

## ASSESSMENT OF HYGIENE PRACTICES ON THE HEALTH OF SECONDARY SCHOOL STUDENTS IN BIASE LOCAL GOVERNMENT AREA OF CROSS RIVER STATE, NIGERIA

**DR. ELIJAH EGHONG IVI**

Department of Environmental Health, College of Health Technology,  
P.M.B. 1324 Calabar, Cross River State, Nigeria  
Email: [Elijaheghong@Yahoo.Com](mailto:Elijaheghong@Yahoo.Com)

**ASSEM, OKORIE EVONG**

Department of Community Health, College of Health Technology,  
P.M.B. 1324 Calabar, Cross River State, Nigeria

### Abstract

This study examined hygiene practices and the health of secondary school students in Biase Local Government Area of Cross River State, Nigeria. In order to achieve the objective of the study, two research questions were raised to guide the study. Relevant literatures in line with the two sub-variables used in the study were reviewed. The design used for the study was survey design, while the area of study was Biase Local Government Area of Cross River State. Population of the study was secondary school students (males and females) in the study area. The sampling technique adopted to select both the secondary schools and the students was stratified and simple random sampling techniques. Sample size was 170 students chosen from the three secondary schools that were selected for the study. Instrument used for data collection was the questionnaire. 170 copies of the questionnaires were printed and administered to the 170 students who were the sample size for the study. The questionnaire was validated by the project supervisor and experts in test and measurement department. Reliability of the instrument was ascertained using test-retest reliability method. Data obtained from the 170 copies of the returned questionnaires administered was presented in tables and analyzed using simple percentage. Findings arrived at were as follows: inadequate personal hygiene practices can cause skin diseases and diarrhea and poor food hygiene practices can cause death and also exposes students to infectious diseases. It was recommended among others that parents should be educated on the effects of poor personal, food and environmental hygiene practices on their children during parent/teacher association meetings. Also, the students should carry out regular environmental sanitation in their school premises to prevent contacting infections and to promote the aesthetic beauty of their schools.

**Key Words:** Food, hygiene, practices, health, students.

### Introduction

Hygiene is a concept related to cleanliness, health and medicine as well as to personal and professional care practices related to most aspect of living (Encyclopaedia, 2016). Hygiene is defined as a conditions and practices that help to maintain health and prevent the spread

of diseases (World Health Organization, 2016). Medical hygiene therefore includes a specific set of practices associated with this preservation of life and health; for example, environmental hygiene, hand hygiene and food hygiene. Many secondary school students in Nigeria still live without access to sanitary facilities and are unable to practice such basic hygiene such as washing their hands with soap and water after going to toilet. Diseases related to poor hygiene practices cause many students to die of sickness like cholera, diarrhoea, malaria and typhoid which damage the body tissues. Students and Children are most vulnerable to health hazards and consequently are affected most as a result of their daily routine activities. In the year 2000, 2.2 million people died because of poor hygiene of which the vast majority of them were students in secondary schools (Uniproject, 2016).

Hygiene practices carried out by parents, workers, and students play an important role in maintaining healthy standards and on the other hand, poor hygiene practices are very detrimental to health of any individual. The existence of poor hygiene practices amongst secondary school students could be as a result of illiterate parents who are probably ignorant of the effect of poor hygiene practices on their children and the teachers who find it difficult to teach and supervised students on basic sanitation in schools. Good hygiene practices among secondary school students are vital in preventing cross contamination between students and teachers and also preventing getting in contact with viruses that causes cold, gastrointestinal infections, food poisoning and hepatitis which can passed onto each other via all bodily fluids.

About 2.4 billion people globally live under highly unsanitary conditions and have poor hygiene behaviours that their exposure to risks of incidence and spread of infectious diseases are enormous (WHO, 2016). Water store at home may be frequently contaminated by inadequate water management. Most food poisoning occurred as a result of contamination either during purchasing, storage, cooking or even handling. Students who consumed such foods that are contaminated, uncooked and under cooked are at risks of food poisoning. Poor personal hygiene practice is another factor that affects health. Students who practice poor personal habit like, digging nose or ear, putting fingers in their mouths, rubbing of eyes, sharing of personal items, example, toothbrush, towel and hair comb are vulnerable to infections. Secondary school students should be taught and monitored routinely on good hygiene practice during school hours while parents should be educated on the importance of good hygiene practice on the health of their children while at home. It is on this premise that the researcher deems it necessary to assess hygiene practices on the health of secondary school students in Biase Local Government Area of Cross River State, Nigeria.

### **Objectives of the Study**

The main objective of the study was to examine hygiene practices on the health of secondary school students in Biase Local Government Area of Cross River State, Nigeria. Specifically, the study seeks to:

1. find out if personal hygiene affects the health of secondary school students in the study area.

2. determine how food hygiene affects the health of secondary school students in the study area.

### **Research Questions**

The following research questions were posed to guide the study:

1. To what extent does personal hygiene affect the health of secondary school students in the study area?
2. To what extent does food hygiene affect the health of secondary school students in the study area?

### **Methodology**

The research design used for this study was survey design. This design was chosen because it gives opportunity to thoroughly investigate and describe the present situation as it was and also relate to hygiene practices and the health of secondary school students in the study area. The research area was Biase Local Government Area of Cross River State, Nigeria. The population of this study is secondary school students, which include both males and females selected from three secondary schools in the area with an approximate population of 850 (update from Ministry of Education, Calabar, Cross River State; 2016/2017 academic year). Since the population of the study (secondary school students) is 850, 20% sample will be used making a total of 170 students as sample size for the study. The sample size was drawn as follows: 42 students from Community Secondary School, Akpet Central, 60 students from Community Secondary School, Abawan and 68 students from Community secondary school, Adim.

This study made use of questionnaire. The questionnaire was constructed by the researcher and has three sections as follows: Section A dealt with the informed consent, Section B contained the demographic information of the respondents while Section C contained the questionnaire items. The instrument was validated by the research supervisor and experts in Measurement and Evaluation Department before it was used for the study. The researcher administered 170 copies of the questionnaire to the 170 secondary school students who were the sample size for the study. The researcher administered the questionnaire to the respondents after their break periods because it was the most suitable time to have them all in the class. Data obtained from the 170 copies of the questionnaire were presented in tables and analyzed using simple percentage.

### **Result**

This study shows data obtained from 170 copies of questionnaire administered to 170 secondary school students who were the sample size for the study. Results were presented in frequency table and analyzed using simple percentage.

### **Research Question One**

To what extent does personal hygiene affect the health of secondary school students in the study area?

**Table 1:** Responses on personal hygiene and the health of secondary school students by their ages

Questionnaire Items	Yes			No		
	8-12 yrs	13-17 yrs	Total	8-12 yrs	13-17 yrs	Total
Item 1	70 (41%)	85 (50%)	155	6 (4%)	9 (5%)	15
Item 2	65 (38%)	90 (55%)	155	8 (5%)	7 (4%)	15
Item 3	30 (18%)	25 (15%)	55	60 (35%)	55(32%)	115
Item 4	76 (45%)	85 (50%)	161	2 (1%)	6 (4%)	9
Total			526			154
			$\sum x = 526$ n - 4			$\sum x = 154$ n - 4
			MS-131			MS-38

Table 1 above addresses research question one and the corresponding questionnaire unit 1. The research question states, to what extent does personal hygiene affect the health of secondary school students by their ages? The corresponding questionnaire unit 1 has a total of 4 items. For item 1 which said students that do not bath to school has body odour, out of 170 secondary school students, 155 answered YES while 15 answered NO. For item 2 which said, students who share their towels with others will have ringworms, out of 170 secondary school students, 155 answered YES while 15 answered NO. For item 3 which said, do you have dandruff on your body? Out of 170 secondary school students, 55 answered YES while 115 answered NO. For item 4 which said do you think good personal hygiene will reduce the skin diseases? Out of 170 respondents, 161 answered YES while 9 students answered NO. A total of 526 answered YES under 1-4 item while a total of 154 answered NO under item 1-4.

Since the total number that answered YES are 526 with a mean score of 131 was greater than the total number of 154 that answered NO with a mean score of 38. It was agreed that poor personal hygiene affect the health of secondary school students by their ages.

**Table 2:** Responses on personal hygiene and effect on the health of secondary school students by their sexes

Questionnaire Items	Yes			No		
	Male	Female	Total	Male	Female	Total
Item 1	45 (26%)	80 (47%)	125	15 (9%)	30 (18%)	45
Item 2	60 (35%)	95 (56%)	155	8 (5%)	7 (4%)	15
Item 3	49 (29%)	26 (15%)	75	40 (24%)	53 (32%)	95
Item 4	74 (44%)	87 (51%)	161	3 (2%)	6 (4%)	9
Total			516			164
			$\sum x = 516$			$\sum x = 164$
			$\frac{\sum x}{n} = 129$			$\frac{\sum x}{n} = 41$
			MS-129			MS-41

Table 2 above described research question 1 and the corresponding questionnaire unit 1. The research question states, how does personal hygiene affect the health of secondary school students by their sexes. The corresponding questionnaire has a total of 4 items. For item 1 which said, students that do not bath to school have body odour, out of 170 students, 125 answered YES while 45 answered NO. For item 2 which said, students who share their towels with others will have ringworms, out of 170 students, 155 answered YES while 15 answered NO. For item 3 which said, do you have dandruff? Out of 170 students, 75 said YES while 95 said NO. For item 4 which said, do you think good personal hygiene practice will reduce skin diseases? Out of 170 students, 161 said YES while 9 said NO.

A total of 516 respondents answered YES under item 1-4 while a total of 164 respondents answered NO under item 1-4. Since the total number of secondary school students that answered YES are 516 with a mean score of 129 was higher than the total number 164 with a mean score of 41 that answered NO, it was agreed that poor personal hygiene affect the health of secondary school students by their sexes.

**Table 3:** Responses on personal hygiene and the effect on the health of secondary school students by their class levels

Questionnaire Items	Yes			No			
	Class Level	JSS 1-3	SSS 1-3	Total	JSS 1-3	SSS 1-3	Total
Item 1		60 (35%)	85 (50%)	145	10 (6%)	15 (9%)	25
Item 2		72 (42%)	80 (47%)	152	8 (4%)	10 (6%)	18
Item 3		30 (18%)	25 (15%)	55	60 (35%)	55 (32%)	115
Item 4		70 (41%)	85 (50%)	155	4 (3%)	11 (6%)	15
Total				507			173
				$\sum x = 507$			$\sum x = 173$
				n -			n -
				4			4
				MS-127			MS-43

Table 3 above addressed research question 1 and the corresponding questionnaire. The research question states to what extent does personal hygiene affects the health of secondary school students by their class levels? The corresponding questionnaire unit 1 has a total of 4 items. For item 1 which said students who do not bath to school will have body odour, out 170 students, 145 answered YES while 25 answered NO. For item 2 which said students who share their towels with others will have ringworms, out of 170 students, 152 answered YES while 18 said NO. For item 3 which said do you have dandruff? Out of 170 respondents, 55 said YES while 115 said NO. For item 4 which said do you think good personal hygiene will reduce skin diseases, out of 170 students, 155 said YES while 15 said NO.

A total of 507 students answered YES under item 1-4 while a total of 173 students answered NO under item 1-4. Since the number of students that answered YES are 507 with a mean score of 127 was higher than the total number 173 with a mean score of 43 that answered NO. It was agreed that poor personal hygiene affect the health of secondary school students by their class levels.

**Research Question Two**

To what extent does food hygiene affect the health of secondary school students in the study area?

**Table 4:** Responses on food hygiene and the health of secondary school students by their ages

Questionnaire Items	Yes			No		
	8-12 yrs	13-17 yrs	Total	8-12 yrs	13-17 yrs	Total
Age						
Item 5	50 (29%)	55 (32%)	105	30 (18%)	35 (5%)	65
Item 6	50 (12%)	70 (41%)	120	30 (18%)	20 (4%)	50
Item 7	40 (24%)	40 (26%)	80	41 (24%)	49(32%)	90
Item 8	25 (15%)	15 (9%)	40	19 (6%)	110(4%)	129
Total			345			334
			$\sum x = 345$			$\sum x = 334$
			n -			n -
			4			4
			MS-86			MS-84

Table 4 above addressed the research question 2 and the corresponding questionnaire unit 2. The research question states, to what extent does food hygiene affect the health of secondary school students by their ages. The corresponding questionnaire unit 2 has a total of 4 items. For items 5 which said, did you have diarrhea after eating food? Out of 170 students, 105 answered YES while 65 said NO. For item 6 which said students who do not wash their hands before eating will have diarrhea, out of 170 students, 120 said YES while 20 said NO. For item 7 which said eating of uncooked food can cause sickness, out of 170 students, 80 answered YES while 90 said NO. For item 8 which said do you wash your hands before eating snacks? Out of 170 students, 40 said YES while 129 said NO.

A total of 345 students answered YES under item 5-8 while a total of 334 answered NO under item 5-8. Since the total number of secondary school students that answered YES are 345 with a mean score of 86 was higher than the total number of 334 with a mean score of 84 that answered NO, it was agreed that inadequate food hygiene affect the health of secondary schools’ students by their ages.

**Table 5:** Responses of food hygiene and the health of secondary school students by their sexes.

Questionnaire Items	Yes			No		
	Male	Female	Total	Male	Female	Total
Item 5	68 (40%)	72 (42%)	140	19 (11%)	11 (6%)	30
Item 6	49 (29%)	78 (46%)	127	21 (12%)	22 (13%)	43
Item 7	80 (47%)	76 (45%)	156	6(4%)	8 (5%)	14
Item 8	50 (29%)	68 (40%)	118	23 (14%)	29 (17%)	52
Total			541			139
			$\sum x = 541$			$\sum x = 139$
			n -			n -
			4			4
			MS-135			MS-35

Table 5 above described research question 2 and the corresponding questionnaire unit 2. The research question states, to what extent does food hygiene affect the health of secondary school students by their sexes. The corresponding questionnaire unit 2 had 4 items. For item 5 which said did you had diarrhea after eating food? Out of 170 respondents, 140 said YES while 30 said NO. For item 6 which said students do not wash their hands before eating will have diarrhea, out of 170 respondents, 127 said YES while 43 said NO. For item 7 which said eating of uncooked food can cause sickness, out of 170 students, 156 said YES while 14 said NO. For item 8 which said do you wash your hands before eating snacks, out of 170 students, 118 said YES while 52 said NO.

A total of 541 students said YES under item 5-8 while a total of 139 said NO under item 5-8. Since the total number of students that said YES are 541 with a mean score of 135 was higher than the total number 139 that said NO with a mean score of 35, it was agreed that food hygiene affects the health of secondary school students by their sexes.

**Table 6:** Responses of food hygiene and the health of secondary school students by their class levels

Questionnaire Items	Yes			No		
Class Level	JSS 1-3	SSS 1-3	Total	JSS 1-3	SSS 1-3	Total
Item 5	63 (37%)	55 (32%)	118	19 (11%)	33 (5%)	52
Item 6	77 (45%)	80 (47%)	157	3 (2%)	10 (4%)	13
Item 7	66 (38%)	71 (42%)	137	13 (8%)	20(32%)	33
Item 8	64 (38%)	69 (41%)	133	20 (12%)	17 (4%)	37
Total			545			135
			$\sum x = 545$			$\sum x = 135$
			n -			n -
			4			4
			MS-136			MS-34

Table 6 above described research question 2 and the corresponding questionnaire unit 2. The research question states, to what extent does food hygiene affect the health of secondary school students by their class levels? The corresponding questionnaire unit 2 has a total of 4 items. For item 5 which said did you had diarrhea after eating before? Out of 170 respondents, 118 said YES while 52 said NO. For item 6 which said students who do not wash their hands before eating will have diarrhea, out of 170 respondents, 157 said YES while 13 said NO. For item 7 which said eating of uncooked food can cause sickness, out of 170 students, 137 answered YES while 33 said NO. For item 8 which said do you wash your hands before eating snacks, out of 170 students, 133 said YES while 37 said NO.

A total of 545 answered YES under item 5-8 while a total of 135 answered NO under item 5-8. Since the total number that said YES are 545 with a mean score of 136 was higher than the total number 135 that said NO with a mean score of 34, it was agreed that food hygiene affect the health of secondary school students by their class levels.

**Discussion of Findings**

**Research Question One:** To what extent does personal hygiene affects the health of secondary school students in the study area?

Research question one addressed unit one of the questionnaire. Unit one of the questionnaire had a total of four items. A total number of 526 said YES to the four items with a mean score of 131 while 154 with a mean score of 38 answered NO to the four items. Since the total number of those who answered YES was higher than those who answered NO, it was concluded that personal hygiene affects the health of secondary school students by their ages. This finding agreed with Ahmadu (2013), who opined that secondary school students that are advance in their ages had better personal hygiene as a result of

developmental adaptability as they increased in their ages. Research question was also used in addressing effect of personal hygiene on the health of secondary school students by their sexes. After analysis, it was also shown that a total of 516 with a mean score of 129 said YES to this sub-variable while 164 with a mean score of 41 said NO. Since the number of those who said YES was higher than the number that said NO, it was agreed and concluded that personal hygiene affects the health of secondary school students by their sexes. This finding agreed with Arikan (2014), who stated that female students are more hygienic in their practices in term of personal cleanliness and general aesthetic outlook than their male folds. This is because girls usually copy cleanliness from their mothers, helps in the housework, give importance to their appearance and are usually cleaner than their male counterparts especially when they are in uniform. This also agreed with the finding as shown in table 2 where 288 female students have good personal hygiene than 228 male students from a total of 516 students. Studies shows that many schools lack adequate hygiene facilities and even where separate facilities for boys and girls are provided, their filthy conditions make them unusable (Aibor et al, 2011).

**Research Question Two:** How does food hygiene affect the health of secondary school students in the study area?

Research question two addressed unit 2 of the questionnaire. Unit 2 of the questionnaire has a total of 4 items which were used in analyzing the effect of food hygiene on the health of secondary school students by their ages, sexes and class levels. For age, a total of 345 with a mean score of 86 said YES while 334 with a mean score of 84 said NO. Since the total number of those who said YES was higher than those who said NO, it was agreed and concluded that food hygiene affects the health of secondary school students by their ages. This finding agrees with Canadian Food Inspection Agency, (2015) which reported that students who are younger in their ages produce less of the stomach acid that kills harmful bacteria. This is because their immune systems are still developing and they cannot fight infections compare to their adult counterparts. For gender, after due analysis, a total of 541 with a mean score of 135 said YES while 139 with a mean score of 35 said NO. Based on this result, it was agreed and concluded that poor food hygiene affects the health of secondary school students by their sexes. This result also agreed with the study carried out by Shiklomanov, (2000), which stated that if cooked foods are not properly store at the require temperature always, bacterial growth may occur which may predispose ones to bacterial food poisoning.

Following the analysis on class levels, it was discovered that a total of 545 with a mean score of 136 said YES while 135 with a mean score of 34 said NO. Since the number of students who said YES was higher than those who said NO, it was agreed and concluded that food hygiene affects the health of secondary school students by class levels. It is on this note that Aibor, Olorunda and Omonayajo (2011) stated that for food to be protected from risk of contamination, food vendors must take proper precautions when handling food use for human consumption. It was also shown that lack of sanitary excreta disposal facilities, lack of safe drinking water, poor food hygiene in the school premises and

inadequate solid waste disposal facilities in schools aid in the spread of infections among students (Essien, 2013).

### **Conclusion**

Hygiene is defined as conditions and practices that help to maintain health and prevent the spread of diseases. Hygiene practices include hand hygiene, food hygiene, environmental hygiene and personal hygiene. Billions of people globally live under unsanitary conditions and have poor hygiene behaviour that expose them to incidence and spread of infectious diseases and death which is more common among children and secondary school students. In the course of this study, the researcher discovered that the incidence of hygiene related diseases are more common among secondary school students because most parents do not pay proper attention to their children behaviour towards hygiene and also ignorance to the effect of poor hygiene practice on their health. In view of the danger of poor hygiene behaviour among students in secondary schools in the study areas, intensive health education is required by the teachers, parents, policymakers, school authority and the Government to ensure the promotion of their health and the entire environment.

### **Recommendations**

The following recommendations were made by the researcher to guide the study:

1. Parents should educate their children on the effects of poor personal hygiene practices on their health and examined them before living for school especially those who are not boarding students.
2. Teachers should always carry out routine inspection of sanitary conveniences and ensure that they are kept clean so that their students both male and female will not contact infections.
3. The school authorities should organize environmental sanitation in the school regularly so as to keep the school environment clean.
4. The teachers should also show good examples for the students to emulate as it pertains to hygiene practices in their schools.
5. There should be proper food hygiene practices especially by parents and food vendors to avoid food contamination and food borne infections.
6. The school authorities should set up a committee to inspect and make sure that hygiene facilities like the toilet and urinary are kept clean always, and also to ensure that bad ones are properly put in place.
7. Government should make policies and guidelines on school hygiene and ensure that the school principals in the secondary schools implement them to the later so as to promote hygiene.

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