

ORIGINAL RESEARCH ARTICLE

Knowledge of School Health Programme among Public Primary School Teachers in Oyo State, South-Western Nigeria: A Rural-Urban Comparative Study

Ayodeji M. Adebayo*¹ and Modupe O. Onadeko²

Department of Preventive Medicine and Primary Care, P.O. Box 1517, UI Post Office, College of Medicine, University of Ibadan, Nigeria¹; Department of Community Medicine, PMB 5116, University College Hospital, Ibadan, Nigeria².

*For Correspondence: E-mail: davidsonone@yahoo.com, Phone: +2348033828948

Abstract

Teachers are in a vantage position to facilitate positive health among school-age children through the School Health Programme (SHP). Lack of basic knowledge of the programme among them will hinder its effective implementation. Studies to gauge teachers' knowledge of SHP are needed to improve the current suboptimal level of implementation in Nigeria. This study was conducted to assess and compare the knowledge of SHP among public primary school teachers in rural and urban areas of Oyo State, South-west Nigeria. A comparative cross-sectional survey was conducted among teachers in selected rural and urban public primary schools using a 2-stage cluster sampling technique. Knowledge scores were computed giving minimum and maximum obtainable scores of 0 and 33 respectively. Respondents were reported as having inadequate knowledge if aggregate score was <16.5 and adequate if ≥ 16.5 . Associations were tested using Chi-square and t-test for qualitative and quantitative variables respectively at $p=0.05$. Majority (84.6%) of the teachers had inadequate knowledge of SHP with similar proportions in the rural (84.2%) and urban (84.9%) schools. Higher proportions of those aged ≥ 40 years, that were ever married and had 2 qualifications had adequate knowledge compared with their counterparts ($p<0.05$). Majority of the teachers had inadequate knowledge of SHP. Further study to assess teachers' training in SHP is needed. This may inform training intervention to upgrade their knowledge of the programme in the study area. (*Afr J Reprod Health* 2015; 19[3]: 55-60).

Keywords: School-age children, Effective implementation, Adequate knowledge, Positive health

Résumé

Les enseignants sont dans une position avantageuse pour faciliter la santé positive chez les enfants d'âge scolaire par le biais du programme de santé à l'école (PSE). Le manque de connaissances de base sur le programme parmi eux va entraver sa mise en œuvre effective. Il faut des études pour jauger les connaissances des enseignants de PSE à fin d'améliorer le niveau sous-optimal de la mise en œuvre actuelle au Nigeria. Cette étude a été menée pour évaluer et comparer la connaissance de PSE au sein des enseignants des écoles primaires publiques dans les zones rurales et urbaines de l'État d'Oyo, au sud-ouest du Nigeria. Une étude comparative transversale a été menée auprès des enseignants dans les écoles primaires publiques rurales et urbaines sélectionnées à l'aide d'une technique d'échantillonnage en grappes à 2 étages. Les scores de connaissance ont été calculés, ce qui a donné des scores obtenus minimaux et maximaux de 0 et 33, respectivement. Les interviewés ont été considérés comme ayant une connaissance insuffisante si le score total était de <16,5 et adéquate s'il est de ≥ 16.5 . Les associations ont été analysées à l'aide du chi carré et l'analyse t pour les variables qualitatives et quantitatives respectivement à $p = 0,05$. La majorité (84,6%) des enseignants avait une mauvaise connaissance du PSE avec des proportions semblables dans le milieu rural (84,2%) et (84,9%) des écoles urbaines. Des proportions plus élevées de personnes âgées de 40 ans et, qui aient jamais été mariés et ont eu 2 qualifications avaient une connaissance suffisante par rapport à leurs homologues ($p < 0,05$). La majorité des enseignants avaient une connaissance insuffisante du PSE. Il faut une étude plus approfondie pour évaluer la formation des enseignants dans le PSE. Cela peut justifier l'intervention de la formation afin d'améliorer leurs connaissances du programme dans la zone d'étude. (*Afr J Reprod Health* 2015; 19[3]: 55-60).

Mots-clés: enfants d'âge scolaire, mise en œuvre efficace, connaissance adéquate, santé positive

Introduction

School Health Programme (SHP) remains a veritable tool in attaining and sustaining the total well-being of school-age children thus contributing

immensely to achieving the Millennium Development Goals [MDGs]¹. It is geared towards preventing, protecting and improving the health status of the school population to enable them benefit maximally from the school system¹.

The SHP is both an educational and a health programme directed to meet the health needs of students and staff concurrently. The programme comprises three main areas: school health services, school health education, and healthful school environment². Other components as documented in the National School Health Policy in Nigeria include: school feeding services and school, home and community relationship³.

Even though parents are in the best position to note any physical, emotional or mental problem with the child, most parents have little time for their children as they spend most of their time out of the home, believing the school has all it takes to make the child a good citizen, as long as the parents pay appropriate school fees⁴. The school provides a unique opportunity for health education and is a means of establishing a firm foundation for the healthy habits of the future adult population of any nation².

In concept and practice, SHP is multi-disciplinary and involves inter-sectoral collaboration. The programme is described as the cooperative activities of school teachers, physicians, dentists, nurses and others so as to appraise, promote, protect and maintain the health of all pupils and the school personnel. However, the bulk of the services revolve round the school teacher who serves to counsel pupils, parents and others about appraisal findings, encouraging the correction of remedial defects, assisting in the identification and education of handicapped children, helping to prevent and control diseases and providing emergency services for injuries and sudden illnesses⁴. In addition, he/she is part of the environment for the pupils and as such should be a good role model. He/she stands in a unique position to use personal examples in lifestyle habits and experiences to health educate the children. A sound and effective health education emphasizing knowledge, attitudes, and practices to teachers, during their training, provides the foundation for successfully implementing a SHP⁵. Knowledge can be defined as the facts, information and understanding of skills that a person has acquired through experience or education⁶. It creates a general awareness on human health in both the teachers and the pupils as well as members of the wider community; inculcates and promotes good health habits in school children and provides the children with the knowledge useful in taking decisions for themselves on health and well-being and ensures that children remain well during the school session with

Teachers' Knowledge of School Health Programme

minimal absenteeism and resulting in better performance⁵. Given that teachers have specific roles in the implementation of SHP, previous studies on knowledge of SHP among head teachers in one urban LGA of South-South geopolitical zones of Nigeria showed that head teachers exhibited poor knowledge^{7,8}. The only study in the south-west geopolitical zone where the study site belongs was on oral health knowledge and practices among primary school teachers in Lagos where poor knowledge of oral health and practices were reported⁹. The limitations of these studies except the Lagos study, included: they were conducted in the South-South geopolitical zone; they were limited to one urban local government area; and they were conducted before the formulation and adoption of school health policy guideline in the year 2006. It is important to note lack of basic knowledge of the SHP among those whom the school health policy guideline had identified as vital stakeholders in the implementation of the programme will hinder its effective implementation. The implication of this is that it makes them unable to communicate appropriate health knowledge to the children in their care, thereby causing deficiency in health teaching and counselling. This might contribute to the poor implementation of the SHP^{10,11,12,13} documented in Nigeria before the policy adoption in 2006.

Study to gauge the knowledge of SHP among teachers is needed to improve the current suboptimal level of implementation. The need for this study is more critical in the South-west Nigeria where there had never been previously published study on the knowledge of teachers as regarding the SHP among rural and urban public primary schools. Therefore, this study was conducted to assess and compare knowledge of public primary school teachers regarding SHP in both rural and urban public primary schools in Oyo State. The findings from this study may inform training interventions for teachers and generate necessary information for policy evaluation. It will provide information about training needs to upgrade the teachers' knowledge and understanding in the SHP for improved administration in the State.

Methods

This study is a component of a larger study on teachers' knowledge and role perception of SHP and the quality of its implementation in rural and urban public primary schools of Oyo State, South-west Nigeria. The study utilized a comparative cross

sectional analytical method among public primary school teachers in both rural and urban schools of selected Local Government Areas (LGAs) in Oyo State. There are 33 LGAs in the state with 12 urban, 12 rural and 9 semi-urban. Information from the State Universal Basic Education Board showed that there are 2,028 public primary schools in the state: 678 urban, 665 rural and 685 semi-urban. Semi urban schools were excluded from this study since they are neither exclusively rural nor urban. Oyo State has a total of 28395 teachers, 7,909 males and 20,486 females. Fourteen thousand and fifty four (14,054) of the teachers are in the urban LGAs while 7,303 are in the rural areas. The study population comprised of all teachers in the selected public primary schools in rural and urban LGAs in Oyo State. A 2-stage cluster sampling technique was utilized for the selection of participants. Two LGAs were selected by random sampling for the study using a ballot, namely: Ibarapa Central (rural) and Ibadan North-West (urban). The sampling frame of the public primary schools in the selected LGAs was constructed with information obtained from the State Universal Basic Education Board (SUBEB). Proportional to size allocation was used to determine the number of schools to be selected from the chosen rural and urban LGAs. There are fifty-two (52) rural and forty-five (45) urban public primary schools in the selected rural and urban LGAs respectively. Half ($\frac{1}{2}$) of the schools in each area were randomly selected by balloting giving a total of 26 and 23 schools from the rural and urban LGAs respectively. All the teachers in the selected (26) rural and (23) urban public primary schools who consented and were present were interviewed.

A minimum sample size of 512 (256 from each rural and urban LGAs) was determined using the formula for calculating sample size for the comparison of two proportions¹⁴. However, a total of 811 teachers (387 rural and 424 urban school teachers) were interviewed from the selected rural and urban public primary schools since a total sample was taken from each selected school.

A semi-structured self-administered questionnaire was used to obtain information on socio-demographic characteristics of teachers and their knowledge of the purpose, components, objectives, requirements, targets of and stakeholders in the SHP. The contents of the questionnaire were derived from relevant literature on SHP, both local and international. The content validity was ascertained through independent review by public health experts. These include an academician and

expert in SHP at the department of Health Promotion and Education, and academicians and consultant community physicians at the department of Community Medicine, College of Medicine, University of Ibadan, Nigeria. The instrument was also presented during a departmental seminar where the proposal including the questionnaire was subjected to review by registrars, senior registrars and consultant community physicians at the department of Community Medicine, University College Hospital, Ibadan, Nigeria. The corrections and suggestions from the individual and group reviews were effected before the instrument was pretested. The questionnaire was pretested in some of the public primary schools not enlisted for the study in the selected rural and urban LGA.

Data obtained were entered, cleaned and analyzed using the SPSS version 16³⁷. Frequency tables were generated. Means and standard deviations (SD) were computed. Bivariate associations between knowledge of SHP and socio-demographic characteristics were tested using Chi-square test and Fischer's exact test for categorical variables, while t-test was used for quantitative variables. Level of statistical significance was set at ≤ 0.05 . The outcome variable was knowledge of teachers about SHP.

There were 18 questions on knowledge of teachers about SHP. Of these, 3 were open ended where teachers were asked to state the purpose of SHP, list the 3 basic components of SHP and 5 components of school health services (SHS). A weighted score of two (2) points was awarded for each correct answer/listing and zero (0) for an incorrect answer/listing giving a subtotal obtainable score of 18 points for the open ended questions. The reason was because the open ended questions were expected to assess the respondents' knowledge better. For the 15 closed ended questions, a point was awarded for each correct answer and zero for each wrong answer giving a subtotal obtainable score of 15 points. Therefore, the overall maximum total obtainable score on teachers' knowledge of SHP was 33 with a minimum score of zero (0). Each respondent's aggregate score was then classified as being inadequate if it was less than 50% of the maximum obtainable scores (<16.5) and adequate if it is equal or greater than 50% of the maximum obtainable scores (≥ 16.5). The respondents' mean scores ($\pm$ SD) were computed and scores of the respondents in rural and urban areas compared using independent *t*-test. A *p*-value of 0.05 was considered statistically significant.

Permission to conduct the study was obtained from the Oyo State Commissioner for Education, Chairman of State Universal Basic Education Board, Chairmen of selected LGAs and SUBEB liaison officers in the selected LGAs. Ethical approval was obtained from Oyo State Ethical Review Committee. Advocacy visits were paid to the headmasters in the selected schools during which the purpose and objectives of the study were discussed, and their cooperation ascertained. Verbal informed consent was obtained from each participant. Serial numbers rather than names were recorded on the questionnaires to identify respondents, thus ensuring confidentiality.

Results

Eight hundred and thirteen questionnaires were distributed but only two could not be retrieved giving a response rate of 99.8%. Table 1 shows the socio-demographic characteristics of the respondents. Overall, the mean age of teachers was 42.8 ± 7.9 years; with a higher proportion of respondents in the age group 40-49 years. The mean age of teachers in the urban area was 44.8 ± 7.0 years compared with teachers from the rural public primary schools who had a mean age of 40.1 ± 8.1 years ($p < 0.001$). Overall, majority of the respondents were females, 80.8%. There was a significantly higher proportion of single teachers in the rural areas (7.5%) compared with the urban (4.2%) ($p = 0.05$). Occupational characteristics of the respondents showed that respondents' minimal educational attainment was grade 2 (68.1%) while the highest was postgraduate degrees in Education (2.0%). Majority (89.4%) of the respondents had National Certificate in Education. The distribution of respondents' civil service grade level ranged from 5 to 14 with 58.1% of the teachers on grade level ≥ 10 . A significantly higher proportions (62.1%) of teachers in the rural areas were on grade level 9 and below ($p = < 0.001$). The mean number of years of working experience for all the respondents was 18 ± 9.6 years with 67.8% of the rural teachers having teaching experience of 20 years and below compared with 51.5% of their urban counterparts ($p < 0.0001$). Table 2 shows the global/composite rating of respondents' knowledge of SHP. Majority (84.6%) of the teachers had inadequate knowledge of SHP with about similar proportions in the two groups.

Table 3 shows respondents' knowledge regarding the purpose, components and objectives of SHP. Overall, only 1.7% could correctly state that the

Teachers' Knowledge of School Health Programme

purpose of SHP is to promote and maintain the well-being of both pupils and staff. A higher proportion (2.4%) of teachers in the urban schools had correct knowledge of the purpose of SHP compared with 1.0% of teachers in the rural schools ($p < 0.001$). Teachers were asked to list the 3 components of SHP. The basic components of SHP are school health services, school health instruction and healthful school environment. Overall, a vast majority (96.2%) of teachers did not know any of the components of SHP while 3.8% knew at least one component. There was no statistically significant difference in the knowledge of both rural and urban primary school teachers regarding the components of SHP. Regarding respondents' knowledge about the objectives of SHP, eight items were used for the assessment. A higher proportion (94.6%) of teachers in the rural schools correctly reported that providing first aid services was an objective of SHP compared 91.7% of teachers in the urban schools ($p = 0.11$). Also, a higher proportion of teachers in the urban schools, 75.0% correctly reported that providing medical examination for pupils was an objective of SHP compared to 69.0% of their colleagues in the rural schools ($p = 0.06$). On the other hand, selling medicinal drugs to school pupils was incorrectly considered as part of the objectives by 14.5% of teachers in rural schools compared to 16.0% of those in the urban schools ($p = 0.54$).

Table 4 shows the association between respondents' socio-demographic characteristics and overall knowledge of SHP. A slightly higher proportion of respondents in the rural schools, 15.8% had adequate knowledge of SHP compared to urban school teachers, 15.1% ($p = 0.792$). A significantly higher proportion of teachers aged ≥ 40 years, 86.6% had adequate knowledge of SHP compared with 80.4% of those aged < 40 years ($p = 0.023$). With regards to marital status, a significantly higher proportion of those who were ever married (i.e. currently married/co-habiting/separated/divorced/widowed), 85.2% had adequate knowledge of SHP compared with those who had never married (single), 74.5%, ($p = 0.048$). With regards to respondents' qualification, a significantly higher proportion of those with two (2) qualifications, 87.2% had adequate knowledge of SHP compared with those with three (3), 83.2% ($p = 0.001$).

Table 5 shows the predictors of overall knowledge of SHP. The model included location, age, marital status and number of qualifications. After adjusting for confounders, only number of

qualification was found to be a significant predictor of adequate knowledge of SHP. Teachers in the rural public schools were more likely (OR=1.832, 95% CI=0.754-1.704, P=0.88) to have adequate knowledge compared to those in the urban schools. Teachers with 2 qualifications (OR 7.874; 95% CI=2.632-23.356; p<0.001), 1 qualification (OR=6.098; 95% CI=1.980-18.870; p=0.002) and 3 qualifications (OR=5.435, 95% CI=1.681-17.544, p=0.005) were significantly more likely to have adequate knowledge of SHP compared with those who had 4 qualifications.

Discussion

This study was carried out to assess the knowledge of SHP among rural and urban public primary school teachers in Oyo State. The study showed that respondents' knowledge of SHP was grossly inadequate. A short report on a comprehensive healthy school programme to promote school health in Hong Kong concluded that the success of health promoting schools will depend heavily on teachers' training. The same report showed that teachers had little pre-service and in-service training in SHP¹⁵. This may be due to lack of inadequate training on SHP in school or lack of refresher courses in recent time.

Almost equal proportion of rural and urban public primary school teachers had inadequate knowledge of SHP and the difference in proportions was not statistically significant. The reason for this might be because most of the teachers in the rural public schools live in the urban areas and were most times recruited from the capital city of Oyo State (Ibadan). The finding of this study showed that rural public school teachers were significantly younger in age and of less years of experience compared with their urban counterparts. This may also attest to the lack of geographical variation in knowledge of SHP finding supported the study conducted by Akani et al in an evaluation of the health knowledge of teachers in Port Harcourt which reported that head teachers exhibited poor knowledge of the various areas of SHP¹⁶. This study was also consistent with the finding of Sofola in his study on oral health knowledge, attitude and practices of primary school teachers⁹. The report depicted that teachers had poor knowledge of oral health and practices. Ofovwé and Ofili further corroborated this finding in their study among public primary school teachers⁷. It was reported that 43.3% of teachers had poor knowledge

Teachers' Knowledge of School Health Programme

of SHP. Also, Alikor and Essien in a study to assess the knowledge and attitude of primary school teachers regarding childhood epilepsy in Port Harcourt, Nigeria reported that the overall knowledge of epilepsy and first aid management epileptic episode was poor among school teachers¹⁷.

The number of qualification of respondents was found to be associated with the knowledge of SHP on bivariate analysis. Teachers with two and three qualifications had adequate knowledge compared with those with four. This finding seemed unreliable in that it is a known fact that the level of education of an individual affects knowledge. Those that have higher educational qualification tend to have better knowledge than those with lower educational level because of greater access to information and exposure¹⁸. Those with more qualifications are more likely to be aware of SHP (or health programme), access and imbibe more information and improve knowledge with repeated exposure to learning. However, the reason for this finding might be due to the relatively small proportions of respondents, 15 (1.8%) that had four qualifications which may have influenced the outcome. This finding may also be explained from the fact that the high number of qualification may not be related to health education. It is equally possible that those with fewer educations are among the highly experienced.

A major limitation of this study is the omission an important covariate of knowledge of SHP- teachers' previous training in the SHP-at the design stage. This is a vital covariate that could influence teachers' knowledge of the programme. Further study to assess teachers' training in the SHP is needed since the main focus of the study is to improve teachers understanding of the SHP for enhanced implementation in the state. This may inform training intervention to upgrade teachers' knowledge of the programme.

Conclusion

The knowledge of teachers regarding SHP was found to be inadequate. This is grossly suboptimal for the efficient implementation of the programme. This study has provided information about training needs to upgrade the teachers' knowledge and understanding in the SHP for improved administration of the programme in both the rural and urban LGAs in Oyo state, since there is no system that can aspire beyond the quality of its functionaries. This however should be preceded by a preliminary

survey to assess the teachers regarding previous training in the programme. Pre-service and in-service training of the teachers in SHP should be accorded utmost priority by the State Ministry of Health and Education. The training should cover purpose, components, objectives, vital stakeholders, targets of and the roles of teachers in SHP. Teachers should be involved in the design and formulation of policies on SHP. Regular monitoring through supportive supervision coupled with annual evaluation of the programme implementation in the schools will go a long way to improve the teachers' knowledge as well as enhance effective implementation of the programme in the state.

Acknowledgements

The constructive criticism of my teachers and colleagues during the design of the original work from where this manuscript was prepared are deeply appreciated. I would like to thank my data entry clerk and data entry analyst for their assistance. I am also grateful to the public primary school teachers for their cooperation and support without which the writing of this manuscript would not have been possible.

Contribution of Authors

Ayodeji M. Adebayo conceived and designed the study, supervised data collection, entry and analysis and wrote the manuscript. Modupe O. Onadeko supervised the process of conceptualization, data collection, analysis and report writing. Both authors approved the manuscript.

References

1. Oseji M, Okolo A. School Health Services and Millenium Development Goals. *International Journal of Collaborative Research on Internal Medicine and Public Health* 2011; 3 (5): 378-384.
2. Akani NA, Nkanginieme KEO, Orumabo RS. The school health programme: A situational revisit. *Nigerian Journal of Paediatrics* 2001; 28: 1
3. Federal Ministry of Education, Nigeria. The National School Health Policy 2006; pg 10-13.
4. Moronkola OA. Introduction to school health programme. In: *School Health Programme: Royal People (Nigeria) Limited*, 2003:1.
5. Okeahialam TC. The school health programme in Nigeria: A Paediatrician's perspective. Keynote address: 34th Annual General Meeting and Scientific Conference of the Paediatric Association of Nigeria 2003.
6. Hornby AS. Oxford advanced learners dictionary of current English, 5th ed. vol. 66. New York: Oxford University Press; 1995; 66: 656.
7. Ofovwre GE, Ofili AN. Knowledge, attitude and practice of school health programme among head teachers of primary schools in Egor Local Government Area of Edo State, Nigeria [abstract]. *Ann Afri Med* 2007; 6(3): 99-103.
8. Akani NA, Nkanginieme KEO, Orumabo RS. An evaluation of health knowledge of teachers in Obio-Akpor Primary Schools and the effect of short term training on this knowledge. *Benin J Ed Studies* 2000; 14(1): 32-42.
9. Sofola OO, Agbelusi GA, Jeboda SO. Oral health knowledge, attitude and practices of primary school teachers in Lagos [abstract]. *Nig J Med* 2002 April-Jun; 11(2): 73-6.
10. A.Ejifugha AU. Awareness of school health services among primary school teachers in Enugu State. *Nigerian School Health Journal* 1993; 10: 54-61.
11. Imoge AO. An evaluation of primary health care program in secondary schools in Oredo Local Government Area of Bendel State. *Nigerian School Health Journal* 1987; 7:104.
12. Nwimo IO. Status of health appraisal services in secondary schools in Owerri education zone, Imo State. *Journal of Health and Kinesiology* 2001; 2: 94-107.
13. Ojugo AI. Status of health appraisal services for primary school children in Edo State, Nigeria. *International Electronic Journal of Health Education* 2005; 8:146-152.
14. Taylor DW. The calculation of sample size and power in the planning of experiments. *Teaching Monogram* 83.5 revision 1983; page 12. Hamilton, Ontario, Canada: Department of Epidemiology and Biostatistics, McMaster University.
15. Lee A, Tsang C, Lee SH, To CY. A comprehensive healthy schools programme to promote school health. The Hong Kong experience in joining the efforts of health and educational sectors. *J Educational Community Health* 2003; 57: 174-177.
16. Akani NA, Nkanginieme KEO, Orumabo RS. An evaluation of health knowledge of head teachers in Obio-Akpor Primary Schools and the effect of short term training on this knowledge. *Benin J Ed Studies* 2000; 14(1): 32-42.
17. Alikor EAD, Essien AA. Childhood epilepsy: Knowledge and attitude of primary school teachers in Port Harcourt, Nigeria. *Nigeria Journal of Medicine; Journal of NARDS of Nig* 2005; 14(3): 299-303.
18. Gordor E. Knowledge and practices of pre-school children concerning home management of malaria fever. MPH thesis, Department of Preventive and Social Medicine, University of Ibadan, 1991.