



## **INFLUENCE OF SCHOOL-BASED HEALTH EDUCATION ON PERSONAL HYGIENE PRACTICE AMONG SECONDARY SCHOOL STUDENTS IN ENUGU STATE**

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### **Abstract**

*The main purpose of the study was to determine the influence of school-based health education on personal hygiene practices among secondary school students in Enugu State based on the students gender and location. Two research questions and four null hypotheses were formulated and tested at .05 level of significance. Descriptive survey research design was adopted for the study. The population for the study comprised all the 112,481 secondary school students in the public secondary schools in Enugu State. Proportionate stratified sampling technique was used to draw a sample size of 397 secondary school students in the public secondary schools in Enugu State. A structured questionnaire was used for data collection. The instrument has two sections; A and B. Section A contains the respondents bio- data while section B is divided into two clusters with 25 items, structured to assist the researcher in providing answers to the research questions that guided the study. In order to ensure the validity of the instrument, draft copies of the instrument together with the research topic, purpose of the study, research questions, hypotheses, and the developed instrument were given to three experts for validation. Cronbach Alpha Reliability Coefficient was used to determine the internal consistency of the instrument. A total of 397 copies of questionnaire were administered by the researcher with the help of six research assistants that were properly briefed on the content of the questionnaire and its mode of administration to ensure that the questionnaires were properly administered. Data collected were analysed using Mean ( $\bar{x}$ ) and Standard Deviation (SD) to answer the two research questions. However, the four hypotheses were tested using t-test statistics at .05 level of significance. From the result of the findings, it was concluded that school-based health education to a great extent improved frequent hand washing practice and good oral health practice among secondary school students in Enugu State. The male and female students indicated that there is no significant difference in the mean response scores of male and female students on the extent to which school-based health education improved frequent hand washing practice and good oral health practice among secondary school students in Enugu State. Similarly, the mean rating of urban and rural students on the extent to which school-based health education improved frequent hand washing and good oral health practice, among secondary school students was not statistically significant. Based on the findings, the researcher recommended among others that efforts should be made by the government and school administrators to improve school-based health education in secondary schools in Enugu State.*

**Keywords:** Influence, Health, Health Education, Personal Hygiene, Secondary School, Students.

### **Introduction**

Health education among children and young persons in particular has been given high priority in many industrialized countries, concentrating on health-related behaviours such as personal hygiene practice and nutrition. This concentration seems to be based



on more general impressions that adolescence is important in determining the future health of the individual (Hurrelmann, 2019), and on the impression that many adult habits are established during the years of growing up (Smith, 2019), and on the fact that it is better to try to prevent health-damaging behaviour at an early age than to be forced later to attempt to modify an already established habit (Alexander, 2019). Therefore, engaging in preventive health measures and staying healthy are critical to individuals' well-being and long-term outcomes (Sawyer, 2017). In Nigeria, studies have shown that most communicable diseases result from poor hygiene. Oloruntoba, Folarin, and Ayede (2014), stated that poor hygiene and sanitation are the leading causes of diarrhea disease. The Nigeria Demographic and Health Survey [NDHS] (2014) revealed that diarrhea and cholera outbreak which are common occurrences in Nigerian schools are as a result of practicing poor personal hygiene.

Hygiene refers to practices and conditions that help to maintain health and prevent the spread of diseases. According to Goto (2018), basic personal hygiene refers to the principles of maintaining cleanliness and grooming of the external body parts. It includes practices such as bathing regularly, washing hands whenever necessary, trimming of finger and toe nails, wearing washed clothes daily, washing the hair and keeping clean from lice and dandruff, brushing the teeth and caring for the gums (Seenivasan, Mary, Priya, Devi, Nanthini, Jahan & Samyuktha, 2016). Lack of personal hygiene and unhygienic living conditions promote person-to-person transmission of infections and seem to be an important factor for high incidence of skin diseases, respiratory diseases, worm infections, diarrhoea and dental diseases. According to Seenivasan et al, (2016), these morbidities are found to be higher and more severe among children than adults. Infection form a vicious cycle compromising the child's attendance and performance at school, retarding the child's overall development, including physical, mental and social development (Uzeni, 2018). Ejifugha, and Ibhafidon (2014), submitted that maintenance of optimal personal hygiene has always been a challenge to secondary school students. However, well-groomed students whose knowledge of personal hygiene taught in school and reinforced by their home orientations, demonstrate a high level of personal hygiene. Ugwu (2017), defined personal hygiene as a culture of self-care and attention which objectives are to keep the body fit, clean and healthy always. Its practices include regular bathing, washing clothes, dressing neatly, teeth, nails and hair care. Kumar and Akoijam (2017), stressed on the need to wash hands, clothes, feet, hair and teeth and keep them clean in order to prevent infections. Ahmadu (2018), disclosed that neat clothing makes the body warm and protected for healthy living.

Practically, personal hygiene encompasses dressing and clothing, physical fitness, rest and exercise, use of cosmetics, oral hygiene and hair care. Proper maintenance of these skills can promote prevention of infections, skin diseases and strengthen body fitness generally. Thus, the need for this study on influence of school based health education on personal hygiene practice among secondary school students Enugu State. The focus of good personal hygiene is to prevent diseases, injuries and other



health conditions through surveillance and the promotion of healthy behaviour in aspects relevant to health. Good personal hygiene therefore forms primary health prevention strategy because it has been found to be effective in reducing morbidity and mortality especially in children (Ahmadu, Rimamchika, Ibrahim, Nnanubomom, Godiya & Emmanuel, 2013). In medical terms, personal hygiene involves personal attention by an individual to prevent diseases. It also involves different habits such as washing hands, the entire body, hair care, nails trimming, clean clothing to warm and protect the skin as well as teeth brushing in effort to keep bacteria, virus and fungi away from direct or indirect contact with the body. Since personal hygiene habits such as washing hands regularly as well as brushing and flossing teeth can help in keeping bacteria, viruses and illness at bay, there is need for school-based health education to help individuals to achieve healthy goals.

On the other hand, people who have poor hygiene habits such as dishevelled hair and clothes as well as those with body odour, bad breath, dirty and smelling teeth are often seen as unhealthy and may face social discrimination. According to Ejifugha and Abhafidon, (2014), it is obvious that individual body image influences self-esteem, confidence and motivational forces therefore, people who already have low self-esteem and especially those with emotional depression often neglect personal hygiene which perpetuate the problem of self-image and because they always feel rejected or unacceptable in a social setting. Thus, good personal hygiene practices help in keeping a person healthy, presentable and admirable and it can ensure confidence at the presence of others especially in a crowd. For such reasons, children need to be taught the importance of good personal hygiene and the dangers associated with poor hygiene practices so that they can live well in future. Talukdar and Baruah (2015), noted that the school lays the foundation for making children to know the importance of good personal hygiene practices such as regular bathing, washing of the hands before and after each meal, brushing of teeth at least twice daily, cutting of fingers and toes nails neatly and washing their clothes clean through school-based health education.

School-based health education refers to the totality of health experiences (practical and theoretical, formal and informal) to which a child is exposed in the school environment with regards to the formulation of positive health habits, practice and knowledge. Ubaka (2021), defined school-based health education as a programme of training and a study designed to equip the students with the habits and knowledge that will enable them to enjoy good health both during school days and in later life. This implies that school-based health education is not just a body of knowledge studied in school but that which, through action of both members of the school and community, transforms or enhances peoples' health behaviour. In the opinion of Ugwu (2017), school-based health education teaches about physical, mental, emotional and social health. Ugwu added that school-based health education motivates students to improve and maintain their health, prevent disease, and reduce risky behaviours among students. School-based health education includes all



procedures used by physicians, dentists, nurses, teachers among others that are designed to appraise, protect, and promote optimum health of students and school personnel through planned programmes.

The personal hygiene practices among secondary school students leaves one to wonder the extent to which the objectives have been achieved thus far among the students due to the prevalence of germs, bacteria, infections viruses and fungi within the human environments and particularly among students. Alika (2019), stated that some harmful micro-organisms are present in foods, water, sand in the air, and have the potentials of contacting the body through the teeth inside the mouth, hair, finger and toe nails, the nose as well as the eyes and skin. It is worthy to note that students' knowledge of personal hygiene is demonstrated in their effective practice of personal hygiene skills and good health habits, yet many secondary school students are in the habits of keeping long nails. Udoka (2016) posited that some students fix artificial nails and refuse to allow water to touch their hands always because of fashion, while a great number of them are in the habits of chewing gums, biscuits and snacks but fail to brush their teeth regularly in order to remove unwanted particles deposited in between teeth. Aleke (2016), noted that students use dirty hands and nails to introduce harmful micro-organisms such as bacteria and germs into their body system, and fail to take cognizance of the fact that untreated hair is a comfortable habitat for lice and a store house for sweat deposits that often smell badly. According to Talukdar and Baruah (2015), the role of school-based health education is very important for cognitive, creative and social development of children. Consequently, an education regarding proper sanitation and hygiene practices are very necessary for the safe, secure and healthy environment so that every child can learn better and face the challenges of future life (Alika, 2019).

It is worthy to note that good personal hygiene practices among students have been deeply entrenched as a matter of concern in the school curriculum. Thus, schools are regarded as constituting a very important arena for health education among children and young persons. Apparently, it is better to try to prevent health-damaging behaviour at an early age than to be forced later to attempt to modify an already established habit. Therefore, ensuring good personal hygiene practice among secondary school students has become imperative. According to Ejifugha and Abhafidon (2014), healthy practices encompass dressing and clothing after bathing, use of appropriate cosmetics and hair care. Ubaka (2021), posited that personal hygiene among students include oral health practice, bathing, nail care practice and sex education. Ahmadu (2018), submitted that personal hygiene among students is referred to as personal care which involves hand hygiene practice and oral health practice. These formed the variables for this study.

Hand hygiene as the act of cleaning the hands for the purpose of removing soil, dirt, and microorganisms. It is particularly important for children, as they are more vulnerable to infections gained from unwashed hands and also due to their unhealthy



behaviour (Dubik, Ofosu, Ojo & Amegah, 2018). Dubik, Ofosu, Ojo and Amegah (2018), noted that many infections start when hands are contaminated with diseases causing organisms. This happen after using the toilet, coughing or blowing the nose, playing, handling garbage and touching other contaminated surfaces. Most diseases such as diarrhoea and pneumonia are transmitted mainly by contaminated hands, and off cause diarrhoea and pneumonia alone kills an estimated 1.7 million children every year (Debik, 2020). Debik, added that many of this deaths can be prevented by hand washing with soap. In the opinion of Ojenwa (2021), when students wash their hands with soap after going to toilet or before eating, they reduce their risk of getting diarrhoea by more than 40%. This implies that proper hand hygiene practice contribute to healthy development of students by keeping them in school. Study by Dubik, Ofosu, Ojo and Amegah (2018), revealed that gender influence regular washing of hands and hand hygiene behaviour. Similarly, study by Mariwah (2019), indicated that higher proportion of female students washed their hands and were more likely to wash both hands correctly than the male students. In the same view Dubik, Ofosu, Ojo and Amegah (2018), observed that 6 (60%) out of 10 schools in the urban areas had hand washing stations, while 2 (33%) out of 10 rural schools had hand washing points with soap and water available. There is therefore, need to explore the extent to which school-based health education influence hand hygiene practice among secondary school students in Enugu State. Related to hand hygiene practice is oral health practice

Oral health practice refers to teeth care. Medically, dentists refer teeth care to as oral care. Oral health practice is an essential act that is expected to be inculcated by all individuals in order to have a healthy state. This is because, practicing a good oral health offers a number of benefits as highlighted by researchers. Terrie (2018), revealed that practicing oral health result to overall good health. According to the author, this act could help remove or prevent formation and buildup of plaque, and tartar as well as prevent dental caries and periodontal disease and decrease the incidence of halitosis. According to Talukdar and Baruah (2015), good personal hygiene practice is not restricted to mere bathing, trimming of hair and nails but it extends to teeth care since the teeth are located inside the mouth through where human beings eat and drink water always. Seenivasan et al (2016), posited that teeth care helps in reducing gum infection and decay, avoids or reduces mouth odour. According to Ejifugha and Abhafidon (2014), parents and the school are vested with the responsibility of teaching children the importance of brushing teeth so that such habits could be maintained in future. Hill (2022), reported that oral health practice improves one`s oral health and prevent serious oral conditions and diseases such as cavities, gingivitis, cracked tooth syndrome and more. American Dental Health (2022), stated that good oral health practices such as regular dental visit, brushing regularly, flossing and being mindful of what one chew go a long way in reducing dental diseases. In view of the foregoing, it is expected that secondary school students maintain a good personal hygiene practice in order to facilitate a healthy living and learning particularly during their Secondary education.





Secondary education does not only occupy an important place in the Nigeria education system, it also serves as a link between the primary and tertiary level of education. As a result of its central position, its programmes have functional roles such as giving students access to higher education as well as preparing them for work and healthy living. Ibe (2016), asserted that secondary education provides avenue for interaction among human beings with divergent needs, interest and motives. It is not a gainsaying that secondary education is unique in the educational, emotional and health development of a child, being the link between the primary and the tertiary education. The knowledge, skills, values and traits which a child acquires at this stage will complement those acquired at the primary level and when these are combined will prepare the child for tertiary education. In spite of the role of the secondary education, Ajayi (2017), and Omoregie (2018) reported that secondary education is riddled with crises of various dimensions which include students' poor personal hygiene practice. Aleke (2016), posited that the goals of secondary education cannot be achieved amidst poor hygiene, dental diseases and unhealthy leaving. Consequently, poor personal hygiene practice is one of the major problems challenging secondary education with factors such as gender and location as its drivers.

Gender has been regarded as a social construct by scholars. According to Newman (2021), gender implies a person's identification. Ocheni (2021), defined gender as social construct developed by the society which is used to distinguish males from females in the society. The above means that gender entails roles, characteristics attitude or values of an individual. Thus, gender may be viewed as a construct which enables one to differentiate between males and females on the bases of their roles and functions within the society. The Canadian Institutes of Health Research (2021), saw gender as a variable which has the ability to influence people's perception, actions and interactions within the society. This means that gender could determine the attitude and practices of students on personal hygiene practice in rural and urban secondary schools in Enugu State. This study therefore, intends to ascertain the influence of school based health education on male and female secondary school students' practice of personal hygiene in secondary schools in Enugu State.

Location according to Akanov (2018), refers to whether an institution or facility is in the urban or rural area. It is the place where a particular point or object exists. According to Orji (2015), there are accepted indices on which the conferment of an urban status depends, they include among other; a good network of usable roads, reliable security, water supply, electricity and the general upliftment of luxury standard. In the rural areas these conditions that improve the condition of life and living and add to the nuances of conflict and motivation are generally not in place. According to Patrick (2015), allocation of medical facilities, the distribution of health works and personal hygiene and oral health packages are largely influenced by location that is imbued by the aforementioned facilities. Patrick further noted that chances are that urban areas predominantly attract efficient oral health practices,



medical facilities and their highly motivated human resources as against the rural areas. Abimbola (2017), stated that personal hygiene practices in the urban centre may differ greatly from the rural areas. Orji (2015), observed that the urban centres are the beneficiary of most intervention and allocation while the rural are still deprived of the basic health services. Therefore, the gap between the rural and urban secondary schools calls for serious concern as the location may be assumed a challenge to the practice of personal hygiene among secondary school students in Enugu State. It is against this background that the researcher seeks to ascertain the influence of school-based health education on personal hygiene practices among secondary school students in Enugu State.

### **Statement of the Problem**

Personal hygiene is the science of healthy livings and embraces all those day to day activities that contribute to health and wellbeing of an individual. It is a culture of self-care and attention which objectives are to keep the body fit, clean and healthy always. Its practices include regular bathing, washing clothes, dressing neatly, teeth, nails and hair care. It is worthy to note that students' knowledge of personal hygiene is demonstrated in their effective practice of personal hygiene skills and good health habits, yet many secondary school students are in the habits of poor personal hygiene particularly in Enugu State. It is a source of worry that many secondary school students are in the habits of keeping long nails, sometimes fix artificial nails and refuse to allow water to touch their hands always because of fashion, a lot of them believe in wearing costly and strong smelling body spray, roll-on, creams, lotions and perfumes instead of regular bathing, while a great number of them are in the habits of chewing gums, biscuits and snacks but fail to brush their teeth regularly in order to remove unwanted particles deposited in between teeth. Such unhealthy practices are dangerous.

The researcher has personally observed tooth discoloration, dental caries and gingivitis among secondary school students in Enugu State and the researcher is worried that when students have poor personal hygiene practice, they may experience lot of pain and discomfort leading to their being absent from school and may lose out from what is been taught in the classroom, whereas, if students are cognizant and have positive attitude and practice towards personal hygiene, their general wellbeing would be improved thereby contributing to increases in the nations' educational standard. This implies that school-based health education which should educate the students on good personal hygiene practices seems to have little or no impact in most secondary schools, as cases of students' poor hygiene and consequent ill-health continues to be at the increase. It is against this background therefore, that the researcher is motivated to investigate the extent to which school-based health education influence personal hygiene practices among secondary school students in Enugu State, hence the problem of this study put in question form is, "To what extent does school-based health education influence personal hygiene practices among secondary school students in Enugu State.?"



### **Purpose of the Study**

The main purpose of this study was to ascertain the influence of school-based health education on personal hygiene practices among secondary school students in Enugu State based on the students gender and location. Specifically, the study sought to:

1. find out the extent to which school-based health education influence hand hygiene practice among secondary school students in Enugu State.
2. ascertain the extent to which school-based health education influence oral health practice among secondary school students in Enugu State.

### **Research Questions**

The following research questions were raised to guide this study:

1. To what extent does school-based health education influence hand hygiene practice among secondary school students in Enugu State?
2. To what extent does school-based health education influence oral health practice among secondary school students in Enugu State?

### **Hypotheses**

The following null hypotheses were formulated and were tested at .05 level of significance:

1. There is no significant difference in the mean response scores of male and female students on the extent to which school-based health education influence hand hygiene practice among secondary school students in Enugu State.
2. There is no significant difference in the mean response scores of male and female students on the extent to which school-based health education influence oral health practice among secondary school students in Enugu State.
3. There is no significant difference in the mean response scores of students in the urban and rural schools on the extent to which school-based health education influence hand hygiene practice among secondary school students in Enugu State.
4. There is no significant difference in the mean response scores of students in the urban and rural schools on the extent to which school-based health education influences oral health practice among secondary school students in Enugu State.

### **Method**

Descriptive survey research design was utilized for this study. According to Nworgu (2015), descriptive survey research design, is one in which a group of people or items is studied by collecting and analysing data from only a few people or items considered to be representative of the entire group. The descriptive survey research design was considered suitable since the study solicited for information from the respondents directly and afforded all the respondents equal chance of being chosen for the study. The population of the study is 112,481 secondary school students in the public secondary schools in Enugu State under the control of PPSMB. It comprised 74988 female and 37493 male students in the 243 rural and 54 urban public secondary schools in Enugu State respectively. (Post Primary School Management Board Enugu. PPSMB, 2023/2024). The sample for the study was 397 secondary school students in





the public secondary schools in Enugu State. The researcher used proportionate stratified sampling technique to draw 5% of male and female as well as urban and rural population of secondary school students in two secondary schools from each education zones in Enugu State. First, the researcher got the total population of 37,493 male and 78988 female students from the data collected from the PPSMB. It comprised 74988 female and 37493 male students in the 243 rural and 54 urban public secondary schools in Enugu State respectively. From this the researcher drew 5% of male (175) and female (222) secondary school students, from each stratum respectively. The derived sample size was summed up to get the sample size of 397. Thus, 175 male and 222 female, as well as 304 urban and 93 rural secondary school students in the public secondary schools in Enugu State formed the sample size of the study. This is in line with Uzoagulu (2012), which states that when the respondents' population are in the thousands 5% of the population can serve as the sample.

A structured questionnaire named "Influence of School-Based Health Education on Personal Hygiene Practice Scale (ISBHE-PHPS)", developed by the researcher was used for data collection. The instrument has two sections; A and B. Section A contains the respondents bio data while section B is divided into two clusters with 25 items, structured to assist the researcher in providing answers to the research questions that guided the study. cluster 1, is on hand hygiene practice with 11 items, while cluster 2 is on oral health practice with 14 items. The response format for the instrument was a 4-point scale of Very Great Extent (VGE=4), Great Extent (GE=3), Low Extent (LE=2) and Very Low Extent (VLE=1). In order to ensure the validity of the instrument, draft copies of the instrument together with the research topic, purpose of the study, research questions, hypotheses, and the developed instrument were given to three experts. Two experts were from the Department of Human Kinetics and Health Education while the other expert was from Measurement and Evaluation, Department of Mathematics and Computer Education, all from Faculty of Education, Enugu State University of Science and Technology, Enugu. The experts were requested to assess the relevance, adequacy, suitability and comprehensiveness of the items in addressing the research questions as well as the clarity of the instruction to the respondents. The validators' comments were used to draft the final instrument that will be used for data collection.

The reliability of the instrument was determined by administering 30 copies of the questionnaire to a sample of 12 male and 18 female students from public secondary schools in Ebonyi State, in a trial testing to ascertain the internal consistency of the instrument. The choice for Ebonyi State was determined by the fact that both states have the same educational characteristics in terms of administration, population and environment. The respondents were assured of confidentiality of all the information they supplied. Data collected from the respondents' responses were analysed using Cronbach Alpha Reliability Coefficient to determine the internal consistency of the instrument. The instrument was divided into two sections, each section yielded the



following reliability coefficient; cluster 1 had .65 while cluster 2 had .61. The overall reliability coefficient was .63, indicating that the instrument is reliable and suitable for the study. 397 copies of questionnaire were administered by the researcher with the help of six research assistants that were properly briefed on the content of the questionnaire and its mode of administration to ensure that the questionnaire was properly administered. Appointment was booked with the respondents for collection at a later date for those who were not able to fill their own copies of the instrument because of the nature of their job. Out of 397 copies of questionnaire distributed, the researcher and the assistants were able to retrieve only 382 copies of the distributed questionnaire while 15 copies were not retrieved, signifying 96 % return rate. The data collected with the questionnaire were analysed using Mean ( $\bar{x}$ ) with Standard Deviation (SD) to answer the two research questions. However, each of the null hypotheses was tested using t-test statistics at .05 level of significance. The analysis was done with the use of the Statistical Package for Social Sciences (SPSS). For the decision rule; real limit of the mean scores was applied, therefore, the upper and lower limits of the mean is interpreted as follows;

Mean scores from 3.50 – 4.49 (Very Great Extent)

Mean scores from 2.50 – 3.49 (Great Extent)

Mean scores from 1.50 – 2.49 (Low Extent)

Mean scores from 0.50 – 1.49 (Very Low Extent)

The null hypotheses were not rejected when their *p*-value is less than .05 and were rejected when the *p*-value is equal or more than .05 level of significance.



## Results

**Research Question 1:** To what extent does school-based health education influence frequent hand washing practice among secondary school students in Enugu State?

**Table 1: Mean Ratings and SD of Respondents on the Extent to which School-Based Health Education Influence Frequent Hand Washing Practice among Secondary School Students in Enugu State**  
N=382

S/N	Extent to which school-based health education influence frequent hand washing practice among secondary school students include;	VGE	GE	LE	VLE	Mean	SD	Decision
1	encourage students to wash hands with soap and water	259	106	0	17	3.59	.71	VGE
2	encourage students to wash hands before eating food	194	68	103	17	3.15	.97	GE
3	encourage students to wash hands after eating food	158	190	34	0	3.32	.63	GE
4	encourage students to wash hands after using toilet facilities	138	158	51	35	3.04	.93	GE
5	teach students to wash hands with warm water	86	192	87	17	2.91	.79	GE
6	encourage use of hand sanitizer among students	175	156	35	16	3.28	.80	GE
7	teach hand washing tips to students	36	189	123	34	2.59	.78	GE
8	encourage the use of hand towels among students	104	189	89	0	3.04	.71	GE
9	encourage use of personal handkerchief	86	174	104	18	2.86	.82	GE
10	encourage students to keep their hands dried always	35	174	124	49	2.51	.83	GE
11	encourage students to keep their hands lubricated	176	172	34	0	3.37	.64	GE
<b>WEIGHTED AVERAGE</b>						<b>3.06</b>		<b>GE</b>

Table 1 shows that item no 1 has mean range of 3.50 – 4.00 with decision of very great extent perception, this indicate that the respondents perceived that school based



health education enables students to wash their hands with soap and water. On the other hand, items 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 have mean range of 2.50 – 3.49, this indicated that the respondents perceived that school based health to a great extent influenced the students practice of hand washing in secondary schools in Enugu State. Generally, the weighted average/ grand mean of the items is 3.06, indicating Great Extent perception that the school based health education influenced students frequent hand washing to keep personal hygiene in secondary schools in Enugu State. The Standard deviations (SD) of all the items are within the range of 0.63 to 0.97 and are positive which indicates that the respondents were not very far from one another in their responses. This implies that to a great extent school-based health education influence frequent hand washing practice among secondary school students in Enugu State.

**Research Question 2:** To what extent does school-based health education influence good oral health practice among secondary school students in Enugu State?

**Table 2: Mean Ratings and SD of Respondents on the Extent to which School-Based Health Education Influence Good Oral Health Practice among Secondary School Students in Enugu State.**

N=382								
S/N	Extent to which school-based health education influence good oral health practice among secondary school students include;	VGE	GE	LE	VLE	Mean	SD	Decision
12	prevent students from cutting nails with the teeth	52	244	52	34	2.82	.77	GE
13	teach students to avoid use of hard tooth brush	141	156	68	17	3.10	.85	GE
14	guide students against constant eating of refined carbohydrate	158	156	68	0	3.24	.73	GE
15	cleaning of the tongue when brushing	107	207	68	0	3.10	.67	GE
16	guide students against using of sharp objects on the teeth	142	119	121	0	3.06	.83	GE
17	teaching students to avoid damage on the tooth gum	140	140	69	33	3.01	.95	GE
18	encourage students to avoid using of sharp objects on the teeth	105	226	34	17	3.10	.73	GE



S/N	Extent to which school-based health education influence good oral health practice among secondary school students include;	VGE	GE	LE	VLE	Mean	SD	Decision
19	less eating of snacks	173	175	34	0	3.36	.64	GE
20	routing dental checkup	176	154	52	0	3.32	.70	GE
21	cleaning of the tongue when brushing	88	193	69	32	2.88	.86	GE
22	rinsing the mouth after meals	71	123	156	32	2.61	.88	GE
23	regular tooth brushing	52	159	155	15	2.70	1.25	GE
24	frequent changing of tooth brush	35	105	161	81	2.25	.89	LE
25	brushing of the teeth before going to bed	87	209	86	0	3.00	.67	GE
<b>WEIGHTED AVERAGE</b>						<b>2.97</b>		<b>GE</b>

Table 2 shows that item no 24 has mean range of 1.50 – 2.49 with decision of low extent perception, this indicate that the respondents perceived that school based health education does not influence students frequent change of their tooth brush as a mode of oral health practices and personal hygiene in secondary schools in Enugu State. On the other hand, items 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23 and 25 have mean range of 2.50- 3.49, this indicated that the respondents perceived that school based health to a great extent influenced the students practice good oral health and personal hygiene in secondary schools in Enugu State. Generally, the weighted average/ grand mean of the items is 2.97, indicating Great Extent perception that the school based health education influenced students frequent practice of good oral health to keep personal hygiene in secondary schools in Enugu State. The Standard deviation values (at the range of 0.64 to 1.25) were small indicating that the respondents' responses are closely clustered around the mean, signifying that their responses are homogenous. This implies that school-based health education to a great extent influence good oral health practice among secondary school students in Enugu State



**Hypotheses**

**HO<sub>1</sub>:** There is no significant difference in the mean response scores of male and female students on the extent school-based health education influenced frequent hand washing practice among secondary school students in Enugu State.

**Table 3: Mean, SD and t-test analysis of the ratings of male and female students on the extent school-based health education influenced frequent hand washing practice among secondary school students in Enugu State.**

Gender	N	Mean	SD	df	t-value	Sig. (2tailed)	Decision
Male	170	33.67	4.53	380	-.009	.993	NS
Female	212	33.67	4.47				

Table 3 shows that there is no significant difference in the mean ratings of extent of school based health education influence frequent hand washing amongst students by male and female in secondary schools in Enugu State. with male ( $M = 33.67$ ,  $SD = 4.53$  and female counterpart ( $M = 33.67$ ,  $SD = 4.47$ ) on the extent of school based health education influenced frequent hand washing amongst students by male and female genders in secondary schools in Enugu State,  $t(380) = -.009$ ,  $p = .993$  ( $p > 0.05$ ). Therefore, the null hypothesis was not rejected. Thus, there is no significant difference in the mean response scores of male and female students on the extent school-based health education influenced frequent hand washing practice among secondary school students in Enugu State.

**HO<sub>2</sub>:** There is no significant difference in the mean response scores of male and female students on the extent school-based health education influenced good oral health practice among secondary school students in Enugu State.

**Table 4: Mean, SD and t-test analysis of the ratings of male and female students on the extent school-based health education influence good oral health practice among secondary school students in Enugu State.**

Gender	N	Mean	SD	df	t-value	Sig. (2tailed)	Decision
Male	170	41.42	4.73	380	-.465	.642	NS
Female	212	41.66	4.90				

Table 4 shows that there is no significant difference in the mean ratings of extent of school based health education influenced good oral health amongst students by male and female in secondary schools in Enugu State. with male ( $M = 41.42$ ,  $SD = 4.73$  and female counterpart ( $M = 41.66$ ,  $SD = 4.90$ ) on the extent of school based health education influenced good oral health amongst students by male and female genders



in secondary schools in Enugu State,  $t(380) = -.465$ ,  $p = .642$  ( $p > 0.05$ ). Therefore, the null hypothesis was not rejected. Thus, there is no significant difference in the mean response scores of male and female students on the extent school-based health education influenced good oral health practice among secondary school students in Enugu State.

**HO<sub>3</sub>:** There is no significant difference in the mean response scores of students in the urban and rural schools on the extent school-based health education influence frequent hand washing practice among secondary school students in Enugu State.

**Table 5: Mean, SD and t-test analysis of the ratings of Urban and Rural students on the extent school-based health education influence frequent hand washing practice among secondary school students in Enugu State.**

Location	N	Mean	SD	df	t-value	Sig. (2tailed)	Decision
Urban	291	33.62	4.46	380	-.341	.733	NS
Rural	91	33.81	4.61				

Table 5 shows that there is no significant difference in the mean ratings of extent of school based health education influence frequent hand washing amongst urban and rural students in secondary schools in Enugu State. with male ( $M = 33.62$ ,  $SD = 4.46$  and female counterpart ( $M = 33.81$ ,  $SD = 4.61$ ) on the extent of school based health education influence frequent hand washing amongst students by urban and rural locations in secondary schools in Enugu State,  $t(380) = -.341$ ,  $p = .733$  ( $p > 0.05$ ). Therefore, the null hypothesis was not rejected. Thus, there is no significant difference in the mean response scores of urban and rural students on the extent school-based health education influence frequent hand washing among secondary school students in Enugu State.

**HO<sub>4</sub>:** There is no significant difference in the mean response scores of students in the urban and rural schools on the extent school-based health education influence good oral health practice among secondary school students in Enugu State.

**Table 6: Mean, SD and t-test analysis of the ratings of Urban and Rural students on the extent school-based health education influence good oral health practice among secondary school students in Enugu State**

Location	N	Mean	SD	df	t-value	Sig. (2tailed)	Decision
Urban	291	41.59	4.88	380	.242	.809	NS
Rural	91	41.45	4.64				



Table 6 shows that there is no significant difference in the mean ratings of extent of school based health education influence good oral health amongst urban and rural students' in secondary schools in Enugu State. with male ( $M = 41.59$ ,  $SD = 4.88$  and female counterpart ( $M = 41.45$ ,  $SD = 4.64$ ) on the extent of school based health education influence good oral health amongst students by urban and rural locations in secondary schools in Enugu State,  $t(380) = .242$ ,  $p = .809$  ( $p > 0.05$ ). Therefore, the null hypothesis was not rejected. Thus, there is no significant difference in the mean response scores of urban and rural students on the extent school-based health education influence good oral health among secondary school students in Enugu State.

## **Discussion**

The findings of this study were discussed in line with the research questions that guided the study and hypotheses tested.

### **Influence of school-based health education on hand hygiene practice among secondary school students in Enugu State.**

It was found out that school-based health education to a great extent influence frequent hand washing practice among secondary school students in Enugu State. This finding is in consonance with Ugwu (2017), who posited that school-based health education motivates students to improve and maintain their health, prevent disease, and reduce risky behaviours among students. This finding however disagrees with Ejifugha, and Ibhafidon (2014), who submitted that maintenance of optimal personal hygiene has always been a challenge to secondary school students. However, well-groomed students whose knowledge of personal hygiene taught in school and reinforced by their home orientations, demonstrate a high level of personal hygiene. This implies that there is need for provision of hand washing facilities secondary schools so as to improve frequent hand washing practice among students in Enugu State.

The comparison of the male and female students showed that there is no significant difference in the mean response scores of male and female students on the extent to which school-based health education influence frequent hand washing practice among secondary school students in Enugu State. The finding disagrees with Dubik, Ofosu, Ojo and Amegah (2018), who revealed that gender influence regular washing of hands and hand hygiene behaviour. However, the finding agrees with Moe (2017), which indicated low frequencies of hand washing among secondary school students at 36.2%. The low frequencies of hand washing cut across both the male and female gender. Therefore, there is need equal check, care and supervision of hand washing practice among secondary school students in Enugu State.

*Similarly, on the influence of location of schools, it was found in this study that there is no significant difference in the mean ratings of urban and rural students on the extent to which school-based health education influence frequent hand washing*



among secondary school students. This finding disagrees with agree with Ugwu (2017), who noted that the secondary school students in the urban and rural possess the same level of personal hygiene practice. This finding however disagrees with Dubik, Ofosu, Ojo and Amegah (2018), who observed that 6 (60%) out of 10 schools in the urban areas had hand washing stations, while 2 (33%) out of 10 rural schools had hand washing points with soap and water available. There is therefore, need for an improved awareness on the importance of frequent hand washing practice of students both in the rural and the urban areas of Enugu State.

### **Influence of school-based health education on oral health practice among secondary school students in Enugu State.**

The finding revealed that school-based health education influence good oral health practice among secondary school students in Enugu State. *This finding is in line with* Hamed (2015), who reported that the level of oral health practice among students is high. The finding is also in consonance with report of Karadeniz (2019), which noted a high level of oral health cognition and practice among students. On the contrary the finding also disagrees with Ogunrinde, Oyewole and Dosumu (2015), who found that majority of the respondents have good oral health knowledge but poor oral health practice. Thus, there is need to organize training and workshop for secondary school students on good oral health practice among secondary school students in Enugu State.

The comparison of the male and female students showed that there is no significant difference in the mean response scores of male and female students on the extent to which school-based health education influence good oral health practice among secondary school students in Enugu State. The finding disagree with Ogunrinde, Oyewole and Dosumu (2015), who that the female students possess good oral health knowledge and practice more than their male counterpart. However, the finding agrees with Carneiro (2017), who revealed that male and female students had similar level of oral health knowledge. Being that good oral health is an indispensable practice in human especially students. There is therefore need for an increased awareness on good oral health practice among secondary school students in Enugu State.

*Similarly, on the influence of location of schools, it was found in this study that* there is no significant difference in the mean ratings of urban and rural students on the to which extent school-based health education influence good oral health practices among secondary school students in Enugu State. *This finding disagrees with* Abimbola (2017), who stated that oral health practices in the urban centre may differ greatly from the rural areas. Being that urban centres are the beneficiary of most intervention and allocation, while the rural are still deprived of some basic health services. There is need for periodic oral health intervention programmes in rural secondary schools of Enugu State.



### **Educational Implications of the Findings**

*The findings of this study hold implication for government, school authorities, students, parents, and guidance counsellors.*

The *study holds implication for the government*, as through the finding of this study the government will proffer solutions to improve the status of school-based health education in secondary schools and strengthen her policy as it affects personal hygiene practices in secondary schools in Enugu State, which have been ignored over the years.

The *study holds implication for school authorities*, as through the result of this study they will be equipped with better knowledge on the importance of school-based health education in secondary schools so as proffer solutions in incessant cases of poor personal hygiene bedevilling the school environment. The study shall motivate the school authorities to improve her standard of school-based health education adopted in the school environment particularly in Enugu State.

The *study holds implication for secondary school students* as it will serve as a guide to the students against poor personal hygiene. The study shall assist in developing students' self-esteem, assertiveness and adjustment in behaviour toward school-based health education, as they become better contributors and academic efficient members of society.

The study holds serious implication for guidance counsellors whom are saddled with the responsibility of resolving individual, family and social mal-adjustment issues. The study shall form a plank open which they shall base their strategies in controlling students poor personal hygiene issues at all levels of education especially in secondary schools in Enugu State, and as well educate the parents on the importance of school-based health education. The adoptions of these practices are basically the gap that this study filled.

### **Recommendations**

Based on the findings of the study the following recommendations were made.

- Efforts should be made at improving school-based health education in secondary schools in Enugu State.
- Workshop on school-based health education should be periodically organized and attended by all secondary school students and teachers in Enugu State.
- Seminars on school-based health education should be periodically organized and attended by all secondary school teachers and students in Enugu State.
- Deliberate efforts should be made by secondary school administrators and teachers to constantly supervise students nail and as well educate them on the need for good nail care practice both in the rural and urban areas.





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