

ORIGINAL RESEARCH REPORT

The survey of head teachers of private schools regarding knowledge and implementation of the school health program in Ilorin

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ABSTRACT

Background and Objectives: School health program (SHP) is a critical aspect of the nation's healthcare system integrating education and delivery of health-care services. We sought to explore knowledge of head teachers regarding the SHP and determine their level of implementation. **Methods:** A survey was conducted of head teachers of privately owned primary and secondary schools in Ilorin. A pretested questionnaire with information on knowledge of SHP and current facilities and practices in their schools was given to head teachers at a training workshop to improve their awareness regarding hygiene and disease prevention in schools. **Results:** A total of 100 questionnaires were distributed with 84 head teachers returning their completed questionnaires. The mean (standard deviation) age of the head teachers was 43.3 (9.9) years with a female:male ratio of 1.9:1. Thirty-eight (47.5%) of the head teachers had good/adequate knowledge, and female head teachers were statistically more likely to have adequate knowledge. Thirty-nine of the schools delivered school health services, most commonly by a health assistant (79.5%). Fifty-nine (73.8%) of the schools had a first aid box. The most common source of water was well water (46.3%). Refuse and sewage disposal was largely by incineration and water closet system, respectively. **Conclusion:** School head teachers had a poor knowledge of SHP and inadequate school health services in their school.

Key words: Environment, knowledge, school health services, teachers

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INTRODUCTION

School health program (SHP) refers to a group of coordinated activities which contribute to the understanding, maintenance, and improvement of the health of the school population.^[1] School age is a critical time in the development of a human being and the school setting provides a strategic point of entry for improving children's health, self-esteem, life skills, and behavior.^[2] SHPs coordinate the delivery of health education and health services to children in a healthy environment as a means of positively influencing the health of a nation and the well-being of its people.^[2] The eight key components of the SHP are school health services; health instruction; healthy school environment; health promotion

for school personnel; school and community collaboration; nutrition and food services; physical education and recreation; and mental health.^[2,3] Unfortunately, the SHP has not been well implemented in developing countries, and marked variations exist in the degree of implementation and coordination.^[3] Reports from Nigeria have supported the above assertion.^[4-7] The Nigerian National School Health Policy of 2006 has put in place a framework for effective implementation of the policy with well-defined objectives and strategies; however, governments have not demonstrated sufficient commitment to the achievement of the set objectives.^[8]

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Each school in the Nigerian school system has a designated head teacher who is responsible for the day-to-day running of all activities in the school.^[9] The head teacher serves, among other duties, as the arrow head for the implementation of the SHP and their duties include bringing child's condition to the attention of parents, screening, counseling of parents and being an advocate for good health for the child.^[9] Unfortunately, several Nigerian studies have consistently identified major deficiencies in knowledge of head teachers regarding school health and its implementation.^[6,9,10] Ofovwé and Ofili in Benin City demonstrated such poor knowledge and implementation of the SHP among head teachers of private and public schools, where none of the head-teachers had adequate knowledge of SHP.^[6]

There is a need to regularly evaluate the implementation of the SHP to guide government and agencies in developing appropriate policies and interventions to improve the health of children.

Thus, this study was designed and conducted to appraise the knowledge of a cohort of head teachers in private schools in Ilorin regarding the SHP and determine the degree of implementation of selected components of the SHP in Ilorin.

METHODS

The study was a descriptive cross-sectional survey of head teachers of privately owned primary and/or secondary schools in Ilorin (comprising Ilorin West, Ilorin East, and Ilorin South Local Government Areas). It was carried out in August 2014 as part of a health sensitization workshop for staff of private schools, and the interviews were conducted before the training. The study population consisted of all head teachers of privately owned primary and/or secondary schools from Ilorin city present at the training. There are 523 private basic schools in Ilorin. Using a 10% confidence interval (margin of error of 10%), 95% confidence level and estimated proportion of 38.3% of schools with an SHP,^[6] the calculated minimum sample size was 78. Allowing for a 20% nonresponse rate, the calculated sample size was 94. A convenience sampling of the head teachers was used to determine study participants and questionnaires were given to consecutive head teachers till the sample size was achieved. Probability sampling could not be deployed because of the nonordered nature of participants and the relatively short time frame to complete the subject recruitment before the commencement of the training. The inclusion criterion was being head teacher of a registered private primary/secondary schools within the geographical area of Ilorin. Where head teachers had sent representatives, they were excluded from the study. Approval for the study was obtained from the State Ministry of Education.

Written informed consent was obtained from the head teachers, and those who agreed to participate were given the study instrument. A self-administered questionnaire was handed out to the school head teachers that contained basic sociodemographic data, characteristics of the school, knowledge of SHP and practice of school health services, health instruction, and school environment characteristics. The questionnaire was designed by the investigators based on the items listed in the texts by Akani *et al.* and Anderson.^[1,11] The questionnaire has been validated by several authors to be a reliable measure.^[12-14] The questionnaire consists of five sections comprising basic demographic data, knowledge of SHP (eight questions), eight items regarding school health services, five items regarding school health instruction and four subsections covering various aspects of the school environment. All questionnaires were retrieved before the commencement of the training. Responses were coded and entered into a spreadsheet. Each response regarding knowledge was categorized as correct or incorrect based on predetermined answers as determined by the study investigators. Good knowledge of SHP was determined as a correct definition of SHP and correctly identifying three or more components. Average knowledge was a correct definition of SHP with one or two components identified correctly. For the purpose of the analyses, good and average knowledge were combined. Any other responses were classified as poor knowledge. Data were analyzed using SPSS version 20 (IBM, Armonk, New York, USA). Frequency distribution tables and cross-tabulation of variables were generated. The mean and standard deviation (SD) for quantitative variables were provided and proportion for qualitative variables was also determined. Basic tests of statistical significance such as Chi-square and Student's *t*-test were utilized as required. A $P < 0.05$ was considered statistically significant.

RESULTS

A total of 100 questionnaires were distributed of which 84 were returned giving a response rate of 84.0%. Four of these did not have sufficient information for any meaningful analyses hence only 80 questionnaires were analyzed. The mean (SD) age of the head teachers was 43.3 (9.9) years with a range of 27–69 years. Fifty-two (65.0%) of the head teachers were female with a female to male ratio of 1.9:1. In general, the teachers had a poor knowledge of SHP. Thirty-three (41.3%) of the head teachers had an average knowledge and 5 (6.3%) head teachers had good knowledge of SHP, thus 38 (47.5%) of the head teachers had good or average knowledge. Age, ethnic group, school location, and type were not significantly associated with having good/average knowledge. Female gender ($P = 0.02$) was the only demographic characteristic associated with good/average knowledge. Other characteristics of head teachers and schools are as in Table 1.

Thirty-nine (48.8%) of the head teachers surveyed reported they were delivering school health services in their schools. These services were delivered by a health assistant/first aid worker in 31 (79.5%) schools, health educator in 8 (20.5%) schools, nurse in 15 (38.5%), and doctor in 6 (15.4%) schools (multiple health workers provided these services in some schools). Services reported by 39 head teachers to be provided in their schools include routine inspection/treatment of minor ailments and injuries in 22 (56.4%) schools, preentry medical screening for students in 12 (30.8%) schools and supervision and care for handicapped children in 4 (10.3%) schools. Fifty-nine (73.8%) of the schools surveyed had a first aid box, and only 26 (32.5%) had a dedicated health room or sick bay (some schools had both). Among all the head teachers surveyed actions taken for children with suspected communicable diseases in their schools are do nothing (4 schools), isolate child (37 schools), immunize other children if vaccine available (31 schools), and send child home (39 schools).

Regarding health instruction in the schools, the commonest duration allotted per week for health teaching was one period (30 min) per week in 26 (32.5%) schools. Others are two periods (1 h) per week (23 schools), three periods (90 min) per week (10 schools), and >3 per week (4 schools). The content of the health education curriculum in these schools included growth and development (50.0%), personal health (58.8%), communicable and noncommunicable diseases (17.5%), social and emotional health (32.5%), acquired immunodeficiency syndrome education (50.0%), safety and first aid (67.5%), and reproductive health (22.5%).

Concerning the school environment, the most common source of water was well water in 37 (46.3%) schools. The predominant source of water was most often located within the school premises (56.3%). Others are shown in Table 2.

The most frequently utilized methods of refuse disposal were incineration (45.0%) and open dumping (41.3%). Most (71.3%) schools used the water closet system for sewage disposal [Table 2]. There was no significant difference in the source of water, sewage, and refuse disposal practices between schools located in rural and urban communities ($P > 0.05$).

DISCUSSION

The SHP is a crucial aspect of a nation's health delivery system integrating healthcare and education in a healthy environment.^[1-3] It ensures that pupils imbibe a culture of healthy development toward a challenging and productive adult life.^[2] The level of implementation of SHP in schools in Nigeria is generally poor.^[7,10,12,13] Various studies over the years have demonstrated that head teachers are not adequately informed about the SHP.^[6,8,10] The current study

Table 1: Selected head teacher sociodemographic/school characteristics by knowledge of school health program

Characteristics	Frequency (%)		P
	Good/average knowledge (n=38)	Poor knowledge (n=42)	
Age distribution (years)			
<30	3 (3.8)	3 (3.8)	0.37
30-39	15 (18.8)	11 (13.8)	
40-49	9 (11.3)	15 (18.8)	
50-59	10 (12.5)	11 (13.8)	
≥60	1 (1.3)	2 (2.5)	
Age (years), mean (SD)	42.3 (10.0)	44.3 (9.8)	0.38
Gender			
Male	8 (10.0)	20 (25.0)	0.02
Female	30 (37.5)	22 (27.5)	
Ethnic group			
Yoruba	37 (46.3)	37 (46.3)	0.20*
Ibo†	0	3 (3.8)	
Nupe†	1 (1.3)	1 (1.3)	
Not stated	0	1 (1.3)	
School type			
Primary only	29 (36.3)	25 (31.3)	0.25
Secondary only	3 (3.8)	8 (10.0)	
Combined	5 (6.3)	7 (8.8)	
Not stated	3 (3.8)	0	
School location			
Urban	31 (38.8)	28 (35.0)	0.14
Rural	7 (8.8)	14 (17.5)	

*Fisher's exact test, †Values merged together for statistical analyze. SD=Standard deviation

Table 2: Characteristics of the school environment in urban and rural schools

Variable	Rural (n=21)	Urban (n=59)	P
Source of water			
Well	9 (11.3)	28 (35.0)	0.57
Borehole	4 (5.0)	6 (7.5)	
Pipeborne	8 (10.0)	25 (31.3)	
Refuse disposal*			
Incineration	10 (12.5)	26 (32.5)	0.78
Composting	2 (2.5)	4 (5.0)	0.68
Controlled tipping	0	2 (2.5)	0.66
Open dumping	7 (8.8)	26 (32.5)	0.41
Refuse collectors	0	3 (3.8)	0.90
Sewage disposal			
Water closet	11 (13.8)	46 (57.5)	0.13
Pit latrine	2 (2.5)	4 (5.0)	
Bucket	2 (2.5)	2 (2.5)	
Open	2 (2.5)	0	
Not stated	4 (5.0)	7 (8.8)	

*Multiple responses were allowed

has corroborated that with only 47.5% of head teachers having average knowledge of the SHP and its components. In the study by Ofofwe and Ofili in 2007, no head-teacher had adequate knowledge of SHP. However, it is important to note that both studies used different definitions for assessing knowledge. The finding in this study that female head

teachers had better knowledge of SHP than the males is interesting, and the reason for this is unclear. Further work will be required to examine the basis for this difference. Head teachers need to be properly informed on the national school health policy and governments at all levels should ensure that the guidelines in the policy are implemented with proper systems for monitoring compliance.

School health services are preventive and curative services provided for the promotion of the health status of learners and staff.^[2,3] Less than half of the schools in this study were delivering school health services even though 73.8% of them had a first aid box. This is similar to the reported 80% of schools having a first aid box in the national survey of SHP in 2006.^[6] Only 15.0% of all the schools surveyed rendered preentry medical screening which is less than 45.9% reported by Ofovwé and Ofili but about the same as 14% in the National School Health Survey.^[6,8] About 33% of schools had a sick bay or dedicated health room. This is about the same as reported by Oyinlade *et al.* (2014)^[14] in Sagamu where a third of schools surveyed had a health room. Health rooms are meant for observation of children who take ill during school hours. They are an important aspect of school health services as school children are prone to injuries and minor illnesses that would require immediate care.

The school environment was also generally poor. The most common source of water in the schools was well water with its well-documented hygiene issues.^[15] Only 57.1% of schools in the rural areas and 52.3% of schools in the urban areas had access to the preferred borehole or pipe-borne water. This is poor compared to reports from Benin where about 78% of private schools had access to pipe-borne/borehole water.^[6] This is a reflection of the generally poor social services in our communities. Incineration and open dumping are the most common methods of refuse disposal. When properly done, incineration is quite a safe method of refuse disposal, however, we did not conduct a physical assessment of the facilities to confirm how this was being conducted.^[16] Open dumping poses several hazards of injuries, contamination of surface water, proliferation of rodents and other disease vectors, among other things and should be discouraged.^[16] The most common method of sewage disposal was the water closet system (57.5%) which is highly commendable. This is similar to Benin where 44.2% and 29.8% of schools used a water closet system or pit latrines, respectively.^[6] However, it is important to note that the water closet system is largely dependent on a regular source of water and considering the aforementioned challenges in water supply to these schools, the water closet system is unlikely to be functioning as it should in these schools.

Important limitations of the study are the use of convenience sampling which may be associated with selection bias. Unfortunately, this could not be avoided because of the

study design. Another limitation is the failure to physically examine the facilities in these schools as it is conceivable that some head teachers may have misrepresented some of the facilities they have. Thus, it is necessary that future research into the implementation of the SHP should put in place measures for physical inspection and possibly relate their findings with outcome measures such as the nutritional status of the pupils, school performance, and occurrence of minor infections.

CONCLUSION

The head teachers in Ilorin have a poor knowledge of SHP, and the level of implementation of the various components of the SHP in primary and secondary schools in Ilorin is low.

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Conflicts of interest

There are no conflicts of interest.

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