

Knowledge and practice of school health program in primary and secondary schools in Sokoto metropolis, Nigeria

Auwal U. Abubakar^{1*}, Kehinde J. Awosan^{1,2}, Mohammed T. Ibrahim^{1,2}, Kehinde P. Ibitoye³

¹Department of Community Medicine, Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria, ²Department of Community Health, ³Department of Paediatrics, Usmanu Danfodiyo University, Sokoto, Nigeria

ABSTRACT

Background: School health program addresses the healthcare needs of a substantial proportion of the population in many developing countries, and it is majorly concerned with ensuring that school children are healthy and benefit maximally from their education. **Aim:** This study was conducted to assess the knowledge and practice of school health program in primary and secondary schools in Sokoto metropolis, Nigeria. **Materials and Methods:** A cross-sectional study was conducted among 87 head teachers (selected by a two-stage sampling technique) in the primary and secondary schools in Sokoto metropolis, Nigeria. A structured self-administered questionnaire was used to collect data on the research variables. Data were analyzed using IBM SPSS version 20 statistical computer software package. **Results:** Less than a tenth 7 (8.0%) of the 87 respondents had good knowledge of school health program. Less than half of respondents knew the components (26.4%), services and activities involved (46.0%) and the objectives (48.3%) of SHP. Practice of SHP services / activities was adequate in less than half 41 (47.1%) of the 87 schools. There was no significant difference ($p > 0.05$) in the knowledge and practice of SHP in the public and private schools. **Conclusion:** This study showed poor knowledge of SHP among the head teachers, and sub-optimal practice of SHP in the primary and secondary schools in Sokoto metropolis, Nigeria. Review of teachers' training curriculum to make it comprehensive enough to incorporate all the vital aspects of SHP, and periodic training of teachers on SHP were suggested.

Keywords: Knowledge, practice, school health program, primary and secondary schools

INTRODUCTION

School health program addresses the healthcare needs of a substantial proportion of the population in many developing countries. It consists of coordinated activities which contribute to the understanding, maintenance and improvement of the health of the school population (Azubuike and Nkanginieme, 2007). In Nigeria, children aged 5-14 years accounted for 28.3% of an estimated population of over 140 million people (NPC, Nigeria and ICF International, 2013); at this age, they are constantly undergoing major developmental changes (physical, mental and social); an efficient health services for them therefore takes care of a good proportion of the Nigerian population.

School health program is majorly concerned with ensuring that school children are healthy and benefit maximally from their education. Specifically it aims to provide treatment and emergency care to ill children;

provide advisory and counseling services for pupils, their teachers and parents; educate children on healthy living; control communicable and non-communicable diseases; promote optimal sanitary condition in the school environment; and help children achieve optimal growth and development (Adetokunbo and Herbert, 2003).

Although, the detailed organization of school health program varies from one place to the other, SHP focuses on integrated activities with 5 main components including healthful school environment, school health education, school health services, school nutrition program, and school, home and community relationship (FMoE Nigeria, 2006).

A healthful school environment is an essential factor in achieving the overall goals of the school health program because it has implications for all areas of school health (FMoE Nigeria, 2006), and the school environment is

*Corresponding Author: Dr. Auwal U. Abubakar, Department of Community Medicine, Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria. E-mail: auabubakar17@gmail.com

Received: 12-03-2019

Revised: 17-04-2019

Published: 30-04-2019

believed to play a pivotal role in the retention and learning outcomes of students (MoE Pakistan and UNESCO, 2010).

Schools have a responsibility to educate their students and foster among them healthy and hygienic behavior. Students should be educated on the health risks they face at school and how to protect themselves and others against diseases and other forms of ill-health by adopting health promoting habits and practices (MoE Pakistan and UNESCO, 2010).

School health services constitute an essential component of an effective school health program and for achieving "Education for All" inclusive of children with special needs. It is aimed at making the school a healthy setting for living, studying and working, and the services provided here include pre-entry medical and dental screening; keeping school health records; routine health screening and examination (including screening for visual and hearing defects); first-aid and emergency preparedness; referrals services; special needs integration services; counseling; control of communicable diseases; and mental health services (FMOE Nigeria, 2006; Adetokunbo and Herbert, 2003; Parks, 2011).

Evidence from literature had established a strong link between nutrition and learning; healthy eating patterns are essential for students to achieve their full academic potentials, full physical and mental growth, and life-long health and well-being (FMOE Nigeria, 2006). Poor nutrition affects children's ability to learn, and evidence from research has revealed how breakfast affects children's cognition, behavior and school performance (Brown *et al.*, 2008). Hunger and micronutrient deficiencies, particularly anemia have been shown to negatively affect school children's ability to attend school, concentrate in class and complete schooling. Iron deficiency anemia is one of the most common micronutrient deficiencies amongst school-age children affecting around 50% of school-age children worldwide, thus reducing their ability to pay attention, participate and learn in school (Jukes *et al.*, 2008). Poor nutrition has been identified as an underlying cause for poor school attendance, retention and achievement among children of school age in Nigeria (FMOE Nigeria, 2006). A midday meal is believed to be an important instrument for combating classroom hunger and promoting better learning (Singh and Mishra, 2010). To this end, the Home-Grown School Feeding and Health Programme (HGSFHP) was launched in Nigeria in September 2015 to provide one nutritionally adequate meal each school-day for all school children.

Schools operate within communities, which comprise individuals, groups and institutions. Also, learners and staff in schools come from homes located in the communities; therefore, teachers, community leaders, religious and social institutions, voluntary agencies, health workers, social workers, parents and school children should all be involved in promoting school, home and community relationship through collaborative efforts.

Previous studies conducted in Nigeria and other places majorly reported poor knowledge of school health program among teachers. A study conducted in Danuhyu, Myanmar reported that 62% of the teachers had high level of knowledge of SHP (Htun *et al.*, 2013). Another study conducted in Kayseri, Turkey reported poor knowledge of first-aid among teachers (Baser *et al.*, 2007). A study conducted in Bahrain reported that the school teacher interviewed scored only around 50% on average for knowledge about common health problems (Alnasir and Skerman, 2004). A study conducted in Edo, South-south Nigeria (Ofovwe *et al.*, 2007), reported poor knowledge of SHP among the teachers interviewed with a significantly higher proportion ($p < 0.05$) of teachers in private schools (93.1%) having poor knowledge of SHP as compared to those in public schools (48.3%). A similar study conducted among teachers in Osun State (Abodunrin *et al.*, 2014), Nigeria, reported that overall knowledge of SHP was good in only about half (50.7%) of respondents.

Conspicuously, previous studies conducted across Nigeria including Kogi State (Ogwu and Ayabiogbe, 2010), Edo State (Ofovwe and Ofilii, 2007), Osun State (Abodunrin *et al.*, 2014), and Oyo State (Ademokun *et al.*, 2014) majorly reported inadequate practice of SHP in concomitant with the poor knowledge of SHP among the respondents in the respective studies.

Considering the fact that the schools provide unmatched access to the large population of young people in Nigeria, the school health program therefore provides an opportunity for students to learn about and practice healthy behavior. Whereas, studies regarding the knowledge and practice of SHP have been conducted among teachers in a couple of states in Nigeria, little is known about the knowledge and practice of SHP among teachers in Sokoto, Nigeria. This study was conducted to assess the knowledge and practice of school health program in primary and secondary schools in Sokoto metropolis, Nigeria.

MATERIALS AND METHODS

Study Design, Population and Area

A cross-sectional study was conducted among head teachers in the primary and secondary schools in Sokoto metropolis, Nigeria, in August and September 2015. Sokoto metropolis is the capital city of Sokoto state, and also the seat of government. It comprises Sokoto North, Sokoto South and some parts of Dange-Shuni and Wamakko Local Government Areas (LGAs) (SURPB, 2012). There are 76 secondary and 298 primary schools in the metropolitan LGAs, some of which are owned by the federal government, some by the state government, while the rest are owned by private individuals. Only the heads teachers in primary and secondary schools registered by the government (as indicated in the list obtained from the State Ministry of Education and State Universal Basic Education Board) were considered eligible. Those working in newly registered schools that have been in operation for less than one year were excluded.

Sample Size Estimation and Sampling Technique

The sample size was estimated at 87 using the statistical formula for calculating the sample size for descriptive studies (Ibrahim, 2009) a 6.9% prevalence of good knowledge of school health program among head teachers in a previous study (Ofovwé and Ofilli, 2007), a precision level of 5%, and adjustment for a finite population of 374 head teachers in Sokoto metropolis (obtained from institutional records) and an anticipated 90% response rate. Eighty-seven head teachers were enrolled into the study.

The eligible participants were selected by a two-stage sampling technique. At the first stage, 2 of 4 Local Government Areas (LGAs) in Sokoto metropolis (i.e., Sokoto South and Wamakko LGAs) were selected by simple random sampling using the ballot option. At the second stage, line listing of all the primary and secondary schools (public and private) in the selected LGAs was done, and 90 of 237 schools were selected by simple random sampling using the table of random numbers. Proportionate allocation was done in the selection of public and private schools in the selected LGAs. The head teachers of the selected schools (or their representatives) were enrolled into the study.

Data Collection and Analysis

A structured self-administered questionnaire was used to obtain information on the respondents' socio-demographic characteristics, and their knowledge and practice of school health program. Two resident doctors and 3 final year medical students assisted in data

collection after pre-training on the conduct of survey research, the objectives of the study, selection of study participants, and use of the survey instrument. The questionnaire was pretested on 10 head teachers in Kware LGA, and appropriate corrections were made based on the deficiencies detected in the instrument during the pretesting. Data were analyzed using IBM Statistical Package for the Social Sciences (SPSS) version 20.0 software. Quantitative variables were summarized using mean and standard deviations, while qualitative variables were summarized using frequencies and percentages. The chi-square test was used to compare differences between proportions. All levels of significance were set at $p < 0.05$.

Ethical Consideration

Institutional ethical clearance was obtained from the Ethical Committee of Sokoto State Ministry of Health, Sokoto, Nigeria. Permission to conduct the study was obtained from the Honorable Commissioner, Ministry of Education, Sokoto State, Nigeria, and informed consent was obtained from the participants before commencing data collection.

RESULTS

Respondents' socio-demographic characteristics

All the 87 questionnaires administered were adequately completed and found suitable for analysis, giving a response rate of 100%. The ages of the respondents ranged from 23 to 62 years (mean = 41.9 ± 9.3 years) with a larger proportion 33 (37.9%) in the 30-39 years age group. Majority of respondents were males (79.3%), married (93.1%), practiced Islam as religion (81.6%), had tertiary education (97.7%), have spent less than 20 years in service (62.8%), and practiced in public schools (67.8%) as shown in Table 1.

Respondents' knowledge of school health program

Less than a tenth 7 (8.0%) of the 87 respondents had good knowledge of school health program. Less than half of respondents knew the components (26.4%), services and activities involved (46.0%) and the objectives (48.3%) of SHP. Whereas, majority of respondents knew teachers or the school health master (73.6%), health educator (62.1%), parent teachers association (54.0%), and sport and recreation experts (52.9%) as service providers in SHP, only about a third and less of respondents knew the other service providers in SHP (Table 2). Although, the proportion of respondents with good knowledge of SHP was slightly higher among those in public schools (8.5%) as compared to those in private schools (7.1%), the difference was not significant ($\chi^2 = 0.046$, $p = 0.831$).

Table 1: Respondents' socio-demographic characteristics

Variables	Frequency (%) n = 87
Age group (years)	
20-29	5 (5.7)
30-39	33 (37.9)
40-49	25 (28.7)
≥50	24 (27.5)
Sex	
Female	18 (20.7)
Male	69 (79.3)
Religion	
Islam	71 (81.6)
Christianity	16 (18.4)
Marital status	
Single	6 (6.9)
Married	81 (93.1)
Level of education	
Primary	1 (1.1)
Secondary	1 (1.1)
Tertiary	85 (97.7)
Duration in service (years)	
1-9	23 (26.4)
10-19	32 (36.4)
20-29	22 (25.3)
30-39	10 (11.5)
Type of school	
Public	59 (67.8)
Private	28 (32.2)

Practice of SHP services / activities in schools

Practice of SHP services / activities was adequate in less than half 41 (47.1%) of the 87 schools. Most of the respondents reported practicing environmental sanitation (92.0%), transporting sick pupils /students to the health post (85.1%), health education (73.6%), and curative /first aid services (71.3%) in their schools. About two-thirds of the respondents reported keeping sickness and absenteeism records (69.0%), referring pupils / students to health facilities (63.2%), notifying the parents of referred pupils / students (60.9%) and offering immunization services 53(60.9%) in their schools, while only about a third below reported practicing the other SHP services / activities in their schools (Table 3).

Four (57.1%) of the 7 schools whose head teachers had good knowledge of SHP offered adequate SHP services / activities as compared to 37 (46.2%) of the 80 schools whose head teachers had poor knowledge of SHP, but the difference was not significant ($\chi^2= 0.307, p = 0.580$). The proportion of schools that offered adequate SHP services / activities was also higher in the private schools (53.6%) as compared to the public schools (44.1%), but the difference was not significant ($\chi^2= 0.688, p = 0.407$).

DISCUSSION

This study assessed the knowledge and practice of school health program in primary and secondary schools in Sokoto

metropolis, Nigeria. Majority, 59 (67.8%) of the 87 schools in this study were owned by government, this could be due to the fact that schools are seen as one of the social services to be provided by government in Northern Nigeria. This is in contrast to the finding in a study conducted in Edo State, South-western Nigeria, in which only about a fifth (21.8%) of the schools were owned by government (Ofowwe and Ofili, 2007).

Table 2: Respondents' knowledge of school health program

Variables	Correct response Frequency (%) n = 87
Knowledge of school health program (SHP)	
Components of SHP	23 (26.4)
Services / activities in SHP	40 (46.0)
Objectives of SHP	42 (48.3)
Service providers in SHP	
Medical officer	23 (26.4)
Community nurse	27 (31.0)
Health educators	54 (62.1)
Nutritionist / dietician	20 (23.0)
Child psychologist	29 (33.3)
Sport and recreation expert	46 (52.9)
Teacher (health master)	64 (73.6)
Parent teachers association	47 (54.0)
Knowledge grading	
Good	7 (8.0)
Poor	80 (92.0)

The deficient concept of SHP which appears to prevail in Nigeria may play a vital role in the lack of adequate knowledge of SHP among head teachers of primary and secondary schools in this study. Furthermore, the common practice of employing graduates who are not professional teachers in private schools in Nigeria may explain the reason why higher proportions of head teachers in public schools had good knowledge of SHP as compared to those in private schools in this study and the latter studies.

Practice of SHP was adequate in less than half of schools (47.1%) in this study, this could be due to the fact that majority of the head teachers in this study had poor knowledge of SHP. Even though the proportion of schools with adequate practice of SHP is relatively low in this study, it is comparable with the 52.6% prevalence of respondents that achieved high practice of SHP in a study conducted in Myanmar (Htun et al., 2013), and substantially higher than the 18.3% prevalence of adequate practice of SHP in a study among teachers in Osun State, Nigeria (Abodunrin et al., 2014).

While the high levels of practice of SHP services / activities such as cleaning of school environment (92.0%), health education (73.6%), curative/first aid

services (71.3%), and immunization services (60.9%) in the schools are commendable, the low levels of practice of pre-entrance medical examination (12.6%), and periodic medical examination (10.3%) in the schools suggest poor understanding of the benefits of these practices by the respondents. This calls for concern, as it could undermine early detection and treatment of various defects/impairments (especially sight and hearing impairments) in pupils/students, thus affecting their learning, and resulting in poor performance (Adegbehingbe *et al*, 2005). These findings underscore the need for the management of teachers' training institutions to make their curriculum comprehensive enough to incorporate all the vital components of school health program, while the Ministry of Education in conjunction with the operators of private schools should organize periodic training on SHP for teachers.

Table 3: Practice of school health services / activities in schools

Variables	Schools involved Frequency (%) n = 87
Practice of SHP services / activities	
Pre-entrance medical examination	11 (12.6)
Periodic medical examination	9 (10.3)
Periodic screening of teachers	7 (8.0)
Periodic screening of food handlers	32 (36.8)
Health education	64 (73.6)
Immunization services	53 (60.9)
Deworming of pupils	19 (21.8)
Provision of school meal	21 (24.1)
First aid / curative services	62 (71.3)
Referral services	55 (63.2)
Notification of parents following referral	53 (60.9)
Transportation of sick pupil / student to the hospital	74 (85.1)
Cleaning of school environment	80 (92.0)
Reproductive health services	1 (1.1)
Dental health services	19 (21.8)
Counseling and psychotherapy	37 (42.5)
Sickness and absenteeism record	60 (69.0)
SHP services / activities grading	
Adequate	41 (47.1)
Inadequate	46 (52.9)

CONCLUSION

This study showed poor knowledge of SHP among the head teachers, and sub-optimal practice of SHP in the primary and secondary schools in Sokoto metropolis, Nigeria. Management of teachers' training institutions should make their curriculum comprehensive enough to incorporate all the vital components of school health program, while the Ministry of Education in conjunction with the operators of private schools should organize periodic training on SHP for teachers.

Acknowledgements

The authors appreciate the Honorable Commissioner, Ministry of Basic and Secondary Education, Sokoto State, Nigeria, the Honorable Commissioner, Ministry of Health, Sokoto State, Nigeria, and all the head teachers that participated in the study for their cooperation.

Source of support

Nil.

Conflict of interest

None declared.

REFERENCES

- Abodunrin OL, Adeoye OA, Adeomi AA, Osundina FF, Ilori OR (2014). Practice scope and determinant of school health services in Osun State, Nigeria. *British J. Med. Med. Res.* 4 (35): 5548 -5557.
- Adegbehingbe BO, Oladehinde MK, Majemgbasam TO, Onakpoya HO, Osagiede EO (2005). Screening of adolescents for eye disease in Nigeria high schools. *Ghana Med J.* 39(4): 138-142.
- Ademokun OM, Osungbade KO, Obembe TA (2014). A qualitative study on status of implementation of school health programme in South Western Nigeria: implication for healthy living of school age children in developing countries. *American J. Edu. Res.* 2(11): 1076-1087.
- Adetokunbo OL, Herbert MG (2003). *Short Textbook of Public Health Medicine for the Tropics*. 4th ed. London, UK: Arnold Publishers.
- Alnasir FA, Skerman JH (2004). School teacher knowledge of common health problems in Bahrain. *Eastern Mediter. Hlth. J.* 10 (4-5): 537-546.
- Azuibuike JC, Nkanginieme KEO (2007). *Paediatrics and Child Health in a Tropical Region*. 2nd ed. Owerri, Nigeria: African Educational Service. Pp 22-55.
- Baser EM, Coban S, Tuscai S, Sungur G, Bayat M (2007). Evaluating first-aid knowledge and attitudes of a sample of Turkish primary school teachers. *J. Emerg. Nurs.* 33(5): 428-32.
- Brown JL, Beardslee WH, Prothrow-Stith D (2008). Impact of school breakfast on children's health and learning, An analysis of scientific research. Commissioned by the Sedexo foundation. Available at: <https://www.us.stop-hunger.org/files/live/stophunger-us/> [Last accessed on 2019 March 2].
- Federal Ministry of Education (FMoE), Nigeria (2006). *Implementation Guidelines on National school Health Programme*. Abuja, Nigeria: FMoE, Nigeria.
- Htun YM, Lwin KT, Oo NN, Soe K, Sein TT (2013). Knowledge, attitude and reported practice of primary school teachers on specified school health activities in Danuphyu Township, Ayeyarwaddy Region, Myanmar. *South-East Asia J. Pub. Hlth.* 3(1): 24-29.
- Ibrahim T, (2009). *Research Methodology and Dissertation Writing for Health and Allied Health Professionals*. Abuja, Nigeria: Cress Global Link Limited.

- Jukes MCH, Drake LJ, Bundy DAP (2008). School Health, Nutrition and Education for All, Levelling the Playing Field. Cambridge, USA: CABI Publishing.
- Ministry of Education, Curriculum Wing, Government of Pakistan, United Nations Educational, Scientific and Cultural Organization (UNESCO) (2010). School Health Programme: A strategic Approach for Improving Health and Education in Pakistan. Islamabad, Pakistan: MoE Pakistan, UNESCO. Available at: <https://www.unesco.org.pk/education/documents/publications/School%20Health%20Programme.pdf> [Last accessed on 2019 March 2].
- National Population Commission (NPC) (Nigeria) and ICF International. Nigeria Demographic and Health Survey 2013. Abuja, Nigeria and Rockville, Maryland, USA: NPC and ICF International.
- Ofofwe GE, Ofili AN (2007). Knowledge, attitude and practice of school health programme among head teachers of primary schools in Egor local government area of Edo state, Nigeria. *Annals Afr. Med.* 6(3): 99-103.
- Ogwu DA, Ayabigbo CI (2010). School health services in public and private senior secondary school in Kogi State. *Nig. J. Hlth. Edu.* 14 (1): 232-247.
- Park K (2011). *Parks Textbook of Preventive and Social Medicine*. 21st ed. Jabalpur, India: Banasidar Bhoohat.
- Singh M, Mishra N (2010). Evaluation study on midday meal programme in Meghalaya. Hyderabad, India: Council for Social Development, Southern Region Centre. Available at: <https://www.righttoeducation.in/sites/default/files/MDM-FINAL-REPORT.pdf> [Last accessed on 2019 March 2].

How to cite this article: Abubakar AU, Awosan KJ, Ibrahim MT, Ibitoye KP (2019). Knowledge and practice of school health program in primary and secondary schools in Sokoto metropolis, Nigeria. *Int. Arch. Med. Med. Sci.* 1(2): 23-28.