

# School-based hand washing practice and students' health in secondary schools in Obudu Local Government Area of Cross River State, Nigeria.

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**Abstract:** This study sought to investigate school-based hand washing practice and students' health in secondary schools in Obudu Local Government Area of Cross River State, Nigeria. This study was carried out among 200 students who were selected through simple random sampling. A survey design was adopted for the study. Data was collected using a structured questionnaire with 15 items. Upon data analysis which was tested using Chi-square at 0.05 significance level, the calculated Chi-square ( $X^2$ ) value for hypothesis set was 12.09. The critical value for the hypothesis formulated to guide the study upon which conclusion was made is 7.815 at a df of 3. Since the calculated Chi-square values of the tested hypotheses were higher than the critical value, the null hypothesis was rejected ( $P < .05$ ). This implies that there is a statistically significant relationship between school-based hand washing practice and students' health in secondary schools in Obudu Local Government Area. From the findings of this study, it is therefore recommended that effective hand washing be practiced in schools, provision of hand washing aids, adequate water supply and sustainable health education in schools if school-based hand washing practice must be effective.

**Key Words:** Hand washing, students, health, school-based, sanitary practices, personal hygiene.

## 1. INTRODUCTION:

The increased burden of communicable diseases among students due to poor personal hygiene practices remains a concern on the public health agenda in developing countries. School-based hand washing practice is a condition that ensures good health of the students and teachers. School-based hand washing practices refer to the health care delivery system that is operational within a school or college (Ghanim, Dash, Abdullah, Issa, Albarazi & Al Saheli, 2016). These practice aim at promoting and maintaining the health of students so as to give them a good standing in life. In addition, this practice seeks to enable students benefit optimally from their school learning experience. The purpose of the school-based hand washing practice which is a sub set of school health services is to help students at school to achieve the maximum health possible for them to obtain full benefit from their education. School health services in the form of hand washing practice deal with health appraisals, health education, control of communicable diseases, record keeping and supervision of the health of students and personnel (Kuponiyi, Amoran & Kuponiyi, 2016).

Students are particularly vulnerable to neglect of basic personal hygiene like regular hand washing due to lack of knowledge and practice (Vivas, Gelaye, Aboset, Kumie, Berhane & Williams, 2010). Poor knowledge, practice of and attitudes (health education) to personal hygiene such as hand washing play major roles in the high incidence of communicable diseases and therefore has negative consequences for a student's long term overall development (Sarkar, 2013). Improved awareness (health education) and hand hygiene practices especially among children have effectively reduced gastrointestinal and respiratory tract infections by up to 50% the two leading causes of students' morbidity and mortality around the world (Rabie & Curtis, 2016).

In addition, studies have also shown that school children with better knowledge and practices of personal hygiene have fewer sick days and absenteeism in school and achieve higher grades (Vivas et al., 2010). School is the place where health education regarding important aspects of hygiene, environment and sanitation, as well as social customs is being imparted (Dongre, Deshmukh, Boratne, Thaware & Garg, 2017). Health is a key factor in school entry, as well as continued participation and attainment in school. The teacher is the guardian of the student in school and plays a pivotal role in the whole process of primordial prevention (Deb, Dutta, Dasgupta & Misra, 2010). Bearing in mind that students have been consistently implicated in the spread of communicable diseases and that the school has been recognized as a vital setting for health promotion (Varu, 2008) there is need to target the study area.

A well organized and properly executed school health programme like school-based hand washing practice can be used to create safe environment for schools. This is to prevent infectious diseases. Prevention of infectious diseases has become one of the daunting challenges facing developing countries all over the world in varying degrees. One area of special concern is the control of diseases in a school population where students live in very close proximity with each other. One of the most important vehicles of transmission of diseases in such environment is the hand, spelling the need for appropriate hand hygiene (Galiani, Gertler & Orsola-Vidal, 2012).

School-based hand washing practice entails generality of school health in the school setting. This is always geared towards health promotion, prevention of diseases and prolonging life. However, it is usually expressed in the form of school-based hand washing and school-based sanitary aids that focuses on: health education, environmental sanitation, personal hygiene, adequate water supply-potable for drinking and use for frequent hand washing, provision of waste collection receptacles, and provision of toilet facilities. Hand washing is the process of scrubbing and cleaning the hands with soap or ashes with adequate water to rinse it. This is done to remove or reduce germs load in the hands so as to make it clean for use in order to prevent hand-to-mouth infection. On the other hand, sanitary aids are all the things that are used to ensure that school-based sanitary practice is achieved and sustained.

## 2. OBJECTIVE OF THE STUDY:

The purpose of this study is to examine school-based hand washing practices and students' health in secondary schools in Obudu Local Government Area of Cross River State, Nigeria.

### 2.1 Statement of the problem:

Cleanliness is next to godliness is not just a saying but now it goes beyond this to imply thus: cleanliness is next to better health. Despite this saying, students are still not conscious of their personal hygiene, their environment, and health. It is evidence that countable number of infectious diseases evolve as a result of poor environmental management, poor personal hygiene and poor school-based hand washing practices. The researchers observed that good number of secondary schools in Obudu Local Government Area has poor school-based hand washing practice habit and absence of hand washing facilities. Since some schools do not have hand washing facilities, poor hand washing habit became inevitable. The blame can also be put on the fact that there is no water source provision for students and as such they could not practice school-based self hygiene. It is based on these foreseen problems the researchers were interested to investigate school-based hand washing practices and students' health in secondary schools in Obudu Local Government Area of Cross River State, Nigeria.

**3. LITERATURE REVIEW:** Hand hygiene has been identified as the simplest and the most cost effective method of preventing most common infections that cause mortality and morbidity in human population. Hand hygiene is a general term that applies to hand washing, antiseptic hand washing, alcohol based hand rub or surgical hygiene/antiseptic (Uneke, Ndukwe, Oyibo, Nwakpu, Nnabu & Prasopa-Plaizier, 2014). Hand washing which is the easiest and commonest among these school-based sanitary practices or hand hygiene practices refers to washing hands with plain soap and running water and remains the most sensible and affordable strategy for hand hygiene among the general population.

Agberemi, Ofenu and Saidu (2009) posited that hands readily become contaminated from so many activities like, using the toilet, after changing a baby's diaper (nappy), handling raw food, playing, shaking hands, cleaning, after handling pets and domestic animals, after wiping or blowing the nose or sneezing into the hands and after caring for an infected person. In such critical moments, hand hygiene especially hand washing with soap and running water has been scientifically proven and recommended as a cost effective and high impact intervention in reducing morbidity and mortality due to infectious diseases.

International agencies and governments, because of the obvious benefits of hand washing in infectious disease reduction, have been mounting interventions to improve the adoption of hand washing as a standard practice among community members, schools and workers. In Nigeria, hand washing was introduced as one of the strategies for hygiene promotion in the Federal Government of Nigeria (FGN)/UNICEF Water, Sanitation and Hygiene (WASH) Programme in 2004. It was also re-launched on 20th May 2008 as one of the programmes designed to mark the International Year of Sanitation declared by the United Nations General Assembly (Agberemi, Ofenu, & Saidu 2009; UNICEF, 2009). This programmes were designed focusing more on mothers, workers, students, children and adolescents.

In an earlier study by Adams, Bartram, Chartier and Sims (2009), they asserted that targeting school children and young persons in the hand washing campaign was to play a significant role in efforts to achieve the Millennium Development Goals (MDGs) now Sustainable Development Goals (SDGs) connected to health improvements, education and the diminution of poverty and child mortality. This will obviously lead to early internalization of hand washing principles and practice from the primary and secondary levels of education and ensure adherence to these practices all through life. Normally in a school setting, these school-based practices are internalized through the availability of sanitation facilities and hygiene or health education programmes which Aremu (2012) observed to be grossly inadequate in Nigerian Secondary Schools.

Similarly, Olukanni (2013) in a study in South-Western Nigeria confirmed that the hygiene practices of secondary school students were grossly inadequate. The Nigeria Demographic and Health Survey (NDHS) revealed that diarrhoea and cholera outbreaks which are diseases of poor hygiene are common occurrences in Nigerian schools. Diseases in a school population is a major limiting factor in the educational progress of any student, as it leads to

absenteeism, poor classroom performance and early school dropout, and all these militate against the achievement of quality universal basic education (Azuogu, Ilo, Nwimo, Azuogu & Onwunaka, 2016).

Furthermore, even though hand washing is a common practice in the Nigerian society, the frequency and method of the practice might not have met internationally recommended standards. However, many researchers have observed low compliance to standards of hand washing world over even with availability of soap and water; worst still even among medical professionals (Uneke, Ndukwe, Oyibo, Nwakpu, Nnabu & Prasopa-Plaizier, 2014; Azuogu, Ilo, Nwimo, Azuogu & Onwunaka, 2016). It is no doubt that most hand washing compliance studies has focused and documented this practice in hospital environments, while very few studies had focused on schools. In Nigeria the need for such studies in secondary schools is necessitated by the observation of NDHS outbreak of diseases and absence of enabling environment and facilities for the practice of hand washing especially in secondary schools.

Azuogu, Ilo, Nwimo, Azuogu and Onwunaka (2016) conducted a study on extent of hand washing practice among secondary school students in Ebonyi State, Nigeria. A cross-sectional survey was carried out among a sample of 420 students drawn randomly from government owned secondary schools of Ebonyi State. The instrument used for data collection was an 18-item self-structured questionnaire. Data generated were analyzed through means and standard deviation. Hypothesis was tested at alpha level of 0.05 using t-test statistics. The result of the analysis showed that there is a statistically significant relationship between school-based hand washing practice and students' health.

Their study also showed that extent of hand washing practice among secondary school students in Ebonyi State Nigeria was low with a cumulative mean score of 1.31. Their finding is not surprising considering that other studies had identified earlier that Nigerian Secondary School were lacking in facilities and quality hygiene education that will help inculcate this good habit in students (Aremu, 2012; Olukanni, 2013). This observed low extent of practice of hand washing might have accounted for the observed high incidence of diarrhoeal and respiratory diseases among this population as reported by Nigeria Demographic Health Survey. This finding has serious implication on the health of these students and their quality of education, since ill health has been found to be inimical to the educational progress of students.

More so, Azuogu, Ilo, Nwimo, Azuogu and Onwunaka (2016) confirmed that hand washing before and after eating were the least practiced by students in their study with mean scores of 1.10 and 1.09 respectively and it is disturbing because of the extent of contamination which the hand is exposed to at every turn in the school environment. Such heavily contaminated hand will act as vehicles for the transfer of pathogens into the body. It is even more worrisome because the practice seems to be common to all the students as indicated by their findings. However, for effective achievement of these objectives for school-based hand washing and students' health, there is that necessity that, schools are expected to have adequate water supply for her school population (students and staff). This is because; absence of water can hamper the effective practice of hand washing even in the presence of soap or any other disinfectant or sanitizer.

#### **4. METHOD:**

The research design adopted for this study was a descriptive survey design which is a systematic process or a purposeful observation of behaviour and practice under study. The study area was Obudu in Cross River State of Nigeria. Obudu community comprises of six (6) villages, namely: Anape, Okpazawge, Kegel, Keji-Ukwu, Okwamu and Apeh-Ajili. Obudu is located at an altitude of 1,575 meters above sea level, and a unique temperature climate and vegetation with temperature ranging between 70°C and 150°C all year round. It is bounded to the North by Benue State, to the South by Ogoja local government area and the East by the Republic of Cameroon. It lies within Latitude 64°N and longitude 91°E with population of 19,668 people. The main occupation of the inhabitants of the communities is subsistence farming, some are civil servants and part-time worker, businessmen, while some engage in tourism activities in their area. There are a total of twenty eight (28) public secondary schools and fourteen (14) private secondary schools in Obudu making it a total of forty two (42) secondary schools in Obudu. The study area also has a Federal College of Education. Their indigenous language is Beshibe and their general language is English.

The population of the study consists of all the forty two (42) secondary schools in Obudu (28 government owned and 14 private owned). It constituted students (both males and females) who were within the ages of 10 years to 25 years as at the time of the study. Data were elicited from them in their schools by the researchers. Participants and schools for the study were randomly sampled. This sampling technique was considered appropriate because it helps the researcher to incorporate schools and respondents by chance upon which data were elicited. This implies that hat and draw was used where all the names of the schools were written on pieces of paper, then put in a basket, after being shuffled, 4 schools each were picked without replacement from both government owned list and private owned secondary schools. A total of eight (8) schools were sampled (4 government owned and 4 private owned secondary schools). The sample of the study was 400 respondents drawn from 8 secondary schools. This implies that 200 respondents were sampled from 4 government owned schools and 200 respondents were sampled from private owned secondary schools. This further implies that 50 respondents (students) were sampled from each school. Questionnaire

was the main instrument for data collection titled “School-based Hand Washing Practices and Students’ Health Questionnaire” (SHWPSHQ). The questionnaire was divided into two sections: A and B. Section A was for Demographic data of respondents while section B was a ten (10) item type scale designed in line with the variable under study for the respondents to elicit responses based on Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). Chi-square was used to test the hypothesis.

**5. RESULTS AND DISCUSSIONS OF FINDINGS:**

There is no statistically significant relationship between school-based hand washing practice and students’ health in secondary schools in Obudu Local Government Area. The result of the analysis in Table-1 reveals that the calculated Chi-square ( $X^2$ ) value is 12.09 and the critical value of Chi-square at 95% confidence interval ( $X^2_{95}$ ) is 7.815 at degree of freedom (df) of 3. Since the test statistic ( $X^2$ ) is greater than the critical value ( $X^2_{95}$ ), the researcher rejected the Null Hypothesis ( $H_0$ ) in favour of the Alternative Hypothesis ( $H_a$ ). This implies that, there is a statistically significant relationship between school-based hand washing practice and students’ health in secondary schools in Obudu Local Government Area.

**TABLE 1**  
 Chi-square analysis of school-based hand washing practice on students’ health

Variables	$f_o$	$f_e$	$f_o$	$f_e$	Cal. $X^2$ -value
School-based hand washing practice	128	100	133	100	12.09*
Students’ health	72	100	67	100	
Totals	200	200	200	200	

\*significant at 0.05; df=3; Critical  $X^2 = 7.82$

The finding on the tested hypothesis revealed that there is a statistically significant relationship between school-based hand washing practice and students’ health in secondary schools in Obudu Local Government Area. This is because a good number of communicable diseases are transmitted by hand. When a school child is healthy, he or she can study and learn effectively without been down as a result of ill-health. This finding is supported by Uneke et al (2014) who asserted that hand hygiene has been identified as the simplest and the most cost effective method of preventing most common infections that cause mortality and morbidity in human population especially among school populations.

Agberemi, Ofenu and Saidu (2009) also supported this findings in that, they emphasized effective hand washing by stressing that the hands are readily contaminated from so many activities like, using the toilet, after changing a baby’s diaper (nappy), handling raw food, playing, shaking hands, cleaning, after handling pets and domestic animals, after wiping or blowing the nose or sneezing into the hands and after caring for an infected person. They added that in such critical moments, hand hygiene especially hand washing with soap and with running water has been scientifically proven and recommended as a cost effective and high impact intervention in reducing morbidity and mortality due to infectious diseases. This has proven beyond reasonable doubt that school-based hand washing practice can guarantee good health for students for better studying and learning.

Similarly, the findings of Azuogu et al (2016) supported this findings in that they asserted that diseases in a school population is a major limiting factor in the educational progress of any student, as it leads to absenteeism, poor classroom performance and early school dropout, and all these militate against the achievement of quality universal basic education. Adams et al (2009) also supported this study findings by asserting that targeting school children and young persons in hand washing campaign plays a significant role in efforts to achieve the Millennium Development Goals (MDGs) which is now Sustainable Development Goals (SDGs) connected to health improvements, education and the diminution of poverty and child mortality. This according to them, obviously led to early internalization of hand washing principles and practice from the primary and secondary levels of education and ensure adherence to these practices all through life. In the same vein, Olukanni (2013) found a significant relationship difference between school-based hand washing practice and students’ health.

**6. SUMMARY, CONCLUSION AND RECOMMENDATIONS:**

School-based hand washing practices is one of the basic factors that influence students’ health in secondary schools in Obudu Local Government Area of Cross River State, Nigeria. Conclusively, it can be inferred that the importance or relevance students perceive in effective hand washing will trigger the judicious practice. The absence of some of the hand washing aids like adequate and consistent provision of water may hinder the practice of hand washing. School administrators and government are expected to provide adequate water, sustainable health information and provision of sanitary aids for both students and teacher usage. Students should practice effective hand washing before eating food and wash hands after use of toilet or cleaning the nose.

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