STATUS OF ORAL HEALTH EMERGENCY SERVICES (0HES) IN PRIMARY SCHOOLS IN ENUGU STATE

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Abstract

The study was a cross- sectional survey research, aimed at ascertaining the primary school teachers' perceived status of oral health emergency services (0HES) in primary schools in Enugu State .Specifically, four research questions and four null hypotheses were formulated to guide the study. The area of the study was Enugu State while the population for the study was 12,783 teachers in 1,208 government owned primary schools in the 17 local government areas of Enugu State. A total of 640 primary school teachers, representing 5 per cent of the population were sampled using multi - stage sampling procedure. A 16-item 4-point scale questionnaire known as oral health emergency services questionnaire (0HESQ) developed by the researcher was used to collect data from the respondents. The instrument was validated by three experts and Cronbach Alpha was used to ascertain the internal consistency of the instrument which yielded an index of 0 .81. Mean was used to answer the research questions while hypotheses were tested using z-test at P<.05. The findings revealed among other things that there was low status of provision of first aid services for oral health emergency and location of the school does not significantly affect the provision of first aid services and accident prevention policies while significant difference existed between urban and rural primary schools in the provision of school bus and availability of medically trained oral health personnel in primary schools in Enugu State. Based on the foregoing, a number of recommendations aimed at improving the provision of (0HES) in the area of study were put forward

Introduction

Health is a basic human right essential for social and economic development of the child. Health is inextricably linked to educational attainment which to a large extent determines the quality of life and economic productivity of the human person. Health has continued to be one of man's greatest needs, because, it is only with good health that man can hope to function to full potential. Oral health is recognized as equally important in relation to general health. Oral disease is one of the most costly diseases which can lead to severe pain, tooth loss, school absenteeism, poor academic performance, a condition that affects the appearance, quality of life, nutritional intake and consequently, the growth, development of children and even death.

In short, the burden of oral disease is very diverse this is because oral health is fundamental to general health and well being of school pupils significantly impacting on their quality of life.

Oral health has been defined by different schools of thought; World Health Organization (WHO, 1977) defined oral health as the retention throughout life of a functional aesthetic natural dentition of not less than twenty teeth and not requiring recourse to prosthesis. In describing this definition, WHO (2003a) explained oral health as the fundamental aspect of general health which enables an individual to speak, eat, and socialize without disease or discomfort of the mouth. In addition, Ejike, Nnabueze and Pufaa (2009) described oral health as a state of complete, physical, social and physiological condition of the mouth, not merely the absence of disease or infirmity of the mouth. Oral health, according to Nwobodo (2007), is the ability of an individual to keep the oral cavity clean and healthy, as well as carry out essential functions, not merely the absence of disease or infirmity of the mouth. However, the above definition of oral health appears to be elusive among Nigerian school children as demonstrated by the observation of World Oral Health Report (2003b).This report explains that oral health is seen as a very low priority in the African Region, where extreme poverty means that the limited resources available to the health sector, are directed towards life threatening conditions such as HIV/AIDS, tuberculosis, malaria and other communicable and non-communicable diseases. Consequently, some diseases thought to be of minor effect to health, like the disease of the oral cavity, have been in the increase in recent past (Aderinokun, 2000; Arowojolu, 2001).

The consequences of diseased mouth in school children are pain, infection, lower level of concentration at school, reduced ability to chew food, poor academic performance, poor appearance, loss of teeth, absence from school and death (WHO, 2005). Children's oral health is important since they are the leaders of tomorrow, Aderinokun (2000) observed that school children were left with their oral health problems to the level that oral diseases expose these children to terrible pains giving rise to serious discomfort, sleeplessness, school absenteeism and facial disfigurement which could give rise to other health problems since problems since health runs in a continuum at the physical, mental and social level. This observation may be applicable to the school pupils in Enugu State.

Primary school pupils are children of primary school age. According to Encarta (2009), they are children between the ages of 6 to 12 years. WHO (2003b) opined that this group of people are more prone to accidents leading to head and facial injuries. Furthermore, oral health problems associated with unintentional injuries account for over 80% of oral injuries and death in school pupils. However, in order to have sound education, pupils needs to be healthy in all ramifications. Dakum (2005) noted that low health status has been associated with low educational level, achievements and productivity. Consequently, poor oral health of a school child may prevent the child from benefiting from various educational activities. This is because among other

problems, oral health problems may result to low school attendance and low self esteem, leading to poor school performance as well as distraction from attendance to school and interfere in the learning process. A way of curbing this problem in primary school pupils may be through the provision of emergency oral health services for them. According to IOHSGI (2009), Alsoliman (2010) and Nwobodo(2012) OHES include provision of first aid services for emergency oral health, provision of school bus services for emergency oral health, availability of medically trained oral health personnel and provision of accident prevention policies.

Status according to Ezedum (2006) is the existence of or otherwise provision of something. In addition, Samuel (2010) perceived status as the existing condition or state of being in possession of a thing. Contextually, status means state of the art, state-of-the practice and or the current position of OHES in primary school in Enugu State. This study addressed therefore what was already in existence, what was missing, what was practised and what should be done to improve OHES in primary schools, as perceived by primary school teachers in primary schools in Enugu state. This is because primary school teachers are the providers and administrators of SBOHPS and how they perceived the programme therefore needed to be ascertained as to measure the provision of OHES in primary schools in Enugu state. Apparently, for primary school to achieve the lofty objectives set in the educational curriculum, due attention must be given to the provision of OHES. According to Okafor (2000) and Egifugha, (2002) primary school is the most effective base for inculcating of any desirable health habits aimed at improving the life patterns of the general population not minding where it is located, urban or rural. Although Nwagu (2006), Nwobodo (2007) and Karina (2008) stated that location or living environment influences the provision of health services, no empirical evidence existed to verify whether the location of school affect oral health status of primary school pupils in Enugu State. However, World Health Organization (WHO) (2003a) indicated that oral health emergency problem could have a detrimental effect on children's performance in school and their success in later life. Consequently, children who suffer from oral health related problems are more likely to have more restricted daily activity including missing school than those who do not (United State General Accounting Office, 2000). Regrettably, this may be the situation of primary school pupils in Enugu State .The problem of the present study was, therefore: What is the status of oral health emergency services (OHES) in primary schools in Enugu State?

Purpose of the Study

The main purpose of the study was to ascertain the primary school teachers' perceived status of OHES in primary schools in Enugu State.

Research Questions

The following research questions guided the study:

1. What is the status of provision of first aid services for oral health emergency in primary schools in Enugu State?
2. What is the status of provision of school bus services in case of

oral health emergency in primary schools in Enugu State?

3. What is the status of availability of medically trained personnel for oral health emergency services in primary schools in Enugu State?
4. What is the status of provision of accident prevention policy in primary schools in Enugu State?

Hypotheses

Ho_1: Provision of first aid services for oral health emergency in primary schools in Enugu State is not dependent on location.

Ho_2: Provision of school bus services in case of oral health emergency in primary schools in Enugu State is not dependent on location

Ho_3: availability of medically trained personnel for oral health emergency services in primary schools in Enugu State is not dependent on location.

Ho_4: Provision of accident prevention policy in primary schools in Enugu State is not dependent on location

Methods

Participations and setting

In carrying out this study, the cross-sectional survey design was adopted. The cross sectional survey design explains and interprets issues and conditions in their current setting (Owie, 2006). The area of the study was the 17 LGAs that made up Enugu State. Enugu State is made up of urban and rural LGAs while the population for the study comprised all the 12,783 teachers in all the 1,208 government owned primary schools in the 17 local government areas of Enugu State (Enugu State Universal Basic Education Board (ESUBEB), 2012)

The study sample comprised 640 primary school teachers. This represented five per cent of the population. Nwana (1990) asserted that five per cent of the population serves as a good sample, if the population runs in thousands. The population for this study was in thousands, hence the use of five per cent of the entire population. The sample size was selected through multistage sampling procedure. The first stage involved stratified sampling of five LGAs that had urban and rural areas, namely; Enugu North, Enugu South, Enugu East, Nsukka and Oji-River LGAs with a total number of 4267 teachers. The essence of this was to enhance comparison of results on urban rural bases. In addition, the teachers were stratified into urban – and rural primary school teachers, giving rise to 1845 rural and 2422 urban teachers.

Using proportionate random sampling technique, 15 per cent of the teachers which was the sample frame were proportionately drawn from urban and rural schools; this gave a total of 363 urban teachers and 277 rural teachers. The final stage of the sampling process involved the use of systematic random sampling technique to draw the teachers from their various schools until the required number was obtained. By this all the teachers were given equal opportunity of being selected.

Instrument

Instrument for data collection was the questionnaire known as School-Based Oral Health Promotion Strategies Questionnaire (SBOHPSQ) which was developed by the researcher and two sections of A and B. Section A had information on the location of the respondents while section B had four sections of 16 items. The items were arranged according to the research questions they answered. The

questionnaire was arranged in 4 point scale of Strongly Agree (SA), Agree (A), Disagree (D), and Strongly Disagree (SD).The respondents were requested to tick the options that match their opinion on each item. The researcher attached an introductory letter to the instrument to establish rapport with the respondents and acquaint them in a nut – shell with the rationale for the study. The face validity of the questionnaire was established through the judgment of three experts in Health Education.

The reliability of the instrument was established by administering the instrument on 30 primary school teachers that did not form part of the study sample .In order to determine the internal consistency of the instrument; Cronbach Alpha formula was utilized to compute the reliability co-efficient. Uzoagulu (2011) adjudged this procedure suitable for computing the reliability of the instrument. As a result of the fact that section B was divided into four parts, the result yielded a reliability index value of 0.82, 0.85, 0.72 and 0.84 respectively. On the average the coefficient index was 0.81 which showed a high correlation of the instrument.

Method of data collection

The instrument was administered directly to the sampled 640 primary school teachers with the aid of 10 research assistants. The research assistants were trained by the researcher in a one-day orientation meeting. During the training programme, the researcher acquainted them with the purpose of the study, the specific respondents and also explained to them how to administer and retrieve the questionnaire.

The essence of training the research assistants was to ensure that they all had adequate information of what was expected of them. This helped to foster interaction and communication between the assistants and respondents as they were able to explain to them points not understood by them. Thus, ensuring that the actual respondents for whom the instrument was meant were indeed those who completed them. The respondents were requested to complete the copies of the questionnaire on the spot and return same. Copies of the retrieved questionnaire were screened to select the properly completed ones for data analyses. Out of the 640 copies of questionnaire distributed and collected, 17 copies were not properly completed leaving 623 copies viable for use, this signified 97.5 per cent return rate.

Method of data Analysis

The four research questions were answered using mean. The response options of SA, A, D, and SD were weighted 4, 3, 2 and 1 respectively. The weighted scores were used to derive the mean scores item by item. In order to determine the status of OHES, the limit of scores was adopted and interpreted thus: Very High Status = 3.50 and Above, High Status = 2.50- 3.49, Low Status = 1.50 - 2.49 and Very Low Status = 1.00 -1.49.

The z-test statistic was employed to test the null hypotheses of the study at .05 level of significance. The decision rule for the hypotheses, were to reject Ho at .05 level of significance if z-calculated was greater than or equal to the z-critical (z-cal > z-cri), do not reject Ho, if z-calculated was less than z-critical (z-cal < z-cri) at appropriate degree of freedom. Data were analyzed using Statistical Package for Social Science (SPSS) version 17.0.

Results

Table 1: Status of provision of first aid services for oral health emergencies in primary schools in Enugu State

	Item	(n = 623) $\bar{X}$	Dec.
1.	There is a well equipped first aid box in my school to treat emergencies.	1.64	LS
2.	Teachers are trained to administer first aid in case of any oral health emergencies.	3.01	HS
3.	Pupils are trained to administer first aid in case of any oral health emergencies.	1.33	VLS
4.	There are other people like community members specially trained for first aid services in my school.	1.29	VLS
	Grand Mean	**1.82**	**LS**

Summary of z -test statistics verifying the difference in the mean responses of urban and rural primary school teachers on the status of provision of first aid services for oral health emergencies in primary schools in Enugu State.

Location	N	$\bar{X}$	S^2	Df	Standard Error	Z-cal	Z-critical	Decision
Urban	354	2.07	0.73					
Rural	269	1.42	0.71	621	0.58	1.143	1.960	Reject

(Z-cal =1.143; z-tab = 1.960)

Data in Table 1 showed that items (3 &4) had mean ratings of 1.33 and 1.29 (VLS), item one had mean rating of 1.64(LS) while item two had mean rating of 3.01 (HL). Furthermore, the grand mean showed a mean score of 1.82 (LS). Consequently, the answer to research question one was that there was low status of provision of first aid services for oral health emergencies in primary schools in Enugu State .It is indicative in the Table that the calculated z value of 1.143 was less than the critical value of 1.960.Therefore the null hypothesis was not rejected, meaning that the status of provision of first aid services for oral health emergencies in primary schools in Enugu State was not dependent on location.

Table 2: Status of provision of school bus services in case of oral health emergency in primary schools in Enugu State.

	Item	(n = 623) $\bar{X}$	Dec.
5.	The school has a bus that transports pupils home or hospital in case of any head or oral injury or accident in the school.	1.25	VLS
6.	There is no school bus to transports pupils home or hospital in case In case of emergency that relates to oral health.	1.01	VLS
7.	During emergency cases the school hire car to transport affected pupil or pupils home or hospital.	2.00	LS
	Grand Mean	**1.42**	**VLS**

Summary of z-test statistics verifying the difference in the mean responses of urban and rural primary school teachers on the status of provision of school bus services in case of oral health emergency in primary schools in Enugu state

Location	N	$\bar{X}$	S^2	Df	Standard Error	Z-cal	Z-critical	Decision
Urban	354	2.84	0.73					
Rural	269	1.72	0.71	621	0.58	2.026	1.960	Reject

(Z-cal =2.026; z-tab = 1.960)

Result from Table 2 showed that items 5&6 had mean scores of 1.25 and 1.01 (VLS) while item 7 showed a mean rating of 2.00 (LS). In addition the grand mean was 1.42 representing VLS . Therefore, the answer to research question two was that there was very low status of provision of school bus services in case of oral health emergency in primary schools in Enugu State .The Table also showed that the calculated z value of 2.026 was greater than the critical value of 1.960.Therefore the null hypothesis was rejected, meaning that the status of provision school bus services in case of oral health emergency in primary schools in Enugu State was dependent on location.

Table 3: Status of availability of medically trained oral health personnel to handle oral health emergencies in primary schools in Enugu State.

	Item	(n = 623) $\bar{X}$	Dec.
8	The school has a stand by medical personnel like the school nurse to take care of oral health emergencies.	1.62	LS
9	The school has a dentist that attends to pupils with emergencies oral health problems.	1.43	VLS
10	Medical personnel like nurse come occasionally to the school to attend to Pupils with oral health emergencies.	1.76	LS
11	Dentists occasionally visit the school to attend to Pupils with oral health emergencies.	1.70	LS
	Grand Mean	**1.63**	**LS**

Summary of z-test statistics verifying the difference in the mean responses of urban and rural primary school teachers on the availability of medically trained personnel for oral health emergency services in primary schools in Enugu State

Location	N	$\bar{X}$	S2	Df	Standard Error	Z-cal	Z-critical	Decision
Urban	354	2.79	0.73					
Rural	269	1.62	0.71	621	0.58	2.043	1.960	Reject

(Z-cal =2.043; z-tab = 1.960)

Result from Table 3 revealed that 3 items (8, 10 &11) had mean ratings of 1.62, 1.76 and 1.70 showing low status while item 9 had mean score of 1.43 indicative of VLS. However, the Table further showed a grand mean score of 1.63 of low status. Consequently, the answer to research question three was that there was low status of availability of medically trained oral health personnel to handle oral health emergencies in primary schools in Enugu State. The Table also showed that the calculated z value of 2.043 was greater than the critical value of 1.960.Therefore the null hypothesis was rejected; meaning that the Status of availability of medically trained oral health personnel to handle oral health emergencies in primary schools in Enugu State was dependent on location.

Table 4: Status of provision of accident prevention policy in primary schools in Enugu State.

	Item	(n = 623) $\bar{X}$	Dec.
12	The school ensures that there are appropriate accident prevention policies and practice in school through enforcement of accident prevention rules on the pupils (like encouraging the pupils playing with their mates only)	2.53	HS
13	During sports and recreation teachers are always available to monitor the pupils so as to avoid them inflicting injury on themselves	2.56	HS
14	The school ensures that the play ground is free from harmful objects, materials, or instruments (e.g. stone, sharp objects etc) to ensure emergency free situations.	3.55	VHS
15	In case of emergency that relates to oral health, clear protocol is provided to ensure that vital actions are taken without delay.	1.52	LS
16.	The school provides safe and free social environment for pupils to relate to ensure emergency free situation.	2.60	HS
	Grand Mean	**2.55**	**HS**

Summary of z-test statistics verifying the difference in the mean responses of urban and rural primary school teachers on the status of Provision of accident prevention policy in primary schools in Enugu State

Location	N	$\bar{X}$	S^2	Df	Standard Error	Z-cal	Z-critical	Decision
Urban	354	2.57	0.73					
Rural	269	1.68	0.71	621	0.58	1.029	1.960	Reject

(Z-cal =1.029; z-tab = 1.960)

Result from Table 4 revealed that one item(15) had mean rating of 1.52 (LS), 3 items (12, 13 &16) had mean ratings of 2.53, 2.56 and 2.60 showing high status while item 14 had mean score of 3.55 indicative of VHS. However, the Table further showed a grand mean score of 2.55 (HS). The Table also showed that the calculated z value of 1.029 was less than the critical value of 1.960.Therefore the null hypothesis was not rejected; meaning that the Status of provision of accident prevention policy in primary schools in Enugu State was not dependent on location.

Discussion of findings

The main purpose of the study was to ascertain the primary school teachers' perceived status of OHES in primary schools in Enugu State. Information in the study showed that OHES includes:

- Provision of first aid services for oral health emergency.
- Provision of school bus services in case of oral health emergency
- Availability of medically trained personnel for oral health emergency services.
- Provision of accident prevention policy.

A look at Table 1 showed that the status of provision of first aid services for oral health emergency in primary schools in Enugu State, were low. In addition Table 2 revealed a very low status of provision of school bus while, result in Table 3 also indicated that the status of availability of medically trained oral health personnel was low These findings were in contradiction with the suggestions of WHO (2003a) that school oral health services should provide for emergency oral health cases that might occur to the child while in school. This was because children are playful and is likely to involve in accidents at which unintentional head and mouth injuries might occur (WHO, 2003b). Unintentional injuries account for about 80% of oral injuries and death in school pupils especially in developing countries (WHO, 2005). These injuries had significant impact on oral health and the significance of intentional and unintentional head and face injuries seems to be over looked because of the result of the research findings, or it could be that the teachers and other oral health specialists lacked preparedness to face and handle unforeseen circumstances like accidents in the school.

However, the low status of these areas of emergency oral health services in

primary schools in Enugu State was not a welcomed development, as it contradicted WHO (2003a) expectation of a health promoting school, which had its strategy as providing opportunities to tackle health inequalities in the society in which oral health, was a part. Also these findings were unexpected and surprising because one would have expected better results especially when it related to matters that affected children. Owing to the fact that primary school administrators experienced the same kind of training and were exposed to similar supervision irrespective of their location. Furthermore, through these findings, it could be said that the pupils were not properly protected against these aspects of oral health emergency problems.

Furthermore, Table 4 revealed that there was high status of provision of accident prevention policy in the schools This finding was a welcomed development given that schools might be the only organized place where children can be guided properly on how to avoid accidents that could lead to emergency situation as it related to their oral health (Peterson and Terroes,(1999), hence provision of oral health emergency services for primary
school children became imperative and one of the tangible means of salvaging the oral health of the children.

Educational Implications of the Finding

The findings of the study have far-reaching implication for Health Education. Health education is a process of persuading individuals or groups to accept those behaviours that are beneficial to them and reject those behaviours that are detrimental to their health. Therefore, health education is a strong force which could be utilized by the members of the society for the solution of its social, political, economic, health and educational problems. The process of providing oral health promotion programmes for pupils in the school helps in curbing the prevailing oral health problems as prescribed by Nazik, Tordis, Raouf and Mutaz (2009) was considered in this study as a serious challenge for health educators and other health and education professionals. The indispensable role of educating, mobilizing and motivating pupils, teachers and community members to provide oral health in primary schools cannot be overemphasized. Oral health education is considered by many as part of primary health care and school health services (Nwimo, 2001; WHO, 2003a; and Ezedum, 2006). This is most true of a developing country such as Nigeria and its rural setting where oral health services are rarely provided especially for children. There is therefore an urgent need for all to involve themselves in all health education programmes targeted on children.

However, going by the findings of this study, the aim and the need for oral health emergency services in the school might not be achieved. Much as the previous studies were silent on oral health emergency services in primary schools, it could be possible that its provision had not been inspiring enough as shown by the present study. It might be necessary at this juncture to state some of the needs for improved status of these services; it helped to protect the primary school pupils from injuries that could lead to serious dental and oral health problems. Inadequate provision

of these services to the children suggested that many of the primary school pupils would have suffered without help from oral health problems. This, to say the least, is most unfortunate. They were unfortunate because they were unthinkable on how children could cope with studies if they were victims of unhealthy and unsafe school environment, undetected physical, social and psychological environment which were the major determinants of teaching and learning in schools.

Conclusion

Based on the results and discussion of the study, it would be concluded that the status of provision of first aid services for oral health emergency was low, status of provision of school bus services in case of oral health emergency was very low and availability of medically trained personnel for oral health emergency services was also low however, the status of provision of accident prevention policy was high. Further, location of the school does not significantly affect the provision of first aid services and accident prevention policies while significant difference existed between urban and rural primary schools in the provision of school bus and availability of medically trained oral health personnel in primary schools in Enugu State.

Recommendations

In the light of the findings of the study, the following recommendations were proffered for improvement:

1. Enugu State Universal Basic Education Board (ESUBEB) should organize periodic school health workshops for teachers under their employ. The focus of such workshop should be on equipping the teachers with the skills necessary for oral health emergency services.
2. Enugu State Ministry of Health should make urgent arrangements to reactivate the school health units of the ministry. This may help the units meet the challenges of oral health emergency services
3. The teachers themselves should make up their mind to prepare and upgrade themselves in the theory and practice of health issues especially those that may affect oral health emergencies.

Keywords: oral health, status, primary schools, oral health emergency services.

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