ASSESSING THE NUTRITIONAL SERVICES OF SELECTED SECONDARY SCHOOLS IN BWARI AREA COUNCIL OF FCT, ABUJA

KOLAWOLE, A. A. Ph.D
National Open University of Nigeria [NOUN]

Abstract

This study assessed the nutritional services offered in four public boarding secondary schools in Bwari Area Council of the FCT, Abuja, Nigeria. The study adopted survey research method and applied quantitative approach to the analysis of data obtained from 112 structured questionnaires responded to by the subjects. The sample comprises the school principal, two school supervisors and twenty-five randomly sampled boarding students drawn from each of the four boarding secondary schools. Data generated were organized in frequency distribution tables and subjected to Mean analysis.

Key Words: Assessment, School Nutrition Service, Nutrition Programme, Nutrition-Related Threats.

Introduction

Nutrition is the science concerned with the role of food and nutrients in the human body during growth, development and maintenance of life (Sallis, 2010V Good nutrition is essential for realizing the learning potential of children and maximizing returns on educational investments. Nutrition plays a vital role in the life of every child, especially to the most vulnerable and disadvantaged children in the society. Children in their early years need proper and adequate nutrition for healthy growth and development, but the bad news, however, is that millions of children lack

this advantage and are locked out at an early age into long-term cycles of deprivation (WHO, 1996). Malnutrition is known to affect a child's

attentiveness, concentration, aptitude and overall performance (Kenya, 2015). Malnutrition has been identified as constituting one of the major sources of childhood health problems. Malnutrition or undernourishment results to certain deficiencies that threaten the life of pre-primary and primary school age children (Bulus, 2004).

School meal programme has long been recognized globally as one of the prerequisites for healthy living among children of school going age. Evidence in literature shows strong positive correlation between children who are well nourished and cognitive abilities, concentration in school work, low school absenteeism rate, physical health, among other school variables (Akani & Nkanginieme, 2007; Dewa & Lin, 2000; Hanson, Austin, & Lee-Bayha, 2004). Article 24 of the Child's Right Act (2003) recognizes the role of nutrition in the effective development of the child and thus provides for "adequate nutritious foods" for all children in state funded primary schools (Akinwumi, Olayinka & Silas, 2010; Olakanmi, 2007). In recognition of the role of proper nutrition in learning and general educational achievement, many advanced countries have long adopted the national school meal (NSM) policy. Some striking examples are seen in the India's Midday Meal Scheme (IMMS) which provides free lunches to 120 million Indian children every school day. The USA provides low-cost or free lunches to more than 31 million U.S. children each school day and Brazil provided school meals for 45 million students every school day in 2013 alone, a program she has practiced for over 50 years. The UK Education Act of 1944 made it compulsory for local authorities to provide daily school dinners, with legal nutritional requirements (Anene, 2014). Millions of school children in countries ofAsia and Europe andAmerica also enjoy school meals where their governments promote these policies (Ochei, 2015).

Inspite of the global recognition of school nutrition by most developed countries and the huge resource investment thereto, Nigeria, like many other developing countries, is yet to embrace this global trend (Anene, 2014). Records show that Nigeria is yet to imbibe a national provision for and the implementation of national school meal (NSM) policy. Encouragingly, some states like Osun, Enugu

and Anambra, had in the past introduced school meals in their public primary schools which, bitterly, were not sustained. Kaduna State is the only state currently contemplating school meal policy in its public schools but the worry is whether such a programme might not be a mere political gimmick just to score more political points as has been in the past.

Critics of the nation-wide school meal policy in Nigeria have hinged their arguments on the huge implementation costs: new cooking facilities in the numerous schools will need to be built, cooking and eating utensils have to be purchased in large numbers across the entire nation, prohibitive operational costs such as providing a regular supply of water, food ingredients and fuel to cook these meals, in addition to the huge salary outlay to foot the wage bills of catering staff and contracted farmers, costs of transportation of food materials, costs of monitoring food quality, among others. Ochei (2013), however, suggested that to help reduce costs, free school meals can be provided only to children from the poorest families whilst at a subsidized price children from non-poor families. A system canbe adopted that fairly assess who qualifies for free meals and who receives it at a subsidized rate. There are global best practices and models other countries have adopted in fashioning their national school meal programmes at efficient costs management and Nigeria can adopt these. Support can be garnered from international organizations to provide technical assistance for sustainable and effective implementation of this programme. For example, the Imperial College London's Partnership for Child Development has used its operational research expertise to deliver technical assistance for the sustainable and effective implementation of Home Grown School Food (HGSF) programmes in South Africa since 2009. All these measures can be assessed and point to the fact that impending administrative hurdles are not insurmountable if there is a political will and appropriate legal framework in place.

Overall, an effective school health under the auspices of a sustainable national school meal policy will go a long way in enhancing learning and teaching will become easier and more rewarding as school

meals promote learning concentration and enhance active participation in school activities including sports

In advanced countries of Europe, Asia and America, pupils sit down to eat with fellow children and teachers and this cements interpersonal relationships and helps develop social skills in children, and the UK Government had practiced this policy since the early 1970s till date (Ochei, 2013).

Proper and efficient implementation of the national school meal (NSM) policy remains an investment into the nation's future which in the long run will yield dividends for all Nigerians, directly or indirectly. As it where, Nigerian children should be perceived as the country's most important asset and providing primary schools healthy meals for all children will go a long way to protect and sustain this asset (Anene, 2014). After all, of what good is the abundant natural and human resources that the country is endowed with if our emerging labour force is not healthy and sufficiently educated to exploit these benefits for the country's development? This is why a call for national school meal (NSM) policy is apt now than ever before; it should carry an equal or even higher weighting amongst the competing demands on government expenditure.

Scope and Delimitation of the Study

The primary aim of this study was to assess the nutritional services offered in boarding secondary schools in Bwari Area Council of the FCT. The study focused on the quality of nutrition and ancillary services offered to boarding students in these schools. It is not intended to undertake detailed nutritional analysis or the physiological implication of meals offered. The subjects of the study were school principals, school meal supervisors/planners and boarding students in Bwari Area Council.

Objectives of the Study

The study aims to assess the nutritional services offered in selected secondary schools in Bwari Area Council of the FCT. In so doing the study attempted to:

(l) Ascertain whether the existing boarding secondary schools have functional

school meal policies;

(2) Ascertain ifthere is any relationship between the quality of school meals and school achievement and wellbeing of students;

(3) Ascertain if there was food quality assurance practice in the boarding schools;

(4) Ascertain if there are functional nutrition promotion activities in the schools;

(5) Ascertain whether food nutrition quality is commensurate with cost.

(6) Determine the overall standard of school meals offered in boarding schools.

Based on the above objectives, the following research questions and hypotheses were raised to guide the study:

Research questions

1. Do boarding schools in Bwari Area Council of the FCT have a functional school meal policy?
2. Is there external operational food quality assurance practice among boarding schools in Bwari Area Council of the FCT?
3. Are there functional nutrition promotion activities in boarding schools in Bwari Area Council?

Research Hypotheses

HOI: School nutritional services in Bwari Area Council do not have a significant effect on learning achievement and wellbeing of students.

H02: Nutritional status of school meals in Bwari Area Council is significantly poor.

H03: Specialized/professional training of school meal supervisors/planners does not significantly improve food quality in schools in Bwari Area Council.

H04: The quality of school meals offered in Bwari Area Council does not justify the cost.

Research Methodology

The study adopted a descriptive survey research design. A combination of questionnaire and interview was used to generate primary data. The study population comprises all principals, school food supervisors/planners and students in boarding schools in Bwari Area Council of the FCT. All the four (4) public/government owned boarding secondary schools in the study area were used for the study. Purposive sampling technique was adopted for selecting the sample for the study since the respondents were pre-determined. The sample comprised principals (4), school food supervisors/planners (4), assistant school food supervisors/planners (4) and boarding students (fifty from each school = 100). This gives a total sample size of one hundred and twelve (112) respondents used for the study. The main instrument was the "School Nutritional Services Assessment [SNUSA] Questionnaire" designed by the researcher. The instrument was validated by two expert teachers in Health Education who read through the initial draft to ensure that the test items reflected the specification of the test blue-print. They also checked for ambiguity in language use and corrected any noticeable errors in the test items.

SNUSA Questionnaire comprised two Sections - A and B. Section 'A' has six (6) items bothering on the respondent's demographic information (sex, age, marital status, name of school). Section 'B' was sub-divided into Part 1 (School Food Policy, 11 items) and Part Il (School Menu Quality & Planning, 13 items), respectively. Respondents were requested to supply answers to all the items.

Method of Data Collection

The instrument was distributed and retrieved through the principal of each selected school within four (4) weeks. The researcher further conducted random interview among the students bothering on the quality of food they were offered in their various schools. All the one hundred and twelve (112) questionnaires distributed were successfully completed and used for the study.

Method of Data Analysis and Decision Criteria

Data generated were subjected to mean analysis and standard deviation statistics to answer the three (3) research questions while chi-square [x2]

inferential statistics was applied to test the four (4) research hypothesis at u = 0.05 level of significance. Mean value (x) 2 0.5 (50%) was accepted in answering the research questions. The null hypothesis (HO) was accepted where x2-calculated was equal to or less than X2tabulated (x2-cal.2 x2-tab.), otherwise, alternative hypothesis (HI) was accepted in testing the research hypotheses, respectively.

Results

Demography of Respondents

Four (4) principals [males, 2 (50%); females, 2(50%)] with average age of40 years participated in the study. The principals' average administrative job experience was 18 years and their qualifications were B.Ed/B.Sc, 3(75%) & Masters, 1(25%). Eight (8) food supervisors [males, 5(63%); females, 3(38%)] with average age of 31 years participated in the study. Food supervisors' average job experience was 11 years (in teaching) and 4 years (in food supervisory experience), and their qualifications were B.Ed/B.Sc, 7(87.5%) and PGDE,I (12.5%), respectively. One hundred female students comprising 89% with average age of 17 years were involved in the study. All four boarding secondary schools in the study area housed only females. None of the subjects has professional training in food and food-related disciplines.

Table 1: Mean (i) and Standard Deviation (S.D) Analysis of Responses to Research Questions — 3.

Qns	Research Questions	Mean (Z) and Standard Deviation S.D.			
			Mean	S.D	Remarks
	Do boarding schools in Bwari Area Council of the FCT have functional school meal policy ?	102	0.91	0.01	Yes Accepted
2	Is there external operational food quality assurance practice among the boarding schools in Bwari Area Council of the FCT?	14	0.13	0.09	*No (Rejected)*
3	Are there functional nutrition promotion activities in the boarding schools in Bwari Area Council?	88	0.79	0.02	Yes (Accepted)
	NOTE: N = 112; Mean x = Efx/N				

Table 1 gives the summary of the mean and standard deviation computations for research questions 1 to 3, respectively. Research questions 1 and 3 recorded mean values of 0.91 (91%) and 0.97 (97%) respectively, and since each value is greater than the threshold value of0.5 (50%), each of the statements was adjudged as true and therefore accepted. On the other hand, question 2 recorded mean value of 0.13 (13%) which is below the minimum acceptable value of 0.5, hence the statement was considered false and rejected. The value of standard deviation (S.D) in each case indicates the degree of variability among the set of relevant data to each question; the smaller the value, the lower the degree of variability. Thus, there is relatively higher variability in the set of data related to question 2 as against questions 1 and 3.

Table 2: Test ofX^2 Computations for HOI. 1_{04}Inferences and Decisions Made.

	Statement of Hypotheses	Chi-Square Anal ses			
		x2-ca1.	*Tab.	Inference	Decision
HO_1	School nutritional services in Bwari Area Council do not have a significant effect on school achievement and wellbein of students.	25.81	5-99	x•-cal. >X^2-Tab.	Ho Rejected
HO_2	Nutritional status of school meals in Bwari Area Council is si nificantly oor.	4.09	5-99	x^a-cal. <*Tab.	Ho Acce ted
HO_3	Specialized/professional training of school meal supervisors/planners does not significantly improve food quality in secondary schools in Bwari Area Council.	17-53	5-99	x^a-cal. >X^2-Tab.	Rejected
HO_4	The quality of meals offered in boarding schools in Bwari Area Council does not justify the cost.	5-94	5-99	x^2-Cal. < X^2-Tab. x: -cal.	Ho Accepted
	NOTE: (fo- fe)^2/fe =x^2-ca1.	Df=2		a = 0.05	

Table 2 presents the outcome of chi-square analysis for the research hypotheses HO_1 — HO_4, respectively. In HO_1, X^2-calculated = 25.81 while X^2-tabulated =5.99 at u = 0.05. This gives the inference: X^2-Cal. >X^2-Tab, hence we reject HO_1 which says "School nutritional services in Bwari Area Council do not have a significant effect on school achievement and wellbeing of students" and accept H_1 which says "School nutritional services in Bwari Area Council have a significant effect on school achievement and wellbeing of students." In HO_2, X^2-calculated= 4.09, while X^2-tabulated = 5.99 at u = 0.05. This gives the inference: X^2-Cal. < X^2-

Tab., hence we accept H02 which says "Nutritional status of school meals in Bwari

Area Council is significantly poor" and reject HI which says "Nutritional status of school meals in Bwari Area Council is not significantly poor." In H03, X2-calculated = 17.53 while X2-tabulated = 5.99 at a = 0.05. This gives the inference: X2-Cal.>X2Tab, hence we reject H03 which says "Specialized/professional training of school meal supervisors/planners does not significantly improve food quality in secondary schools in Bwari Area Council" and accept HI which says "Specialized/professional training of school meal supervisors/planners significantly improves food quality in secondary schools in Bwari Area Council." In H04, X2-calculated 5.94, while X2tabulated = 5.99 at u = 0.05. This gives an inference: X2-Cal. < X2-Tab., hence we accept H03 which says "The quality of meals offered in boarding schools in Bwari Area Council does not justify the cost" and reject HI which says "The quality of meals offered in boarding schools in Bwari Area Council justifies the cost."

Discussion of Results

The study revealed that even though existing boarding schools in the area of study have functional school meal policy/programme (table 1; = 0.91), this was fashioned by each school's authority. Thus, a standardized school food/meal policy is lacking among boarding secondary schools in Bwari Area Council of the FCT. This finding contradicts the practice in other developing countries where Mosie (2004) reported that Botswana secondary schools nutritional qualities of feeding programs are strictly guided by the Ministry of Education. There are no external operational food quality assurance practice among the boarding schools (table 1; = 0•13) This makes the monitoring of school nutrition quality and the attendant merits difficult. However, Baker, Carroll, Champagne, (1997) reported that Texas school food service menus are normally assessed for compliance with Dietary Guidelines for Americans (DGA) recommendations and the continued monitoring of nutrient quality of school meals ensured better nutrient intake by students. Most of the schools in the study offer relevant health promotion activities (table 1; = 0.79) and the practice is healthy for the physico-social development of the students (Anene, 2013)

The relationship between school nutrition and school achievement and well being of students is very high (table 2; HOI). This is in tandem with a number of studies which reported a strong positive con-elation between good nutrition and

school achievement (Wyorks; 2014, Mosie, 2004; Abidoye, 2000; Baker, Carroll & Champagne, 1997; Colquhoun, Lyon & Alexander, 2001; Decarii, Cavadini, Grin, Blondel-Lubrano, Narring, Michaud, 2000). There is a generally poor status of food offered the boarding students (table 2; H02). This finding agrees with Ene-Obong (1993) who reported that students in boarding houses in Nsukka in Enugu State, received poor quality food and are generally under-fed.

The study found out that there is a strong positive correlation between food supervisors' training and students' food quality (table 2; H03). However, all the school food supervisors/planners serving in the secondary schools in the study are non-professionals, but largely class teachers in the schools. Most of the teachers so appointed are not in subject specialties related to food and nutrition or allied subjects.

The study found out that school meal quality is generally poor compared to cost (table 2; H04). Total feeding fees per term was arrived at by multiplying cost of meal per day per term, and feeding fees were never deducted for days students spent outside the school, such as traveling for weekends, midterm break, and days hospitalized, etc. These and other factors such as under feeding and poor nutrient quality account for rising cost of school meals.

Conclusion

This study assessed the nutritional services of selected secondary schools in Bwari Area Council of the FCT. The study raised some vital issues relating to school food policies and school menu quality and planning. The outcome of the study shows that boarding schools in the study area have no standardized food policy and lack external food quality assurance and control. Nutritional status of school meals is poor and cost of meals is high.

Recommendations

1. The Federal Ministry of Education should as a matter of urgency consider the need to implement a sustainable and functional nation-wide school meal policy as is now the practice globally.
2. Secondary schools offering boarding and school meal services should seek and employ professionals as food supervisors/food planners. In the interim, they should appoint teachers in food/nutrition specialties and allied specialties as food supervisors.

3. Foods quality served boarding students currently is generally poor both in quality and quantity. There is therefore need for the ministry of education to develop and monitor the implementation of a standardized Food Menu Guide (FMG) so as to improve food services in secondary schools.
4. The unit cost of school meal is presently high when compared to quality and quantity. Schools should improve the quantity served students per meal. Cost of meals should be based on the unit of meals served so that even if students pay for their meals in bulk, days they are out of school (such as traveling for weekends, midterm breaks, etc), and did not take their meals should be deducted. This way, unit cost per meal will reduce considerably.

References

Abidoye, R. O. (2000). Comparative school performance through better health and nutrition in Nsukka, Enugu, Nigeria. Nutrition Research, 20 (5), 609-620. Act No. 26 of2003, Child's Rights Act, Article 24 (2003), available at http ://www.refworld.org/docid/5568201 f4.html, accessed August 4, 2016.

Akani, N. & Nkanginieme, K. (2007). The school health programme. In Azubuike J.C., Nkanginieme, K.E. (eds), Pediatrics and child health in a trop ical region, 2nd edition. Owerri: African Educational Services, 47-55.

Akinwumi, S. A., Olayinka, B. O. & Silas, M. O. (2010). Legal Impediments on the practical implementation of the child's right Act 2003. International Journal of Legal Information, Vol. 37, 3(10), http://scholarship.law.cornell.edu/ijh v0137/iss3/10, accessed on April 5, 2016.

Anene, J. A. (2014). Nutrition, health and education: A relational analysis. Inland Journal of Education Benue State College of Education, Oju Inland Journal of Educational Studies, Vol. 1, No. 1, June.

Baker, N. B. , Carroll, A., & Champagne, C. M. (1997). Characteristics and nutritional profile of Louisiana School lunch - Implications for Project 2001 : Nutrition for a new century. School food service research review, 21 (2), 92-98.

Bulus, W. Z. (2004). Environmental health education for undergraduate students (unpublished). Federal College of Education, Zaria.

Colquhoun, A., Lyon, P. & Alexander, E. (2001). Feeding minds and bodies: The Edwardian context of school meals. Nutrition and food science, 31(3), 117-124.

Decarii, B., Cavadini, C., Grin, J., Blondel-Lubrano, A., Narring, F. & Michaud, P. (2000). Food and Nutrient Intakes in a Group of 11 to 16 Year Old Swiss Teenagers. International Journal of Vitamin Nutrition Research, 70 (3), 139147.

Dewa, C. S., & Lin, E. (2000). Chronic physical illness, psychiatric disorder and disability in the workplace. Journal of Social Sciences & Medicine, 51, 41—50.

Ene-Obong, H. N. (1993). Adolescents living in boarding houses in Nsukka, Enugu State, Nigeria: Quality of school meals and snacks and their contribution to nutrient intake. Ecology of food & nutrition, 30, 195-205.

Hanson, T. L., Austin, G., & Lee-Bayha, J. (2004). Ensuring that no child is left behind: How are student health risks and resilience related to the academic progress of schools? San Francisco, CA: West Educational Pub.

Mosie, E. (2004). The nutritional quality of feeding programs in Botswana junior secondary schools and the contribution of family and consumer sciences/home economics teachers to meal quality. Unpublished Ph.D. Dissertation, Texas Tech University.

Kenya (2015). National school health strategy implementation plan, NSHSIP, Kenya. Available at: http://www.who.int/pmnch/media/events/2013/kenya_hssp.pdf

Ochei, I. (2013). Nigeria's 10.5 million children today, Nigeria's headache tomorrow. Sahara Reporters, http ://saharareporters.com/2013/ 12/ 14/nigeria %E2%80%99s-105-million-children-today-nigeria%E2%80%99s-headache-tomorrow-ifeanyichuku-ochei, accessed on 5 April, 2016.

Olakanmi, O. (2007). Handbook on human rights. Ibadan: Law Lords Publications.

Sallis, J. F. (2010). We do not have to sacrifice children's health to achieve academic goals. The Journal of Pediatrics, 156, 696—697.

World Health Organization, WHO (1996). Recommendations of the WHO expert committee on comprehensive school health education and promotion.

Wyorks, Z. B. (2014). Health care in the early years. Lagos: National Open University of Nigeria (NOUN), P. 113.