Evaluation of School Health Instruction in Primary Schools in Jos, North- Central Nigeria

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Abstract: Background: Establishing healthy behaviours during childhood is easier and more effective than trying to change unhealthy behaviours during adulthood. The school is a place where education and health programmes can have their greatest impact because it can reach students at influential stages of their lives. We evaluated the status of school health instruction in public and private primary schools in Jos, Nigeria.

Methods: A cross sectional descriptive study involving 66 schools (20 public and 46 private) in Jos, was conducted to evaluate the status of school health instruction. A School Health Evaluation Scale was completed for each school by direct interview and inspection to ascertain the availability of the various components of school health instruction.

Results: In 12 (18.2%) schools (5 public and 7 private), health education was taught by a professional health education teacher (p = 0.49). The most frequently taught topics were Personal Health and Safety Education (98.5% each). HIV/AIDS was taught by only 12.1% of the teachers. In most schools (61, 92.4%), health instruction was done in the classroom only. Only five (7.6%) schools, all private, had sent their teachers on inservice training with regard to health teaching. Overall, twenty- two (33.3%) schools, two (10.0%) public and 20 (43.5%) private attained the minimum acceptable score (p = 0.01).

Conclusion: The status of school health instruction in primary schools in Jos was generally poor, especially in the public schools. Attention should be paid to the implementation of school health instruction including curriculum development, teaching methods and teacher training.

Keywords: School health instruction, primary schools, Nigeria, health education.

I. Introduction

Globally, as at 2012, there were about 226 million children of primary school age out of which 136 million were in sub- Saharan Africa. In Nigeria, the estimated primary school age population was 24.7 million out of which 17.4 million (70.4%) were enrolled in school. The net global primary school enrolment was 92% male and 90% female, while that for Nigeria was 71% male and 60% female.

Out of all the childhood age groups, the period of school age is the healthiest and it is one during which the foundations can be laid for a long and healthy life. Healthy children who become healthy adolescents are more likely to become healthy adults. Although relatively few children are likely to die at this age, however, many more may begin health risk behaviours that continue into adulthood and ultimately increase their risk of premature death.⁴

The school is a place where education and health programmes can have their greatest impact because it can reach students at influential stages of their lives. Establishing healthy behaviors during childhood is easier and more effective than trying to change unhealthy behaviors during adulthood. Some of the best opportunities for positively influencing the health of young people and preventing the initiation of health risk behaviours are found in the school setting. Worldwide, schools reach millions of students and through them their families and communities. Therefore "the formal education system is the developing world's broadest and deepest channel for putting information at the disposal of families, school personnel and community members as well as students"

School Health Instruction is a component of the School Health Programme. It is an avenue to inculcate into the school - aged child, healthy habits which he/she should maintain throughout his/her life. The School health Instruction thus provides a formal classroom opportunity for passing on to children, information

concerning knowledge, habits, attitudes, practices and conducts pertaining to individual or group health.^{7,8} Important aspects include organization and period allotment for health instruction, curriculum development, knowledge/training of teachers, and teachers' skills/attitudes. ^{7,8}It should be integrated into other subjects and extra-curricular activities and should implemented through various channels, with opportunity to apply knowledge and skills both within and outside the school.

Studies in some parts of Nigeria have indicated that the School Health Instruction aspect of the School Health Programme is poor. ^{9 - 13}In recognition of the importance of evaluation, the World Health Organization (WHO) integrated evaluation into the overall managerial process for national health development and recommended that it should be incorporated into every health programme. ¹⁴ Thus, the purpose of evaluation in health development is to improve health programmes. Most of the studies evaluating the School Health Programme in Nigeria are from the southern parts of the country. ^{9 - 13}There is a scarcity of studies on evaluation of the School Health Instruction in Northern Nigeria generally and particularly in Jos. Thus, the objective of this study was to evaluate the status of School Health Instruction in primary schools in Jos, North- Central Nigeria. This will serve as a baseline for subsequent reviews.

II. Materials And Methods

Study area: This study was carried out in Jos North Local Government Area (LGA) of Plateau State, in North – Central Nigeria between June and July 2002. Plateau State has 17 LGAs including Jos North LGA that is host to both the capital of the State and the Local Government Area. Jos North LGA is a cosmopolitan area which is mainly urban, but with a few rural outskirts.

Study design: This was a cross sectional descriptive study and was part of a larger study.

Determination of sample size: A sampling ratio of 50% of all identified schools was used which gives the largest size for the chosen error margin of 0.05.¹⁵ There were 40 public and 92 private schools. Thus the sampling frame was 132 primary schools and a sampling ratio of 50% gave a sample size of 66 schools.

Sampling technique: A stratified random sampling technique was used in which the primary schools were stratified into public and private. The sampling ratio of 50% was applied to each group to select 20 public and 46 private schools respectively, giving a total of 66 schools for the study. A table of random numbers was used to select the schools studied from the sampling frame.

Ethical considerations

Ethical clearance was obtained from the Human Research Ethics Committee of the Jos University Teaching Hospital. Written permission was obtained from the Education Authority of Jos North LGA from where a list of all the registered primary schools was obtained. Subsequently, verbal permission was sought from the head teachers of the selected schools.

Data collection

A school health evaluation questionnaire (modified) ^{16, 17}was completed for each school by direct interview and inspection by five trained researchers. The general administration data was obtained by interviewing the head teacher and inspecting the school records. The section on School Health instruction was completed by interviewing the head teacher, the class teachers and health education teachers where available. Six teachers were interviewed in each school, one each selected by balloting from each primary grade/class level. In addition, the school time table, curricula/ scheme of work, teachers' notes and pupils' notes were inspected. Also inspection of teaching aids where available was done. Other information obtained from these interviews included areas of health education the teachers recalled they were taught in their teacher training colleges or higher institutions. The various components of the school health instruction were assigned scores based on the school health evaluation scale and the total computed for each school. The total maximum score obtainable was 46 while the minimum acceptable score was 23. Prior to commencement of the study, the questionnaire was pre-tested in a selected primary school outside the sampled schools to identify possible difficulties in administering the questionnaire. No modification was required and the results of the pretest were not included in the analysis of the results.

Data analysis

The statistical programme EPI Info 2005 (version 3.3.2) was used to analyze the data. Frequency distribution tables were drawn. Categorical data was reported as proportions and continuous data as means \pm SD. The student-test was used to compare group means, while Chi square test was

used for comparison of frequencies in contingency tables. In all statistical tests of significance, only p-values of less 0.05 were regarded as significant.

III. Results

Demographic characteristics

Sixty-six (20 public and 46 private) primary schools in Jos North LGA were studied. The total pupil population of the schools assessed was 39, 839. The minimum school population was 46 pupils, while the maximum was 4,010 pupils. Out of the 39,839 pupils 24,636 (61.6%) were from public schools, while 15,303 (38.4%) were from private schools. The total number of boys was 19,616 (49.2%), and the total number of girls was 20,223 (50.8%) giving a male: female ratio of approximately 1:1.

The total number of teaching staff in the 66 schools was 1,556 giving a mean (SD) teacher: pupil ratio of 1:24 (10), with a range from 1:7 to 1:60. The mean (SD) teacher: pupil ratio for public schools [1:28(13)] was not significantly different from that for the private schools [1:23(8); p = 0.23]. Sixty- one (92.4%) schools, 17 (85.0%) public and 44 (95.7%) private (p = 0.16), had a teacher: pupil ratio within the recommended ratio ¹⁸ of 1: < 40.A total of 396 teachers (120 from public schools and 276 from private schools) were interviewed.

Five (7.6%) of the head teachers, all in private schools, specialized in health education. There was, however, no significant difference in this regard between public and private schools (Fisher's Exact = 0.15, p = 0.31).

School health instruction

Sixty- five (98.5%) schools (20 public and 45 private) taught health education formally as a subject. Forty- seven (71.2%) schools allotted two 30-minute periods per week to the subject, while 17(25.8%) allotted 3 periods per week (Table I). The public and private schools did not differ significantly in time allocation to health teaching (p = 0.37).

In 12 (18.2%) schools (5 public and 7 private), health education was taught by a separate professional health education teacher. In the remaining 54(81.8%), it was done by the class teacher, who also taught other subjects. There was no significant difference between public and private schools with regard to the teacher of health education ($x^2 = 0.90$, p = 0.49).

The content and scope of the subject varied from school to school, depending on whether a textbook was used, and which textbook was being used. In 16 (24.2%) schools, (12 public and 4 private; Fisher's exact = 0.0003, p < 0.0001), teachers complained of lack of textbooks. The most frequently taught topics were Personal Health and Safety Education by 390 (98.5% each) of the teachers, Community Health by 372 (93.9%), Growth and Development by 318 (80.3%), and Social and Emotional Health by 264 (66.7%) (n = 396). HIV/AIDS was taught by only 48 (12.1%) teachers. The reasons given were that HIV/AIDS was not in the curriculum, and that the teachers themselves had little knowledge of the disease.

Sixty (90.1%) schools had some form of teaching aids, although they were in most cases improvised and inadequate. In 61 (92.4%) schools health instruction was done in the classroom, while only 4 (6.1%) schools reported health trips outside the school. The reasons given for lack of health trips were lack of transportation, and the frequent crises, instability and tension in the state.

Only 5 (7.6%) schools, all private, had sent any of their teachers on in-service training with regard to health teaching. With regard to the teachers' training, 264 (66.7%) of the teachers interviewed (n = 396), did not recall being taught anything about health during their training. One hundred and thirty two (33.3%) said that they were taught Personal Health, and 24 (6.1%) Community Health, while only 12 (3.0%) recalled being taught anything about the School Health Programme (Table II). There was no statistically significant difference between public and private schools in the contents of the teachers' training.

Scores of School Health Instruction

The mean (SD) score of School Health Instruction for all the schools was 20.12 (5.25). The range was 3.0 - 32.0. The mean score of public schools 16.35 (5.43) was significantly lower than that of private schools, 21.76 (4.26) (p = 0.0001).

Twenty- two (33.3%) schools had the minimum acceptable score of 23. These included 2 (10.0%) public schools, and 20 (43.5%) private. The difference between public and private schools was statistically significant (Fisher's exact= 0.01, p = 0.01).

Relationship between area of teacher specialization and status of school health instruction

Out of the 5 schools whose head teachers specialized in health education, 2 (40%) attained the minimum acceptable score, while the remaining 3(60%) scored below the minimum score. The difference was however not statistically significant (Fisher's Exact = 0.54, p = 1.0)

Out of the 12 schools where health instruction was taught by a health education teacher, six (50%) of the schools had the minimum acceptable score, while the remaining six (50%) scored below the minimum acceptable score; the difference was not statistically significant ($x^2 = 1.83$, p = 0.18)

IV. Discussion

The main findings of the current study indicate that school health instruction in primary schools in Jos North LGA was generally poor, particularly in public schools. This is demonstrated by the fact that only 33% of the schools attained the minimum score, and these were mainly private schools. The poor status of school health instruction is similar to reports from other parts of the country. This brings to question the relevance given to health instruction in our educational system and its implication on the health and future not only of the children, but also of their families and the whole community. Furthermore, health instruction was better in the private schools, this may be because they are profit making and thus will try to satisfy the parents. This however has a negative implication because the children attending public schools are more likely to be from economically disadvantaged families and may need this health education more.

Although school health instruction in our study was generally poor, the situation appears to be better than some other reports from the country. Thus, 33% of the schools in our study had the minimum acceptable score, unlike in Bonny, where no school had the minimum score. The difference between our study and this study may be due to the inclusion of private schools in our study unlike their study that only involved public schools. With regards to time allotted to health education, only 26% of the schools in our study adhered to the recommended 3 periods / week. This is similar to 20% reported from south- South Nigeria. This may hinder the appropriate coverage of the contents of the curriculum or the curriculum may be rushed without enough time to promote understanding. This may support the report by some authors that inadequacy of duration/time allotted to health instruction in the schools was among the critical factors that affects health instruction.

Health instruction was done by professionally trained health education teachers in only 18% of the schools in the current study, while in the remaining schools it was done by the class teacher. Unlike in our study, Alex- Hart and Akani⁹ reported that there was no professionally trained health education teacher in all 20 schools studied in Bonny, South –south Nigeria. These findings suggest that the concept of specialization of the primary school teacher is yet to be achieved. The lack of professionally trained health education teachers may not be unrelated to the decreasing prominence given to this area of specialization in the country as noted by some authors. In view of the paucity of health education teachers, the proposal that only health education teachers should teach the subject may not be feasible for now. Surprisingly however, the presence of a professional health education teacher did not significantly influence the state of School Health Instruction. This may be because many of the aspects have to do with policies and provisions which may be beyond the influence of the teacher. The impact of a professional health education teacher on knowledge, attitude, and practice of pupils was, however, not assessed. Efforts should be made to address the shortage of health education teachers as suggested by some authors.

The topics taught in the schools in our study and their scope varied. Since health education was not in the national curriculum,²⁴ the teachers who used different text books just followed the table of contents. The problem with this is that there are no standards and topics and content will vary from school to school and even in the same school, which was the finding in our study. The teaching of Personal Health in 99% of the schools, and Community Health in 94% is however commendable and should be encouraged. This is similar to 99% and 92% reported by Adu – Mireku ²⁵ from Ghana. This is indeed very welcome in view of the high prevalence of infectious diseases in our environment. Safety education and First Aid was also taught in 99% of the schools. This is similar to the report from Ghana.²⁵ This is also very relevant and should be encouraged in view of the high incidence of road traffic accidents reported among school- aged children.²⁶ The role of health instruction in the reduction of such accidents especially at an early stage in childhood has been emphasized by some authors.²⁷The teaching of Social and Emotional Health by 67% of the schools, though acceptable, is still unsatisfactory in view of the increasing prevalence of problems such as drug abuse and unhealthy social behavior. ²⁸Ogunsakin ²⁹ noted that, even though the primary school years provide a golden opportunity for drug education, both teachers and parents usually miss such opportunities. Previous reports have emphasized the role that school health education can play in the prevention and reduction of such problems. ³⁰The primary school years provide an ideal time for the development of sound personal values and behavior. Thus the teaching of Social and Emotional Health at this level is very crucial.

Only 12% of the teachers taught HIV/AIDS. Even then, the content of what was taught was uncertain as many of the teachers complained of limited knowledge of the disease. This may be because the topic was not in the curriculum, nor was it covered in the regular textbooks. This was not surprising, as the national curriculum in use during the study was last revised in 1987/88. ²⁴ The teaching of HIV/AIDS in this study though better than that in Alex- Hart and Akani's study ⁹ where no school taught the topic, is still grossly inadequate. The difference may be due to the increasing public awareness of the disease, which probably

prompted some teachers in this study to teach the topic in spite of its absence from the curriculum. This is in contrast to 97% reported by Adu – Mireku²⁵ from Ghana. The difference between our studies and the study from Ghana may be due to the presence of the topic in their national curriculum. ²⁵ With the increasing prevalence of HIV infection among young people, it is time now more than ever before, to incorporate education about the disease and its prevention in the school curriculum. The role that school health education can play in its prevention and control in our environment has been emphasized by Nwajei. ³¹ In recognition of the role of health education, the Committee on Pediatric AIDS of the American Academy of Pediatrics recommended that the topic be included in school curriculum at all levels in the United States of America. ³² The Committee also emphasized the need for adequate information to school personnel through compulsory inclusion of HIV/AIDS in teacher training curriculum, with regular updating through continuing education.

Apart from formal classroom teaching, the frequency of other methods of health teaching in this study was low. Only 6% of the schools reported health trips outside the school. The reasons given for this included lack of transportation, frequent crises, instability and tension in the state. This is similar to other studies. In Alex - Hart and Akani's study, 9 no school reported health education activity outside the classroom in Bonny, South Nigeria. The findings in these studies, call for a review of the method of health teaching in our schools. Some authors 33 have stressed the importance of other methods of informal and incidental health teaching, which can be adopted in our schools. The situation in this study also highlights the importance of peace for a good uninterrupted education, and sustainable development.

The other areas of health instruction that were lacking in our study included teacher's preparation for health teaching. Sixty seven percent of the teachers did not recall being taught anything about health in their training institutions. Although this was based on recall, this may be a reflection of the true situation, as a number of authors in the past have drawn attention to the poor status of health education in teacher training institutions in the country. Agusiegbe had noted that Health and Physical Education was optional in some teacher training institutions. Even where it was taught, the teachers hardly covered up to 50% of the scheduled work. Furthermore, only 8% of the 66 schools in the present study had sent their teachers on any form of in-service training with regard to health teaching. Similarly, Alex – Hart and Akani⁹ reported that no school in their study sent any teacher on in service training with regard to health teaching. In view of these findings, one wonders about the effectiveness of the health instruction to the pupils. This is quite unfortunate as the role that teachers can play in health education, though emphasized by many authors, may have been over-looked. All 11 in their study in the preparation of the school in the preparation of the school in the preparation of the school in the pupils.

In spite of the generally poor state of School Health Instruction in our study, some areas are commendable. Ninety - nine percent of the schools studied taught health education as a subject despite its absence from the national curriculum. ²⁴The figure in this study is much better than that in South East Nigeria where Ochor ¹⁰ reported that only 12% of the primary schools taught Health Education as a subject. This, he inferred, was probably due to the absence of health education in the national curriculum. The presence of Health Education in the previous Northern States' curriculum ³⁵used in the geographical region of our study prior to the development of the national curriculum, may have contributed to the high level of awareness in our study. The need for Health Education to be made a subject in its own right on the timetable, to ensure teacher commitment, has been emphasized. ³⁶ Furthermore, in this study, 90% of the schools had some form of teaching aids, although they were in most cases improvised and inadequate. This is higher than 65% from Bonny. ⁹ The spirit of innovation of the teachers in this study is commendable and should be encouraged. This should however not prevent the provision of funds for the purchase of teaching aids, as children learn a lot through what they can see and handle. In conclusion, the status of School Health Instruction in our study was generally poor especially in the public schools and needs to be improved, considering the importance of health education to the attainment and sustenance of health both for the present and future generation.

It is commendable that the country has developed a national school health policy³⁷ and school health implementation guidelines. ³⁸ These should be implemented at all levels with training of the relevant stake holders. We therefore wish to recommend the implementation of the national school health policy and implementation guidelines, this should be across all schools with particular attention paid to public schools. A national school health education curriculum should be developed by the ministry of education in collaboration with other stake holders and should be included in the national curriculum. This should be reviewed periodically to address the prevailing health problems. Other relevant areas like provision of teaching aids, textbooks, and informal teaching methods should also be addressed. Furthermore, the curriculum of the teacher training institutions should be reviewed to include school health instruction and in addition, informal training such as workshops and seminars should be organized regularly to update the knowledge of the teachers especially on prevailing health problems. More teachers should also be encouraged to specialize in health education. Additionally, the School Health Instruction in primary schools should be evaluated periodically. The limitations of this study may include the fact that the assessment of teacher training may have been subject to recall bias. In spite of this limitation, the study has relevance as a baseline and for future planning. Areas of further studies could include the impact of school health instruction on the knowledge, attitude and practice of the pupils.

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Table I. Time allocated to health instruction in public and private schools in Jos

	Public schools	Private schools	
No. of periods per week	No. (%)	No. (%)	Total (%)
None	0 (0.0)	1 (2.2)	1 (1.5)
One	1 (5.0)	0 (0.0)	1 (1.5)
Two	15 (75.0)	32 (69.6)	47 (71.2)
Three	4 (20.0)	13 (28.2)	17 (25.8)
Total	20 (100.0)	46 (100.0)	66 (100.0)
$x^2 = 3.16$	df = 3 $p = 0$	0.37	

Table II. Areas of health instruction education included in teacher training as recalled by Primary school teachers in Jos

Area of Health	Public Schools	Private Schools					
Instruction							
	No. of teachers (%)	No.of teachers (%)	Total (%)	X ² /F. exact	P		
	(n = 120)	(n = 276)	(n=396)				
Nothing about	75 (62,5)	189 (68.5)	264	1.35	0.25		
health			(66.7)				
Personal Health	45 (37.5)	87 (31.5)	132	1.35	0.25		
			(33.3)				
Community	7 (5.8)	17 (6.2)	24 (6.1)	0.02	0.90		
Health							
S.H. Programme	4 (3.3)	8 (2.9)	12 (3.0)	0.05	0.76		
S. H. = School Health							
F. exact = Fisher's exact							