

Effect of Health Education Intervention on Knowledge and Practice of School Health Services among Primary School Teachers in Katsina State, Nigeria

Abstract

This study investigated the impact of Health Education intervention Programme on primary school teachers' knowledge and practice of school health services in Katsina State- Nigeria. Two research questions were raised and two major hypotheses were formulated and tested. A quasi-experimental study design, with one group pre-test – post -test was used in this study. The population for the study comprised all public primary school teachers who were estimated at twenty-six thousand and thirty-five (26, 035). The sample size used for the study was fifty (50) participants drawn using the formula for comparing two proportion in one group intervention study. The respondents were selected through multistage sampling procedure. Data were collected in two stages: at pre-intervention and post intervention using researcher developed questionnaire. The instrument was validated by five (5) experts in the Department of Human kinetics and Health Education, Faculty of Education Bayero University Kano, and a reliability index of 0.70 was obtained using split half method. The intervention was health education intervention Programme conducted using a training manual adopted from the school health Programme policy module. The training Programme was conducted two days in a week (Saturday and Sunday) each session lasted for 4hours for two weeks. Data was analyzed using the Statistical Package for Social Science (SPSS). Frequency counts and percentage were used to organize and describe the demographic characteristics of the respondents. The hypotheses were tested using paired-sample t-test and independent t-test. The hypotheses were tested at 0.05 level of confidence. Findings of the study revealed that; Health education intervention has an impact on primary school teachers' knowledge. ($t_{cal} -7.284$, df 49; ($p < 0.05$) and practice of school health services ($t_{cal} -7.051$, df 49; ($p < 0.05$). Health education intervention Programme increased

Short Report

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the knowledge of school health service of male and female primary school teachers in the same direction $t = 1.527$ df 48 ($p > 0.05$); health education intervention Programme increased the practice of school health service of male and female primary school teachers in the same direction $t = 1.27$ df 48 ($p > 0.05$). The implication of these findings was that, if health education intervention Programme could be given on regular basis it could improve and sustain the knowledge, practice of school health service among primary school teachers. Therefore, it was recommended among others that Ministry for Health and State Universal Basic Education Board (SUBEB) should organise seminars, workshops, training and retraining of primary school teachers on regular basis on school health Programme services so as to update their knowledge and practice in the area.

Keywords: Primary School Teachers, School Health Services, Health Education Intervention

Introduction

The World Health Organization (WHO) expert committee on Comprehensive School Health Education and

Promotion notes that “to learn effectively children need good health.” Good health supports successful learning and successful learning supports good health. School health service is an essential component of effective school health program and for achieving “Education for All” (EFA) inclusive of children with special needs. The school health service should be community based and should address the health service needs of all children and teachers in a given city or town. The aim of school health services is to make the school a healthy setting for living, studying and working. The service centre must be easily accessible and designed to eliminate or diminish barriers to care for students and to participation by parents or guardians. The services carried out in school includes: Pre-entry medical and dental screening, school health record, routine health screening and examination, first aid or emergency preparedness, referral services, counselling, control of communicable diseases and mental health services [1].

A sound and effective health education emphasizing knowledge and practices to teachers, during their training, provides the foundation for successfully implementing a SHP [2]. Knowledge can be defined as the facts, information and understanding of skills that a person has acquired through experience or education [3]. 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 minimal absenteeism and resulting in better performance [2].

Given that teachers have specific roles in the implementation of SHS, previous studies by [4] on knowledge, attitude and practice of school health program among head teachers of primary school in Egor local government area of Edo State, Nigeria reported that none of the head teachers had adequate knowledge of SHS, 93.1% from private compared to 48.3% from public schools had poor knowledge of SHS. [5] reported that 92.2% of public and 92.8% of private primary school teachers had poor knowledge of SHS, and 6.7% of public and 7.2% of private primary school teachers had fair knowledge of SHS while 1.1% of public and 0% of private primary school teachers had good knowledge of SHS.

In another study on knowledge, attitude and practice of school health among primary school teachers in Ogun State, Nigeria by [6] reported that most of the primary school teachers in both LGAs were aware of school health programme (Ifo 97.4%, Ikenne 97.3%). A significantly higher proportion of teachers in Ifo (35.8%) as compared to Ikenne (24.0%) knew that one of the benefits of school health programmes was school children. Slightly more teachers in Ifo (48.8%) than in Ikenne (46.5%) knew that school health programme prevents health risks in children. The major component of school health programme known was school health services (Ifo 75.3%, Ikenne 65.3%), followed by school health instruction (Ifo 36.7%, Ikenne 41.5%). Majority of the participants in Ifo (70.4%) said pre-admission medical examination was not compulsory compared to 57.7% in Ikenne. The overall knowledge on school health was poor in more than half of the primary school teachers in Ifo (57.0%) and Ikenne (54.5%).

In a study on knowledge of school health programme among public primary school teachers in Oyo state, South-West Nigeria by [7], majority (84.6%) of the teachers had inadequate knowledge of SHS with similar proportions in the rural (84.2%) and urban (84.9%) schools. Overall, only 1.7% could correctly state that the purpose of SHS is to promote and maintain the wellbeing of both pupils and staff; a vast majority (96.2%) of teachers did not know any of the components of SHS, while only 3.8% knew at least one component of SHS [7]. In a similar study by [8] on practices, scope and determinants of school health services in Osun State, Nigeria, reported that overall knowledge of SHS was good in 114 (50.7%) of the participants. Although up to 91.3% were aware of Pre-School Medical Examination (PSME), majority, 83.6% agreed that it was necessary.

Study by [9] on knowledge of school health programme among teachers and its practice by secondary schools in Sabon-Gari Zaria, shows that All (100%) the respondents were aware of SHP. However, majority (96.2%) had poor knowledge. The practice of SHP was also poor in all the schools although majority 8(72.7%) of them provided some form of health services. Only 9.7% of the schools had a sick bay. Majority 72.7% of the schools did not provide immunization services. Most 72.7% of the schools practiced regular environmental sanitation.

A study conducted by [10], on evaluating first aid

knowledge and attitude of a sample of Turkish primary school teachers of Turkish teachers regarding the administration of first aid in Kayseri, Turkey, showed that teachers did not have correct knowledge about first aid. For example, 65.1% of teachers gave incorrect answers regarding management of epistaxis, 63.5% for bee stings and 88.5% for abrasion.

Regarding practice of school health service several studies were reviewed as follows; studies by [8], in their study on practice, scope and determinants of school health services in Osun, Nigeria, reported that overall. The practice of SHP was also poor in all the schools although majority 8(72.7%) of them provided some form of health services. Only 9.7% of the schools had a sick bay. Majority 72.7% of the schools did not provide immunization services. Study by [11], revealed that the teachers involved in this study generally had positive attitude to oral health. Many of the two groups of primary school teachers had poor oral health practices. Only 42.4% of the participants have ever been to the dentist for routine dental check-up or treatment. About 87.6% of teachers still use potentially traumatic materials for interdental cleaning and 60% of teachers consume regularly various forms of refined sugar. Over 90% of the two groups of teachers are presently involved in teaching their pupils basic oral health education although they have a poor knowledge of the etiology of the two most common oral diseases. Study by [12], on school health services and its practice among public and private primary schools in Western Nigeria shows that periodic medical examination for staff and pupils was carried out in only 13 (7.2%) public and 31 (17.2%) private schools and A sick bay/clinic was present in 26 (14.4%) of the school visited. Another study by [13] on knowledge, attitude and practice of primary school teachers on specified school health activities in Danuphyu Township, reported that 52.6% of the teachers achieved high self-reported practice score. In Lebanon all the schools surveyed (100%) reported conducting a general health examination for all the students every year which is funded 100% by the Parents' contribution Fund. Eighty percent of head teachers reported that their schools do not offer any health education to their students [14]. In a study on status and vision for the school health services in northern Tanzania, it was reported that teachers provide health education for children in schools, which was not

planned on regular basis. However, some health workers were reported to provide health education for children when they were invited by the school [15]. In Ogun state, South Western Nigeria, [6] reported that more than half of the primary school teachers (63.0%) in Ikenne said they carry out screening of food vendors as part of their infection control practices compared to 42.1% in Ifo LGA. [4] in 2007 reported that 27.6% of public schools do not perform medical inspection of the pupils, no counseling service for medical conditions detected in pupils nor health promotion for staff was available in all the schools. Only about 16.5% of the schools undertake medical screening of food handlers/vendors [4]. [16] reported that inspection of mouth and teeth, nose and throat, skin, and ears were not done for the primary school children; and records of the health histories of the children were in most cases not kept [16]. [17] in south western Nigeria reported that there was a neglect of health appraisal, follow up services, emergency care and first aid services in schools [17].

Katsina State educational sector strategic development plan (SESP) 2011-2020 shows, the major challenge in the area of availability and state of educational infrastructural facilities in Katsina state is mainly in the area of gross inadequacy. Provision of classrooms in the primary is 85% insufficient of total requirement with no provision of sick bay in the primary schools.

Theoretical framework

The foundation of this research was based on the Rational Theory. Using the rational theory [18], the participants will be given information on general overview of school health services (SHS), and practical demonstration of how to do some routine basic examination/screening. In rational theory, education strategies target individuals and groups and strive to encourage positive and prevent negative health behaviour choices. This is done by presenting relatively unbiased information. This theory, also known as the knowledge, attitudes, practices model (KAP), is based on the premise that increasing a person's knowledge will prompt a behaviour change. It assumes that the only obstacle to acting "responsibly" and rationally is ignorance, and that information alone can influence behaviour by "correcting" this lack of

knowledge [18]. It was hoped that the information given to the participants will lead to a positive change in their practice this will hopefully increase their involvement in practising school health services.

Statement of problem

In Nigeria, implementation of the SHS is generally poor [19], with very few schools engaging in pre-entry and periodic medical examinations, most schools with inadequate content of first aid box and without school clinic or sick bay even though the Implementation Guidelines on National School Health Programme have been in existence since 2006 [20]. The National School Health Policy (NSHP) recognizes that the various services provided in SHP are highly technical and require the acquisition of appropriate knowledge and continuous skills development for teachers [21]. Lack of basic knowledge of the programme among teachers will hinder its effective implementation [7]. In 2001, the Federal Ministry of Health and the Federal Ministry of Education in collaboration with the World Health Organization (WHO) took the initial step by conducting a Rapid Assessment of School Health in Nigeria to ascertain the status of school health. The assessment noted the several health problems among learners; the lack of health facility and sanitation facilities in schools, and the need for urgent action in school health [22]. This led to formulation of a National School Health Policy in 2006 which was aimed at promoting the health of learners to achieve the goals of Education for All (EFA), and outline roles of relevant line ministries like Education, Health, Environment, Water Resources, Information and other stakeholders [22].

The ideal primary school shall have school sick bay and health professional for treatment of minor illness, preventive and promotive services within the school community. However despite the government, non-governmental organization and other donors agencies example World Bank Assistant Project, UNICEF effort to implement the School Health Policy effectively, in Katsina State, the implementation of the SHS is seems to be poor and even though the implementation guidelines on National School Health Policy have been in existence since 2006 and School Health Policy specified needs for every school to be equipped with necessary facilities and health personnel as highlighted above, but majority of primary schools in Katsina State seems to have serious

problems. There is a dearth of school health clinics in Katsina and where they exist, the services are not comprehensive enough or not organized to meet the needs of the pupils, the researcher observed that primary school children in Katsina were not provided with basic health examination services and pre-entrance medical examinations thus baseline health information about them was absent. There is also a lack of routine medical examination which would have picked up deviations from normal which make early referrals impossible and children vulnerable to preventable diseases, therefore based on this background the researcher intends to investigate the effect of health education intervention on primary school teachers' knowledge and practice of school health services in Katsina State- Nigeria. The study will address the following research questions:

1. Will health education intervention have impact on primary school teacher's knowledge of school health services?
2. Will health education intervention have impact on primary school teacher's practice of school health services?

Hypotheses: For the purpose of this study the following hypotheses are formulated

1. There will be no significant impact of health education intervention on primary school teachers' knowledge of school health services
2. There will be no significant impact of health education intervention on primary school teachers' practice of school health services

Methodology

This was a quasi-experimental study design, with one group pretest – post -test design. Conducted among 26, 035 primary school teachers in Katsina State (SUBEB, 2021) in 2021. The sample size was estimated at fifty (50) using the formula for comparing two proportion in one group (intervention) study with pretest-posttest design, considering both alpha and beta [23]. The eligible participants were selected by multistage sampling technique. At the first stage, the researcher adopts three constitutional political zones in Katsina State as stratum

namely Katsina, Daura and Funtua zone. At the second stage, selection of one zone from the 3 senatorial zone was done by simple random sampling technique. At the third stage, selection of one LGA was done by simple random sampling technique, at the fourth stage, Two primary school was selected from the selected LGA through simple random sampling technique using roll papers carrying the names of the schools enclosed for the research assistant to pick two from the school and the fifth stage involves , proportionate allocation was also applied in the selection of number of participants from the selected school and the six stage, involves use of systematic sampling technique to select participants of the study. The methods of data collection are a set of structured pre-tested questionnaire adapted from school health program module and study by [8]. The questionnaire had three sections; section A sought information on socio demographic characteristics of respondents; section B knowledge of school health services, C practice of school health services, administered by three research assistants at pre and post health education intervention. The research instrument was validated by four jurors of experts from the Department of human kinetic and physical education Bayero University Kano who validated the face and content validity of the instrument, the reliability of

the instrument was ascertained using 36 primary school teachers in Tsanyawa local government not selected for the study using split half reliability method and the reliability of the test was determined using spearman brown Prophecy formula and a coefficient of 0.70r was obtained. This confirmed the reliability of the instrument as 70% reliable and good enough for data collection. Ethical clearance was obtained from the Ethical committee of Katsina State Ministry of Health, permission to conduct the study was obtained from the Management of the respective Agency's (SPHCA and HSMB) and informed written consent was also obtained from the participants before data collection. Data was analyzed using the Statistical Package for Social Scientist (IBM SPSS) version 23 and Microsoft Excel 2016. Frequency count and percentage were used to organized and described the demographic characteristics of the respondents. hypotheses were tested using paired-sample t-test and independent t-test. The entire hypothesis will be tested at 0.05 level of confidence.

Results

Hypotheses 1: School health program intervention will not have a significant impact on primary school teachers' knowledge of school health services.

	Mean	SD	Paired difference			t	df	Sig (2-tailed)
			Mean	SD	SEM			
Pre-intervention	43.52	17.18	-20.56	19.95	2.82	-7.28	49	0.001
Post-intervention	64.08	10.13						

Table 1. Summary of a paired – samples t-test analysis of the impact of school health program on knowledge of school health services among primary school teachers

Table 1: shows the results of a paired t-test summary on the impact of school health programs on knowledge of a school health services among primary school teachers. The pre-intervention means of 43.52, SD of 17.18, and post-intervention mean of 64.08, and SD of 10.13. The statistical computation of the t-test indicated that (tcal -7.284, df 49; (p<0.05), since the p-value is < 0.05 at a 95% level of confidence, Null hypotheses (H0) is therefore

rejected, on the account that statistical significance exists in the knowledge of school health services before and after health education intervention among primary school teachers.

Hypotheses 2: School health program intervention will not have a significant impact on primary school teachers' practice of school health services

	Mean	SD	Paired difference			t	df	Sig (2-tailed)
			Mean	SD	SE			
Pre-intervention	33.58	15.55	-22.88	22.94	3.24	-7.05	49	0.001
Post-intervention	56.46	18.91						

Table 2. Summary of a paired – samples t-test analysis of the impact of school health program on the practice of school health services among primary school teachers

Table 2: shows the results of a paired t-test summary on the impact of school health programs on the practice of school health services among primary school teachers. The pre-intervention Mean of 33.58, the SD of 15.55, and post-intervention mean of 56.46, and the SD of 18.91. The statistical computation of the t-test indicated that (tcal -7.051, df 49; (p<0.05), since the p-value is < 0.05 at a 95% level of confidence, Null hypotheses (H0) is therefore rejected, on the account that there is a statistically significant difference in the practice of school health services before and after health education intervention among primary school teachers

Discussions

The findings of the first hypothesis showed (tcal -7.284, df 49; (p<0.05) that statistical significance exists in the knowledge of school health services before and after health education intervention among primary school teachers. Therefore, school health programs have a significant impact on primary school teachers' knowledge of school health services after a health education program the primary school teachers' knowledge of school health services increases. This finding is because the researcher conducted health education intervention on the school health services. The training involves demonstration of how to perform the following services, visual acuity test, blood pressure, temperature, height, and weight measurement, first-aid services include; wound dressing, immobilization of fractured, tepid sponging, prevention of tongue bite, and preparation of oral rehydration therapy, the researcher also provides Information, Education, and Communication (IEC) materials, and equipment which includes; thermometer, sphygmomanometer, stethoscopes, weighing machine, height meter and Snellen chart among others to the primary school teachers adequate provision of this equipments complement the health service delivery in the schools thereby improve

knowledge of school health services among the primary school teachers. This finding is in line with the findings of [24], who conducted a study on the knowledge of school health programs among public primary school teachers in Sokoto Metropolis, North-western Nigeria, and found that in the intervention group, the proportion of respondents that had good knowledge increased from 52.5% at pre-intervention to 94.6% at post-intervention. This study corroborates the finding of the study conducted by [8] on, practice scope and determinants of school health services in Osun State, Nigeria, and found that about half 49% of the primary school teachers have good knowledge, also similar to the study conducted by Myanmar South East Asia, who found that 62.0% of the teachers demonstrated a high level of knowledge with regards to specified school health activities. However, the findings obtained from this study were different from the one obtained by Ayodeji et al who conducted a study on Knowledge of School Health Programme among Public Primary School Teachers in Oyo State, South-West Nigeria: A Rural-Urban Comparative Study and found that majority (84.6%) of the teachers had inadequate knowledge of SHP. [4], in their study on knowledge, attitude, and practice of school health programs among head teachers of primary schools in Edo south-south Nigeria reported different findings from this study that none of the head teachers had adequate knowledge of SHS, 93.1% from private compared to 48.3% from public schools had poor knowledge of SHS. The study by [5] on healthful school environment: A comparative study of public and private primary schools in Ogun State reported that 92.2% of public and 92.8% of private primary school teachers had poor knowledge of SHS,

The findings of the second hypothesis showed (tcal -7.051, df 49; (p<0.05), that statistical significance exists

in the practice of school health services before and after health education intervention among primary school teachers. Therefore, school health programs have a significant impact on primary school teachers' practice of school health services after a health education program the primary school teachers' practice of a healthful school environment increased. This finding is because the researcher takes his time to demonstrate techniques for practicing student inspection of hair, eye, ears mouth, how to do health talk on personnel hygiene, environmental hygiene, nutrition, and drug abuse school community, and also provides Information, Education, and Communication (IEC) materials, and equipment to the primary school teachers. This finding is in line with the findings of [5,12] who conducted a study on school health services and their practice among public and private primary schools in western Nigeria and found that Routine inspection by teachers was the commonest form of health appraisal. This study corroborates the finding of the study conducted by [6] on Knowledge, attitude, and practice of school health among primary school teachers in Ogun State, Nigeria, and found that more than half of the primary school teachers (63.0%) in Ikenne said they carry out screening of food vendors as part of their infection control practices compared to 42.1% in Ifo LGA. Also similar to the finding of [13] on Knowledge, attitude and reported practice of primary school teachers on specified school health activities in Danuaphyu Township, who found that 52.6% of the teachers achieved high self-reported practice scores of SHS [13].

This study is contrary to the findings of [14] that found eighty percent of head teachers reported that their schools do not offer any health education to their students, [4] reported that 27.6% of public schools do not perform a medical inspection of the pupils, and no counselling service for medical conditions detected in pupils nor health promotion for staff was available in all the schools. Only about 16.5% of the schools undertake medical screening of food handlers/vendors, [16] reported that inspection of

mouth and teeth, nose and throat, skin, and ears were not done for the primary school children; and records of the health histories of the children were in most cases not kept and also finding of [17] in southwestern Nigeria reported that there was a neglect of health appraisal, follow up services, emergency care, and first aid services in schools.

Conclusion

Based on the findings of this study, it was concluded that;

1. Health education intervention has an impact on primary school teachers' knowledge of school health services.
2. Health education intervention has an impact on primary school teachers' practice of school health services.

Recommendations

Based on the findings of this study, the following recommendations were made:

1. Government (Ministry for health, SUBEB) shall ensure engaging teachers in seminars, workshops, and that copies of the SHP policy and implementation guidelines be made a compulsory document for all schools to guide program implementation, in order to sustained their knowledge.
2. Proper collaboration between the ministries of education (SUBEB) and health (SPHCA) to deploy medical officers and other health workers to have schools placed under their watch which they would oversee and help conduct a routine medical examination, first aid or emergency preparedness, periodic inspection of students, measuring of height and weight, visual and hearing screening, oral hygiene, de-worming and counselling Pre-entrance medical screening must become an admission requirement into all primary schools in Katsina.

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