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International Digital Organization for Scientific Research ISSN: 2550-7931
IDOSR JOURNAL OF APPLIED SCIENCES 8(1) 114-130,2023.

Qualifications of Head Teachers and the numbers of Healthcare Personnel available in Public and Private Schools in Owerri Municipal, Imo State, Nigeria

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ABSTRACT

Globally, in spite of the fact that school age children do not suffer from the high mortality of preschool children; there exist significant burden of morbidity among them. School health services are the curative and preventive health services, provided for the promotion of the health of school population to enable them benefit maximally from the school system. The aim of the study was to assess the Qualifications of Head Teachers and the numbers of Healthcare Personnel available in Public and Private Schools in Owerri Municipal, Imo State, Nigeria. A cross sectional descriptive study was carried out to assess school health services in 36 government approved primary (12 public and 24 private) schools within Owerri Municipal LGA. Relevant data was obtained from school head teachers using an evaluation scale and direct observation was done where applicable. The responses were scored using the School Health Programme evaluation scale. Thereafter, a prospective (pre-test – post-test) study was carried out in two public primary schools between May to December 2017 (two academic terms). Within the period (September to December 2017) an intervention was carried out which involved the running of school clinics in two selected public primary schools. School attendances were kept during the pre-intervention and intervention periods using a check off list for monitoring daily attendances and reasons for absenteeism. 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 ($p<0.001$ respectively). Six (16.7%) schools, all of which were private schools scored up to 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. School health services in both public and private primary schools within Owerri Municipal LGA is poor and also the availability of health personnel in the schools are poor.
Keywords: Head Teachers, Healthcare, Personnel, Public and Private 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].The services include health appraisals, school health clinics, school meals, food hygiene, control of communicable diseases, record keeping and play activities [1,3]. 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. Over the past few decades, the success of child survival programmes and the expansion of basic education coverage have resulted in a greater number of children reaching school age [4,5,6,7]. A higher proportion of these children attend primary schools. For these children to optimally benefit from the educational system, they need to be physically, mentally and emotionally healthy [8,9,10,11]. A functional, effectively managed SHS is widely recognized as an important instrument in enabling children attend school, promote health of pupils, identify and prevent health problems and

injuries [12,13,14]. In Owerri, Imo State, school age children are usually seen in hospitals. For instance, an unpublished data from Federal Medical Centre (FMC) Owerri, observes that close to 25 school age children are seen each day in the clinics [15,16,17]. This translates to about 40% of the patients seen per day in the Children Out-Patient Department [CHOP]. They spend substantial time waiting to be seen in the congested CHOP for minor illnesses which ordinarily would have been taken care of in their schools if there were functional school clinics thereby averting school absenteeism.

LITERATURE REVIEW

SCHOOL HEALTH CLINICS

Health clinics are taken at two levels. These are (1) Minor ailment level which include simple cuts, bruises, slight fever and minor skin infections which can be handled with first aid kits or at sick bays in bigger schools and (2) Specialist clinics for dental, visual and hearing problems [17,18,19]. The school clinic should have facilities for referral services so that serious or life threatening health conditions can be promptly taken to the hospital for better care. The school health clinics could be School Based Health Clinic (SBHC) - located within the school; School Linked Health Clinic (SLHC) – where a clinic serves more than one school or Health Facility Based (health centre in the community serving the school) [20,21,22]. School clinics often offer service systems that reach children more easily, caring for varied health care needs of the children at risk and serving as centres for primary health care delivery for the pupils and the school community [23,24,25]. The SBHC is considered to be the most cost effective strategy for delivering comprehensive primary and preventive health services, because the clinic is situate in each school making it more convenient for pupils to get care and return back to class [26]. SLHC has the advantage of being less expensive to establish in that one centre serves many schools and has more extensive hours of service; however, its location off school is a major barrier to utilization and poses more difficulty in follow up of school children. Health facility based clinic uses the community model of care but has the limitation of autonomy in deciding the scope of services rendered to children.[58] In addition, the health facility based clinic may charge higher hospital bill and have difficulty in follow up of pupils [26].

The National School Health Implementation Guidelines in 2006 recommends that the school health centre should be sited in the school premises to serve the school or not more than 10 primary and secondary schools clustered within 15 minutes' walk. The centre must be easily accessible, operational during school/boarding hours and drugs provided constantly according to the essential drug list. However, studies, [1,2,3] in Nigeria have documented inadequacies in implementation of the recommended national guidelines. [4], in United States of America studied the relationship between SBHC, rates of early dismissal from school and loss of seat time where early dismissal and loss of seat time were used as indicators of attendance to school [5]. He documented that these parameters for measuring attendance provided more specific information regarding impact of health services than the use of school attendance records only. He used a convenience sample of two (2) urban high schools to compare rates of early dismissal and loss of seat time between students in school A who had both students that enrolled in SBHC and those using only traditional nursing services with school B that had only students using traditional nursing services. He deduced that in school A, those enrolled in SBHC had 2.57% loss of seat time, and those not enrolled had 9.33%, while in school B (only traditional nursing care) loss of seat time was 8.3%. The study showed that students not enrolled in an SBHC lost three times as much seat time as students enrolled in SBHC. These figures clearly show that SBHC has a significant improvement in school attendance by keeping students in school who otherwise would have been sent home or to a community healthcare provider for medical attention.

In addition to the benefit of reduction in missed school days some authors have studied the impact of school clinics and reported that school clinics reduce use of emergency departments,[15] reduce rate of hospitalization, [14] increase academic performance, [6] improve mental health, and ability to reach high risk youth [5,8].Transportation cost is reduced and the use of health clinics early in life will inculcate in a child the appropriate use of health services and thus discourage

inappropriate health seeking behaviour such as from unorthodox and patent medicine dealers [9].

Despite these benefits, different authors in Nigeria have highlighted the gross or relative deficiencies in school health clinic. For instance, [5,9] in Oyo State and in Rivers State, Nigeria posited that 10%, and none of the primary schools respectively had health room/ sickbay. The reason for the poor status as reported by [9] was due to lack of funds, ignorance, and fear of mistake with its repercussion. In Imo state, [22] did a questionnaire based study in which 50 randomly selected school teachers were recruited. The study was on Implementation of school health programme in the past and present in Imo State, Nigeria. [22] deduced that 36% of teachers in secondary schools attested to availability of health rooms in the past (pre civil war) while 40% of the secondary schools had health rooms in the present. Furthermore, [23] also did a questionnaire based multi staged sampling of 249 school teachers from private, public and federal secondary schools; on Status of preventive health services in secondary schools in Owerri Education zone, Imo State, Nigeria. [23], deduced that 16.06% of children with communicable diseases were sent to school clinic suggesting paucity of school health clinics. The higher value obtained in the study by [22] may be because of its lower sample size than the study by [23]. Additionally, it may suggest a deterioration of school health facilities over the years. However, the study by [22] did not select subjects from different areas in Imo State to ensure fairness; rather random selection of eligible teachers (above 30 years' experience) was done. This may result in selection of subjects from same area and may not totally represent the status of School Health Programme in secondary schools in Imo State. Furthermore, the higher value in presence of school health clinic reported by [22] in Imo State, Nigeria which is in contrast with studies by Akani59 in Rivers State and Oluwakemi20 in Oyo State may be because the study by [22] was done in only secondary schools.

AIM OF THE STUDY

To evaluate the **Qualifications of Head Teachers and the numbers of Healthcare Personnel available in Public and Private Schools in Owerri Municipal, Imo State, Nigeria**

MATERIALS AND METHODS

THE STUDY AREA

This study was conducted in public and private primary schools in Owerri Municipal Local Government Area [LGA]. 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. 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.

STUDY DESIGN

SELECTION OF STUDY POPULATION (SAMPLING METHOD)

Multi stage sampling method was used to select the schools for the assessment of SHS. The list of approved public and private schools in Owerri municipal LGA obtained from Imo State Ministry of Education was used as the sampling frame.

STAGE 1: (Stratification into public and private schools)

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 also represent 1:2 ratios giving a total of 36 schools that were studied.

STAGE 2: (Stratification into areas in Owerri Municipal)

The schools within the Local Government were stratified into 5 areas.

-TransEgbu Area	- 0 public and 3 private schools
-World bank/New Owerri Area	- 2 public and 8 private schools
-Ikenegbu/Aladinma Area	- 3 public and 9 private schools
-Orlu Road Area	-2 public and 4 private schools
- Douglas Area	- 9 public and 8 private schools.

STAGE 3: (Selection of number of schools studied in an area)
The total number of schools studied in an area was selected based on the ratio of schools in the areas using simple proportions as follows.

FOR PUBLIC SCHOOLS:
Total No of Selected Public Schools x No of schools in an area
Total No of Public Schools

FOR PRIVATE SCHOOLS:
Total No of Selected Private Schools x No of schools in an area
Total No of Private Schools

NOTE: Total No of private Schools - 32
Total No of selected private Schools - 24
Total No of public Schools - 16
Total No of selected public Schools - 12

	Public : Private		Public : Private
TransEgbu Area	0 : 3		0 : 2
World bank/New Owerri Area	2 : 8		2 : 6
Ikenegbu/Aladinma Area	3 : 9		2 : 7
Orlu Area	2 : 4	⇒	2 : 3
Douglas Area	9 : 8		6 : 6

Therefore, public schools were selected in a ratio of 0:2:2:2:6 making a total of 12 schools while private schools were in a ratio of 2:6:7:3:6 with a total of 24 schools.
STAGE 4: The schools that were selected in each area to make up the total sample for that area was done using simple random sampling. The names of the schools in an area were written on pieces of papers, folded and put in a non-transparent bag. Thereafter, the number of schools selected in an area was picked by an independent person to eliminate bias.

FOR THE INTERVENTIONAL STUDY:

A purposive sample of two (2) public schools was used. The population for the study consist of all the pupils in those selected schools.

Criteria for selection

- Both schools were public schools
- Selected from two different areas
- Without pre-existing school clinic
- The schools have school population of not less than 400 pupils.

ETHICAL CONSIDERATIONS

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. Approval to run the school clinics in two public schools was also obtained from IMSUBEB. Written consent was obtained from the two head teachers where the school clinics were ran and the parents/guardians of the pupils in the selected public schools where the intervention was undertaken. Assent was equally obtained from the school children to examine and treat.

RESEARCH INSTRUMENT

Two study instruments were used and these are (a) School Health Programme Evaluation Scale developed by Akani[1] and (b) The Check Off list for monitoring school attendance

(a) The School Health Evaluation Scale:
The evaluation scale was administered to each head teacher or his/her representative. 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.

STUDY PROCEDURE

Training of Research Assistants

Two resident doctors and a post National Youth Service Corps doctor were recruited and trained as research assistants. They underwent four hour training per day for two days at the seminar room, Department of Paediatrics, Federal Medical Centre, Owerri one week prior to the field work. The training was carried out by the researcher on administration of School Health Service Evaluation Scale and Check Off list to monitor school attendance, running of the school clinic and records of relevant information. The research assistants helped in carrying out the research throughout the study period. Their assistance helped in regular data collection and equally allowed the researcher discharge her duties at her training centre.

Pilot Study

A pilot study was conducted one week prior to commencement of the project using one primary school in Trans Egbu area that is not amongst the 36 selected schools. The objective was to check the quality of the information that was obtained and modifications made where necessary to make the questions clearer.

Data collection

An interview of the respective school head teachers in all the thirty six schools was done by the researcher. The interview was done face to face and the responses filled on the spot into the school health service evaluation scale. The researcher also carried out direct observation of the different components of the SHS where necessary with clarifications sought from the respondents where applicable.

DATA ANALYSIS

Data obtained was coded and analysed using the Statistical Package for Social Sciences [SPSS] version 20. The results were presented in prose and tables. Mean, median, mode and standard deviation were calculated for continuous variables. Proportions were calculated for categorical variables. Student test was used to compare difference in mean score between public and private schools while chi square was used to test for association between categorical variables. Wilcoxon test was used to compare frequency of absenteeism before commencement of school health clinic and during the intervention. The level of significance was set at p value <0.05.

RESULTS

SCHOOL ADMINISTRATIVE DATA

Thirty six (36) Government recognized private and public schools were assessed. The ratio was 2:1 giving 24 private and 12 public schools.

Distribution of pupils in the 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.

Staff distribution of schools

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).

Qualification of head teachers

Table I shows the qualifications of various head teachers. The highest qualification recorded was Master's Degree, while the lowest qualification was NCE. The commonest qualification of the head teachers was Bachelor Degree in Education (B.Ed) in nineteen (52.78%) schools followed by Bachelor of Science (B.Sc) in six (16.67%) schools. The least qualification obtained in public schools was bachelor degree.

Table 1: 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

Total scores on School Health Service Evaluation Scale

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. They range from trained first aiders in six (16.67%) schools, health educators in four (11.11%) schools, nurses in six (16.67%) schools and medical doctors in two (5.56%) schools. 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 2.

Table 2: 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.

Forms of health appraisal done

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.

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 10.58. 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 [3,7,17,18,19,20] 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 [17,21,22,23,24]. 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 [25] in Ogun State, Nigeria and 1.5% doctor in the sixty six schools studied by [3] in Plateau State, Nigeria. The lower sample size used in this present study compared to [25] 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 [8] in Obio-Akpor LGA of Rivers State, Nigeria where 7% of schools had trained first aid personnel. Notable though is the fact that [12] 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 [16] these may progress to debilitating illness leading to school absenteeism and poor school performance.

CONCLUSION

School health services in both public and private primary schools within Owerri Municipal LGA is poor. Availability of health personnel in the schools is poor.

RECOMMENDATION

In view of the poor status of School Health Services, there is urgent need for the implementation of the SHS in primary schools in Owerri Municipal LGA. The government should take responsibility to

implement existing policies and guidelines on School Health Services.

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APPENDIX
PLATE 1

PLATE 2: THE CLINIC IN ONE OF THE SCHOOLS

PLATE 3 ESSENTIAL DRUGS MADE AVAILABLE FOR THE CLINIC

PLATE 4: RESEARCHER WITH A SCHOOL TEACHER IN THE CLINIC

PLATE 5: RESEARCHER INFORMING PUPILS OF THE SCHOOL CLINIC DURING ASSEMBLY

PLATE 6: RESEARCHER SHARING CONSENT FOR PARENTS TO PUPILS

PLATE 7:RESEARCHER EXAMINING A PUPIL IN THE CLINIC.

PLATE 8: THE SICK BAY IN ONLY ONE OF THE PUBLIC SCHOOLS

PLATE 9: SIGNAGE IN FRONT OF THE SICK BAY IN PLATE 8

LIST OF 36 SELECTED SCHOOLS

PRIVATE SCHOOLS

1. Unity Primary School, Trans-Egbu, Owerri.
2. Eton Day Primary School, Area L World Bank, Owerri.
3. Christ Foundation Primary School (St. John's), Area N World Bank, Owerri.
4. Kingdom Heritage Primary School, New Owerri.
5. Nice Primary School, World Bank area, Owerri.
6. St. Michael's & All Angels Primary School, World Bank area, Owerri.
7. Queens Primary School, World Bank area, Owerri.
8. Living Word Academy, Ikenegbu, Owerri.
9. International Organization of Good Templar Primary School, Ikenegbu, Owerri.
10. St. Juliana Primary School, Ikenegbu, Owerri.
11. Start Right Primary School, Ikenegbu/ Aladinma, Owerri.
12. Foundation Primary School, Ikenegbu extention, Owerri.
13. HHCJ Assumpta International, Prefab, Owerri.
14. Fair Child Boarding Primary School, Ikenegbu, Owerri.
15. Alvan Ikoku COE Primary School, Orlu road, Owerri.
16. Police Children School, Orlu road area, Owerri.
17. Dora Amako Primary School, Orlu road area, Owerri.
18. Holiness Primary School, Douglas area, Owerri.
19. Kings Primary School, Douglas area, Owerri.
20. Divinity Primary School, Douglas area, Owerri.
21. Wisdom Primary School, Douglas area, Owerri.
22. Missionary Primary School, Douglas area, Owerri.
23. Arise & Shine Nursery and Primary School, Trans-Egbu, Owerri.
24. Good Shepherd Primary School, Douglas area, Owerri.

PUBLIC SCHOOLS

25. Model Primary School, New Owerri.
26. World Bank Primary School, World Bank.
27. Ikenegbu Layout Primary School, Ikenegbu area
28. Township Primary School, Ikenegbu/Aladinma area.

29. Shell Camp Primary School, Orlu area
30. Model Primary School, Orlu area, Owerri
31. Central Primary School, Douglas area
32. Development Primary School, Douglas area
33. Waterside Primary School, Douglas area
34. Uzii Layout Primary School, Douglas area
35. Mann Street Primary School, Douglas area
36. Urban Primary School, Douglas area