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Comparative Analysis of the Status of Implementation of School Health Services in Public and Primary Schools in Owerri Municipal, Imo State, Nigeria.

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ABSTRACT

Effective school health service helps to reduce ill health, increase school attendance, academic performance, decrease school dropout rates, and additionally plays a role in identifying children with emotional, behavioural, and mental health problems for proper assessment and appropriate interventions. To assess the status of the school health services in selected public and private primary schools within Owerri Municipal Local Government Area, Imo State. A cross sectional descriptive study was carried out from March to April 2017. Out of the 48 government approved primary schools, 36 (12 public and 24 private) schools within Owerri Municipal LGA were assessed. Relevant data was obtained from school head teachers and direct observation was done where applicable. The responses were scored using a validated School Health Programme evaluation scale. The overall mean score for School Health Services in Owerri Municipal LGA was 13.14 with the mean scores of 14.42 for private and 10.58 for public schools which were significantly lower than the minimum acceptable score of 19. The private schools performed better than public schools in practice of School Health Services and their mean difference was statistically significant (p=0.012). School health personnel were available in fourteen (38.9%) schools, out of which one (8.3%) public school had health personnel. All (100%) schools had first aid boxes, but none of the schools had the boxes completely stocked. School health clinics were available in one (8.3%) public school and 5 (20.8%) private schools. School meals were served in six (25%) private but none in public schools. The overall status of school health services in primary schools within Owerri Municipal LGA is poor. The private schools performed comparatively better than public schools. These findings therefore portray the need for implementation of the National School Health Policy by the State Ministries of Education and Health.
Keywords: Implementation, School Health Services, Public and Primary Schools.

INTRODUCTION

School Health Services (SHS) are preventive and curative services provided for the health of the school community [1, 2]. It is a health care delivery system that is operational within a school and deals with the maintenance of the health of school children by working in collaboration with teachers, health personnel and psychologists to control the various health variables that may contribute to educational deficiencies in a child [1]. School health service is an essential component of the school health programme. The other three major components are Healthful School Environment; Health Instruction and School-Home-Community relationship [1]. Each component interrelates with the others and their objective generally is to enhance the health of the school population. Globally, as at 2012, there were about 226 million children of primary school age, out of which 136 million were in Sub-Saharan Africa [4]. In Nigeria, the estimated primary school age population was 24.7 million, out of which 17.4 million

(70.4%) were enrolled in school [5]. In essence, schools reach millions of pupils and through them their families and communities. The school is a place where education and health programmes can have their greatest impact because it reaches them at influential stages of their lives. These programmes are of great importance to productivity later in life and also-help improve the economy of a nation.

School health service is an intervention in primary health care. Nwana [6] stated that SHS can be utilized to provide school care, immunization against infectious diseases, prevention and control of locally endemic diseases, provide appropriate treatment of common diseases and provision of essential drugs and supplies [6]. Therefore, since almost every small community in Nigeria has one primary school, it is possible to use these schools as a centre for primary health care delivery [7]. Studies conducted by Bonnel et al in London, United Kingdom and Freudenberg et al in United States of America [8,9], indicate that effective school health service helps to increase school attendance, academic performance, decrease school dropout rates, and additionally plays a role in identifying children with emotional, behavioural, and mental health problems for proper assessment and appropriate interventions. In most developing countries, the need for school health services are particularly critical because the school children are the survivors of a high childhood mortality rate [10-12]. In addition, with the success of child survival programs, the number of children reaching school age are on the increase, thereby making continued care very essential [5,11]. Furthermore, the routine health services (primary health care centres, comprehensive health care centres, and general hospitals in the communities are suboptimal or even non-existent leaving the children at the mercy of expensive private medical care.

In 2006, the National School Health Policy with its Implementation Guideline were launched in Nigeria [2, 27]. The need for national school health policy became imperative when National School Health Association (NSHA) and development partners such as the WHO, Japan International Corporation Agency (JICA), United Nation's Children Fund (UNICEF) as well as stakeholders ministries of Health and Environment noted the lack of standards to guide SHP in Nigeria [27]. The provision of these documents was therefore intended to put in place a national framework for the formulation, co-ordination, implementation and effective monitoring and evaluation of SHP. The concept included the roles of the different stakeholders as well as the provision of a legal framework for the implementation of School Health Programme [27]. In Nigeria, regrettably, Despite the over emphasized benefits of school health services and the already laid down implementation policies, many authors across the country have observed that the School Health Service is a neglected aspect of the health and education sector [10, 17-21].

In Imo state, School Health Service Programme (SHSP) as it is called has been in existence since 1984 at the state capital (Owerri) and two Local Government Areas notably Ngor Okpala and Ikeduru [28]. The programme was initially manned by Environmental health nurses whose activity centred on routine school health visitations for school inspection and health talks. In 2005, The State Government provided first aid boxes designed in the Government house with a large picture of the Governor adhesively pasted on each for distribution to public schools and with change of batons at Government house the boxes were rendered useless to the SHSP [28]. In 2011, for the first time, a medical doctor was appointed to head SHSP. Unfortunately, over the years, these activities have dwindled significantly due to majorly lack of funds from the government or any donor agency to aid in routine interventions, monitoring and supervision by the school health team [28]. This study was undertaken to determine the current state of School Health Services in primary schools within Owerri Municipal, Imo State.

METHODS

This is a cross-sectional descriptive study conducted in public and private primary schools in Owerri Municipal Local Government Area (LGA) in Imo State. Owerri is the capital of Imo State in the South Eastern part of Nigeria. Owerri has three LGA namely Owerri West, Owerri North and Owerri Municipal. Imo State has a population of 3.93 million while Owerri Municipal has population of 125,337 [29]. Owerri is mostly inhabited by civil servants with traders, other businessmen and various categories of artisans. There are 2 tertiary institutions located within the study area, the Imo State University and Alvan Ikoku Federal College of Education. It also has a tertiary health facility, the Federal Medical Centre Owerri, two primary health care centres, many private clinics and a lot of patent medicine shops**.** There are 48 Government approved primary schools in Owerri Municipal LGA, 16 public and 32 private schools which represents a 1:2 ratio by proportionate allocation. 12 schools were chosen from public schools and 24 schools from private schools which gives a total of 36 schools that were studied. The Owerri Municipal Local Government was divided into five educational areas, the number of schools chosen in each area to make up the number of schools needed in the ratio of 1:2 was done using the multi stage sampling method. A validated School Health Programme Evaluation Scale developed by Akani[1] was used. The scale was administered to each head teacher or his/her representative. More so, there was direct observation of the different components of the SHS where necessary with clarifications sought from the respondents where applicable. The respondents were properly educated on the objectives and relevance of the assessment to gain their confidence. The scale is weighted and has 5 parts which include sections for data on School administration, the 3 main components of SHP [SHS, School health Instruction, healthful school environment] and collation of scores. For the purpose of this study, the use of the evaluation scale was limited to School Health Services, section A. The section A has 8 parts comprising Health personnel, Health Appraisal, Treatment facilities within the school, Care of emergency illness/injury, Control of communicable diseases, Record keeping, Nutrition services and Guidance and Counselling services. The Health Personnel was graded with maximum score of 10 and minimum of 0. Health Appraisal, Treatment Facilities and Care of Emergency Illness were itemised and each scored 1 with a maximum score of 5. Graded scoring was done for Control of Communicable Diseases with maximum score of 8 while minimum was 0. Record keeping was not graded. Maximum score was 3. This was because it is expected that a school performs only one of the three forms of record keeping. Guidance and Counselling Services scored either 1[with teachers] or 2[with parents]. The score for Nutritional services was graded and maximum score was 7. An extra [+1] score was given for schools that gave nutritional supplement. The cumulative score for SHS after adding up all the scores was a maximum of 45 and the minimum acceptable value was 19. Data obtained was coded and analysed using the Statistical Package for Social Sciences [SPSS] version 20. Student t test was used to compare difference in mean score between public and private schools. . The level of significance was set at p value <0.05. Ethical approval for this study was obtained from the Ethics and Research Committee of the Federal Medical Centre, Owerri. Approval to study the government owned (public) and private schools was obtained from the Executive Chairman Imo State Universal Basic Education Board (IMSUBEB) and State Ministry of Education.

RESULTS

Thirty six (36) Government recognized private and public schools were assessed. The ratio was 2:1 giving 24 private and 12 public schools. There were a total of 15,269 pupils comprising 7341 males and 7928 females with a male pupil to female pupil ratio of 1:1.07. There was a total of 1108 staff in all the schools. This

comprises 923 teaching staff (312 public and 611 private) and 185 non-teaching staff (5 public and 180 private). The qualification of the Head Teachers ranged from Master's Degree to National Certificate of Education (NCE). The least qualification obtained in public schools was bachelor degree as shown in Table 1.

Table I: Qualifications of Various Head Teachers in Public and Private Schools

Qualification of Head Teacher	Public Schools n=12 (%)	Private Schools n=24(%)	Total N=36 (%)
M.Ed.	1 (8.33)	1 (4.17)	2 (5.56)
M.Sc.	0 (0)	2 (8.33)	2 (5.56)
PGD Edu	0 (0)	1 (4.17)	1 (2.78)
B.Ed.	10 (83.33)	9 (37.50)	19 (52.78)
B. ENG	0 (0)	1 (4.17)	1 (2.78)
B.Sc.	1 (8.33)	5 (20.83)	6 (16.67)
HND	0 (0)	1 (4.17)	1 (2.78)
NCE	0 (0)	4 (16.67)	4 (11.11)
Total	**12(100)**	**24(100)**	**36(100)**

Key: M=Masters, B=Bachelors, Sc=Science, Ed= Education, HND= Higher National Diploma, ENG=Engineering, NCE= National Certificate on Education, PGD= Postgraduate Diploma.

Health Care Services: Out of the twenty four private schools studied, six (16.67%) schools met the minimum acceptable score of 19 on School Health Services while all the twelve public schools had below the minimum acceptable score.

Health Personnel: Fourteen (38.89%) schools had health personnel, out of these fourteen; four (private) schools had more than one grade of personnel. However, there is no significant difference in comparison of health personnel between public and private schools in all the cadre even though most health care personnel were found in the private Schools as displayed in Table II.

Health Appraisal: Routine inspection of the pupils' clothes, nails, teeth, et cetera was done in all the schools by the teachers. None of the schools did pre entry screening, periodic medical examination and supervision of health of the handicapped.

Treatment Facilities: All the schools had first aid boxes. Five (20.83%) private schools and one (8.33%) public schools had health rooms. School buses were available in thirteen (54.17%) private schools but none in public schools.

Table II: Summary of Healthcare Personnel available in the Schools

Grade of School Health Personnel	Public school n=12(%)	Private school n=24(%)	Total N = 36(%)	χ^2	p-value
None	11 (91.67)	11(45.83)	22 (61.11)	Fisher	0.031
Trained First Aider*	0(0)	6(25.00)	6 (16.67)	Exact Test	0.079
H. Educator*	1(8.33)	3(12.50)	4 (11.11)		1.00
Nurse*	0	6(25.00)	6 (16.67)	Fisher	0.079
Doctor*	0	2(8.33)	2 (5.56)	Exact Test	0.543

* 2 schools had both Doctor and Nurse, one school had both trained first aider and health educator and one other school had both nurse and health educator.

Care of Emergency Illness/Injury: All the schools gave first aid treatment in emergency illness or injury. Five (20.83%) private and one (8.33%) public school had record of treatment given. All the head teachers in both public and private schools reported that they notified parents if their children suddenly fall ill. 72.22% of the schools transported the child to the nearest health post even when parents had been notified.

Control of Communicable Diseases: All the schools (100%) practiced isolation of children with suspected communicable

diseases by sending the child home. None of the schools gave health talks or immunized school children for the prevention of communicable diseases.

Health Record Keeping: Six (16.67%) schools, five (20.83%) private and one (8.33%) public school had health records. These were the schools that had health rooms and they kept records of treatment given to pupils who visited the health rooms. None of the records were both cumulative and transferrable.

Nutrition Services: Eight (66.67%) of the public schools had a school farm when compared to two (8.33%) in private schools and their difference was statistically significant ($p < 0.001$). Six schools which represent 25% of the private schools and 16.67% of the overall schools offered school meal.

Mean Scores of School Health Services and their Comparison: Table III shows that private schools had significantly higher mean scores on health personnel, health appraisal, treatment facilities, guidance and counselling and Overall School Health Service score when compared to public schools.

Table III: Comparison of scores of Private and Public Schools on various School Health activities

Parameter	Mean± SD Scores		t – test	p-value
	Private	Public		
Score on Personnel	1.42±1.86	0.17±0.58	2.26	0.031
Score on Appraisal	1.29±0.46	0.92±0.29	2.55	0.015
Score on Facilities	2.75±0.90	1.92±0.52	2.97	0.005
Score on Emergency care	3.17±1.05	3.75±0.45	-1.83	0.076
Score on Communicable disease control	2.00±0.00	2.00±0.00	0.00	1.000
Score on Record Keeping	0.21±0.42	0.08±0.29	0.93	0. 360
Score on Nutrition services	2.54±1.64	1.50±1.09	1.99	0.550
Score on Guidance and counselling	1.04±0.86	0.25±0.45	2.99	0.005
Score on SHS	14.42±4.76	10.58±1.93	2.67	0.012

Comparison of total mean scores with acceptable minimum score

The mean score of both Public and Private schools on SHS was significantly lower than the acceptable minimum score of 19 as shown in Table IV.

Table IV: Comparison mean score of schools with acceptable minimum Score of 19

School type	Mean score ± SD	Minimum Score	t-test	p-value
Private	14.42 ± 4.76	19	-4.71	<0.001
Public	10.58 ± 1.93	19	-15.11	<0.001
Overall	13.14 ± 4.41	19	- 7.97	<0.001

DISCUSSION

This study found that the status of SHS in Owerri municipal LGA was poor with mean SHS score of 13.1 for all schools. The private schools had a better score of 14.4 which was higher than the public schools score of 10.5. However, all the values are below the minimum acceptable score of 19 implying a poor status in both private and public schools. The poor status of SHS in this study is similar to what was documented by other authors [3, 10, 17-24, 30] in different parts of Nigeria. The low score in this study may be attributed to the non-implementation of the national guideline on School Health Services in Imo State. It was observed that health care personnel were available in 38.9% of the schools studied. This is comparable to 36.4% obtained in a study conducted in Jos, North Central, Nigeria[3] but higher than

zero observed in Bonny, South-South, Nigeria [17]. The lower value observed in the Bonny study may be due to the fact that whilst the study in Bonny consisted of only public schools, the present study in Owerri was a combination of public and private schools. In this study, 5.6% schools had doctors out of thirty six schools studied and these were exclusively private schools. This figure is higher than 0.6% doctors in the three hundred and sixty schools studied by Kuponiyi et al [31] in Ogun State, Nigeria and 1.5% doctor in the sixty six schools studied by Toma et al [3] in Plateau State, Nigeria. The lower sample size used in this present study compared to Ogun State [31] and Plateau State[3] studies may have accounted for the higher proportion of doctors observed. Similarly, only 16.7% of the schools in this study benefitted from the services of a school nurse. This figure is comparable to 17% obtained in the national survey of school health system evaluated a decade ago [2]. One can only but assume that in the last ten years there has been an apparent stagnation or a gradual deterioration in the implementation of School Health Services. Furthermore, in this study 16.7% schools had a teacher trained in first aid and these were in private schools. This finding is higher than report by Akani [29] in Obio-Akpor LGA of Rivers State, Nigeria where 7% of schools had trained first aid personnel. Notable though is the fact that Akani's [29] study recruited only public schools. The poor involvement of health personnel in school health services in Owerri Municipal LGA deprives the programme of the relevant expertise. The implication of this is that the pupils in the study area may be at risk of not having their minor ailments attended to, and according to Oduntan [16] these may progress to debilitating illness leading to school absenteeism and poor school performance.

In this study, all the schools both public and private conducted routine morning inspection of the pupils. This is comparable to findings by Alex-Hart et al [17] in Rivers State and Ezeonu et al [32] in Ebonyi State, Nigeria. Furthermore, none of the schools studied requested for Pre entry medical examination. This observation is lower than 12.9% recorded in Ebonyi State[32] eight years ago. The reason for not performing pre entry screening in schools is not clear. The plausible reason could be that there was no authorization by the Imo State Ministry of Education to conduct the examination. Similarly, Periodic medical examination for staff and pupils was not implemented in all the schools in the study area. This finding is comparable to observation by Ezeonu *et al* [53] but higher value though poor was observed by Oyinlade *et al* [21] in 5.5% schools. The higher value reported by Oyinlade et al [21] may be because the study was carried out in both primary and secondary schools. These low figures suggest that with the apparent lack of health personnel and non-implementation of pre entry screening and periodic medical examinations, most handicaps and disabilities like hearing and visual impairments would be discovered much late. This may be at a time when they might have impaired learning and affected school performance. In this study, none of the schools practiced supervision of children with special needs and handicaps. This contrasts with 5.8% reported by Kuponiyi *et al* [9] and 6.8% by Ezeonu *et al* [32]. Part of the reason for lack of supervision of children with special needs may be because none of the schools in this study area had children with special needs and handicaps. This may be as a result of lack of specialized skills and expertise in teaching them. The implication is that the practice of all inclusive education in the schools is not supported. It was observed that First Aid boxes were found in all the schools. This is comparable to reports by Oluwakemi et al [20] in Oyo State (90%) and Toma et al [3] in Plateau State (89.4%) but contrasts the report by Akani [30] in Rivers State (39.3%) [3, 20, 30] In this study area, first aid boxes are mandatory by the Ministry of Education in all schools. Unfortunately, not all the fist aid boxes in the present study were stocked with essential first aid materials, three (8.3%) of these boxes were actually empty. The boxes were commonly stocked with wound dressing materials whereas drugs like antimalarials, Oral Rehydration Salts and

haematinics were sparingly stocked. Some of the reasons given for lack of these materials in this study were non replacement of used consumables; lack of funds; lack of expertise on the use of some of the medications and the No drug policy of the State Ministry of Education. The latter is based on fear of being culpable in the eyes of the law, in terms of possible accusation of wrong administration of drugs. Contrarily, in the USA, the department of public health promulgated regulations governing the administration of medication in schools by the school health personnel ranging from analgesics to psychotropic drugs [33]. This therefore calls for improved collaboration between State Ministries of Health, Education and Justice for enactment of such policies. In this study, six (16.7%) schools had a health room for treatment of minor ailments and emergency first aid to the pupils. Out of which five (20.8%) were private and one (8.3%) public school. The only public school that had a sick bay (as shown in picture VIII, IX) was erected by a Non-Governmental Organization. The poor availability of health rooms are also noted in studies by Kuponiyi et al [31] in Ogun State (25.8%), Ofovwe et al [34] in Edo State (31.6%) and Akani [30] in Rivers State (0). The paucity of health rooms in these studies is unsatisfactory because the school has the responsibility of giving immediate care to pupils in case of injury or sudden illness. This may curb early dismissal from school or school absenteeism.

Furthermore, in this study, school buses were available in 36.1% schools. They were exclusively in private schools. This value is lower than 89% reported by Oyinlade et al [21] but higher than 13.6% reported by Kuponiyi et al [31] both in Ogun State [21,31]. However, in all the studies, none reported the painting of the school buses in the conventional school bus yellow to ensure safety. The higher value reported by Oyinlade et al [21] may be because the study involved both Nursery, primary and secondary schools [21]. The availability of school bus may aid in conveying pupils who suddenly fall ill to the nearest health post to ensure prompt medical attention.

In the present study, all the schools gave first aid treatment in case of emergency injury. This finding is comparable to 75.8% reported by Toma et al [3] but contrasts 10% reported by Alex-Hart et al. [3,17]. The lower value obtained in the study by Alex-Hart et al [17] may be because there was lack of first aid boxes in the schools studied [17] Furthermore, six (16.7%) schools had record of treatment given in this study. This finding is higher than none observed by Alex-Hart et al [17] but comparable to 19.7% reported by Toma et al. [3]. It was observed in this study that the schools that had records after treatment were the schools that had health rooms with health personnel who appreciate the importance of record keeping. Whereas the present study and the study by Toma et al [3] reported availability of health rooms, the study by Alex-Hart et al [17] reported none.

Regarding the control of communicable diseases, all the schools in this study sent home children with suspected communicable diseases. The finding of sending home all suspected communicable diseases is in keeping with reports by Alex-Hart et al [17] and Oyinlade et al. [21]. Although the measure of sending all ill pupils home may prevent the spread of communicable diseases amongst the pupils, however it does not spare the communities wherein they dwell. Sending affected pupils to school clinic or where unavailable, referral to hospitals for proper medical attention may be a better option.[1] Furthermore, none of the schools in this study implemented immunization services for children. Similar findings has been reported by other authors [3, 17, 21, 30] across Nigeria. However, in this study, health workers from the Local Government visit the schools to immunize pupils on the National Immunization Days (NID) but parents/guardians are notified in order to obtain consent prior to vaccination of any child. Similar finding was obtained in Sagamu, Nigeria [21] and in Jos, Nigeria [3]. The absence of immunization services in schools may be because the cold chain may not be maintained as well as the lack of trained personnel to administer the vaccine. Lack of immunization services for

the staff and pupils in schools denies the community the opportunity to achieve fast coverage as well as reach children with missed opportunities [30]. In this study, six (16.7%) schools had health records available. These schools recorded only cases of emergency illnesses and injuries. However, those records were neither cumulative nor transferable. The record was not cumulative because it had no information on children's past health status. It was also not transferable with the academic records in the event that a child changes school. The finding in this study is comparable to observation by Toma et al [3] (15.1%) but in variance with finding by Oyinlade et al [21] (35.2%). Notably, Oyinlade et al [21] recorded that out of the 35.2% schools that kept records, 8.8% were both cumulative and transferable. The higher value noted in the study by Oyinlade et al [21] may be because part of his assessment was done in secondary schools. However, non-cumulative records observed in the present study may be due to paucity of pre entry screening or periodic medical examination in the schools. Effective record keeping avails the opportunity to identify children with special needs; monitoring and evaluation of health care delivery in schools and equally aiding in research. Out of all the schools studied, 10 (27.8%) had school farm project. Majority, 8 (66.7%) of the farms were seen in public schools. This value is similar to 25% recorded by Akani[30] in Obio-Akpor LGA of Rivers State, Nigeria. The reasons for paucity of farm projects in both studies are land shortage and location of the schools in urban setting. High values are placed on land and schools especially privately owned schools may be financially unable to acquire enough land which would be used for farming. [30] School farms could serve as avenue to teach pupils the rudiments of agricultural practices which may stimulate their interest to practice large scale farming. Children can also be made to appreciate the school farm by ensuring that they partake of the farm produce [30]. However, in this study it was observed that in the few schools that had school farms, pupils act as the labourers in these farms but the products are shared amongst the school staff. Furthermore, nutrition demonstration classes were carried out in 69.4% of the schools while school meals were available in 16.7% of schools. School meals were served in only private schools. The meals were prepared in the school and the cost included in the school fees. Poorer school feeding practices were found in studies conducted in Oyo [20], Edo [34] and Rivers [20], States where no school meals were served. Whereas the study done in Rivers State [20] was prior to launching of the school feeding programme by the Federal Government in 2005, the studies in Edo [34] and Oyo [20] States conducted thereafter reported some form of school feeding practice in the schools where pupils are allowed to come to school with home meals or buy from mobile or permanent vendors in the schools. Similar observations were made in majority of the schools in the study area. Worthy of commendation is the report that Osun state in its programme termed OMeals has continued to serve free meals to all the public school pupils since 2006 which was one year after Federal Government of Nigeria launch of Home Grown School Feeding and Health Programme (HGSFHP) [35]. In the present study, 6 (25%) private schools and none of the public school attained the minimum acceptable score of 19 in School Health Service; however, their mean scores for School Health Services were significantly lower than the acceptable score. The finding of more private schools attaining the minimum score than public schools is not peculiar to this study. Other authors across Nigeria have documented similar finding [3, 21, 34, 31]. The reason for this trend of more private schools than public schools having better scores on SHS, may be because the public schools are barred from fund raising activities. Whereas, the public schools have to wait for the government in order to have funds available for all activities, the private schools are better funded because they are profit oriented and therefore have a tendency to provide more of these services. This observation of higher score in private schools may not be because private schools have a good

knowledge of SHS but as a business strategy to attract more patronage. The situation in both schools are largely unacceptable and therefore, government should be more committed in providing school health services to all pupils both in private and public schools to enhance health and education.

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