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Appraisal of the health-related facilities/equipment, health personnel and perceived health treats in public and private secondary schools in Osun State Nigeria

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Abstract

This study specifically appraised the health-related facilities in public and private secondary Schools in Ile-Ife and the environment. The study employed the descriptive research design. Twenty secondary schools and a total of 600 respondents consisting of 300 public and 300 private secondary schools students were selected for the study using simple random sampling technique, age ranging from 14 to 24 years. A structured questionnaire was used to collect data for the study. Simple percentages, frequency count and statistical analysis were used to analyze the data. The results showed that there was no significant relationship between the public and private secondary schools as regards the availability of health-related facilities/equipment, there was a significant difference in the health personnel/sick bay available and a significant difference in the perceived health treats of poor health facilities and equipment in the public and private secondary schools. It is therefore recommended that the three tiers of the government and the school authority should make health-related facilities/equipment, health personnel/sick bay, first aid box with adequate materials available in the study areas.

Keywords: Appraisal, health-related facilities/equipment, health personnel, perceived health treats, public and private secondary schools.

Introduction

Health is a crucial factor in national growth (Adegun et al., 2017). Improving the health situations and process of knowledge among school children through school centered health and nutrition programmes should be of more significant (UNICEF, 2010). Moronkola (2003) stated that the health of beginners at all level of education is very important. He further explained that the well-being of learners can be taken care of at home; school or community situations but the school being the second home of learners should take the health of learners very important. UNICEF (2010) held that a number of factors stimulate the physical and mental health of school children and their knowledge process. These include health conditions of the children, the physical and social environment in their school, value of life of their parents, their awareness about health inspiring practices, and availability of health services rendered them.

According to the WHO (2012), schools should ordinarily promote health in its capacity with learning. According to National School Health Policy (NSHP, 2006), the federal ministry of health with the teamwork of other relevant agencies made a policy in public schools that there should be a provision for health related facilities such as bore hole for water supply, pit latrines for sewage disposal and regulation on solid waste disposal. The maintenance of facilities is very important schools in Nigeria. Studies have shown that some school environments are unsafe due to absence of adequate and

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safe water supply, poor sanitation facilities, and ramshackle school structures, congested and un-conducive classrooms (Alex-Hart & Akani, 2011). Goodman & van Norden (2005) explained that the school makes use of extreme amount of water within the school environment such as hand-washing, drinking, flushing toilet, cooking, wetting flowers and lawn, in the laboratory, cleaning tiled classrooms, washing cloth, washing of utensils in the school cafeteria, and so on. The importance of water supply is as significant as the facilities used as basis the water (Casey, 2012).

The school creates a noticeable solid/refuse waste every day such as papers, nylon, leaves, wood form cracked lockers, plastics, dust, metals and so on. And when not properly predisposed with suitable facility/facilities can result to the spread of communicable diseases (Ajani, 2007). In the study of WASH Assessment of Schools carried out in Loughborough University (2016), the result displayed that the welfare of pupils and staff in schools will importantly enriched the sufficient clean water and sanitation facilities. UNESCO (2010) pointed out that availability of proper facilities is a pre-requisite for creating a healthy environment in a school and contributing to a beautiful environment for the children in the school. According to Agbo et al. (2012), facilities for academic and non-academic activities need to be appropriate for an optimum sanitary environment, harmless and suitable for physical, mental and emotional health of the student to achieve extreme benefits of educational programmes. School facilities managing is the keeping and evaluating of available facilities' records, supervising the facilities, inspiring the students and teachers to participate in facilities maintenance (Asiyai, 2012).

Owoeye (2000) pointed out the significance of school facilities in teaching/learning process, and the inadequacy, decline and lack of maintenance of these facilities will cause adversity for the teachers and students in the teaching/learning activities. World Bank (2015) specified that most cleanliness, sanitation, and water in schools projects place their major emphasis on the improvement of sanitation facilities. However, schools must also have access to safe and sufficient water for drinking, food preparation, hand washing, cleaning, and use of flush toilets, anal washing after using the toilet and watering the school garden. Environmental Protection agency, EPA (2013), gave a list of common water machineries and the facilities used in schools as piped water, shallow wells, deep boreholes, rainwater harvesting, surface water collection, and water trucks.

UNICEF (2012) indicated that in larger schools, toilet facilities should be disjointed for younger children and older children; female and male teachers, for girls and boys, particularly adolescents. Olatunya et al. (2014) asserted that the school environment connotes the physical, biological and social environment where members of the school community operate. The provision of safe water and hygiene in schools has been well-known to increase health, boost learning achievement, and promote gender parity which has a positive impact on the society (Olukanni, 2013). According to NSHP (2006), the federal ministry of health with the teamwork of other appropriate agencies made a policy in public schools that there should be an establishment for health related facilities such as bore hole for water supply, pit latrines for sewage disposal. The maintenance of facilities is very imperative schools in Nigeria. Studies have shown that some school environments are hazardous due to absence of adequate and safe water supply, poor sanitation facilities, and rickety school structures, congested and un-conducive classrooms (Alex-Hart & Akani, 2011).

Goodman & van Norden (2005), explained that the school makes use of undue amount of water within the school environment such as hand-washing, drinking, flushing toilet, cooking, wetting flowers and lawn, in the laboratory, mopping tiled classrooms, washing cloth, washing of utensils in the school cafeteria, and so on. The relevance of water supply is as important as well as the facilities used to supply the water (Casey, 2012). Safe drinking water and sanitation services are vast with occurrences of water-borne diseases and parasitic infections are extreme among the poor, especially school-aged children (WHO, 2010). Schools with poor water, sanitation and hygiene situations, and concentrated levels of person-to-person contact are high-risk environments for children and staff specifically susceptibility to environmental health hazards (WHO, 2009). Human excreta forms substantial cause of pollution and every society has an obligation to ensure its safe removal. The problems of unfitting excreta disposal can lead to Soil pollution, water pollution, and contamination of foods (Kumar & Taunk, 2010).

Improper controlling and disposal of human sewage can lead to contamination of ground water thereby

disturbing potable water supply and the spread of communicable disease (Agbo et al., 2012). The school is the primary institution responsible for the growth of young people all over the world, also thought that educational institutions such as the secondary schools are unique and influential position to improve the health status of youths who attend such schools. (Ademokun et al., 2014; Kolawole, 2016). Normal education can only take place in a school that affords a good environment for learning (Asiabaka & Mbukwem, 2008). Aibor & Olurunda (2010) identified several ways in which refuse can be disposed, these were Open dump, Sanitary landfill, Incinerator, Composting, Disposal to the sea, Burning, and Hog feeding. According to WHO (2002), the evident cause of death in human beings in low income countries are respiratory tract infections, malaria, diarrhea diseases and injuries It is also noted that hazardous water supply, inadequate sanitation and hygiene can cause diarrheal diseases with estimated population of 88% (WHO, 2011).

The school health services provided by health worker to pupils/students in primary or secondary education, and either in school environment or in a health services situated outside the school. Most schools have some forms of school health programmes which experiences a range of largely avoidable health problems including unplanned injury, personal violence, sexual and reproductive issues, communicable and non-communicable diseases and mental health issues (WHO, 2021). The parts of the school health personnel are look into the health of the pupils and students where these health personnel are being posted to National School Health Policy (NSHP, 2006). In Pakistan, due to inquisitiveness, mobility and lack of understanding, children are exposed to injuries and accidents (Younis & El-Abassay, 2015). In a study conducted by Qureshi et al. (2018), first aid box was in all schools but not well furnished. Sick bay was not seen in any school. It was also discovered that 68.42% teachers were not qualified in first aid and management. In developing countries, school health services are regularly ignored (Al-Samghan et al., 2015). Therefore, this study aimed to examine the health status of secondary schools in terms of health-related facilities, equipment and personnel in public and private secondary schools.

Methods

Descriptive research design was adopted for this study. The population for this study was public and private secondary schools of Osun State. The sample comprised 600 students from the study area which were chosen using multistage sampling technique.

In the first stage, all the secondary schools in the study area were stratified into private and public secondary schools. Ten secondary schools each from public and ten private were selected using simple random sampling technique. One class from Senior Secondary school 2 and Senior Secondary school 3 were selected from each school using simple random sampling technique. Ten students were also selected from SS2 and SSS3 respectively using simple random sampling technique. This made a total number of 600 students. A self-developed research instrument, 'Health-Related Facilities Assessment Questionnaire tagged (SHFAQ)' was used to collect information from students on the availability, adequacy, accessibility and maintenance of health-related facilities. The instrument contained 2 sections. Section A was for the demographic variables of the respondents such as name of school, class, age and gender, while section B provided information that enhanced the study for relevant data analyses. The questionnaire used for the study was subjected to face and content validity procedure, which was done by the researcher's supervisor and two experts on the field. The instrument was then appropriate to measure what it was deemed to measure. A pilot study was carried out to ascertain the reliability of the questionnaires. Split half reliability method was used to test the reliability of the instrument instruments at 0.05 level of significance. The questionnaire was administered in two private schools and two public schools using five students from each school. Pearson product moment correlation coefficient method was used to find the correlation which yielded 0.82 for 'Health-Related Facilities Assessment Questionnaire which was considered high and reliable. This indicated that the instrument had an acceptable internal consistency which was adequate for the study. The administration of the questionnaires was carried out by the researcher and three trained research assistants by visiting the schools for the administration of the instrument on the students. The questionnaire was filled and collected on the spot.

Results

In Table 1, it was observed in the private secondary schools that water facilities were abundant, water closet was the toilet facility used, as regards refuse disposal facilities and equipment, incinerator, controlled tipping, dust bin, dust pan and brooms were commonly used. In the public secondary schools, well water was the only water facility commonly used, when pit latrine was only the toilet facility commonly used. As regards refuse disposal facilities and equipment, sanitary landfill, incinerator, controlled facilities, dust bin, dust pan and brooms were commonly used.

Table 2 showed the chi-square analysis of the availability of health-related facilities in private and public secondary schools in Ile-Ife and the environment. The 3 variables named water; toilet and refuse were tested with chi-square table of analysis to see if there was no significant relationship of each. Based on the findings of the above, it was observed that water facilities had Calc x^2= 1.33, Crit. x^2=3.341, df=1 at p-value =0.05, toilet facilities had Calc x^2= 2.93, Crit. x^2=3.341, df=1 at p-value =0.05, and refuse disposal facilities had Calc x^2= 2.71, Crit. x^2=3.341, df=1 at p-value =0.05 respectively. This showed that the three were found to have no significant relationship between the public and private secondary schools.

Table 1

Descriptive analysis of availability of health-related facilities in private and public secondary schools.

S/N	Variables	Private 300 (%)		Public 300(%)	
		Available	Not Available	Available	Not Available
1. Water Facilities and Equipment					
a.	Well	180 (60%)	120 (40%)	240(80%)	60(20%)
b.	Tap	270(90%)	30(10%)	120(40%)	180(60%)
c.	Tank	240(80%)	60(20%)	30(10%)	270(90%)
d.	Borehole	210(70%)	90(30%)	0(0%)	300(100%)
2. Toilet Facilities and Equipment					
a.	Water closet	270(90%)	30(10%)	60(20%)	240(80%)
b.	Pit latrine	30(10%)	270(90%)	240(80%)	60(20%)
c.	Squat toilet	60(20%)	240(80%)	120(40%)	180(60%)
d.	Pails	270(90%)	30(10%)	210(70%)	90(30%)
e.	Bowls	240(80%)	60(20%)	240(80%)	60(20%)
3. Refuse Disposal Facilities and Equipment					
a.	Open dump	60 (20%)	240 (80%)	210 (70%)	90(30%)
b.	Sanitary landfill	60 (20%)	240 (80%)	240 (80%)	60(20%)
c.	Incinerator	270 (70%)	30 (10%)	180 (60%)	120(40%)
d.	Controlled tipping	240 (60%)	60 (20%)	240 (80%)	60(20%)
	Dust Bin	300 (100%)	0(%)	270(90%)	30(10%)
	Dust pan	300(100%)	0(%)	210(70%)	90(30%)
	Brooms	300(100%)	0(%)	300(100%)	0(%)

Table 2

Chi-square analysis of the significance relationship in the availability of health-related facilities between public and private secondary schools in Ile-Ife and environment in Osun State.

Hypothesis testing							
Variables	Positive	Negative	df	Calc ^{x2}	Crit. ^{x2}	p	Decision
Water Facilities							
Private	225	75	1	1.33	3.341	0.05	Not Significant
Public	98	202					
Toilet Facilities							
Private	173	127	1	2.93	3.341	0.05	Not Significant
Public	174	126					
Refuse Disposal Facilities							
Private	218	82	1	2.71	3.341	0.05	Not Significant
Public	235	65					

Table 3

Descriptive analysis of the availability of health personnel/sick bay in private and public secondary schools in the selected area.

S/N	Variables	Private 300 (%)		Public 300 (%)	
	Health Personnel/Facilities/Equipment	Available	Not Available	Available	Not Available
a.	Health Educators	150 (50%)	150 (50%)	240 (80%)	60 (20%)
b.	Health Counselors	210 (70%)	90 (30%)	60 (20%)	240 (80%)
b.	School Nurses	180 (60%)	120 (40%)	30 (10%)	270 (90%)
c.	Nurses Assistants	120 (40%)	180 (60%)	60 (20%)	240 (80%)
d.	Doctors	30 (10%)	270 (90%)	0 (0%)	300 (100%)
e.	First Aid box	300 (100%)	0 (0%)	90 (30%)	210 (70%)
	First Aid box and Materials	300 (100%)	0 (0%)	30 (10%)	270 (90%)
f.	Sick bay	300 (100%)	0 (0%)	60 (20%)	240 (80%)

Table 4

The t-test analysis of difference in the health personnel/sick bay available between public and private secondary schools in Ile-Ife and the environment in Osun State.

Variables	n	Mean	SD	df	t-cal	t-crtic	Decision
Private	300	6.234	2.342	3	2.514	0.121	Significant
Public	300	4.711	1.415				

Table 3 indicated that the respondents' responses in number and percentages on the availability of health-related facilities between public secondary schools and private secondary schools in Ile-Ife and the environment in the study area. It was observed that the private secondary school respondents showed that there were First Aid box, and Materials, Sick bay, Health Counselors, and School Nurses while only in some schools, Health Educators and nurses assistants were not that much. While health educators were the only common personnel.

And many of the public secondary schools did not have health personnel/sick-bay.

Table 4 showed the t-test analysis of perceived health implication of health-related facilities to know if there was going to be a significant difference between public and private secondary schools students in Ile-Ife and the environment in Osun State. The data analysis indicated the calculated t-test value for Health Personnel/Facilities in both private and public secondary schools was 2.514, t-crit. =0.121, df 3; 0.05 level of significance, Based on the result shown on table 4 above, the hypothesis was rejected. There was therefore a significant difference in the health personnel/sick bay available between public and private secondary schools in Ile-Ife and the environment in Osun State.

Table 5 showed the responses of the respondents on the perceived health treats of poor health facilities and equipment of health related facilities in the private and public secondary schools in the Ile-Ife and the environment.

Table 6 showed the t-test analysis was used to test the significant difference of perceived health treats of poor health facilities and equipment in the public and private secondary schools in the study area. The data analysis indicated the calculated t-test (t-cal)= 1.314; t-crtic= 0.023, df=3; at 0.05 level of significance. Based on the result shown on table 6 above, the hypothesis was rejected. Therefore, there was a significant difference in the perceived health treats of poor health facilities and equipment in the public and private secondary schools in the Ile-Ife and the environment in Osun State.

Discussion

This study revealed that well, tap water; tank, borehole and pit latrine were commonly used in private secondary schools while in public secondary schools. This validates the statement of NSHP (2006) that the federal ministry of health with the teamwork of other appropriate agencies made a policy in public schools that there should be an establishment for health related facilities such as bore hole for water supply, pit latrines for sewage disposal.

Table 5

Descriptive analysis of the perceived health treats of poor health facilities and equipment in the public and private secondary schools in the Ile-Ife and the environment in Osun State.

S/N	Variables	Private 300 (%)		Public 300 (%)	
	Perceived Health Treat	Agreed	Disagreed	Agreed	Disagreed
a.	Typhoid	210 (70%)	90 (30%)	93 (31%)	207 (69%)
b.	Diarrhea	266 (88.7%)	34 (11.3%)	159 (53%)	141 (47%)
c.	Stomach Flu (Gastroenteritis)	269 (89.7%)	31 (10.3%)	120 (40%)	180 (60%)
d.	Cholera	272 (90.7%)	28 (9.3%)	190 (93.3%)	110(6.7%)
e.	Worm Infections	199 (66.3%)	101 (33.7%)	136 (45.3%)	164 (54.7%)
f.	Amebiasis	56 (18.7%)	244 (81.3%)	23 (7.7%)	277 (92.3%)
g.	Dysentery	239 (79.7%)	61 (20.3%)	66 (22%)	234 (78%)
h.	Hepatitis A	66 (22%)	234 (78%)	36 (12%)	264 (88%)

Table 6

The t-test analysis to test the significant difference of perceived health treats of poor health facilities and equipment in the public and private secondary schools in the Ile-Ife and the environment in Osun State.

Variables	n	Mean	SD	df	t-cal	t-crtic	Decision
Private	300	7.254	3.142	3	1.314	0.023	Significant
Public	300	4.921	1.513				

Another finding pointed out that the private secondary schools respondents reported that water closet, pails and bowls were the equipment and facilities commonly used by them, it was also revealed that pit latrine, water pails and bowls were the regularly used facilities and equipment.

The finding also revealed that as regards facilities and equipment for refuse disposal in private university, the respondents identified incinerator, controlled tipping, dust bin, dust pan, dust pan and brooms as the commonly used. While open dump, sanitary landfill, incinerator, controlled tipping, dust Bin, dust pan and brooms were identified by the respondents as commonly used. From the above it was observed that the

Another finding showed that as regards health personnel, facilities and equipment, the private secondary school respondents signified that there were first aid box, and materials, sick bay, health counselors, and school nurses while only in some schools, health educators and nurses assistants were not that many. While health educators were the only common personnel. But there was no first aid box and materials in the public secondary schools. First aid box was only common in private schools. And many of the public secondary schools did not have health personnel/sick-bay. In private secondary schools, there were adequate sick bay. This negates the study of Qureshi et al. (2018), which specified that sick bay was not seen in any school but corroborates the results of the public secondary schools.

In public schools, first aid box was not common in public secondary schools. This is in line with the study conducted by Qureshi et al. (2018), which stated that first aid box was in all schools nevertheless not well equipped.

This study also revealed that both the private and public secondary schools respondents identified many perceived health treats that can affect human health. This is in line with the Agbo et al., (2012) that Improper management and disposal of human sewage can affecting potable water supply leading to the spread of communicable disease and WHO (2011) that unsafe water supply, inadequate sanitation and hygiene can cause diarrhoeal disease with estimation of 88% population.

Conclusions

As a result, there was no significant relationship in the availability of health-related facilities/equipment in the public and private secondary school. Therefore, availability of health related facilities/equipment had no substantial relationship.

There was a significant difference in the availability of health personnel/sick bay in public and private secondary schools in the study area; this implied that the availability of health personnel/sick bay in public and private secondary schools in the study were not the same.

There was a significant difference in the perceived health treats of poor health facilities and equipment in the public and private secondary schools in the study area. This indicated that the students' perceived health treats of poor health facilities and equipment was not alike.

According to the results of the research, the following are recommended: The three tiers of the government and the school authority should make health-related facilities and equipment available of the students in public and private secondary schools in in the study area. The three tiers of the government and the school authority should also make available health personnel/sick bay in public and private secondary schools in the study area. The three tiers of the government and the school authority should allow the first aid box with adequate materials. Sick bay with health or medical personnel should also be made available in the study area.

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