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# Practices, Scope and Determinants of School Health Services in Osun State, Nigeria

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***Authors' contributions***

*This work was carried out in collaboration between all authors. All authors read and approved the final manuscript.*

***Original Research Article***

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## ABSTRACT

**Introduction:** A healthful school environment is that which embraces the health and safety of learners and other members of the school community. Undergoing pre-school medical examination (PSME) is not only necessary to screen for previously undiagnosed health conditions and subsequent recognition of those with special care but it is also imperative to have base-line health information about the pupils. This study seeks to elucidate the practices and determinants of school health services (SHS) in Osun state.
**Methodology:** In the cross-sectional descriptive study, a total of 229 heads of schools (102 primary and 127 secondary) in Osun state were interviewed using a self-administered questionnaire. Data were analyzed with SPSS version 16. Level of significance was set at p-value of 0.05.
**Results:** All the respondents were aware of SHS with 114(50.7%) having good knowledge. Although up to 209 (91.3%) are aware of PSME and 188 (83.6) agreed that it was necessary, only 46 (20.1%) have their pupils undergo PSME. Most schools (76.8%) provide toilet facilities mainly of the pit type. Overall knowledge of SHS was good in 114 (50.7%) of the respondents. Medical services are provided through First Aid box

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221(96.5%) and School clinic 43(19.5%) most (92.7%) of which are free. Overall practice of SHS was good in 42 (18.7%) of the respondents. Respondents from secondary and private schools had better knowledge and practice of SHS.
**Conclusion:** The practice of SHS is below expectation. There is a need to improve knowledge of heads of schools concerning SHS emphasizing the importance of SHS.

*Keywords: School health service; pre-school medical examination; first aid; practice.*

## 1. INTRODUCTION

School Health Policy is aimed at promoting the health of learners to achieve the goals of Education for All. The promotion of the health of learners in schools is a critical step towards quality achievement in education; therefore, implementation of the School Health Programme (SHP) is core to the realization of the goal [1]. SHP includes prevention services, education, emergency care, referral, and management of acute and chronic health conditions [1,2]. It is designed to promote the health of students, identify and prevent health problems and injuries, and ensure care for students [3,4]. School Health Services (SHS) provides an approach for facilitating access to primary health care through screening and referral from the school-based clinics [1].

School entrance physical examinations by a physician have been documented to be essential for all new students entering the school reviewed by the school nurse to identify and follow up on all health problems [5–7]. In developing countries where literacy rate is low and childhood mortality high and for the universal basic education to succeed, a good and properly organized school health program is imperative to child survival [4,8–11]. Previous studies from Edo State and Nigeria as a whole indicate poor state of the SHP [12].

Screening for pupils at entrance and while in school has discovered significant prevalence of refractive errors, eye disease including glaucoma, hearing impairment, abnormal urinary examination findings and nutritional status [7,13–26]. Such screening also helps to identify genetic and physical disability which not only affect their well being but also has the potential of affecting their learning.

Aside from pre-school medical screening and first aid medical service, a healthy school environment in terms of water and sanitation is also imperative to the health of school children as contained in the national school health policy [2] but study by Ofovwe reported that potable water was 100% inadequate in public schools studied and three quarters adequate in the private schools. Also, while almost half of the private schools had water closets, only a quarter of the public schools had water closet [12]. Total absent was noticed in both types of some of the schools. The effects of inadequate water and sanitation are pretty obvious. Though some works have been published on SHS; in recent years, efforts are been made to ensure compliance to the practice of school health services in the country. This study therefore aims to assess the practice of School Health Services in public and private schools in Osun state, Nigeria as well as its factors affecting successful implementation.

## 2. MATERIALS AND METHODS

### 2.1 Study Design

Descriptive cross-sectional survey.

## 2.2 Study Population

Heads of schools or their representatives in primary and secondary schools in Osun State. Inclusion criteria for schools were only those registered by the government and are on the list obtained from the Osun state ministry of education.

## 2.3 Sampling Size Determination

Using Leslie Fishers formula with p = 16.5% (proportion of schools undergoing pre-school medical examination in Edo state(12) n = 220.

## 2.4 Sampling Technique

Ten out of the 30 local government areas in Osun state were selected by simple random technique. A list of all the public and private primary and secondary schools were obtained from the state ministry of education; simple random technique was also employed in selecting primary and secondary schools in each of the selected local government. In each selected school, the head (principal or headmaster for secondary and primary schools respectively) or their vices or representatives were given the questionnaires which were self-interviewed.

## 2.5 Data Collecting Instrument

Pre-tested semi-structured self-administered questionnaire were used to obtain information. The questionnaire sought to elicit their knowledge of, attitude towards and practice of school health services; the scope of school health services rendered, the personnel involved, the presence or absence of a sick bay, the water and environmental sanitation, the knowledge and practice of entrance school medical examination for the pupils, type of health instructions for the pupils as well as factors affecting the successful implementation of the services/programme.

## 2.6 Ethical Consideration

Permission to conduct the study was obtained through the Ministry of Education in Osun state and the heads of schools. Informed consents were obtained and confidentiality of both respondents and the school was assured.

## 2.7 Data Analysis

Date were manually sorted out and entered into computer. Data were analyzed with Statistical Package for Social Sciences (SPSS) version 16. Descriptive summary frequency tables were generated. Bivariate analysis was done with level of significance set at 0.05.

# 3. RESULTS

Table 1 shows respondents' designation. The secondary schools were 127 (55.5%) with remaining 102 (44.5%) being primary schools. Eighty (34.7%) of the respondents interviewed were headmaster, while seventy two (31.6%) were vice principal, others were principal [54 (23.6%)], assistant headmaster [16 (7.0%)] and administrative staff

[7 (3.1%)]. The public schools were 158 (68.9%) and respondents with teaching experience greater than five years were 114 (49.8%).

**Table 1. Respondents' designation**

| Variable | Frequency (n) | Percentage (%) |
|---|---|---|
| **Designation (n=229)** | | |
| Principal | 54 | 23.6 |
| Vice principal | 72 | 31.6 |
| Head master | 80 | 34.7 |
| Assistant headmaster | 16 | 7.0 |
| Administrative staff | 7 | 3.1 |
| **Level of school (n=229)** | | |
| Primary | 102 | 44.5 |
| Secondary | 127 | 55.5 |
| **Type of school (n=229)** | | |
| Public | 158 | 68.9 |
| Private/Mission | 71 | 31.1 |
| **Years of teaching (n=229)** | | |
| 1-2 | 46 | 20.0 |
| 3-5 | 69 | 30.2 |
| >5 | 114 | 49.8 |

In Table 2, 91.3% (209) of respondents have heard of pre-school medical examination for pupils and said the examination is necessary for appropriate care (34.0%), early disease detection (20.6%), proper education and counseling (44.0%), for the pupils to know about themselves (15.3%) and in order to identify the pupils with special needs (5.7%). The remaining 8.7% (20) have not heard of the examination before and said it was not necessary because it is of no benefit to pupils' health (70.0%) and it causes undue financial burden.

Assessment of the practices of school health services revealed that 215 (93.8%) carried out health inspection of pupils and the school uniform (97.2%), nails (93.0%), teeth (86.8%), skin (81.3%) and hair (88.7%) were usually examined. The examinations were mostly carried out daily (46.9%) and usually in the assembly ground/hall (77.5%). Other practices related to school health services were availability of procedure for sick pupils (78.6%), school health clinic (18.8%), student health prefect (91.7%), and staff health master (89.9%) among others. Respondents' overall practices of school health services result showed that 42 (18.3%) had good practice, 109 (47.6%) had average practice while 78 (34.1%) had poor practice (Table 3).

Health related topics being taught in schools were sexuality education, HIV/AIDS education, personal hygiene and good health habits. The topics are either present in the school curriculum, or taught in any other informal forum in school or agencies that visited the school talked about them (Table 4).

Table 5 showed the environmental health facilities present in the schools at the time of this study. Ninety two (40.3%) schools had tap water/borehole located within the school premises, other drinking water sources were sachet water for sale [40 (17.6%)], well water within the school premises [44 (19.4%)] and 53 (22.7%) said their pupils bring drinking water from home. Toilet facilities were available in 176 (76.8%) schools, 96 (54.6%) of this were pit latrine and the remaining 80 (45.4%) were water closet. Commonest waste disposal method

was open dumping in 90 (39.1%) schools followed by burning among 72 (21.7%) schools, other disposal methods were burying [50 (21.7%)] and disposal through private collectors [17 (7.7%)].

**Table 2. Respondents' knowledge and perception of pre-school medical examination**

| Variable | Frequency (n) | Percentage (%) |
|---|---|---|
| **Ever heard about pre-school medical examination for pupils (n=229)** | | |
| Yes | 209 | 91.3 |
| No | 20 | 8.7 |
| **Is the examination necessary (n=229)** | | |
| Yes | 209 | 91.3 |
| No | 20 | 8.7 |
| **Reasons why examination is necessary (n=209 with multiple responses)** | | |
| Appropriate caution or care | 71 | 34.0 |
| Early detection of disease | 43 | 20.6 |
| Proper education and counseling | 92 | 44.0 |
| Pupils know about themselves | 32 | 15.3 |
| Know children with special needs | 12 | 5.7 |
| **Why not necessary (n=20 with multiple responses) no benefit to pupils' health** | | |
| Undue financial burden | 14 | 70.0 |
| Overall Knowledge | 11 | 55.0 |
| Good | 114 | 49.8 |
| Fair | 64 | 27.9 |
| Poor | 51 | 22.3 |

**Table 3. Practices concerning pupils' health in school**

| Variable | Frequency (n) | Percentage (%) |
|---|---|---|
| **Health Inspection (n=229)** | | |
| Yes | 215 | 93.8 |
| No | 14 | 6.2 |
| **What is examined? (n=215 with multiple responses)** | | |
| Nail | 200 | 93.0 |
| Teeth | 187 | 86.8 |
| Skin | 175 | 81.3 |
| Hair | 191 | 88.7 |
| School uniform | 209 | 97.2 |
| **Frequency (n=215 with multiple responses)** | | |
| Daily | 101 | 46.9 |
| Weekly | 99 | 46.0 |
| Irregularly | 15 | 7.0 |
| **Where inspection is done (n=215)** | | |
| Classroom | 48 | 22.5 |
| Assembly ground/hall | 167 | 77.5 |

***Table 3 continued……***

| | | |
|---|---|---|
| **Other practices (n = 229 with multiple responses)** | | |
| Pupils undergo pre-school medical examination | 46 | 20.1 |
| Presence of Policy/Procedure for sick pupils | 180 | 78.6 |
| Have School Health Clinic/Sick Bay | 43 | 18.8 |
| Have a student health prefect | 210 | 91.7 |
| Have a staff health master | 205 | 89.9 |
| Pupils pay for treatment | 16 | 7.3 |
| Routine Medical Inspection | 213 | 93.1 |
| Maintain first aid box | 221 | 96.5 |
| **Contents of the first aid box (n=221 with multiple responses)** | | |
| Analgesics | 194 | 87.8 |
| Antibiotics | 77 | 34.8 |
| Anti-malaria | 17 | 7.7 |
| Iodine | 187 | 84.6 |
| Dressing materials | 221 | 100.0 |
| **Overall Practice (n = 229)** | | |
| Good | 42 | 18.3 |
| Average | 109 | 47.6 |
| Poor | 78 | 34.1 |

**Table 4. Health related topics being taught (n= 229)**

| | Present in school curriculum frequency (%) | Taught in other forum in school frequency (%) | Agency/Organization invited to talked about it frequency (%) |
|---|---|---|---|
| Sexuality education | 116 (50.7) | 155 (67.7) | 112 (48.9) |
| HIV/AIDS education | 133 (58.1) | 138 (60.3) | 135 (59.0) |
| Personal hygiene | 188 (82.1) | 177 (77.3) | 120 (52.4) |
| Good health habits | 185 (80.8) | 179 (78.2) | 104 (45.4) |

School type was related with practice of pre medical examination and more of the private schools (40.0%) significantly practiced more than the public schools (11.6%); also the secondary schools (31.5%) significantly practiced more than the primary schools (5.9%) ($p<0.001$). Knowledge of school health practices was also related with overall school health practices and more of those with poor knowledge (31.4%) had poor overall practice than those with fair (28.1%) and good (17.5%) knowledge. (Tables 6 and 7)

**Table 5. Environmental health facilities present in schools**

| Variable | Frequency (n) | Percentage (%) |
|---|---|---|
| **Drinking water sources (n=229)** | | |
| Students bring from home | 53 | 22.7 |
| Tap water/Borehole within school | 92 | 40.3 |
| Sachet water for sale | 40 | 17.6 |
| Well within school | 44 | 19.4 |
| **Availability of toilet (n=229)** | | |
| Yes | 176 | 76.8 |
| No | 53 | 23.2 |
| **Toilet type (n=176)** | | |
| Pit latrine | 96 | 54.6 |
| Water closet | 80 | 45.4 |
| **Water availability in toilet (n=176)** | | |
| Always | 16 | 9.3 |
| Most times | 120 | 68.0 |
| Rarely | 40 | 22.7 |
| **Waste disposal methods used (n=229)** | | |
| Open dumping | 90 | 39.1 |
| Burning | 72 | 31.5 |
| Burying | 50 | 21.7 |
| Private collector | 17 | 7.7 |

**Table 6. Relating type of school with practice of premedical examination**

| School types | Premedical exam | | Total | |
|---|---|---|---|---|
| | Yes | No | | |
| Public school | 18 (11.6%) | 137 (88.4%) | 155 | $\chi^2 = 22.18$; P<0.0001 |
| Private school | 28 (40.0%) | 42 (60.0%) | 70 | |
| **Total** | **46** | **179** | **225** | |
| Primary | 6 (5.9%) | 96 (94.1%) | 102 | $\chi^2 = 21.35$; P<0.0001 |
| Secondary | 40 (31.5%) | 87 (68.5%) | 127 | |
| **Total** | **46** | **183** | **229** | |

**Table 7. Relating respondents' knowledge with practice of school health service**

| | | Practice of school health service | | | | |
|---|---|---|---|---|---|---|
| **Knowledge of school health service** | | **Good** | **Average** | **Poor** | **Total** | |
| | Good | 22 (19.3%) | 72 (63.2%) | 20 (17.5%) | 114 | $\chi^2 = 5.26$; |
| | Fair | 10 (15.6%) | 36 (56.3%) | 18 (28.1%) | 64 | P= 0.2616 |
| | Poor | 10 (19.6%) | 25 (49.0%) | 16 (31.4%) | 51 | |
| | **Total** | **42** | **109** | **78** | **229** | |

## 4. DISCUSSION

The importance of a good and functional SHP as the child health component of primary health care in the overall development of children and the citizenry of a nation cannot be over emphasized. With less than half having a good knowledge of SHS as found in this study among heads of schools, the practice of SHS will definitely be affected. The

knowledge of SHS is noted not to be significantly different among the respondents in all types of schools giving a reason wherewith its need might not be taken very seriously since knowledge has been found to correlate positively with attitude and practice [4]. Previous studies are also in consonant with this; for instant a study in Edo state Nigeria reported that none of the head teachers in both private and public schools had adequate knowledge of SHP(12) but respondents from public schools were better than their counterparts in the private schools. Similar study in Southwestern Nigeria also indicated good knowledge of SHS in only ¼ of the teachers which is much less than our findings, average knowledge in a little above ½ and poor knowledge in just below ¼ of them [25].

The findings of this study revealed that there are significant differences between public and private secondary schools in Osun state in respect of the practice of school health services similar to the findings in Edo state where private school had a better SHP but at variance with that of Cross River state [27]. The respondents' poor understanding of the benefits of school entrance medical screening is revealed in the fact that only about one out of five schools reported their pupils undergo the examination. This goes to undermine documented reports of early detection and treatment of various defects/impairments and diseases among school pupils [14,23,28,29]. This will definitely also affect their learning resulting in poor performance especially sight and hearing impairment. Specifically however, the study showed that more private schools have their pupils undergo pre-school medical screening than their public counterparts ($p<0.05$). The same observation holds true for adequacy of teaching of health related topics. Both formal and informal procedures are to be utilized in giving the best in health education to children and adolescents [5,6,30] and this study also showed that the private schools did better in providing adequate exposure of the students to health related teachings than the public ones. This is understandable because such non-profit, voluntary organizations do not demand funds from school management for their operation. These findings are not unusual because the private schools tend to be more competitive and funded, therefore strive to pull users through various amenities which they would not mind to pay for. Most public schools are utilized by less privilege members of the communities which depend mainly on free education and since SHS such as pre-school medical examination is not covered by such, it suffers. However, school feeding programme as part of SHP seem to do well in the state. Most of the schools lack a sick bay as previously reported even though almost all maintain a first aid services as also found in previous studies [4,12]. Though, about a third was recorded by Ofovwe, it was just about a fifth in our study. The presence of teachers and pupils in monitoring the first aid box is commended. School health programme, if implemented well, has great potential in improving the health status of school pupils.

## 5. CONCLUSION AND RECOMMENDATION

The result of this study shows that private schools are better in SHS in Osun state. Since health services is that right of all children in schools, irrespective of the school they attend, it is recommended that government policy on education and school health programmes should be enforced in both private and public schools. The benefits of entrance medical screening, healthy school environment and medical service with essential drugs needs to be emphasized. Government and proprietors of private schools should provide adequate potable water and sanitary toilet facilities in all schools. Heads of schools should improve their knowledge of SHS towards implementing the SHP as it is in the policy.

## CONSENT

Informed consent was obtained from respondents and data were confidential.

## ETHICAL APPROVAL

Informed consent was obtained from respondents and data were confidential. Research did not involve any invasive procedure.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

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