

# Perceived Environmental Factors as Correlate of Availability and Utilization of Schools Health Services in Primary Schools in Central Senatorial District of Delta State

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## Abstract

Learning can only take place meaningfully in a conducive environment, hence school health services should operate in an environment of good space and aesthetic to achieve its goals. The purpose of this study was to assess environment as a correlate of the availability and utilization of school health services in central senatorial District of Delta State. Adopting the descriptive research design, 456 pupils and teachers were sampled for the study. Two research questions and two hypotheses were generated as a guide. A self-developed questionnaire with a Cronbach alpha of  $r = 0.84$  was used to generate the data. The descriptive and Spearman's correlation coefficient was used to analyse the data. It was revealed in the findings that schools health services were inadequate in Central Senatorial District of Delta State, Nigeria, but space was not a significant correlate of school health services. Instead, funds and equipment were hindrance to adequate school health services. It was recommended that effort at improving school health services should be geared towards funds and equipment while other environmental factors should be maintained and upheld.

**Keywords:** Environmental factors, School Health Programme, Central Senatorial District, Nigeria.

## Introduction

Health is fundamental right of all. To live a healthy and productive life is the aspiration of most people in the society. Infringing factors may impede this aspiration if early attempt is not made to develop a healthy life style in the child. Hence, school health programme was developed to build a child from his prime with good health habits. School health programme has three broad headings: school health instruction, school health services and healthy school environment. The school health concept is the totality of all action taken in the school to develop the child through teaching-learning process and the prevention and maintenance including providing minor treatment for the improvement in pupils health status. School health services in relation to the school health programme, include all efforts made by the school to conserve, protect and improve the health status of the school population through the activities of the teachers, social workers, nurses, dentists, physicians and others who are interested in the welfare of the school children and personnel (Okoro, 2004). According to Idaho state Department of Education-Coordinated school health (2014) school health services, traditionally, most people think of the school nurse, through today's school health services programme may include a variety of additional primary care services that are available within the school or in a closely linked facility. It stated further that such services are design to be preventive in nature and include education, first Aid, screening, medication administration, emergency care and appropriate management of all health conditions of pupils.

According to National school health policy (1988), healthful school environment is that which embraces the health and safety of learners and other members of the school community. Idaho state Department of Education (2014) stated that a healthful school environment involves two areas: a positive emotional and social climate is critical to support learning and healthy social development. It was stated further that a safe and functional physical plant of the school, including the school building and ground, are important to allow students an opportunity to succeed. This implies that such important consideration as lightening, ventilation, heat, location, sanitary facilities, play space, and other essential are adequately provided for in the buildings and areas that are used for educational purposes. Centers for disease control and prevention (2013) stated that healthy and safe school environment includes the physical and aesthetic surroundings and the psychosocial climate and culture of the school. It stated further that factors that influence the physical environment include the school building and the area surrounding it, only biological or chemical agents that are detrimental to health and physical conditions such as temperature, noise and lighting. Also included is the psycho-social environment, includes the physical, emotional and social conditions that affect the well-being of students and staff. Today, in Nigeria the standard of environmental health among grown up is low, (Ogbe & Nwajei, 2005). In order to have better prospect in future, no pin should be spared to see that children are prepared for making healthful environment a challenge. For emotional environment, proper rapport must exist between the teachers and pupils and among pupils themselves (Okafor, 2002).

Analysis of healthful living environment will reveal the following:

- 1) Physical environment: site, plant plan, heating, lighting, and water and lunch room, facilities for sewage

and refuse disposal.

- 2) Mentally healthy environment: pupil's status, pupil-teachers relationship, different curriculum, adaptation, atmosphere of mutual respect.
- 3) Practices: schedules, time allotments, activity and rest, fire protection, safety inspection and house keeping. Common to all aspects of the school health programme is home, school and community relations. According to WHO (2006), Environmental factors play an important role in infections and eventually death of young children. The report stated further that 23 % of death can be attributed to environmental factor; 36% of deaths of many children between 0-14 years are caused by diarrhea, poor water supply, inadequate sanitation and poor hygiene.

Primary school children spent between 7-9 hours of their active day in school. Therefore, there is the need to constantly research into their environment as a surveillance measure to maintain their health. It was for this purpose this research was embarked upon. This study would be significant as it will make school managers, headmasters, teachers, school health education teachers, policy makers and environmental officers in schools to improve on the already existing standard as protection of pupil's health. This study will explore and assess environmental factors in schools as a correlate of the availability and the utilization of school health services in primary Schools in Delta central senatorial district. Specifically the study will examine the number of schools that have school health services in place, the extent of utilization of school health services- the level of implementation of school health services and environmental factors influencing effective school health services implementation.

### Conceptual Framework

According to Ademuwagun and Oduntan (1986), in 1946 just at the end of the Second World War the international Bureau of Education made a recommendation on the "teaching of hygiene in primary and secondary schools". Recommendation number twenty (No 20) of the conference represented a land mark and it was brought to the attention of the Ministries of Education all over the World.

The modern school health era was lunched on the fundamental concept that the school can prepare an individual to do what is necessary for the promotion of the child's health. National school health policy, (2006) supporting the view of Ogwu & Ayabiogbe (2010) who stated that the school is a key setting for health promotion of the population for many years and above all recognized that the learning of health-related knowledge, attitude and behaviour begin at the early age.

WHO Global School Health Initiative 1996, quoted D.T. Jamison & J. Leslie 1990 to support research on school health programme:

..... Given what is known about the probable effect of health and nutrition interventions for learning attendance, and give the relatively modest cost of a carefully designed, carefully targeted program, the implication for education planners is clear: More investment in child health and nutrition will pay off well for education..... Under a broad range of assumptions, these cost-benefit analyses suggest that appropriate health and nutrition interventions in the schools are likely to prove to be very high-yield investment.

- D.T. Jamison & J. Leslie, 1990

Further the WHO Global School Initiative cited the World Summit for children adopted on 30<sup>th</sup> september 1990 to support school Health, noting that:

As today's children are the citizens of tomorrow's world, their survival, protection and development is the prerequisite for the future development of humanity. Empowerment of the younger generation with knowledge and resources to meet their basic human needs and to grow to their full potentials should be a primary goal of national development. As their individual development and social contribution will shape the future of the world, *investment in children's health, nutrition and education is the foundation for national development (emphasis added).*

WHO Global School Health Initiative.

## Review

Some researchers in the area of environmental factors on the availability and utilization of school health programmes reveal as: Fajewonyomi and Afobi (1993) stated that the lack of health care facilities in schools. It stated further that lack of facilities would be related to a number of factors such as poor financing, lack of concern of the appropriate agencies in ensuring the provision of healthcare services and low level of knowledge of school heads about the health need of school children.

Ogbe and Nwajei (2004) in their study of safety awareness in schools, observed that primary and secondary schools in their area of study were grossly ill-equipped for safety and disaster situations. Idowu and Molayoto (2007) found in their study that schools in Ojo educational district in Lagos state, Nigeria do not have adequate refuse disposal facilities. It was also observed by Idowu and Molayoto (2007) that adequate portable water was also not available hence they recommended that these facilities (refuse disposal and water) be provided in school to meet student's enrolment. Olsen (1998) reported unhealthy environment found in some schools in America.

In a study, Olubayo-Fatiregum, Ayodele and Adebero (2013) studied the influence of school physical environment on the mental health of students in which they found that school physical environment exhibits significant influence on student behaviour. The same study by the authors also showed that school physical environment enhances or influences academic performance. The authors stated further in their findings that physical environment is a mood predictor of students. Thus mental health, mood prediction and academic performance are health dependent.

In another study, Fakeye, Oyinlola and Odedele (2013) studied perceived health implication of waste disposal patterns among pupils in primary school and found that risk was associated with sanitary land fills if not well maintained. The land fill generate poisonous gasses harmful to man. The authors reported incineration system of waste disposal as producing harmful gasses while composting produces harmful gas like carbon-monoxide.

Adegun (2008) investigated school health variables as determinants of health delivery programmes in schools and found that school healthful physical environment contributes about 12% to health care delivery programme in schools. Physical environment was found to be significant as a contributory factors to school health services. According to the authors physical environment provides an atmosphere which encourages good teaching-learning process, permits health practices and protect health.

Ibhafidon and Moronkola (2008) stated that student Healthful school environment in Nomadic Primary Schools because of its health and social implication for school pupils as it helps to identify areas needing improvement. These authors found in their study that Nomadic primary schools in Southwest Nigeria generally have no healthful school environment. According to the authors only effective refuse disposal practice was significantly indicated. Toilet facilities, potable water and school midday meals were significantly available. Both building and beating facilities were found to be significantly inadequate.

To guide this study, two research questions and two hypotheses were generated

- 1) What were the environmental factors that are perceived as correlates of availability of school health services in central senatorial district of Delta state.
- 2) What are the environmental factors perceived as correlates of utilization of school health services in central senatorial district of Delta state.
- 3) It is hypothesised that; (i) environmental factors of school health services would not be significantly perceived as correlates of availability of school health services in central senatorial district of Delta state. (ii) Environmental factors of school health services would not be significantly perceived as correlates of utilization of school services in central senatorial district, Delta state.

## Material and method

The study adopted the *expo-facto design* of a descriptive survey. The population was estimated to be seven thousand, eight hundred and eight-five (7,885) pupils and about 61 health teachers in both public and private schools in Central Senatorial District. The sample size was 408 pupils and 51 health teachers. The size of the sample was informed by Areaoye (2004) who stated that a sample of 384 is comfortable for a population of above 10,000.

There were 360 primary schools – public and private in the Senatorial District. Ten percent was sampled making 36 schools. The inclusion factors was only pupils in primary 5 (k – 5) and Health Education teachers. Only primary 5 pupils were used because it was the highest class in school at a time the primary 6 pupils have completed their examination. A class was sampled from each schools using simple ballot method. Ten percent (10%) of each class was sampled until 408 pupils were reached. All 51 Health Teachers available in the Senatorial District were sample by puposive sampling techniques. Thus 459 pupils and teachers were sampled.

The instrument for the study was a closed end questionnaire where respondents have the option to select

from four options of strongly agreed (SA), Agreed (A), Disagreed (D), and strongly disagreed (SD). The options were rated as follows; SA, (4 points), S, (3 points) D, (2 points) and SD, (1 point). The questionnaire was in two parts; section A, demographic data and section B, structured statement items.

The instrument was face validated by three experts in health education, test and measurement and biostatistics in Delta state university Abraka. Both structural and grammatical corrections were made and adopted to improve the quality of the instrument. After which the instrument was subjected to factor validation and using the principal axes method of factor analysis and selection criteria of 14 and above factor load. The final product was pre-tested on 20 pupils and 10 health teachers outside the study area (Delta North senatorial District). Data obtained was used to compute the cronbach alpha which stood at reliability of .74. This indicated good internal consistency of the items. According to Brace, Kemp and Saelgar (2000) cronbach alpha of .70 is ideal for every study.

Data were collected with the distribution of the questionnaire to the pupils through four trained research assistants and their teachers. The research assistants help to interpret the questionnaire to the pupils should any one needs explanation while the teachers were given the questionnaire for self-completion. Questionnaire was collected instantly within one-two hours of administration. Schools were visited in different dates. Of 459 questionnaire distributed, all were retrieved from participants but three representing 0.30% were found unfit for use. Thus 456 questionnaire representing 99.7% were used for the study. The data were analyzed using the spearman correlation coefficient tested at .05 alpha. The model was the statistical package for social science (SPSS) 16 for MS windows. A benchmark of 2.50 was used as criterium for acceptance or rejection of a statement item in the questionnaire.

## Results/Findings

### Demographic Data

Status distribution:- Health Teachers – 51 (11.18%), pupils 405 (88.8%).

Age :- 11-15years, 405 (88.8%), 16-25years, 2 (0.44%), 26-27years, 19, (4.17%), above 35years, 30 (6.5%).

Health teachers by qualification:- Teachers Grade II Certificate – 4 (7.84%), National Certificate of Education – 35 (68.62%), Degree (B.Sc (Ed)) – 12 (23.52%).

**Table 1:** Descriptive statistics of participant’s response on the influence of environmental factors perceived to influence availability of school health service in central senatorial district, Delta state.

S/N	School Health Services	Frequency of Respondents’ Perception Regarding School Health Services Availability				
		Strongly Agree	Agree	Disagree	Strongly Disagree	Decision
1	Water and sanitation including physical environment as factors to consider in the availability of school health services	238 (54.7%)	140 (32.2%)	29 (6.7%)	28 (6.4%)	2.75 Accepted
2	Availability of school health services are based on infrastructure and materials for First Aid treatment	133 (29.2)	250 (54.8%)	32 (7.2%)	41 9.09%)	2.55 Accepted
3	Psycho-social environment aspect of education affecting mood and behaviour are factors consider in the availability of school health services	134 (29.2%)	148(32.5%)	129(28.3%)	45(9.9%)	2.50 Accepted

Table 1 revealed that water, sanitation and physical environment met the bench mark of acceptance having scored 2.75 with 82.9% of respondents in agreement. Availability of school health services based on infrastructure and material for first Aid and treatment scored 2.55 bench mark with 84.0% respondents in agreement while psycho-social environment aspect of education scored 2.50 with 61.9% respondents in agreement.

**Table 2:** Spearman's correlation-statistics between perceived environmental factors and availability of school health service in central senatorial district, Delta state.

		Psycho-social environment aspect of education affecting mood and behaviour are factors consider in the availability of school health services	Water and sanitation including physical environment as factors to consider in the availability of school health services	Availability of school health services are based on infrastructure and materials for First Aid treatment
First aid treatment is provided in my school in the vent of a pupils injury	Cor. Coef.	0.165 x	0.088	.199 x
	Sig. (2-tailed)	0.000	0.061	.000
	N	456	456	.435
Pupils observed with communicable diseases are isolated in the sickbay	Cor. Coef.	0.123 x	0.150 x	.205 x
	Sig. (2-tailed)	0.009	0.001	.000
	N	456	456	.435
School administrators usually encourage immunization officers to provide their services in my school	Cor. Coef.	0.109 x	0.167 x	.128 x
	Sig. (2-tailed)	0.000	.008	0.020
	N	456	456	435
Teachers usually discuss pupils health problems in my school	Cor. Coef.	0.059	0.125 x	-.213 x
	Sig. (2-tailed)	0.205	0.008	.000
	N	456	456	456
Visual impairments have been observed by teachers in my school	Cor. Coef.	0.009	0.095 x	-.081
	Sig. (2-tailed)	0.946	0.043	0.090
	N	456	456	435
Auditory impairments have been observed by teachers in my school	Cor. Coef.	0.001	0.180 x	-.027
	Sig. (2-tailed)	0.976	0.000	0.579
	N	456	456	435
Dental defects have been observed among pupils in my school	Cor. Coef.	0.063	0.211 x	-.258 x
	Sig. (2-tailed)	0.181	0.000	.000
	N	456	456	456

**X Significant**

Table 2: It was found in table 2 that there was correlation between all items listed under school health services in colum one such as First Aid treatment, pupils observed with communicable diseases, encouraging immunization among others to be significant with water and sanitation including, physical environment as influencing the availability of school health services. It was observed from the table that First Aid treatment, observed communicable diseases, school administrators encouraging immunization, teachers usually discuss pupils health problem in my school and dental defect being observed among pupils were significant at .199, .205, .128, .213 and .258, all at below .05 alpha respectively.

It was found that some items listed in colum one such as pupils observed with communicable diseases, school administrators usually encourage immunization, teachers usually discuse pupils health problems in my school, visual impairment, auditory impairment and dental defect as school health services were significantly correlated with availability of school health services based on infrastructure and material for First Aid and treatment at .150, .167, .125, .095, .180 and .211, all at below 0.05 alpha respectively. It was also found that some items on school health services such as First Aid treatment, pupils observed with communicable diseases, school administrator encouraging immunization were significantly correlated to psychosocial environment aspect of education at .165, .123, .109, all below 0.05 alpha



**Table 3:** Descriptive statistics of environmental factors perceived to influence utilization of school health services in Delta state.

School health services	Frequency of respondents Perception regarding School Health Services Utilization				
	Strongly Agree	Agree	Disagree	Strongly Disagree	Decision
Water and sanitation including physical environment as factors to consider in the availability of school health services	164(32.9%)	189(43.4%)	51 (11.7%)	52 (12.0%)	3.02 Accepted
Availability of school health services are based on infrastructure and materials for First Aid treatment	170 (37.3%)	170 (37.3%)	73 (16.0%)	43 (9.4%)	3.03 Accepted
Psycho-social environment aspect of education affecting mood and behaviour are factors consider in the availability of school health services	191(41.9%)	161 (35.5%)	62 (13.6%)	41 (9,0%)	3.10 Accepted

Table 3 reveal that water and sanitation including physical environment was perceived by respondents to be a factor influencing pupils utilization of school health services. About 76.3% of the agreed to this at a bench mark of 3.02 being acceptable. About 74.7% of the respondents also agreed that utilization of school health services was based on available infrastructure and medical materials for First Aid and treatment at bench mark of 3.03 which was acceptable. While 77.4% of the respondents agreed that psycho-social environment aspect of education makes for utilization of school health services, at 3.10 bench mark which is acceptable.

**Table 4:** spearman's correlations between perceived environmental factors and utilization of school health services in primary schools in Delta state.

		Psycho-social environment aspect of education affecting mood and behaviour are factors consider in the availability of school health services	Water and sanitation including physical environment as factors to consider in the availability of school health services	Availability of school health services are based on infrastructure and materials for First Aid treatment
First aid treatment was provided in my school in the event of a pupil's injury	Cor. Coef.	0.085	0.171 x	0.189 x
	Sig. (2-tailed)	0.078	0.000	0.000
	N	456	456	435
Pupils observed with communicable diseases are isolated in the sickbay	Cor. Coef.	0.063	0.111 x	0.122 x
	Sig. (2-tailed)	0.193	0.021	0.011
	N	456	456	435
School administrators usually encourage immunization officers to provide their services in my school	Cor. Coef.	0.194 x	0.289 x	0.221 x
	Sig. (2-tailed)	0.000	0.000	0.000
	N	456	456	435
Teacher usually discuss pupils' health problems in my school	Cor. Coef.	0.072	0.073	0.025
	Sig. (2-tailed)	0.133	0.128	0.609
	N	456	456	435
Visual impairments have been observed by teachers in my school	Cor. Coef.	0.053	0.108 x	0.055
	Sig. (2-tailed)	0.270	0.024	0.253
	N	456	456	435
Auditory impairment have been observed by teachers in my school	Cor. Coef.	0.135 x	0.197 x	0.129 x
	Sig. (2-tailed)	0.005	0.000	0.007
	N	456	456	435
Dental defects have been observed among pupils in my school	Cor. Coef.	0.143 x	0.148 x	0.086
	Sig. (2-tailed)	0.003	0.002	0.072
	N	456	456	435

It was found in table 3 that school health services items were significantly correlated to psycho-social environment of education in the utilization of school health services. School administrators usually encourage immunization, auditory impairment and dental defect appraisal were found to be correlated to school health services at .194, .135 and .143, all at below 0.05 alpha respectively. Water and sanitation including school

physical environment was correlated with school health services under the following items: First Aid treatment provided, pupils observed with communicable diseases, school administrators usually encourage immunization, visual impairment, auditory impairment and dental defect appraisal were found to be significantly correlated to school health services utilization at .171, .111, .289, .108, .197 and .148 all at below .05 alpha respectively. Utilization of school health services was based on the availability of infrastructure and medical materials were significantly related with school health services with items like: First Aid treatment, pupils observed with communicable diseases, school administrators usually encourage immunization and auditory impairment recorded .189, .122, .221, all below 0.05 alpha respectively.

### **Discussion**

Generally, nothing works well in absence of good environment. In this study, the two research questions were accepted as being necessary for the availability and utilization of school health services. The tangible findings were: Water and sanitation including school physical environment were accepted as important factor in the availability and utilization of school health services. When this research question was formulated into hypothesis, it was found to be significant in most items under school Health services at alpha of .05. This finding was in consonance with the finding of Adeogun (2008) who found that physical environment was necessary for the delivery of health programme in South West colleges of education, Nigeria. Phillip (1999) also affirm in his study that water is a major factor impending health (availability and utilization) in schools. Adio-Moses (2013) also testifies to that finding of this study that physical environment is factor of importance in the availability and utilization of school health services. The finding of this study also tally with that of Anyanwu (2013) who stated that Environmental factors of water supply, availability of toilet facility, sanitation and refuse disposal have predictive effect on the health status of Nigerians.

It was found in this study that psycho-social environment aspect of education has influence on the health of pupils. This was found to be acceptable as factors that determines the availability and utilization of school health services. When this variable data was subjected to statistics, it was found to be significant, though less than water, sanitation, physical environment and infrastructure and materials for First Aid and treatment. This finding in this study corroborates the finding of Fatiregun, Ayodele and Adebero (2013) who found in their study that physical environment influences behaviour exhibited by students which influences the utilization of school health services. This study showed significant influence of infrastructure, medical facilities and First Aid materials and the availability and utilization of school health services in Central Senatorial District, Delta State. This findings was in line with that of Burcher (1975), Okafor (1995) and Nwajei (1999) who stated that availability and utilization of school health services was hinged on infrastructure and medical facilities which were factors of funds.

### **Conclusion And Recommendation**

This study was designed to correlate the influence of school environmental factors on the availability and utility of school Health services in central senatorial district of Delta state. Data were generated from pupils and teachers. Findings reveal that environmental factors correlate positively with availability and utilization of school Health services in central senatorial district, Delta state – Nigeria. Inadequate, first Aid materials, inadequate water supply, poor wastage disposal, time allocation to activity/rest/play and mutual respect: pupils–teachers relationship hinder effective the school Health services. This study was an *expos facto* design of a descriptive research meant to isolate environmental factors that influence the availability and utilization of school health services. Studies of this type are meant to reveal the Healthcare Services available and its implementation to children in the school environment.

It was found in this study that; Water and sanitation including school physical environment, infrastructure and medical materials and psycho-social environment aspect of education were important factors to be considered in the provision of school health services (availability). The same factors were also considered in the utilization of school health services. The absence of these factors will impend the adequate availability and utilization of school health services.

### **Recommendations**

Based on the findings of this study, it was recommended that;

Government and private school proprietors should provide adequate physical environment, water and sanitation facilities in the provision of school health services to be a security for parents of the safety of their children at school. Provision of infrastructure such as a sick bay, medical materials such as First Aid Box and materials contained in the First Aid Box to aid pupils in emergencies and sickness while in school should be a necessity that school inspectors should enforce.

A mutual psycho-social environment devoid of violence, rancour and love among pupils to pupils and teachers to pupils be encourage. To facilitate this, play ground and kids play section be establish as to create the

psycho-social environment for growth and development of children.

It was recommended that inter-sectorial cooperation between the Ministry of Education, Ministry of Health and Non-Governmental Organization is needed to promote School Health Services.

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