush the teeth is afternoon alone while 17.9% suggested brushing the teeth alone in the evening. However, a majority, 79.0% were of the view that teeth should be brushed in the morning and evening while about less than half (40.7%) opined that it is important to brush the teeth after every meal.

Table 4.11: When to brush the teeth

The best period to brush the teeth	No	%
In the morning alone. N=459		
True	145	31.5
False*	314	68.5
In the afternoon alone N=455		
True	83	18.7
False*	372	81.8
In the evening alone N=453		
True	81	17.8
False*	372	82.2
Morning and evening N=463		
True	366	79.0
False*	97	21.0
After every meal N= 452		
True*	184	40.7
False	268	59.3

Knowledge of respondents on brushing of the teeth.

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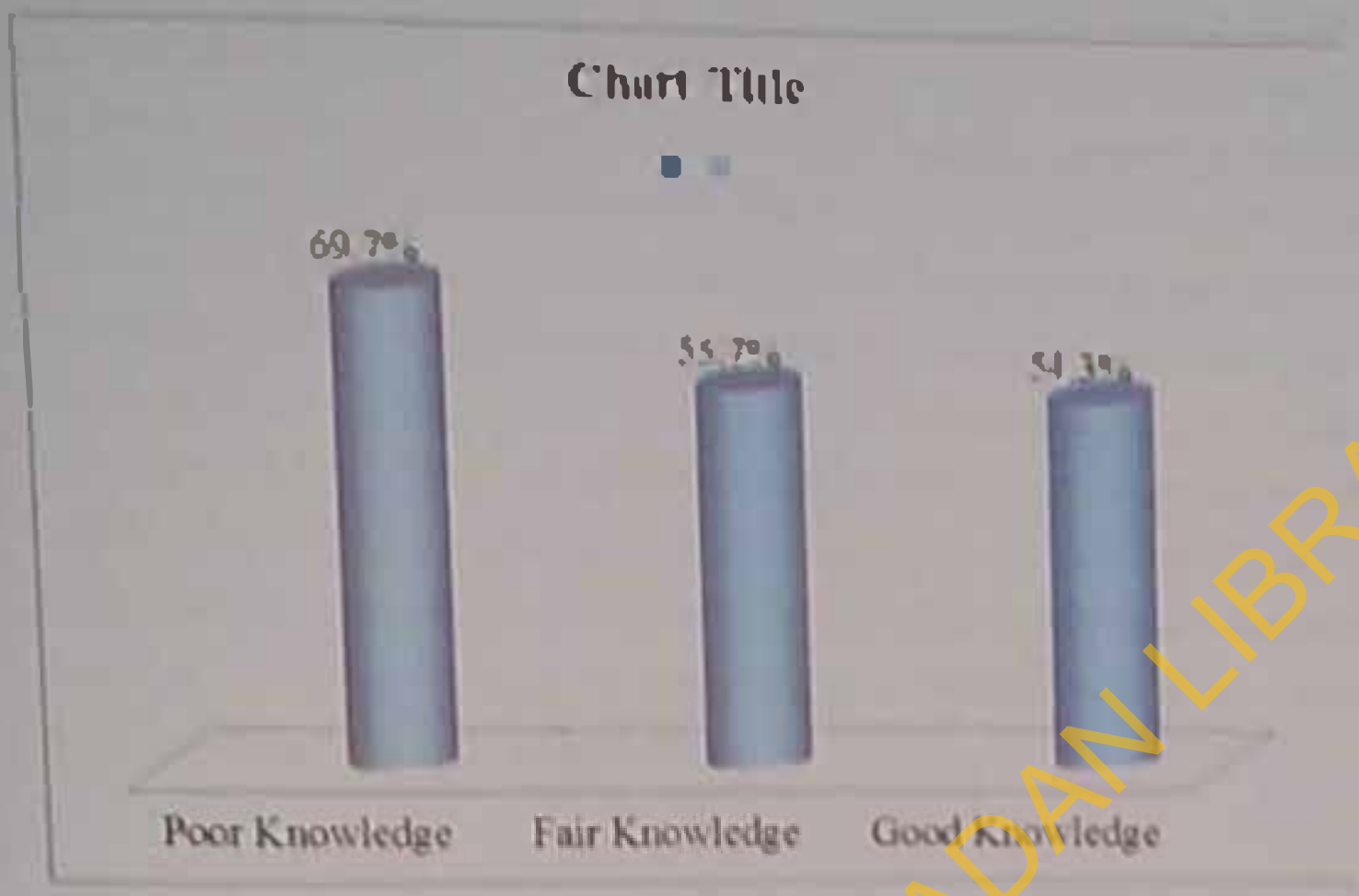
False*	314	68.5
In the afternoon alone N=455		
True	83	18.7
False*	372	81.8
In the evening alone N=453		
True	81	17.8
False*	372	82.2
Morning and evening N=463		
True	366	79.0
False*	97	21.0
After every meal N= 452		
True*	184	40.7
False	268	59.3

Personal Hygiene knowledge of respondents according to sex

The male respondents with fair knowledge of personal hygiene were 44.3% while 45.7% had good knowledge of personal hygiene. Female respondents had 55.7%, 54.3% with fair and good personal hygiene knowledge respectively.

Overall mean knowledge score for males = 17.8 ± 3.81

Figure 4.2: Mean knowledge score of males on personal hygiene



Overall mean knowledge score for female = 17.8 ± 4.0

Figure 4.3: Mean knowledge scores for female on personal hygiene

Perceptinn of respondents on personal hygiene

Table 4.12 revealed that 21.2% of the respondents disagreed with the statement that girl with permed hair should wash their hair every week. Quite a sizeable number of the respondents 59.5% agreed that combing one's hair is part of personal hygiene. Majority, 66.9% reported that washing of hair by male students is needful. The nose should be cleaned with a clean handkerchief or tissue paper just like we take care of every other part of our bodies, however only 68.3% of respondents agreed that the nose needs special care while 19.6% disagreed. Many (60.2%) stated that the nose needs cleaning not only when it is having mucus. A majority (75.7%) agreed that it is possible to always wash one's hands before eating. About a half 50.7% of the respondents disagreed with the notion that the chewing stick can clean the teeth better than the tooth brush Few (22.3 %) mentioned that too much sweat cannot lead to bad odour and 10.3% cannot say precisely and only 67.4% agreed with the statement. Few (24.0%) were of the view that there is nothing wrong in keeping long nails.

Table 4.12 : Perception of respondents on personal hygiene

Perceptions relating to personal hygiene.	Agree No (%)	Undecided No (%)	Disagree No (%)
Girls who perm or plait their hair should wash their hair at least once in a week. (N=471)	331(70.3)	40(8.5)	100 (21.2)
Combing one's hair only makes one looks good it is not part of personal hygiene. (N=474)	132 (27.80)	60 (12.7)	282 (59.5)
Washing of hair daily by male students is not necessary. (N=472)	109 (23.1)	47 (10.0)	316 (66.9)
The nostrils do not need any special care to make them clean. (N=470)	92 (19.60)	57 (12.1)	321(68.3)
The nose needs to be cleaned only when it is having mucus. (N=472)	159 (33.7)	29 (6.1)	284 (60.2)
It is not always possible to wash one's hands before eating. (N=469)	81 (17.3)	33 (7.0)	355 (75.7)
Chewing stick clean the teeth better than toothpaste and brush.(N=471)	145 (30.8)	87 (18.5)	239 (50.7)
Too much sweat on the body can lead to bad odour.(n=476)	317 (67.4)	54 (10.3)	105(22.3)
There is nothing wrong in keeping long fingernails because it adds to one's beauty (N=470)	113(24.0)	46 (9.8)	311 (66.2)

Personal hygiene perceptions in relation to schools

Table 4.13 represents findings on perception according to respondents' schools. Respondents from Jericho High School Senior, Jericho High School Junior and Urban Day Senior School, had 80.2%, 81.1% and 79.4% with positive perception respectively. Respondents from Eleyele High school Junior with positive perception were 56.0%, while those from Jericho High school were 73.0%. There is statistical significance between the school and their perception of PH ($p>0.5$). There is statistical significant difference between the junior schools and senior secondary schools' perception.

Table 4.13: Personal hygiene perceptions among respondents by schools (N=476)

Variables	Personal hygiene perception		
	Negative (%)	Positive (%)	Total
Schools			
Eleyele High school (Junior)	40 (41.7)	56 (58.3)	96
Jericho High school (Senior)	18 (19.8)	73 (80.2)	91
Jericho High school (Junior)	18 (18.9)	77 (81.1)	95
Urban day School (Junior)	41 (44.6)	51 (55.4)	92
Urban day School (Senior)	21 (20.6)	81 (79.4)	102

$P < 0.05$ $X^2 = 30.24$ $df = 4$ $P = 0.01$

Table 4.14: Personal hygiene perceptions among respondents by junior and secondary schools

Variables	Personal hygiene perception		
	Negative (%)	Positive (%)	Total
Junior Secondary Schools	98 (34.1)	189 (65.8)	287
Senior Secondary Schools	38 (21.2)	150 (78.8)	189

$P < 0.05$ $X^2 = 9.30$ $df = 1$ $P = 0.01$

Personal hygiene practices

Above half (53.0%) of the respondents reported that they use personal clipper whenever they barb in the salon, however 20.3% had never used personal hair clipper. A majority (68.4%) of them never shared their towels with other family members, 75.5% never shared clothes with other family membets. In addition, a large majority always washed their towels and under-wears (79.0% and 85.7% respectively). Few, (7.0%) of the respondents never washed their under wears, however a large majority (85.7%) always washed their under wears. Also many of the respondents (81.5%) indicated that they wash their socks always (Table 4.14).

Table 4.15 - 4.16 highlights personal hygiene related to the care of the nose, nails, teeth, skin, feet and eyes. Many of the respondents (60.0%) never kept long nails while 22.9% of the respondents sometimes kept long nails. A large majority (82.9%) reported that they had never used a sharp object in cleaning the ears however, some (21.6%) sometimes used matchstick in cleaning the ears. A majority (78.4%) of the respondents reported that they had never used the tip of the biro in cleaning the ear, however, 16.9% sometimes do. A majority (60.3%) never made use of the fingers in cleaning the nose and about a third (34.9%) of the respondents never covered the nose with hands when sneezing while 12.8% never used a handkerchief for this purpose. Some (24.5%) of the respondents always used any available handkerchief in cleaning the nose.

Above half (33.1%) of the respondents sometimes used chewing sticks in cleaning the teeth while 20.8% always did. A majority (76.0%) always used toothbrush in cleaning the teeth. 41.9% respondents used well water and 46.3% pipe borne water in bathing. 55.6% always kept handkerchief in their pocket, 31.4% never put on tight shoes and 34.4% flushed their eyes when something gets there mistakenly. A majority (71.8%) of the respondents never shared sunshade with others and 75.7% never eat fruits without washing them.

Table 4.15: Personal hygiene reported practices relating to the care of the hair, clothes, nails and ears

Personal hygiene related practices	No	%
Use of personal clippers when cutting hair in the barbing salon (N=472)		
Never	96	20.3
Sometimes	126	26.7
Always	250	53.0
Sharing of towels with other family members (N = 472)		
Never	323	68.4
Sometimes	99	21.0
Always	50	10.6
Sharing of clothes with other family members (N = 470)		
Never	355	75.5
Sometimes	95	20.2
Always	20	4.3
Washing of your towels (N = 476)		
Never	22	4.6
Sometimes	78	16.4
Always	376	79.0
Washing your underwear (N = 474)		
Never	33	7.0
Sometimes	35	7.3
Always	406	85.7
Washing your socks (N = 470)		
Never	38	8.1
Sometimes	49	10.4
Always	383	81.5
Keeping of long nails (N = 476)		
Never	281	60.0
Sometimes	107	22.9
Always	80	17.1
Use of sharp objects in cleaning the ear (N = 467)		
Never	387	82.9
Sometimes	54	11.5
Always	26	5.6
Use of matchstick in cleaning the ear (N = 473)		
Never	346	73.2
Sometimes	102	21.5
Always	25	5.3
Use of the tip of the biro in cleaning the ear (N = 468)		
Never	367	78.4
Sometimes	79	16.9
Always	22	4.7

Table 4.16: Pattern of Personal hygiene reported practices relating to the care of the nose, teeth, skin, feet and eyes

Personal hygiene related practices	No	%
Use of fingers in cleaning the nose (N =466)		
Never	278	60.3
Sometimes	147	31.5
Always	38	8.2
Covering the nose with hands when sneezing (N=467)		
Never	163	34.9
Sometimes	147	31.5
Always	157	33.6
Covering the nose with handkerchief when sneezing (N=470)		
Never	60	12.8
Sometimes	110	23.4
Always	300	63.8
Use of any handkerchief in cleaning the nose(N =465)		
Never	239	51.4
Sometimes	112	24.1
Always	114	24.5
Use of chewing stick in cleaning the teeth. (N =462)		
Never	213	41.6
Sometimes	153	33.1
Always	96	20.6
Use of toothbrush in cleaning the mouth.(N =471)		
Never	53	12.3
Sometimes	60	12.7
Always	358	76.0
Bathing with tap water (N=471)		
Never	52	11.0
Sometimes	201	42.7
Always	218	46.3
Bathing with well water(N=455)		
Never	63	13.8
Sometimes	206	44.3
Always	195	41.9
Keeping a handkerchief in your pocket(N =468)		
Never	56	12.0
Sometimes	152	32.4
Always	260	55.6
Wearing of tight shoes (N=471)		
Never	148	31.4
Sometimes	220	46.7
Always	103	21.9
Flushing eyes with water when something gets there mistakenly.(N=465)		
Never	93	20.0
Sometimes	212	45.6
Always	160	34.4
Sharing sunshade or glasses with family members, friends and others .(N=471)		
Never	338	71.8
Sometimes	102	21.6
Always	31	6.6

Personal hygiene practices

Table 4.17 shows that respondents who brushed their hair everyday were 91.1%. A large majority (86.6%) washed their under wears every day. The respondents that washed their pants everyday were 89.6%. Less than half, (40.3%) of the respondents bite their fingernails with their teeth every day. A large majority, (92.3%) made use of body cream/ lotion on their skin every day. Almost all, (93.0%) washed their face daily. Quite a sizeable number (75.0%) scrubbed their feet daily. Majority, (88.1%), cleaned their shoes every day, 84.8% cleaned their nose daily, 82.0% made use of a handkerchief daily for cleaning purposes.

Several (83.7%) of the respondents oiled their hair every day and 53.8% cut/ plaited their hair once in a week. A large majority (83.8%) respondents used body cream that makes the skin looks light and beautiful while 10.9% cream the body once in a week and 5.3% use it twice in a week. Majority (70.7%) ironed their clothes daily and 3.9% ironed their clothes twice in a week. Some (53.8%) of the respondents made use of dental floss to clean the interproximal surfaces of their teeth always. Few (41.0%) of the respondents cut their fingernails daily, 54.7% made use of cotton bud in cleaning their ears daily. Other items used in cleaning the ears daily were ear pins, broomstick or matchstick (25.1%). More than half, 56.5%, used some other objects in cleaning their ears weekly. Some (50.3%) of the respondents exposed their shoes to sunlight every day while 32.7% do so once in a week.

Table 4.18 highlights the PH reported practices of the respondents by gender. The female respondents who brushed their hair every day were 49.7% compared to male respondents (41.0%) who did so. Few of the male respondents (15.6%) bite their nails every day, compared to the female respondents (23.5%) who bite their nails every day.

Personal hygiene practices

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Table 4.17: Frequencies of personal hygiene reported practices

Personal hygiene practices	Frequency of involvement		
	Everyday (%)	Once in a week (%)	Twice in a week (%)
	Frequency	Frequency	Frequency
Brushing of hair (n=473)	431 (91.1)	31 (6.6)	11(2.3)
Washing of undies (n=464)	408 (86.6)	25 (5.3)	31 (6.1)
Washing of pants (n=473)	424 (89.6)	25 (5.3)	24 (5.1)
Biting of fingernails with teeth (n=429)	173 (40.3)	198 (46.2)	58(13.5)
Use of body cream/Lotion (n=467)	431 (92.3)	20 (4.3)	16 (3.4)
Washing of face (n=471)	438 (93.0)	11(2.3)	22 (4.7)
Scrubbing of feet (n= 452)	339 (75.0)	82 (18.1)	31 (6.9)
Cleaning of shoes(n=472)	416 (88.1)	30 (6.4)	26 (5.5)
Cleaning of nose (n=467)	396 (84.8)	40 (8.6)	31(6.6)
Use of handkerchief(n=461)	378 (82.0)	42 (9.1)	41 (8.9)
Oiling the hair (n=459)	384 (83.7)	50 (10.9)	25 (5.4)
Use of body cream (n= 457)	383 (83.8)	50 (10.9)	24 (5.3)
Ironing of clothes(n=468)	331 (70.7)	72 (15.4)	65 (13.9)
Use of dental floss on teeth(n=420)	226 (53.8)	150 (35.7)	44 (10.5)
Cutting of fingernails(n= 463)	190 (41.0)	188 (40.6)	85 (18.4)
Cleaning of ear with cotton buds (n=459)	251 (54.7)	110 (24.0)	98 (21.4)
Cleaning of ear with hair pins, broomstick or matches (n= 375)	94 (25.1)	212 (565)	69 (18.4)
Exposure of shoes to sunlight (n=443)	223 (50.3)	145 (32.7)	75 (16.9)

Table 4. 18: Frequency of personal hygiene reported practice by gender

Personal hygiene practices	Frequency of involvement					
	Males			Females		
	Everyday (%)	Once a week (%)	Twice a week (%)	Every day (%)	Once a week (%)	Twice a week (%)
	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency
Brushing of hair (N= 473)	196 (41.3)	9 (1.9)	5 (1.1)	235 (49.7)	22 (4.7)	6 (1.3)
Washing of underwear (N=464)	171 (36.3)	13 (2.8)	26(5.5)	237 (50.3)	12 (2.5)	12 (2.5)
Washing of pant (N=473)	177 (37.4)	16 (3.4)	17 (3.6)	247 (52.2)	9 (1.9)	7 (1.5)
Brushing of gum with teeth (N=429)	67 (15.6)	97 (22.6)	32 (7.5)	106 (24.7)	101 (23.5)	26 (6.1)
Use of body cream/Lotion (N=467)	194 (41.5)	6 (1.4)	8 (1.7)	237 (50.7)	14 (3.0)	8 (1.7)
Washing of face (N=471)	191 (40.6)	5 (1.0)	13 (2.8)	247 (52.4)	6 (1.3)	9 (1.9)
Scrubbing of feet (N= 452)	140 (31.0)	47 (10.4)	16 (3.5)	199 (44.0)	35 (7.7)	15 (3.3)
Cleaning of shoes (N=472)	176 (37.3)	15 (3.2)	18 (3.8)	240 (50.8)	15 (3.2)	8 (1.7)
Cleaning of nose (N=467)	171 (36.6)	18 (3.9)	19 (4.1)	225 (48.2)	22 (4.7)	12 (2.6)
Use of handkerchief (N=[illegible])	170 (36.9)	23 (5.0)	12 (2.6)	208 (45.1)	19 (4.1)	29 (6.3)
Oiling the hair (N=459)	169 (36.8)	21 (4.6)	14 (3.1)	215 (46.8)	29 (6.3)	11 (2.4)
Use of body cream (N= 457)	162 (35.4)	31 (6.8)	10 (2.2)	221 (48.4)	19 (4.2)	14 (3.1)
Ironing of clothes (N=468)	139 (29.7)	30 (6.4)	37 (7.9)	192 (41.0)	42 (9.0)	28 (6.0)
Use of dental floss on teeth (N=420)	102 (24.3)	68 (16.1)	[illegible] (5.2)	124 (28.5)	82 (19.5)	22 (5.2)
Cutting of fingernails (N= 463)	96 (20.7)	70 (15.1)	42 (9.1)	94 (20.3)	118 (25.5)	43 (9.3)
Cleaning of ear with cotton buds (N=459)	108 (23.5)	57 (12.4)	43 (9.4)	143 (31.2)	53 (11.5)	55 (12.0)
Cleaning of ear with hair pin, broomstick or matches (N= 375)	46 (12.3)	90 (24.0)	37 (9.9)	48 (12.8)	122 (32.5)	32 (8.5)
Exposure of shoes to sunlight (N=443)	92 (20.8)	70 (15.8)	36 (8.1)	131 (29.6)	75 (16.9)	39 (8.8)

Table 4. 18: Frequency of personal hygiene reported practices by gender

Personal hygiene practices	Frequency of involvement					
	Males			Females		
	Everyday (%)	Once a week (%)	Twice a week (%)	Every day (%)	Once a week (%)	Twice a week (%)
	Frequency	Frequency	Frequency	Frequency	Frequency	Frequency
Brushing of hair (N= 473)	196 (41.3)	9 (1.9)	5 (1.1)	235 (49.7)	22 (4.7)	6 (1.3)
Washing of undies (N=464)	171 (36.3)	13 (2.8)	26(5.5)	237 (50.3)	12 (2.5)	12 (2.5)
Washing of pants (N=473)	177 (37.4)	16 (3.4)	17 (3.6)	247 (52.2)	9 (1.9)	7 (1.5)
Biting of fingernails with teeth (N=429)	67 (15.6)	97 (22.6)	32 (7.5)	106 (24.7)	101 (23.5)	26 (6.1)
Use of body cream/Lotion (N=467)	194 (41.5)	6 (1.4)	8 (1.7)	237 (50.7)	14 (3.0)	8 (1.7)
Washing of face (N=471)	191 (40.6)	5 (1.0)	13 (2.8)	247 (52.4)	6 (1.3)	9 (1.9)
Scrubbing of feet (N= 452)	140 (31.0)	47 (10.4)	16 (3.5)	199 (44.0)	35 (7.7)	15 (3.3)
Cleaning of shoes(N=472)	176 (37.3)	15 (3.2)	18 (3.8)	240 (50.8)	15 (3.2)	8 (1.7)
Cleaning of nose (N=467)	171 (36.6)	18 (3.9)	19 (4.1)	225 (48.2)	22 (4.7)	12 (2.6)
Use of handkerchief(N=461)	170 (36.9)	23 (5.0)	12 (2.6)	208 (45.1)	19 (4.1)	29 (6.3)
Oiling the hair (N=459)	169 (36.8)	21 (4.6)	14 (3.1)	215	29 (6.3)	11 (2.4)
Use of body cream (N= 457)	162 (35.4)	31 (6.8)	10 (2.2)	221 (48.4)	19 (4.2)	14 (3.1)
Ironing of clothes(N=468)	139 (29.7)	30 (6.4)	37 (7.9)	192 (41.0)	42 (9.0)	28 (6.0)
Use of dental floss on teeth (N=420)	102 (24.3)	68 (16.1)	22 (5.2)	121 (28.5)	82 (19.5)	22 (5.2)
Cutting of fingernails (N= 463)	96 (20.7)	70(15.1)	42 (9.1)	94 (20.3)	118 (25.5)	43 (9.3)
Cleaning of ear with cotton buds (N=459)	108 (23.5)	57 (12.4)	43 (9.4)	143 (31.2)	53 (11.5)	55 (12.0)
Cleaning of ear with hair pins, broomstick or matches (N= 375)	46(12.3)	90 (24.0)	37 (9.9)	48 (12.8)	122 (32.5)	32 (8.5)
Exposure of shoes to sunlight (N=443)	92 (20.8)	70 (15.8)	36 (8.1)	131 (29.6)	75 (16.9)	39 (8.8)

Respondents' level of practice of personal hygiene by level of knowledge.

Table 4.19 indicates the respondents' level of practice of personal hygiene by level of knowledge. while table 4.20 reported respondent's personal hygiene practice in relation to sex. The participants with good practice that had good knowledge were in the majority (66.4%) while those with poor knowledge were a little less than half (46.7%). A little above half (54.8%) of those with fair knowledge had poor practice of PH. There is a statistically significant difference between the knowledge of PH and practice of PH by respondents $P > 0.05$. Males and females who practised good personal hygiene were 50.2% and 51.3% respectively. Majority of the respondents (60.6%) with mothers who had university education had good practice of personal hygiene while about half of the respondents (47.6%) with mothers having secondary education had good PH practices.

Table 4.19: Respondents' level of practice of personal hygiene by level of knowledge.

N=476

Variables	Practice Level		
	Poor Practice (%)	Good practice (%)	P value
Knowledge level			
Poor Knowledge	8 (53.3)	7 (46.7)	X^2 = < 0.01
Fair Knowledge	184 (54.8)	152 (45.2)	P < 0.05
Good Knowledge	42 (33.6)	83 (66.4)	

Table 4.20: Respondents' level of practice of personal hygiene by sex

	Poor Practice (%)	Good practice (%)
Male	105 (49.8)	106 (50.2)
Female	129 (48.7)	136 (51.3)

P < 0.05 X^2 = 0.55 df = 1 P = 0.81

Table 4.21. Respondents' level of practice of personal hygiene by mother's level of education

	Poor Practice (%)	Good practice (%)
Mother's educational level		
University	50 (39.4)	77 (60.62)
HND	22(45.8)	26 (54.2)
NCE	15 (45.5)	18 (55.5)
Secondary	111 (52.4)	101 (47.6)
Primary	22 (66.7)	11(33.3)
No formal education	13 (61.9)	8 (38.1)

P < 0.05 X^2 = 11.54 df = 5 P = 0.42

Personal hygiene practices of respondents' according to respondents' perception level.

Table 4.22 shows personal hygiene practices of respondents' according to respondents' perception level. Respondents with negative perception that had good practice were about a third (33.3%) while those with positive perception with good practice were above half, (58.0%). There is a significant difference between the respondents' perception and their personal hygiene practices ($p < 0.05$).

Table 4.22: Personal hygiene practices of respondents' according to respondents' perception level.

N=476

Perception Level	Poor Practice	Good practice	Total	P Value
Negative	92 (66.7)	46 (33.3)		$X^2 = < 0.01$
Positive	142 (42.0)	196 (58.0)		$P < 0.05$

Personal hygiene practice among respondents by schools

Table 4.23 highlights the personal hygiene practice among respondents by schools. Majority (60.0%) of the respondents from Jericho High School Junior had good practice of PH, about a half (53.1%) from Elcycle High School and almost a half (49.5%) from Jericho high school senior. There is a statistical significant difference between the schools and the respondents' practice of PH. Junior schools had 48.8% with good PH practice while the senior schools had 54.0%.

Table 4.23: Personal hygiene practice among respondents by schools.
N=476

Schools	Personal hygiene practice		
	Poor (%)	Good (%)	Total
Elcycle High School Junior	45(46.9)	51 (53.1)	96
Jericho High School Senior	46(50.5)	45 (49.5)	91
Jericho High School Junior	38 (40.0)	57 (60.0)	95
Urban Day School Junior	62 (67.4)	30 (32.6)	92
Urban Day School Senior	43 (42.2)	59 (5.8)	102

$P < 0.05$ $X^2 = 17.9$ $df = 4$ $P = 0.01$

Table 4.24: Personal hygiene practice among respondents by junior and senior schools.

Schools	Personal hygiene practice		
	Poor (%)	Good (%)	Total
Junior Secondary Schools	147 (51.2)	140 (48.8)	287
Senior Secondary Schools	87 (46.0)	102 (54.0)	189

$P > 0.05$ $X^2 = 1.22$ $df = 1$ $P = 0.3$

Items for personal hygiene that are shared with others

Table 4.25 highlights the responses on the items respondents shared with others. A majority (73.8%) of the respondents stated that they share bathing sponge with others, many others share bathing soap, nail cutters' blade, handkerchief, deodorant and combs with others. 74.1%, 66.3%, 61.2%, 52.3%.71.7% respectively. More than half (52.3%) also indicated that they share hair clippers with others.

Table 4.25: Frequency of reported personal hygiene items shared with others.

Personal hygiene items and frequency of sharing.	Nº	%
Bathing sponge (n=468)		
Always	347	73.8
Sometimes	55	11.7
Never	66	14.5
Bathing soap(n=468)		
Always	347	74.1
Sometimes	60	12.9
Never	61	13.0
Nail cutter/Blade(n=469)		
Always	311	66.3
Sometimes	82	17.5
Never	76	16.2
Handkerchief(n=467)		
Always	286	61.2
Sometimes	97	20.8
Never	84	18.0
Deodorant(n=463)		
Always	242	52.3
Sometimes	121	26.1
Never	100	21.6
Comb(n=470)		
Always	337	71.7
Sometimes	60	12.8
Never	73	15.5
Hair clipper(n=465)		
Always	243	52.5
Sometimes	131	28.2
Never	91	19.6
Soap in the toilet(n=469)		
Always	335	71.4
Sometimes	79	16.9
Never	55	11.7

Condition of the uniform and hair

Observations made on respondents showed that almost all, 93.0%, had neat uniforms on them, while more than half 56.0% had their hair neatly cut. About half (49.0%) of the male respondents had neatly combed hair, while a few (18.0%) of those plaiting hair among female respondents had neatly plaited hair (Table 4.26).

Table 4.26: Condition of the respondents' uniform and hair observed.

(N=100)

Personal appearance observed	No	%
Uniform		
Dirty	7	7.0
Clean	93	93.0
Uniform		
Rumpled	27	27.0
Not rumpled	73	73.0
Hair		
Neatly cut	56	56.0
Not cut	23	23.0
Not applicable	21	21.0
Hair		
Neatly combed	49	49.0
Not combed	30	30.0
Not applicable*	21	21.0
Hair		
Neatly plaited	18	18.0
Not neatly plaited	3	3.0
Not applicable**	79	79.0

* Plaited Hair

**Low cut hair

Condition of the uniform and hair

Observations made on respondents showed that almost all, 93.0% had neat uniforms on them, while more than half 56.0% had their hair neatly cut. About half (49.0%) of the male respondents had neatly combed hair, while a few (18.0%) of those plaiting hair among female respondents had neatly plaited hair (Table 4.26).

Table 4.26: Condition of the respondents' uniform and hair observed.

(N=100)

Personal appearance observed	No	%
Uniform		
Dirty	7	7.0
Clean	93	93.0
Uniform		
Rumpled	27	27.0
Not rumpled	73	73.0
Hair		
Neatly cut	56	56.0
Not cut	23	23.0
Not applicable	21	21.0
Hair		
Neatly combed	49	49.0
Not combed	30	30.0
Not applicable*	21	21.0
Hair		
Neatly plaited	18	18.0
Not neatly plaited	3	3.0
Not applicable**	79	79.0

* Plaited Hair

**Low cut hair

Type of footwear

Findings from the observation of respondents show that few (5.0%) had shoes on, 88.0% had sandals on and 73.0% had stockings on. Very few (2.0%) of the participants had no footwear on. Few (17.0%) had long nails while 5.0% had dirty nails and 90.0% had clean teeth.

Table 4. 27: Type of footwear observed

N=100

Type of footwear	No	%
Shoes		
Yes	5	5.0
Sandals		
Yes	88	88.0
Slippers		
Yes	5	5.0
Stockings		
Yes	73	73.0
No footwear		
Yes	2	2.0

Table 4.28:
Condition of nails and teeth observed

N = 100

Condition	No	%
Nails long		
Yes	17	17.0
No	83	83.0
Nails clean		
Yes	95	95.0
No	5	5.0
Teeth clean		
Yes	90	90.0
No	10	10.0

Materials in respondent's homes for promoting personal hygiene

The next table shows reported facilities available for personal hygiene in the house. A large majority (92.6%) of the respondents indicated that they always had toothpaste for use and 89.0% pointed out that each person had his/her tooth brush. Water which is essential to life should be safe and accessible. Findings from this study shows that many of the respondents 77.6% had access to well water in their various homes while some others in addition have access to tap water and borehole water (69.0% and 57.9%) respectively. Other sources of water mentioned were pure water (81.4%) and stream water (28.6%) (Table 4.29).

Table 4.30 shows that many (82.5%) of the respondents reportedly had bathing sponge personally for use always, 76.8% had personal bathing soap, 71.1% always had nail cutter/blade for cutting nails, many, 83.4% always had body cream for use. Many, 76.4% always had handkerchiefs for their personal use; some 64.7% always had deodorant in their toilets at home. 67.6% had access to separate comb in the house, and 53.9% always had personal hair clippers used in cutting their hair. 79.9% of the respondents always had dustbin in their houses. 76.6% were always having soap in their toilets at home. Many. 81.1% always had towel/napkins for cleaning hands after eating. and 74.9% always had disinfectants like Izal and Dettol to disinfect the house.

Table 4.29: Availability of facilities/materials promoting personal hygiene in the house (N=476)

Materials for personal hygiene	No	%
Toothpaste(n=471)		
Always available for use in our house	436	92.6
Sometimes available for use in our house	22	4.7
Never available for use in our house	13	2.8
Toothbrush for each person(n=471)		
Always available for use in our house	419	89.0
Sometimes available for use in our house	30	6.3
Never available for use in our house	22	4.7
Chewing stick for each person(n=463)		
Always available for use in our house	214	46.2
Sometimes available for use in our house	72	15.6
Never available for use in our house	177	38.2
Well water(n=468)		
Always available for use in our house	363	77.6
Sometimes available for use in our house	48	10.2
Never available for use in our house	57	12.2
Stream water(n=468)		
Always available for use in our house	134	28.6
Sometimes available for use in our house	60	12.9
Never available for use in our house	274	58.5
Tap water(n=467)		
Always available for use in our house	322	69.0
Sometimes available for use in our house	63	13.4
Never available for use in our house	82	17.6
Bore Hole (n=466)		
Always available for use in our house	270	57.9
Sometimes available for use in our house	84	18.1
Never available for use in our house	112	24.0
Pure water(n=467)		
Always available for use in our house	380	81.4
Sometimes available for use in our house	59	12.6
Never available for use in our house	28	6.0

Table 30: Facilities for personal hygiene in the house (N=476)

Facilities for personal hygiene	No	%
Bathing sponge for each person(n=468)		
Always available for use in our house	386	82.5
Sometimes available for use in our house	49	10.4
Never available for use in our house	33	7.1
Bathing soap for each person(n=470)		
Always available for use in our house	361	76.8
Sometimes available for use in our house	62	13.2
Never available for use in our house	47	10.0
Nail cutter/blade for each person (n=471)		
Always available for use in our house	335	71.1
Sometimes available for use in our house	88	18.7
Never available for use in our house	48	10.2
Body creams(n=471)		
Always available for use in our house	393	83.4
Sometimes available for use in our house	51	10.8
Never available for use in our house	27	5.7
Handkerchief for each person(n=467)		
Always available for use in our house	357	76.4
Sometimes available for use in our house	73	15.6
Never available for use in the house	37	7.9
Deodorant in the toilet(n=459)		
Always available for use in our house	297	64.7
Sometimes available for use in our house	98	21.4
Never available for use in our house	64	13.9
Separate comb for every member of the family(n=469)		
Always available for use in our house	317	67.6
Sometimes available for use in our house	82	17.5
Never available for use in our house	70	14.9
Separate hair clippers(n=466)		
Always available for use in our house	251	53.9
Sometimes available for use in our house	88	18.8
Never available for use	127	27.3
Dustbin (n=408)		
Always available for use in our house	326	79.9
Sometimes available for use in our house	40	9.8
Never available for use in our house	42	10.3
Soaps in the toilets(n=466)		
Always available for use in our house	357	76.6
Sometimes available for use in our house	65	14.0
Never available for use in our house	44	9.4
Towels /Napkins for cleaning hands after food. (n=472)		
Always available for use in our house	383	81.1
Sometimes available for use in our house	52	11.1
Never available for use in our house	37	7.8
Disinfectant like Izal and Dettol. (n=471)		
Always available for use in our house	353	74.9
Sometimes available for use in our house	75	16.0
Never available for use in our house	43	9.1

Availability of facilities for personal hygiene within the house by level of personal hygiene practice of respondents

Table 4.31 indicates the availability of facilities for personal hygiene within the house in relation to personal hygiene practices among respondents. The respondents that stated that they have bathing sponge always available for each person with good PH practice were 56.2% and it was statistically significant. Majority, (54.6%) of the respondents with personal blade or nail cutter for cutting nails had good practice of PH and those having handkerchiefs always were a little above half, (54.1%) and those that had separate hair clippers always were above half, (55.8%) which was statistically not significantly.

Table 4.31: Availability of facilities for personal hygiene within the house in relation to personal hygiene practice among respondents.

Variables	Personal hygiene practice			
	Poor (%)	Good (%)	Total	P value
Bathing sponge for each person				
Always available in the house	169 (43.8)	217 (56.2)	386	X^2= < 0.01
Sometimes available in the house	38 (77.6)	11 (22.4)	49	P < 0.05
Not available	22 (66.7)	11 (22.3)	33	
Nail cutters/Blade for each person				
Always available in the house	152 (45.4)	183 (54.6)	335	
Sometimes available in the house	62 (70.5)	26 (29.5)	88	
Not available	18(37.5)	30 (62.5)	48	
Handkerchiefs for each person				
Always available in the house	164 (45.9)	193 (54.1)	357	X^2= 0.05
Sometimes available in the house	45 (61.6)	28 (38.4)	73	P=0.05
Not available	18 (48.6)	19 (51.4)	37	
Separate Hair clippers				
Always available in the house	111 (44.2)	140 (55.8)	251	X^2= 0.28
Sometimes available	53 (60.2)	35 (39.8)	88	P>0.05
Not available	66 (52.0)	61 (48.0)	127	

P< 0.05 X^2 = 20.5 df = 2 P < 0.01

Sources of water in the schools

Findings from this study (Table 4.32) show that none of the schools had tap water, the major source of water supply was well water (80.0%), however two schools were with boreholes but not functional. One school had a 120ml capacity water tank which is being supplied with water by water tank vehicles. A large majority (80.0%) of the schools observed had pure water sold to students within the premises. None of the schools had bottled water sold within or around school. Few (40.0%) of the schools had students with water bottles brought from home.

Table 4.32: Sources of water supply in the schools observed (N = 5)

Sources of water	No	%
Tap water		
Absent	5	100.0
Present	-	0.0
Well water		
Present and functional	4	80.0
Absent	1	20.0
Borehole water		
Present and functional	-	0.0
Present but not functional	2	40.0
Absent	3	60.0
Stream water		
Absent	5	100.0
Water Tank		
Present and functional	1	20.0
Present	4	80.0
Absent	-	0.0
Other sources of potable water		
Pure water sold in and around school		
Present	4	80.0
Absent	1	20.0
Bottled water sold in or around school		
Absent	5	100.0
Water bottle brought from home		
Present	2	40.0
Absent	3	60.0

*All the schools had one or more sources of water supply.

Sanitary facilities within the school

There were 10 toilets for girls and six toilet facilities for boys in all the live schools observed. In Eleyele High School, there was no toilet facility at all. In Jericho Junior and Senior High schools, there was no toilet facility for the male students. It was observed that all the 3 water closet toilets were been used by females students in Jericho High School (Senior) (Table 4.33).

Moreover, all of the girls' water closet toilet facilities observed was clean while 40.0% of the boys' pit toilets in Urban Day Secondary school (Junior) were dirty. Table 4.34 also presents that two of the 3 girls pit toilets in Urban Day Secondary School (Senior) were clean and two of the 3 boys' toilets were clean in Urban day Secondary School (Senior). Table 4.34 stated that there was no tissue paper in any of the toilets. It was only in one male toilet that water was available. In Jericho high school (senior), water and soap were available in all the female toilets.

Table 4.33: Observed toilets in the school

N =16

Schools	Male			Female		
	No of Toilets No(%)	Water closet No %	Pit Toilet No (%)	No of Toilets No (%)	Water closet No (%)	Pit Toilet No (%)
Eleyele High School	0 (0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)	0 (0.0)
Jericho High School Junior	0 (0.0)	0 (0.0)	0(0.0)	2(12.5)	2(12.5)	0 (0.0)
Jericho High School Senior	0(0.0)	0(0.0)	0(0.0)	3(18.7)	3(18.7)	0(0.00)
Urban Day Secondary School Junior	3(18.7)	0(0.0)	3(18.7)	2(12.5)	0(0.0)	2(12.5)
Urban Day Secondary School Senior	3(18.7)	0(0.0)	3(18.7)	3(18.7)	0(0.0)	3(18.7)

Table 4: 34 Observed personal hygiene resources available in the toilets

Schools	Male			Female		
	Soap Available No (%)	Water Available No (%)	Tissue Available No (%)	Soap Available No (%)	Water Available No (%)	Tissue Available No (%)
Eleycle High School n =Nil	0 (0.0)	0 (0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Jericho High School Junior N=2	0 (0.0)	0 (0.0)	0(0.0)	0(0.0)	2(100.0)	0(0.0)
Jericho High School Senior N=3	0 (0.0)	0 (0.0)	0(0.0)	3(100.0)	3(100.0)	0(0.0)
Urban Day Secondary School Junior N=5	0 (0.0)	0 (0.0)	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Urban Day Secondary School Senior N=6	0(0.0)	1(1.76)	0(0.0)	0(0.0)	0(0.0)	0(0.0)

Table 4.35: Condition of toilets observed

Schools	Male		Female	
	Clean No (%)	Dirty No (%)	Clean No (%)	Dirty No (%)
Elcycle High School N=Nil	0(0.0)	0(0.0)	0(0.0)	0(0.0)
Jericho High School Junior N=2	0(0.0)	0(0.0)	2(100.0)	0(0.0)
Jericho High School Senior N=3	0(0.0)	0(0.0)	3(100.0)	0(0.0)
Urban Day Secondary School Junior N=5	0(0.0)	2(40.0)	2(40.0)	1(20.0)
Urban Day Secondary School Senior N=6	1(16.7)	2(33.3)	1(16.7)	2(33.3)

Mean number of toilets in the schools- 3.2 ± 2.4
Mean number of toilet for girls- 2.0 ± 1.2,
Mean number of toilet for boys- 1.2 ± 1.6

Personal hygiene resources

Of all the 34 classes observed only 2.9% had bowls for water and 17.6% had dustbin in their classes None of these classes had soap, detergent, liquid soap or towel/ napkin (Table 4.36).

Table 4.36: Personal hygiene resources in the classrooms

(N = 34)

Personal hygiene material	No	%
Soup in the class.		
Not available	34	100.0
Detergent in the class.		
Not available	34	100.0
Liquid soap in the class.		
Not available	34	100.0
Dustbin in the class.		
Not available	28	82.4
Available	6	17.6
Towel/Napkin in the class.		
Not available	34	100.0
Bowls for water		
Available	1	2.9
Not available	33	97.1

Classroom condition

Findings also show that majority of the classes (70.6%) had their floors cemented, however 52.9% classes had cracked floor and 35.3% had dirty floor. The classrooms with asbestos ceilings were 47.1%. (Table 4. 37).

Table 4.37: Condition of the buildings in the schools

N =34

Item observed	No	%
Floor cemented		
Yes	24	70.6
No	10	29.4
Floor cracked		
Yes	18	52.9
No	16	47.1
Floor dirty		
Yes	12	35.3
No	22	64.7
Asbestos ceiling		
Yes	16	47.1
No	18	52.9

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

This chapter focuses on the discussion of the study. The discussion is related to the following issues: socio-demographic characteristics, knowledge of personal hygiene of students; perception of personal hygiene of students; personal hygiene practices; facilities for promoting personal hygiene in schools; facilities for promoting personal hygiene among students at home; implication of the findings for Health Education; conclusions and evidenced-based recommendations.

Socio-demographic information

Majority of the respondents were teenagers or adolescents; this is a normal phenomenon in the Nigerian secondary school system. According to WHO (2000) adolescents are individuals between 10-19 years of age. Ideally children start Junior Secondary School (JSS) at the age of 10 years and remain in the JSS for 3 years. At the age of 13 years they, under normal circumstances, graduate into the Senior Secondary School (SSS) where they spend another 3 years (FMOE, 1995). This accounts for why most secondary students in Nigeria especially in urban settings fall between 10-17 years age range. The age profile of the study group which is 13-16 years is not fundamentally different from the 14-17 years age range noted by Omole (2001) noted in an earlier study conducted among secondary school students.

The respondents were mostly Yoruba; this is so because Ibadan is predominantly inhabited by Yoruba ethnic group. Ibadan is a major political, economic and cultural centre in South West Nigeria dating back to the pre-independence era. It is this status of the city that has attracted other Yorubas in South West Nigeria to the city. The common religions among the respondents were Christianity and Islam and majority of their mothers were traders. Previous studies conducted in Ibadan including those of Olaseha, Babatola and Shridhar (2003), and Dirisu (2014) similarly revealed the same religious affiliation and occupational profile.

The respondents, being adolescents, are full of energy, highly curious and are prone to experimentation with practices which, without personal hygiene, can compromise their health. It is at this stage when they are highly malleable, that they can

be easily influenced in the school settings, to adopt health promoting values relating to personal hygiene. Personal hygiene practices adopted and sustained at this stage are most likely to be carried well into adulthood.

Personal hygiene-related knowledge

The personal hygiene knowledge of majority of the respondents was fair: only about a quarter had good personal hygiene- related knowledge. This is not good enough as many of the health problems which compromise students' health can be prevented or controlled through adequate knowledge of personal hygiene. This finding is at variance with a similar study conducted among primary school students by Vivas, Gelaye, Abosel, Berhaney and Williams (2010) in Ethiopia: it revealed that more than half of the respondents were classified as having adequate knowledge of personal hygiene. The knowledge assessment tools used in the two studies are however different in terms of scope and depth. The younger chronological age of the primary school pupils must have been taken into consideration in the designs of the tools used by Vivas et al (2010). The average knowledge of the school children between ages 6-14 studied by Oyibo (2010) in Abraka Delta state was 74.6% while the mean knowledge score in this study was 17.8 ± 3.8 out of a total score of 28.

The level of knowledge of the respondents in this study indicated that much needs to be done by the various stakeholders in secondary education in Oyo State public schools in improving the status of personal hygiene education and personal hygiene practices. Elements of personal hygiene are part of the national curricular which are implemented in Oyo State. In addition school based activities related to personal hygiene including daily or occasional inspection of pupils to ensure that they take their bath, have their hair and fingernails well cut and brush their teeth before coming to school are part of the accepted co-curricular activities or tradition in Oyo state public schools. The level of implementation of the hygiene-related curricular elements and co-curricular activities may vary from school to school.

The PH-related knowledge of quite a sizeable number of the respondents was low in certain areas. Few of them admitted that cleaning the nose with one's fingernail is normal. It was also reported by several of them that cleaning the inner ear with cotton bud is good health behaviour. Few reported that the ear does not need to be protected from

loud noise. The findings of this study reveal the critical areas where health promotion and education interventions are needed; with special reference to the care and protection of the ears and the nose. The eyes are such a sensitive part of the body that must be protected from trauma and foreign objects like chemicals. The hand washing related knowledge of majority of the respondents was in line with the scientific view that hands should be washed before eating and after defecation. The study conducted by Vivas et al (2010) relating to hand washing yielded a similar result. Some respondents in this study had some misconceptions relating to hand washing which could be indicative of their low level of knowledge of PH. The misconceptions included the view that it is only when the hands appear dirty that they should be washed and that washing hands with water alone is adequate. According to UNICEF (2015) it was stated that hand washing with soap and water can help to save lives as it is the most effective way of preventing diarrhoea and acute respiratory infections.

In this study, the knowledge of secondary school students relating to microscopic disease causing agents that could be found on ones' hands, even when they appear clean is low and needed to be upgraded through well designed age appropriate educational interventions. This study shows that the knowledge of majority of the respondents regarding oral health was also inadequate. About half of the respondents reported that teeth brushing cannot prevent mouth odour and that sweet consumption cannot lead to dental caries. In addition, some respondents' view was that any type of toothbrush can be used for brushing teeth which is erroneous. The scientific fact is that inappropriate tooth brush can damage the gum (Loochan, 2013) and create other oral health problems such as halitosis and gingivitis (Beth et al, 2014).

Many of the respondents in this study correctly reported that taking bath daily was an appropriate skin care practice. Good personal hygiene can improve the personal appearance of students when observed properly (Better health channel, 2015). It was noted that more of the respondents with good knowledge of PH were among the senior secondary school students. This implies that adequate attention should be focused on those in the lower classes, using innovative health education methods. Generally, the findings of this study revealed gaps in knowledge relating to PH which training can be used to address. The efficacy of training in upgrading people's knowledge about health matters has been acknowledged in several studies (Oshiname and Briegar, 1992, Oshiname, 2013).

Reported and observed personal hygiene practices

Several perceptions which can adversely affect the practice of personal hygiene were noted among the respondents in this study. Positive perception of PH among students will go a long way in promoting good PH behaviour among them. The result of personal hygiene practices discussed in this section focus on oral health, hair, eye, skin, feet, hand and nail care related issues. The proportion of female respondents who practiced good PH was a little bit higher than that of the males. Olasehe et al study (2003) similarly revealed that more females practiced good PH compared to the males. Above half of the female respondents reported washing their undies daily, while just about a third of the males did so. Quite a sizeable number (50.7%) of the female respondents used body lotion/cream on their body daily while 41.7% of the male respondents practiced this. This gender inclination towards good PH implies that ladies are more conscious of their hygiene related practices.

Few respondents stated that chewing stick can clean the teeth better than using toothpaste and toothbrush. In spite of this perception, however, the findings of this study reveal that more of the respondents used toothbrush when compared with those who used chewing stick. The frequency of females practising dental flossing was a little bit higher than those of males. The finding is supported by the finding of Al-Ansari and Honkala (2007) where it was reported that frequency of teeth brushing among his respondents was found higher in girls compared to boys as reported by Al-Ansari et al in their study (2007).

Majority of the respondents in this study washed their towels always; few of them shared towels and clothes with friends and family members. Olasehe et al (2003) similarly supported these findings. Few of the respondents did not wash their socks every day and majority made use of handkerchief when sneezing. Most of the observed students had neatly cut, neatly combed and neatly plaited hair. This is a good practice which should be sustained among the students. However the proportion of respondents who perceived the combing of one's hair as a personal hygiene practice was more than half.

It was noted from the findings of this study, that majority of the respondents brushed and oiled their hair daily; this is a good hair care practice. It was also noted from this study that more female respondents brushed and oil their hair daily than males. The attention of the students who shared combs and hair clippers with others should be drawn

to the health implications (UNICEF, 2003). The hair must be brushed several times (3 to 4 times) in a day with a bristled brush and washed daily (Derrick, 2008). The study revealed the various objects used by students for cleaning the ear include matchsticks, tip of the biro, and sharp objects. More females were involved in this bad habit than males. This practice can compromise the physical health of the ear. The ear and the nose must be protected from foreign objects and trauma. The inner ear has its own cleansing mechanism therefore it is not necessary to clean it with any object like matchstick, broomstick, or cotton bud. Daily washing with soap and water is enough to keep the outer ear clean. One should not reach farther than one can with the little finger into the ear (Better health channel, 2015). Majority (84.8%) of the respondents cleaned their nostrils every day.

The nostril is a part of the body that needs to be taken care of just like the other parts of the body. Students' knowledge needs to be upgraded on the adverse consequences of using dirty objects to clean the nostrils due to the fact that a little below half made use of any handkerchief in cleaning the nose. This highlights the need for keeping clean handkerchief or tissue inside the pocket when the need arises. The nose must be covered when sneezing (Olabisi, 2012). This is because several communicable airborne pathogens could be spread through such a practice.

Majority of the respondents were of the view that wearing sun-shades could prevent one's eyes from the rays of the sun. However it is important for students to be aware it is always better to consult ophthalmologists or optometrists before using glasses including sun-shades. Few respondents flushed their eyes with water when a foreign body gets into them. The practice which should be discouraged because of their adverse effect on the eyes was sharing of sunshade with friends, family members and others (Lavine 2001). The eye is such a sensitive part of the body that must be protected from trauma and foreign objects, practices that can adversely affect them should be avoided. Appropriate eye care related knowledge need to be promoted as part of the School Health Programme (Montgomery, 2008).

In this study many of the respondents took their bath daily. This is a desirable practice. Previous studies have similarly showed that pupils or students take their bath daily (Rahman, 2001). However, the study of Vivas et al (2010) carried out in Ethiopia revealed that approximately 34% of the students reported poor bathing practices and 21% reported poor hair washing practices. These findings are in concurrence with a study

conducted in the Philippines which found that 35% of students reported poor bathing (Vivas et al, 2010). Based on these results, it appears that the hygiene practices which require the greatest amount of water result in lower rates of practice. The desirability of making students to take their bath daily before going to school and after school hours should be stressed. This should always be discussed in the Parents-Teachers Association (PTA) meetings.

This study revealed that majority of the respondents washed their under wears and socks always and majority had clean uniforms on, as much as this is desirable, students need to be informed about the rationale behind it. About three quarters of the respondents ironed their clothes everyday while few ironed it twice in a week from this study. The sustainability of the reported practices relating to the washing of school uniform, clothes and other clothings could be compromised if students are not well informed about the inherent advantages. Students should be taught about ways of keeping their uniforms and other clothes clean and protected from pathogens such as hanging them in places where they are worn the next day; underclothes should be changed often (Victoria State, Department of health, 2013).

It was noted in this study that over half of the respondents exposed their shoes to sunlight every day while most of them cleaned their shoes every day. A previous study revealed that only a few adolescents did this (Olaseba et al. 2003). A commendable practise adopted by the respondents was that a majority of them were observed to put on foot wears. The health implication of this should be made known to students. These should include protecting the feet from injuries and infestation by hookworms (Powel, 1997).

In this study, some of the respondents were of the opinion that it is not always possible to wash hands after eating. This could be true in some cases, for instance according to WHO (2000) 40.0% of the world's 6 billion population had no acceptable means of sanitation and one of the major means is water which could be scarce in some environments or communities. Regular hand washing cannot be practised in the face of unreliable water supply. Water is not readily available in so many schools (Agbhaji, 2014). Consequently it becomes difficult to promote hand washing practices. 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 diarrhoeal diseases (UNICEF, 2014). Importantly, Ethiopian and foreign global public health agencies have been taking steps

towards enhancing access to resources and to increase health literacy particularly conceming sanitation and hygiene. 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. Additionally, the Ethiopian Ministry of Health recently implemented a National Millennium Hygiene and Sanitation Movement Program with the aim of cleaning up all homes and towns for the new millennium (Vivas et al, 2010). These initiatives, coupled with well-developed school-based health and hygiene curricula that promote improved personal hygiene at home and at school should contribute to better health and hygiene conditions among school children. In another study by Yalcin, Yalcin and Altin (2014), it was noted that 99.2% of the adolescent students (first grade) use soap and water for washing hand before 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. Vivas (2010) study revealed that 99.0% of the primary school pupil in Ethiopia practiced hand washing. In this study, the hand washing practices in the school observed was low. None of the schools observed had soaps in their classrooms, boys' toilets, a situation which is a barrier to hand washing among students while in school.

The hands must be dried with hot hand driers or paper towels after washing hands and the hand must be totally dry before touching any food (BHC 2009). These resources were not available in the studied schools. 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). Research shows that washing hands with soap would probably save half of deaths from diarrhoeal diseases. There are studies that prove that hygiene is a common value around the world. Nobody likes dirt (WHO, 2009). Secondary school students must therefore be enlightened on proper hand washing techniques to prevent them from the spread of communicable diseases.

Few of the students in this study reported that they have long nails as a sign of beauty. Some of them still keep long nails probably as a result of peer influence. Majority of those observed had clean short nails which is a good nail hygiene practice which should be promoted among them. From the study of Ghose, Rhanian, 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 participants cut their nails once in a week and about twenty percent twice in a week. 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 harbouring germs and dirt. Many of the respondents in this study still indulge in the habit of biting their nails with their teeth. This is a risky or undesirable practice. A previous study by Rahman (2001) revealed that most of the students, (91.3%) were found trimming their nail once a week. Secondary School Students should be informed that unkempt nails can be a means whereby germs may be ingested into the body (Vivas et al. 2010).

Facilities for promoting personal hygiene in the schools and homes

The method of refuse disposal in the study schools is "open dumping of refuse", and all were without urinals. These are poor environmental sanitation practices which can compromise the health of the students. The females had more toilets available to them than males. This implies that there is no equity in the distribution of the sanitary facilities by gender. Equitable distribution of toilet facilities has been found to promote school attendance among girls, especially if separate toilets are provided for male and female toilets (WHO 2015). This study shows the water closet toilets in the schools were in a better condition compared with pit toilets. A previous research has revealed that pit latrines attract flies and require constant cleaning (Bateau, 2015). Thirty percent of household in Nigeria have an improved toilet facility that is not shared with other households. (NDHS, 2013)

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). In places including schools where these are lacking, personal hygiene activities including hand-washing, bathing and laundry become adversely affected. All the schools observed had access to one source of water or the other, however those who had bore-holes alongside with the wells, such boreholes were non-functional. The personal hygiene related facility that are lacking in schools can be provided through self-help initiatives and community-school efforts. Non-governmental organizations and the government can be of assistance too. About three quarters of the respondents had access

to tap water and well water in their houses. From the findings of NDHS (2013). sixty one percent of households in Nigeria had access to an improved source of drinking water.

Majority of the respondents in this study reportedly had personal bathing sponge, bathing soap. and body cream available for them always. These will promote good PH practices. However, more than a quarter of the respondents do not have nail cutters. separate combs. separate hair clippers, and disinfectants like Izal® or Dettol® for use always. These have the potentials for promoting poor PH practices. It was also noted that many of the students share materiuls like towels. handkerchiefs. bathing sponge and soap. nail cutters. deodorant with other members of the family.

The personal hygiene practices of the respondents in terms of what they have and what they do not have could be a reflection of the resources at their disposal or family values/family culture. According to Olascha et al (2003) the socio- economic status of parents of school age children directly or indirectly influence the hygienic behaviours of their children. This study for instance shows that the educational status of parents of students has influence on their children's personal hygiene practices with those having well educated mothers having better hygienic practices. From this study, it was observed that some facilities and materials were lacking in schools which can make it difficult for students to practice personal hygiene adequately. Among these were toilets. urinals, dustbins, soaps. tissue paper. and borehole water. Water is a very important resource for personal hygiene. However contaminated water can favour the transmission of diseases such as typhoid, cholera and hepatitis. The use of soap and water for personal hygiene helps in preventing trachoma and scabies. Washing fruit and vegetables with water is a recipe for good health UNICEF (2008).

Implication of findings for Health Education

Health education is a process of deliberate and purposeful use of health information and policy measures aimed at making people take informed health decisions and/or improve their health status (NDHS. 2013). It is to be noted that in order to enjoy oral health, it is essential that the oral cavity, which involves the mouth, teeth, gums, tongue, palate and the oral mucosa be cleaned properly using the proper techniques and materials. An implication of the findings of this study is the need to update the knowledge of the school pupils on PH. Training and peer education can be employed to achieve this. Providing accurate scientific health information provides a factual basis for the children's

health attitude and health behaviour (Ademuwagun, 1984). Educational interventions will help to increase the PH knowledge of students, especially those in the junior classes. Those areas that should be focused on are oral, optical, nasal, ear, hand and feet hygiene. The school curriculum should be developed to meet all the health needs of students thereby promoting their knowledge on PH. When students are properly educated from childhood on good personal hygiene practices from home and schools, it will be easy for them to adopt good PH practices and continue this when they get to school and later on in life. Students having problems with personal hygiene should be identified and the underlying factors when identified should be looked into for necessary intervention such as counselling, financial and material provision.

Most of the previous studies on personal hygiene focused more on hand washing, it is essential that every part of the body especially nose, ear and feet be given adequate attention. This is an area where this study has contributed to knowledge. The hands must be washed after using the toilet, before making or eating food, after handling animals, after treating wounds and after handling any dirty object. Some infections are caught when dirty hands touch the food that is been eaten. Hands and wrist are to be washed with clean soap and water using a brush if the fingernails are dirty (Adeniyi, 1994). From observation, only very few had dirty hands, this does not necessarily imply that hands are free from pathogens.

The secondary school's facilities and materials have to be upgraded due to the fact that many basic facilities were lacking in the schools observed. One way this can be achieved is through the provision of portable water and sanitation facilities through advocacy, NGO and government involvement. In 2004, with funding from the Department for International Development (DFID), UNICEF supported Zamfara State Government to carry out a broad range of interventions with water and sanitation related objectives. Among other interventions they carried out were community mobilization for hygiene promotion, water sanitation and hygiene in schools (The Nigerian Child, 2007).

There should be adequate funding to provide all the PH materials and facilities essential in schools, which would prevent the spread of communicable diseases, particularly among students. There is the necessity to sustain PH practices by students through enforcement of policies. Policy intervention in the schools can help to promote the personal hygiene of students. Such policies must ensure neatness of students, safe environment and provision of needed materials for students in the schools. Health

Committees, Parents and Teachers Associations must take part in forming well and clearly defined objectives which can be planned and carried out with evaluation built into it. Parents should be enlightened on the need to provide personal hygiene materials for their wards.

It should be noted that not 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, sanitary wells and boreholes, incinerators, sanitary urinals, hand sanitizers, hot hand dryers, water closet toilets, disinfectants, deodorants, tissue papers, water bowls, deodorant, hand towels, soaps dustbins, safe playground among others. Sharing of personal items by students among themselves should be discouraged through health education and the use of radio jingles and posters. There should be comprehensive auditory, dental, optical, ear nose, skin, nails and check-up for students yearly to quickly arrest any form of infection/disability they may be having. If these issues are not promptly attended to, it will affect the personal hygiene practice of the students negatively.

Conclusion

The objectives of this study were met, as the level of the knowledge, perception and practices of the secondary students relating to PH were identified. Majority had fair knowledge of personal hygiene with the senior schools topping the list of those with good knowledge of personal hygiene. Several gaps in knowledge, misconceptions and poor hygiene practices exist among them which health education intervention could be used to address (Olascha et al, 2003). The study revealed several perceptions which have potential for promoting poor PH practices among them. The respondents perceived that it is not always possible to wash hands before eating, that chewing sticks can clean the teeth better than tooth brush and tooth paste and that too much sweat on the body can lead to bad odour.

Some poor PH practices were prevalent among the study population. These practices included keeping of long nails, using the tip of the biro or matchstick in cleaning

the ear, cutting of fingernails with the teeth, sharing of bathing sponge with others, the use of any handkerchief or the finger in cleaning the nose and the use of chewing stick in cleaning the mouth. Increasing the PH knowledge of the secondary school students through educational interventions and the provision of water and other necessary sanitation facilities will actually improve student's PH practices.

Recommendations

1. Training should be organized for students in the schools on how to take care of their teeth, hair, feet, nose, eyes and hands.
2. There should be gender equity in the distribution of personal hygiene materials and sanitation facilities within schools.
3. All the facilities needed for personal hygiene by the schools should be provided for them through the help of the government, Non-Government Organizations, Community and Parents and Teachers Associations. This can be achieved through advocacy.
4. Interschool and intra-school competitions relating to personal hygiene should be institutionalized in the secondary schools as a strategy for promoting personal hygiene among them.
5. There should be adequate provision and maintenance of sources of water in all the schools with a view to facilitate the practice of personal hygiene among students.

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APPENDIX I

PERSONAL HYGIENE KNOWLEDGE, PERCEPTION AND PRACTICES AMONG SECONDARY SCHOOL STUDENTS IN IBADAN NORTH WEST LOCAL GOVERNMENT AREA, OYO STATE, IBADAN.

Dear Respondents,

I am Adeola Bosede Balogun, a student of the Department of Health Promotion and Education, University of Ibadan. The purpose of this study is to assess the knowledge, perceptions, and practices of Secondary school students in Ibadan North West Local Government Area, on aspects relating to personal hygiene. The findings of this study will help in the formulation of policies and design of programmes aimed at the promotion of personal hygiene of Nigeria students. Your identity and responses will be kept secret. Please do not write your name or register number on this questionnaire.

Adeola Bosede Balogun

Please do not write in the box below.

(Office use only)

Name of School_____

School Code_____ _____

Date administered_____ _____

Name of Interviewer_____ _____

Signature of Interviewer_____ _____

SECTION A: Socio-Demographic information.

Instruction: In questions 1 - 9 you are requested to tick (√) in a box, one response that applies to you from the alternatives provided. Where necessary you will be asked to write your answers in the blank spaces provided.

1. Sex (1) Male ☐ (2) Female ☐

2. Age at last birthday (in years) _____

3. Class (1) JSS 1 ☐ (4) SS 1 ☐
(2) JSS 2 ☐ (5) SS2 ☐
(3) JSS3 ☐ (6) SS3 ☐

4. Mother's Occupation (1) Civil Servant ☐ (2) Unemployed ☐
(3) Artisan ☐ (4) Trader ☐ (5) Banker ☐
(6) Others, Specify _____

5. Father's occupation (1) Civil Servant ☐ (2) Unemployed ☐ (3) Artisan ☐
(4) Trader ☐ (5) Banker ☐
(6) Others, Specify _____

6. Mother's highest level of education (1) No formal education ☐ (2) Primary ☐
(3) Secondary ☐ (4) NCE ☐ (5) HND ☐
(6) University ☐

7. Father's highest level of education (1) No formal education ☐ (2) Primary ☐
(3) Secondary ☐ (4) NCE ☐ (5) HND ☐
(6) University ☐

8. What is your religion? (1) Christianity ☐ (2) Islam ☐ (3) Traditional ☐

9. Ethnic group (1) Yoruba ☐ (2) Igbo ☐ (3) Hausa ☐ (4) Others
Specify _____

SECTION B: Knowledge relating to personal hygiene

Table 1 contains statements concerning some practices or activities personal hygiene. For each statement please indicate your reshonse by ticking (√) whether it is "True or False."

Table 1

10.	Statements related to personal hygiene	True	False
10.a	Covering one's nostrils while sneezing is not part of personal hygiene.		
10.b	Cleaning of nostrils with one's fingernails is normal.		
10.c	Cleaning the inner part of ear with cotton bud is bad health behaviour.		
10.d	The ears need to be protected from loud noise to prevent them from being damaged.		
10.e	Wearing sun-shade to protect one's eyes from rays of the sun is a way of protecting the eyes		
10.f	There is nothing wrong in walking barefooted		

Table 2 contains statements concerning some practices or activities on personal hygiene. For each statement please indicate your response by ticking (√) whether it is "True or False."

Table 2

11	Statements related to personal hygiene	True	False
11.a	Clothes are to be washed only when it appears dirty.		
11.b	Sharing one's clothes with others can not lead to infections or any disease.		
11.c	Sharing one's towels with family members cannot lead to the spread of ringworm.		
11.d	One's hands should be washed with soap and water after using the toilet.		
11.e	One's hands should be washed before preparing food.		
11.f	One's hands should be washed before eating any type of food.		
11.g	Washing of one's hands should be done only when they are dirty.		
11.h	Hand washing with clean water alone is enough.		
11.i	Bathing regularly can help to make our skin to be smooth.		
11.j	Taking one's bath daily cannot prevent skin diseases		

Table 3 contains statements concerning some practices or activities on personal hygiene. For each statement please indicate your response by ticking (√) whether it is "True or False."

Table 3

12	Statements related to personal hygiene	True	False
12.a	Brushing of the teeth can prevent diseases that can affect the teeth.		
12.b	Brushing one's teeth cannot prevent mouth odour		
12.c	Taking sweet cannot damage one's teeth		
12.d	Use of tooth powder is ideal in cleaning the mouth.		
12.e	Teeth brushing can prevent holes in the teeth.		
12.f	Any type of tooth-brush can be used to clean the teeth.		
12.g	While brushing the teeth, the tongue should also be cleaned.		

How often should one brush his/her teeth in a day? Table 4 contains some responses. Please indicate your response by ticking (√) whether True or False.

Table 4

13	Frequency	True	False
13.a	In the morning alone		
13.b	Afternoon alone		
13.c	Evening alone		
13.d	Morning and evening		
13.e	After taking every meal		

SECTION C: Perceptions relating to personal hygiene

Instruction: Table 5 contains a list of statements relating to personal hygiene. For each tick (√) whether you agree, disagree or Can't say.

Table 5

14	Statement related to personal hygiene	Disagree	Agree	Can't say
14.a	Girls who perm or plait their hair should wash their hair at least once in a week.			
14.b	Washing of hair daily by male students is not necessary.			
14.c	Combing one's hair only makes one look good, but it is not part of personal hygiene.			
14.d	The nostrils do not need any special care to make them clean.			
14.e	The nose needs to be cleaned only when it is having mucus.			
14.f	It is not always possible to wash one's hand before eating.			
14.g	Chewing stick clean the teeth better than toothbrush and toothpaste.			
14.h	Too much sweat on the body can lead to bad odour.			
14.i	There is nothing wrong in keeping long fingernails because they add to one's beauty.			

SECTION D: Personal hygiene practices

Table 6 contains some practices and activities; for each tick (√) to indicate how often you do it. For each tick (√) one.

Table 6

T5	How often do you do the following?	Never	Sometimes	Always
T5.a	Use of personal hair clipper when cutting hair in the barbing salon.			
T5.b	Sharing of towels with other family members.			
T5.c	Sharing of clothes with other family members.			
T5.d	Washing of your towels.			
T5.e	Washing your underwear.			
T5.f	Washing your socks.			
T5.g	Keeping long nails			
T5.h	Use of sharp objects in cleaning the ear.			
T5.i	Use of matchstick in cleaning the ear.			
T5.j	Use of the tip of the biro to clean your ear			
T5.k	Use of fingers in cleaning the nose.			
T5.l	Covering the nose with hands when sneezing.			
T5.m	Covering the nose with handkerchief when sneezing			
T5.n	Use of any handkerchief in cleaning the nose.			
T5.o	Use of chewing stick in cleaning the teeth.			
T5.p	Use of toothbrush in cleaning the mouth.			
T5.q	Bathing with tap water.			
T5.r	Bathing with well water.			
T5.s	Keeping an handkerchief in your pocket.			
T5.t	Wearing of tight shoes			
T5.u	Flushing eyes with water when something gets there mistakenly.			
T5.v	Sharing of sunshade or glasses with family members, friends and others.			
T5.w	Eating fruits without washing them.			

SECTION E: Frequency of Personal hygiene behaviours

For each of the behaviours in Table 7, please indicate whether you do it "Everyday" "Once in a week" or "Twice in a week".

Table 7

To	Behaviour	Everyday	Once in a week	Twice in a week
To.a	Brushing of hair.			
To.b	Washing of underwears.			
To.c	Washing of pants.			
To.d	Biting of fingernails with teeth.			
To.e	Use of body cream /lotion			
T6.f	Washing of face.			
To.g	Scrubbing of feet.			
16.h	Cleaning of shoes.			
To.i	Cleaning of nose.			
To.j	Use of handkerchief.			
To.k	Oiling the hair.			
To.l	Cutting/Plaiting g of hair (Males and Females)			
To.m	Use of body cream or lotion that makes one's skin looks light and beautiful.			
To.n	Ironing of your clothes.			
To.o	Use of dental floss on teeth.(Thread used in cleaning in between teeth)			
T6.p	Cutting of fingernails			
To q	Cleaning of ears with cotton buds			
To.r	Cleaning of ears with hair pins or matchsticks.			
16.s	Exposure of shoes to sunlight.			

SECTION F: Facilities for personal hygiene

Table 8 contains some materials or things. For each tick (√) whether it is available in your house/home for use "always" "sometimes" or "never available".

Table 8

20	Resources	Always available for use in our house.	Sometimes available for use in our house.	Never available for use in our house.
20.a	Toothpaste			
20.b	Toothbrush for each person.			
20.c	Chewing stick for each person.			
20.d	Well water			
20.e	Stream water			
20.f	Tap water			
20.g	Bore hole			
20.h	Pure water			
20.i	Bathing sponge for each person.			
20.j	Bathing soap for each person.			
20.k	Nail cutters/blade for each person.			
20.l	Body cream.			
20.m	Handkerchiefs for each person.			
20.n	Deodorant in the toilet.			
20.o	Separate comb for every member of the family.			
20.p	Separate hair clippers.			
20.q	Dustbin.			
20.r	Soap in the toilets.			
20.s	Towels/napkins for cleaning hands after eating food.			
20.t	Disinfectants like Izal and dettol.			

How often do you share these supplies with others?

For each statement in Table 9 tick (√) "always" "sometimes" or "never" to indicate how often you share the item with others.

Table 9

21	Supplies	Always	Sometimes	Never
21.a	Bathing sponge			
21.b.	Bathing soap			
21.c	Nail cutter/Blade			
21.d	Handkerchief			
21.e	Deodorant			
21.f	Comb			
21.g	Hair clipper			
21.h	Soap in the toilet			

THANK YOU FOR YOUR COOPERATION. MAY GOD BLESS YOU.

APPENDIX 2

PERSONAL HYGIENE KNOWLEDGE, PERCEPTION AND PRACTICES OF SECONDARY SCHOOL STUDENTS IN IBADAN NORTH WEST LOCAL GOVERNMENT

OBSERVATION CHECKLIST I

Personal hygiene of students is an important aspect of their health and can determine their well-being. This study seeks to identify through observation "Sources of water supply, student's appearance, condition of the toilet and the available school facilities" within the school premises that can promote or prevent the personal hygiene of students.

Balogun Adeola Bosede

For office use

School Code_____

No of classes_____

No of girls_____ No of boys_____ Total No of pupils_____

SECTION A: Sources of water in the school

I.	Sources of water	Tick as applicable for each available source				
		Present		Absent	Number if available	Comment
		Functional	Not functional			
(a)	Tap water					
(b)	Well water					
(c)	Borehole water					
(d)	Stream water					
(e)	Pure water sold in or around school.					
(f)	Bottled water sold in around school.					
(g)	Water bottle from home					

SECTION B: Toileting Facilities

Questions under this Section contain information on toilet facilities in schools. Please tick (√) appropriately and make comments where necessary.

2. Type of toilet facilities in the school. (Tick (√) and also state the total number by type.

Pit Latrine _____ #_____

Aqua privy _____ #_____

VIP Latrine _____ #_____

Water System _____ #_____

Nearby Bush _____ #_____

Condition of toilet for GIRLS

3. Types of toilet	Condition of each toilet (T =Toilet).							
	T1	T2	T3	T4	T5	T6	T7	T8
	Clean -1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2
(a)Pit								
(b)VIP								
(c)Aqua privy								
(d)Water System								

Key- T1- Tn = Indicate number of toilets

Clean = Well swept. Not smelling and without refuse, sewage or dirt covered.

Dirty = Smelling, littered, and with refuse or sewage, not covered.

Personal hygiene promoting resources in each toilet by type.

4 Types of toilet	Available personal hygiene kit/materials. (Tick(√) materials available in each toilet, if not available=x)																								
	T1			T2			T3			T4			T5			T6			T7			T8		
	s	w	Tt	S	w	tt	S	W	tt	s	W	Tt	S	w	tt	S	W	Tt	s	w	tt	S	w	tt
(a)Pit																								
(b)VIP																								
(c)Aqua Privy																								
(d)Water System																								

Key –

s= soap available

w= water available

tt =toilet tissue available

Condition of toilet for BOYS

5. Types of toilet	Condition of each toilet (T = Toilet)							
	T1	T2	T3	T4	T5	T6	T7	T8
	Clean-1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2	Clean-1 Dirty-2
(a)Pit								
(b)VIP								
(c)Aqua privy								
(d)Water System								

Key –

T1- Tn = Indicate number of toilets

Clean = Well swept. Not smelling and without refuse, sewage or dirt, covered.

Dirty = Smelling, linened, and with refuse or sewage, not covered.

6	Available personal hygiene kit/materials (Tick(√) materials available in each toilet, if not available(-x)																										
	T1			T2			T3			T4			T5			T6		T7						T8		
	S	W	Tt	S	W	tt	S	W	tt	S	W	Tt	S	W	tt	S	W	Tt	S	W	tt			S	W	Tt
(a)Pit																										
(b)VIP																										
(c)Aqua Privy																										
(d)Water System																										

Key –

S= soap available

W= water available

tt =toilet tissue available

Condition of urinals for GIRLS

7	Perceived condition of each urinal (Tick (√) as observed	
Urinals	Clean	Ditty
1		
2		
3		
4		
5		
6		
7		
8		

Condition of urinals for BOY'S

8	Perceived condition of each urinal 'Tick (√) as observed	
Urinals	Clean	Dirty
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

SECTION C1: Other personal hygiene related kits/materials. Tick (√) as appropriate.

	Tick(√) if available					
Classroom	Bowls for water	Soap	Detergent	Liquid soap	Dustbin	Towel/Napkin
JSS1A						
B						
C						
D						
E						
JSS2A						
B						
C						
D						
E						
JSS3A						
D						
C						
D						
E						

Classroom Condition (JSS)

10	Tick(√) as appropriate			
Classroom	Floor			Ceiling
	Floor cemented	Floor cracked	Floor dirty	Asbestos ceiling
JSS1A				
B				
C				
D				
E				
JSS2A				
B				
C				
D				
E				
JSS3A				
B				
C				
D				
E				

SENIOR SECONDARY SCHOOL

Other personal hygiene related materials by class. Tick (√) as appropriate.

	Tick(√) if available					
11. Classroom	Bowls For water	Bar soap	Detergent	Dustbin	Liquid soap	Towel
SS1A						
B						
C						
D						
E						
SS2A						
B						
C						
D						
E						
SS3A						
B						
C						
D						
E						

Classroom Condition (SSS)

12 Classroom	Floor			Ceiling
	Floor cemented	Floor cracked	Floor dirty	Asbestos ceiling
SS1A				
B				
C				
D				
E				
SS2A				
B				
C				
D				
E				
SS3A				
B				
C				
D				
E				

APPENDIX 3

OBSERVATION CHECK LIST 2

SECTION A: STUDENT'S APPEARANCE: 20 Students to be observed in each school (Distribution according to their arms)

Tick as (√) appropriate

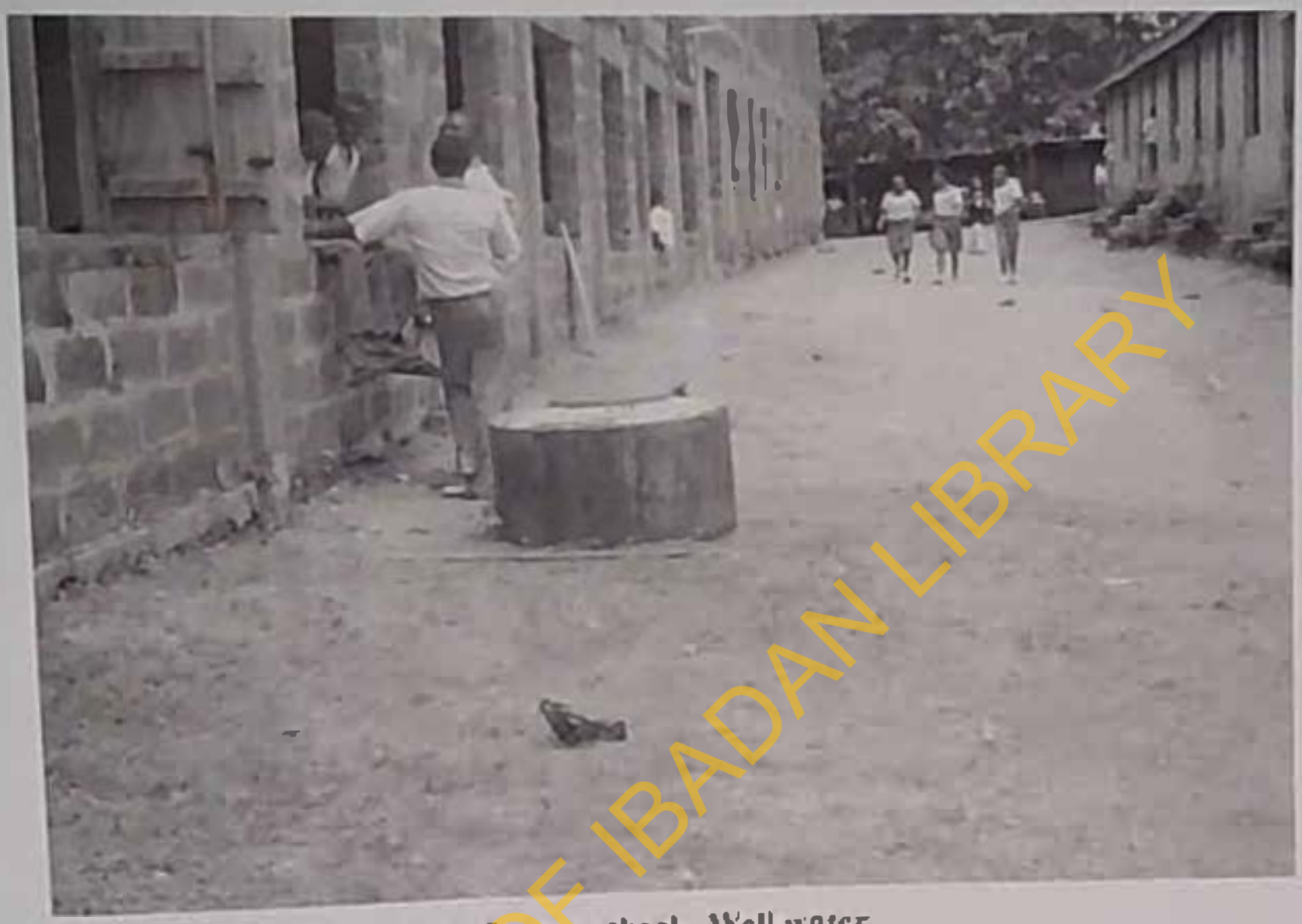
			Uniform			Hair			Footwear					Nails		Teeth	
Student	Class	Sex	Dirty	Rumpled or squeezed clothes	Very neat	Neatly cut	Neatly combed	Neatly plaited	Shoes	Sandals	Slippers	Stockings	No foot wear	Long	Short	Clean	Dirty
1.																	
2.																	
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9																	
10																	

11.																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	
19																	
20																	

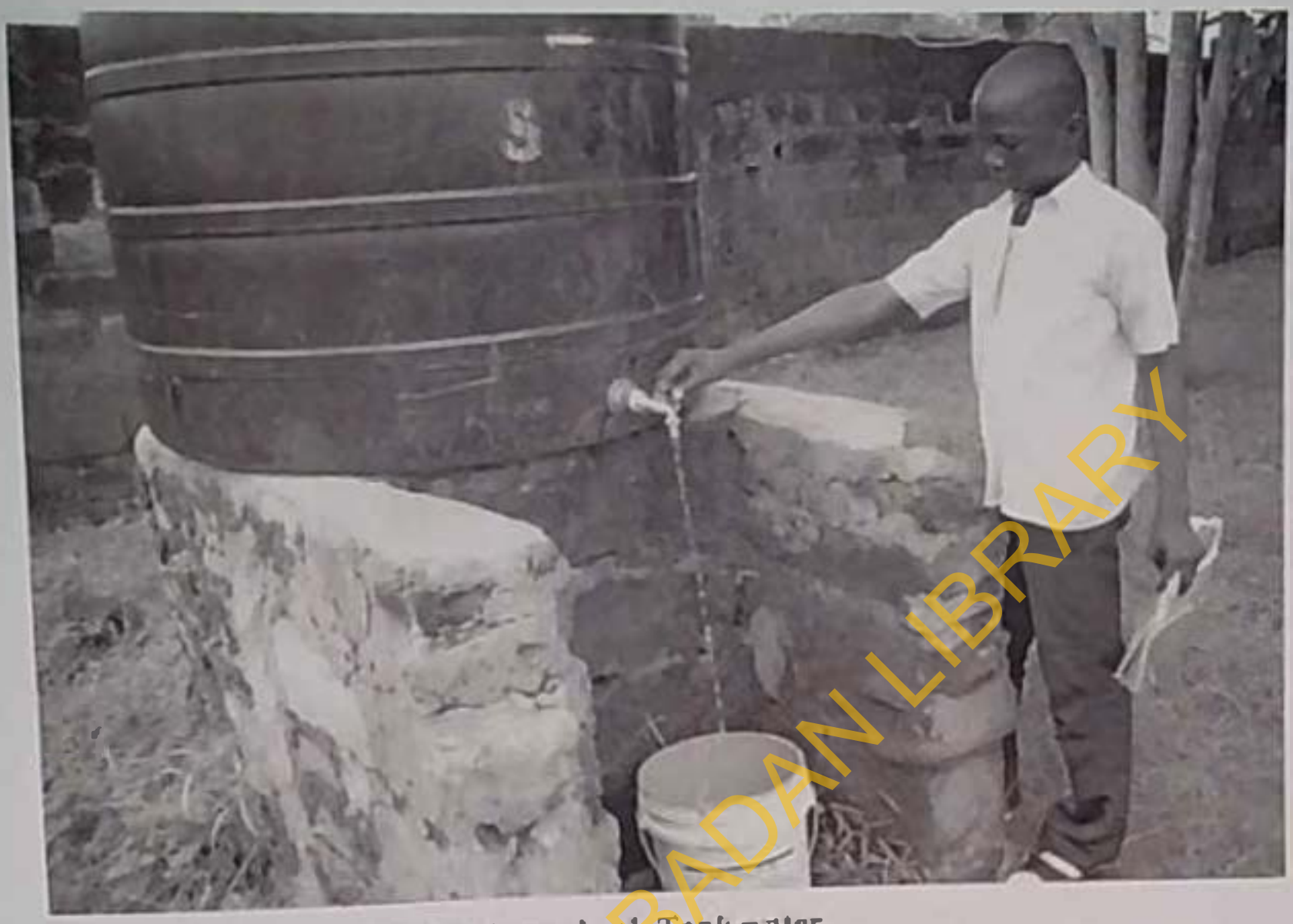
KEY- for footwear:

Good=1 Torn=2 Torn and old=3 Dirty =4

APPENDIX 4



Picture 5.1: Source of water from a school - Well water.



Picture 5.2: Source of water in a school. Tank water

Figure 5.3 : Open dumping of refuse in one of the schools observed

Figure 5.4: Water closet toilet used for toileting in one of the schools

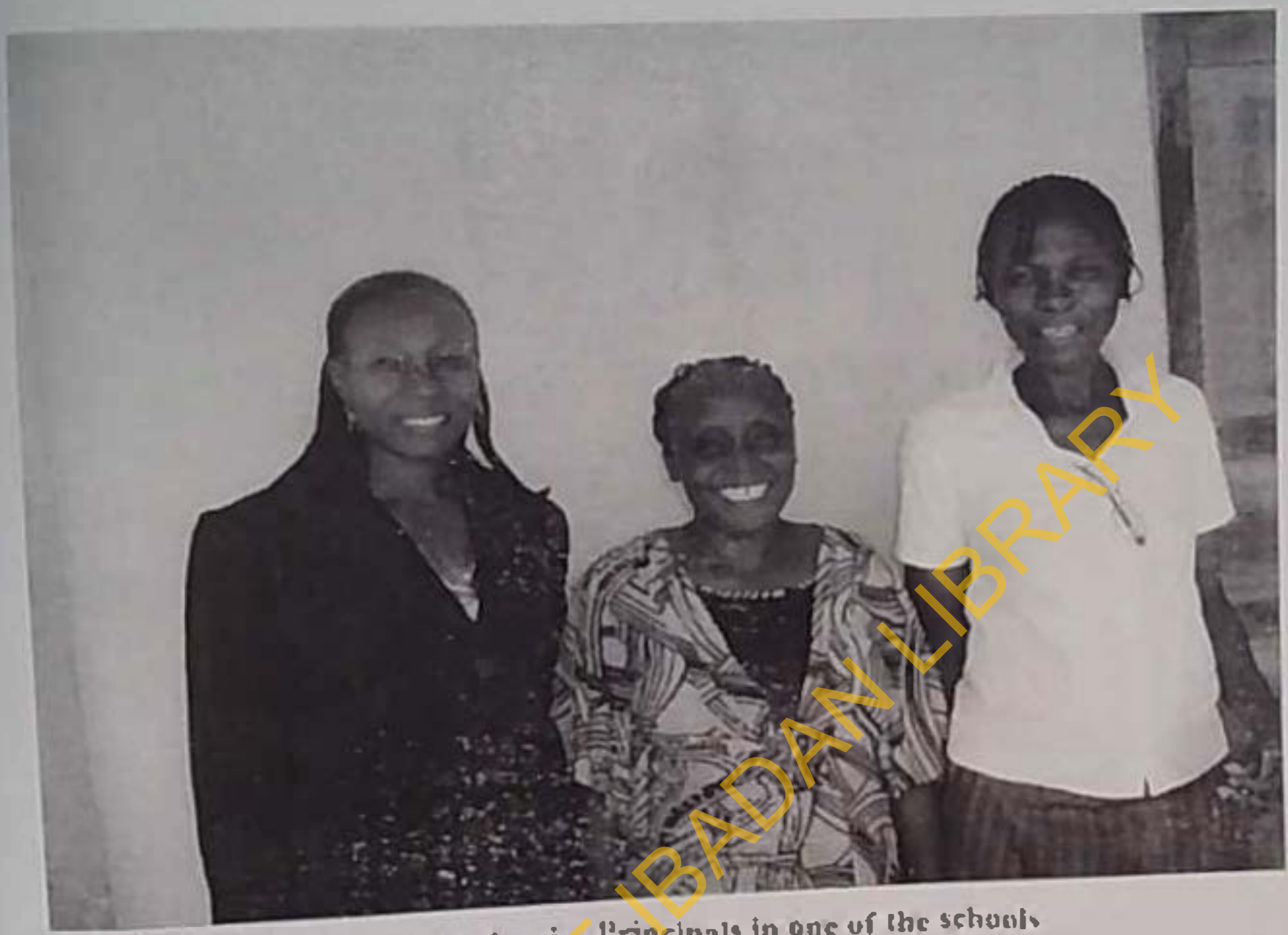


Figure 5.5: Researcher with the vice Principals in one of the schools

APPENDIX 5

ETHICAL APPROVAL

TELEGRAMS.....

TELEPHONE.....

MINISTRY OF HEALTH

DEPARTMENT OF PLANNING, RESEARCH & STATISTICS DIVISION

PRIVATE MAIL BAG NO 4037, OYO STATE OF NIGERIA

Our Ref. No. AD 13/479/Vol.5

31st May, 2013

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

Attention: Rebecca Adejuyigbe

Ethical Approval for the Implementation of your Research Proposal in Oyo State

This acknowledges the receipt of the corrected version of your Research Proposal titled "Knowledge, Prevention and practices of Personal Hygiene Among Secondary School Students in Ibadan North West Local Government Area, Ibadan"

The committee has noted your compliance with all the ethical concerns raised in the initial review of the proposal. In the light of this, I am pleased to convey to you the approval of committee for the implementation of the Research Proposal in Oyo State, Nigeria.

Please note that 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 the findings as this will help in policy making in the health sector.

We wish you all the best

Director, Research & Statistics
For: Oyo State Research Ethical Review Committee