PERSONAL VARIABLES AND HYGIENE PRACTICES AMONG SECONDARY SCHOOL STUDENTS IN CALABAR EDUCATION ZONE, CROSS RIVER STATE, NIGERIA

By

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Abstract
This study investigated personal variables and hygiene practices among secondary school students in Calabar Education Zone of Cross River State, Nigeria. The variables involved in the study are gender, age and hygiene practices among students. The study adopted survey research design and a sample of 819 students was used for the study. Data for the study were collected using a questionnaire titled "Personal Variable and Hygiene Practices Scale" (PVHPS). The face validity of the questionnaire was determined by research experts while the reliability was determined using Cronbach Alpha reliability method which produced a reliability coefficient of .80 for hygiene practices. Data collected from 763 students out of the initial 819 were analysed using Independent t-test and One-way Analysis of Variance tested at .05 level of significance. The findings of the study revealed that male students significantly differ from their female counterparts in their hygiene practices. The result further revealed that age had significant positive influence on students' hygiene practices. Based on the findings of the study, it was recommended, among others, that parents should always do the needful in educating their children on the benefits of proper personal hygiene as well as finding out what their children are doing at a particular time.

Keywords: Personal variables, gender, age, hygiene practices, students.

Introduction

Hygiene is the practice of keeping oneself and one's surroundings clean so as to prevent illness or the spread of preventable diseases. It is often referred to as the behaviours and measures adopted to break the chain of transmission of infections both at home and in school. While lack of safe water, sanitation and prevalence of poor hygiene behaviours is the major cause of death among students in developing countries, a contaminated environment and poor hygiene practices account for over 60% of the total burden of disease among students in these countries (UNICEF & WHO, 2009). Poor hygiene practices have not only serious health consequences but also represent large economic losses and a bad image for countries and governments. The cholera epidemic in schools in Latin American cities, for example, which was caused by deteriorated water supply and poor hygiene conditions, spurred

politicians and administrators into action; although they thought the disease had long been overcome.

Without good health, life cannot function at full capacity. Health, as explained by World Health Organization (WHO, 2014) is the state of complete physical, mental and social well-being of an individual and not merely the absence of disease or infirmity. Good hygiene standards promote health. That is why personal hygiene is a prerequisite for human wellbeing. Personal hygiene is assessed by examining the attitude of individuals towards hand washing, regular bathing, cutting of nails, washing of clothes as well as one's attitude towards care for the teeth, among others. Many people, including adults and school children, are negligent of basic personal hygiene. This manifests in such symptoms as general illness, bad breath and body odour. This could lead to depression, low self-confidence, as well as having a negative consequence for the child's overall long term development.

A substantial proportion of the total infectious disease burden worldwide is due to direct hand to mouth transmission of germs, via food, handshaking with infected persons or transmission through particles resulting from sneezing vomiting and other fluid. These infections are preventable by proper personal hygiene practices, which play a part in reducing the spread as well as serves as a defensive strategy against future epidemic. Proper personal hygiene is, therefore, the first line of defence as well as a primary weapon to mitigate the spread of pathogens in humans and the environment. Regrettably, adherence to proper personal hygiene practices such as regular washing of hands, cutting of finger nails washing and sunning of clothes after use, brushing of teeth, among others, is unacceptably low among adolescents (Curtis, Schmidt, Luby, Florez, Toure´ & Biran, 2011).

Hygiene practices are healthy behaviours that people undertake to keep themselves and others healthy, to prevent diseases. It is a public health tool that is used for disease prevention and health promotion in individual, family, communities, and the society at large. Good hygiene practices remain the primary disease prevention strategy through the combined benefit of improved food, quality water, personal cleanness and a hygienic environment. This can drastically reduce routine exposures to pathogens and microorganisms. Irrespective of the overwhelming benefits of good hygiene practices, students have not yet seen the need to embrace proper personal hygiene as a tool for disease prevention (Aielelo, Larson & Sedlack, 2015).

Students have, in several ways, perhaps as a result of negligence or ignorance, engaged in poor personal hygiene practices ranging from poor or negative attitude toward bathing, washing of hands, brushing of teeth, washing and sunning of clothes after use, cutting of nails, etc. This can lead to harbouring of intestinal worms which could expose one to infections, transient flora, scabies, ringworm, hepatitis B, Diarrhoea, among others (Slade, 2013). William (2017) noted that in the course of students going about their daily activities, they are confronted by germs through what they touch, the kind of food they eat, the people they come in contact with, the water they drink, what they wear, oil secretion from the skin, and the environment they find ourselves in, among others.

However, government and non-governmental organisations have tried to ensure that hygienic practices are enhanced and maintained through a multitude of programmes and campaigns which are ongoing, for the eradication and control of infectious diseases. For instance, health education is entrenched in the curriculum of students, the global hand washing day has been calling for improved hygiene practices both locally and globally with the guiding vision being a culture of regular washing of hands with soap. While health talks are often organised in town halls and churches. Radio jingles and bill boards are also mounted on the streets in order to sensitise youths and other individuals on how to maintain healthy and hygienic practices (Slade, 2014). Despite these efforts, the problem still

exists. What has continually occupied the minds of researchers, parents and government is why these various efforts to equip the young people with knowledge and practice of personal hygiene have not yielded desired result commensurate to these efforts.

There is no denying, failure to adhere to appropriate hygiene practices make disease transmission very easy. Moreover, institutional settings such as child care centres, hospitals and schools are ideal environments for the transmission of infectious diseases because they bring susceptible individuals into close contact with others. Therefore, promoting good hygiene practices among students is the most important measure to improve public health. This will also assist school children to assume responsibility for their own health as well as reduce human suffering and financial loss from infectious diseases. Personal variables such as gender and age might be among those variables that affect the structures and process that determine a person's behavioural adjustment to his or her environment.

Tones (2014) stated that male and female students have unique hygiene needs that, if ignored, may lead to health problems. Women must take care of their genitals to keep them clean. They must be taught to always clean their genitals after using the restroom, to prevent introducing infections from the rectum to the urethra. The researcher further stressed that women spend 2,100 days of their lives menstruating. This scholar also noted that only 15 to 18% of the population is least prepared for its onset, and are ignorant of the hygienic management of the processes and its importance. This poverty of awareness and preparedness may endanger their reproductive health. The researcher presumes that certain personal variables could be responsible for poor hygiene practices among Senior Secondary School Students in Calabar Education Zone.

Purpose of the Study

Specifically, the study investigated whether:

1. Male secondary school students differ from their female counterparts on hygiene practices.
2. Age of secondary school students influences their hygiene practices.

Research Questions

The following research questions guided the study:

a. How do male secondary school students in Calabar Education Zone of Cross River State differ from their female counterparts on hygiene practices?
b. To what extent does age influence hygiene practices among senior secondary school students in Calabar Education Zone of Cross River State?

Statement of Hypothesis

The following research hypotheses guided the study:

i. Male secondary school students in Calabar Education Zone of Cross River State do not differ significantly from their female counterparts on hygiene practices.
ii. There is no significant influence of age on hygiene practices among senior secondary school students in Calabar Education Zone.

Literature Review

Hand washing hygiene practice after defecation is one of the most effective ways of preventing gastrointestinal parasitic and hepatitis C virus infections. However, gender has no influence on hand hygiene practices (Ladwig, 2000). A study conducted by Willer (2015) evaluated gender differences in hand washing hygiene practices among college students in Kuwait. Survey research design was adopted for the study and 280 students (170 girls and 110 boys) were sampled. Simple random sampling technique was used. The data was analysed using independent t-test. This was evaluated in four settings (soap and water; soap, water and visual prompt; soap, water and hand sanitiser; soap, water, hand sanitiser and

visual prompt .The degree of hand hygiene, that is, adequate hand washing time, use of hand sanitiser and hand-drying material was also evaluated at various locations on campus. The result shows that 5.05% of females washed their hands, .7% male practised hand hygiene (using either soap or hand sanitiser). He further found that hand sanitiser use was low among boys than girls and 30% of females used paper towel as the most common hand drying material, and 10.1% boys were found using their pockets as a hand drying material. He submitted that female students are more conscious in hand washing and drying than their male counterparts.

Slade (2014) posited that oral disease constitute public health problem among men in developing countries due to lack of attention given to oral hygiene practices. The author explained that they wake up in the morning, what preoccupies their mind is how to meet up with the challenges of the day and return home late and tired. Such routines would not allow them do the needful such as brushing of teeth twice a day, shaving their beard, caring for their toe/finger nails, among others.

In a study conducted by William (2017) to compare male and female level of participation in personal hygiene practices among senior secondary school students' in Quanda, 540 students were sampled using purposeful sampling techniques. Data was collected using checklist and analysed using independent t-test. Findings show that female students make use of sanitary disposal bins more than the males. They also utilise the soap, water and hand sanitiser provided than the males. He submitted that female students are more conscious of their personal hygiene practices more than the males.

Bateman (2014) argued that gender has no bearing on general hygiene practices if they are placed in the same condition and given the same opportunity with equal hygiene practices, enabling environment and facilities. This he confirmed in his study conducted to evaluate the influence of gender, economic status and personal hygiene practices in Bahamas. Survey research design was adopted for the study and 20 households with the same economic and academic qualification were randomly selected and sampled. In his result, he reported that 97.2% of both males and females brush their teeth twice a day, wash their hands regularly, especially after defecation as well as take their bath as required because the hygiene material was available.

Slade (2014) argued that age is nothing but a number and it has no significant influence on students' hygiene practices, rather knowledge, location, financial status and attitude play a vital role in hygiene practices. He reported this in his cross-sectional survey on perceived factors militating personal hygiene practices among adolescence in Sibu East, Malaysia in 2014. The study adopted the survey research design. Two hundred and eighty (280) respondents were accidentally sampled with the mean age of 16.7, 18.9 and 20.2 years. Data was analysed using Analysis of Variance. The result showed no significant influence of age on hygiene practices, while location, gender was significantly associated with hygiene practices. With age having (p=.003), location (p=.008) and physical (p=.007). He concluded that when there is enabling or favourable environment for proper hygiene practices, age has no sole effect on hygiene practices.

Methodology

The study adopted inferential survey research design. A sample of 819 students was selected from the schools in the Education zone. The selection was done through simple random sampling techniques. The instrument used in data collection for the study was a questionnaire titled: "Personal Variables and Hygiene Practices Scale" (PVHPS). The PVHPS was sub-divided into two Sections: A and B. Section A of the PVHPS measured the demographic data of the students such as gender and age while Section B measured the students' hygiene practices with twelve items on a modified 4-point Likert type scale. The face validity of the instrument was determined by research experts. The experts scrutinised the research instrument and vague/double-barrelled

questions were replaced with more appropriate ones. In order to ascertain the reliability of the instruments, 30 copies of the instrument were pilot-tested using one secondary school in the areas that were not part of the sample for the study, and the data collected from them were analysed using Cronbach Alpha reliability method which gave reliability coefficient of .80 for hygiene practices. Data collection was done in the sampled schools by the researcher and data collected were analysed using independent t-test and one-way analysis of variance tested at .05 level of significance.

PRESENTATION OF RESULTS

Hypothesis one

Male secondary school students in Calabar Education Zone of Cross River State do not differ significantly from their female counterparts on hygiene practices. The independent variable involved in this hypothesis is gender which was categorised into two: male and female, while the dependent variable is hygiene practices among secondary school students in Calabar Education Zone of Cross River State. The hypothesis was analysed using independent t-test at .05 level of significance. The result of the analysis is presented in Table 1.

Table 1: Independent t-test analysis of gender and hygiene practices among secondary school students in Calabar Education Zone of Cross River State

Sex	N	Mean	SD	t-value	p-level
Male	368	31.24	5.76		
				-3.572*	.000
Female	395	32.63	4.97		

*Significant at .05 level; p<.05.

The result in Table 1 reveals that the mean score obtained for the 368 male subjects as regards hygiene practices was 31.24 with a standard deviation of 5.76 is less than the mean score of 32.63 with a standard deviation of 4.97 obtained for the 395 female subjects. The mean difference was statistically significant since the obtained t-value of 3.572 in absolute sense with a p-value of .000 met the criterion for significance at .05 level. This shows that male students in public schools in Calabar Education Zone of Cross River State differ significantly from their female counterparts as regards hygiene practices in favour of the females.

Hypothesis two

There is no significant influence of age on hygiene practices among senior secondary school students in Calabar Education Zone. In this hypothesis, the dependent variable is hygiene practices while the independent variable is age. Age was segmented into: Below 15 years; 15-17 years and Above 17 years. Based on this, the influence of age on hygiene practices was computed using one-way ANOVA as shown in Table 2.

TABLE 2: One-way Analysis of Variance of age and hygiene practices among secondary school students in Calabar Education Zone of Cross River State

Age	N	Mean	SD
Below 15 years	185	33.36	5.67
15 – 17 years	411	32.46	4.44
Above 17 years	167	29.18	6.29

Total	763	31.96	5.41

Source of variance	Sum of squares	df	Mean square	F-ratio	p-level
Between groups	1754.588	2	877.294	32.440*	.000
Within groups	20553.152	760	27.044		
Total	22307.740	762			

*Significant at .05 alpha level; p<.05.

The result presented in Table 6 revealed the mean score obtained by the subjects who are below the age of 15 years as regards their hygiene practices was 33.36 with a standard deviation of 5.67 which is greater than the mean score of 32.46 with a standard deviation of 4.44 obtained by the subjects who are between the ages of 15-17. This is greater than the mean score of 29.18 with a standard deviation of 6.29 obtained by the subjects who are above 17 years of age. This implies that the higher the age of the subjects, the lesser their hygiene practices.

The result further revealed that the calculated F-value of 32.440 obtained with p-value of .000 was greater than the F-value tabulated (3.00) with the degree of freedom of 2 and 760 at .05 significance level. Therefore, this study rejected the null hypothesis based on the F-value and concluded that age on hygiene practices is significant. Given the significant F-value, the Fishers Least Significance Difference (LSD) was employed as a post hoc test as shown in Table 3.

TABLE 3: Fishers Least Significance Difference (LSD) for age and hygiene practices among secondary school students in Calabar Education Zone of Cross River State

Age	N	Mean	Mean difference	p-level
Below 15 years	185	33.36	.90	.052
15 – 17 years	411	32.46		
Below 15 years	185	33.36	4.18*	.000
Above 17 years	167	29.18		
15 – 17 years	411	32.46	3.28*	.000
Above 17 years	167	29.18		

*Significant at .05 level; p<.05.

The result in Table 7 reveals that there was no significant mean difference in hygiene practices between subjects who are below 15 years and those who are between the ages of 15-17 years (MD = .90, p>.05). A significant mean difference exists in hygiene practices between subjects who are below 15 years and those who are above 17 years of age (MD = 4.18, p<.05). Also, a significant mean difference exists in hygiene practices between subjects who are within the ages of 15-17 years and those who are above 17 years of age (MD = 3.28, p<.05). Based on this, the source of the difference was basically from those who are above 17 years of age.

Discussion of Findings

The result reveals that female students in Calabar Education Zone of Cross River State were significantly better than their male counterparts in hygiene practices. This might be because female students usually allocate more time to take care of their bodies, are always conscious of what they wear and how they look. It is in their nature to look neat and clean so as to attract attention or to be noticed by others which they appreciate so much unlike the males. This result is in conformity with Willer (2015) that female students are more conscious of hand washing, teeth brushing, and hair dressing, among others, than their male counterparts. Female students, in comparison to males significantly use medium strength toothbrush, brush their teeth more than once-daily and choose toothpaste following dentists' recommendations. Female participants significantly gave good attention to their oral hygiene practices than the male ones.

This result also supports Slade (2014) who observed that oral disease constitutes public health problem among men than women in developing countries due to lack of attention given to oral hygiene practices by men, stressing that when they wake up in the morning, what they think of is how to meet up the challenges of the day and return home late and tired. That does not allow them do this needful as regards brushing of teeth twice a day. But the finding of this study is contrary to that of Bateman (2014) who noted that gender has no control on general hygiene practices, stressing that, if both groups of students are placed in the same condition as well as given the same opportunity with equal hygiene facilities, they will certainly practice good hygiene.

The result further reveals that age has significant negative influence on hygiene practices among secondary school students in Calabar Education Zone of Cross River State. This implies that the higher the age of the students, the higher their hygiene practices. Naturally, one may think that the higher the age of an individual the higher their hygiene practices, believing that one does not expect an individual of 20 years and above to eat fruits without washing, visit the toilet without washing their hands, or not wash their uniform regularly, the same way a child of 10 years should behave. This might be because younger children are still under the full control of their parents or guardians. Their parents help them in cut their nails, wash their uniforms, etc. They find out if they have bathed, brushed their teeth, washed their uniforms, and because of the fear that they may be beaten if they do otherwise, they would comply. This helps in fostering more hygiene practices. But as they grow older, less attention is given to them by their parents who believe that they know what to do and need not be checkmated.

This result partially agrees with Birks (2015) who found that age is nothing but a number and it has no significant influence on students' hygiene practices. Rather, knowledge, location, financial status and attitude play a vital role in hygiene practices, stressing that, when there is a favourable environment/facilities, age has no sole effect on hygiene practices.

Conclusion and Recommendations

Based on the results and findings of the study, the following conclusions were reached. Hygiene practices are more of behavioural development rather than economic power. Awareness of health and the social/psychological aspects of good hygiene behaviour are very important. Good hygiene practices help to reduce the risk of ill-health and equally boost levels of confidence and self-esteem. Gender has a significant influence on hygiene practices among Secondary School Students. Female students are more conscious of hygiene practices than their male counterparts. There is a significant relationship between cultural beliefs and hygiene practices among secondary school students. Age has a significant influence on hygiene practices. Children of school age are generally less conscious of hygiene practices.

In conclusion, parents and teachers should encourage male students on the importance of cleanliness given their delicate

body parts and dedicate time for their personal hygiene. Government agencies should organise routine awareness campaigns in schools to enhance hygiene practices among students. Parents should always do the needful in educating their children on the benefits of personal hygiene as well as find out time to time if the children have washed their clothes, tidied their hairs, among others, irrespective of their age.

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