

Boarder-Focus-Challenges of School Feeding Service in Edo State: Implications for School Health Education

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Abstract. It is the responsibility of school authorities that have boarding system to promote the health and avoid malnutrition of their learners through adequate school feeding service. It is a common reality that some boarding schools hardly meet these standards. The study, therefore, assessed the challenges of school feeding services in Edo State by determining boarders' level of preference of school food, among other variables. Five research questions and one hypothesis were assessed by the study. The study was descriptive and from a population of 1755 secondary school boarders, 317 of them were randomly selected as sample for the study. A validated self-structured Challenge of School Feeding Service (Boarders) Questionnaire (CSFSQ) with a reliability coefficient of 0.73 was used to collect data from the respondents. Results showed that private and public secondary school boarders have low preference for school meals because food is improperly cooked and not tasty, does not contain all classes of food, is sometimes served late and kitchen store/dining hall is not always clean, the quantity of food is poor, cooks sometimes do not wear aprons or headgears and their fingers or skin are unkempt. It was recommended, based on findings that food handling guidelines covering personal cleanliness, preparation, storage and serving of meals be provided to each food vendor while equally displaying same in the central kitchen.

Keywords: boarder; challenges; school; feeding; service; school; health; education

1. Introduction

One way of promoting health and overcoming malnourishment among learners is through school feeding service. Therefore, schools can offer these interventions by promoting overall physiological,

psychosocial, and socioeconomic developments of pupils and students through advancing healthy eating and adequate nutrient intake in school feeding service among them. In schools, occupies a unique position of procuring and providing varieties of foods and beverages can be procured and provided to learners.

Edo State government has obviously not been able to deliver feeding service in all primary and secondary school systems in the State. Little efforts have been advanced by the government in few of her-owned secondary schools. In the schools, school fees covering feeding and other education costs are paid by parents/guardians for their children or wards while the government subsidizes these costs.

By way of regulating what school-aged children and adolescents eat in Nigeria the Dietary Guidelines Advisory Committee (2010) recommended dietary guidelines for them. For school-aged children (6-11 years) and adolescents (12-18 years) a rich, adequate meal containing in a variety of foods and energy diets, good quality snacks and fruits including citrus should be consumed (Dietary Guidelines Advisory Committee, 2010). The committee added that less consumption of sugary snacks, and animal foods should be encouraged; efforts should be made not to replace pastry/carbonated drinks with main meals and females should eat meat, poultry, fish, cereals, legumes for iron. These guidelines are one pointer to an effective school feeding service. Yet, many school learners including boarders tend to experience hunger, energy imbalance, low BMI, lice on heads, skin rashes, poor visual and hearing acuity, lip and tongue sores, lung esophageal, stomach colorectal, weight gain, weight loss, dental caries, and obesity which could probably be due to reduced and/or increased food intake, and poor dietary quality.

Furthermore, some boarders are undernourished with signs of looking pale, attend class less frequently or even find themselves at home or in sick bays. As a result of these, cognitive development and school performance decline. Out of hunger some boarders sneak to purchase beverages and snacks which they conceal in their corners. Though, hunger is relative, it is well known that chronic hunger is deadly as it is one of the causes of morbidity and mortality among school learners. Evidence have captured the nutritional status of boarding and non-boarding children in selected schools in Accra Metropolis, nutritional status of in-school adolescents in Ekiti State, and the evaluation of food safety in boarding schools in Zaria (Oranusi, Galadima, Umoh & Nwanze, 2007), but little or none is known about the challenges of school feeding service among boarders in Edo State, Nigeria. Such effort will recommend efficient health and nutrition-related school policies that would mitigate the elapses in school feeding operation in Edo State. Such results could be used as strategies of intervention by caretakers, school authorities and the government to monitor and correct elapses in school feeding service. It is therefore, a necessary priority to assess the challenges of existing feeding service among boarders in selected secondary schools in Edo State.

2. Research Questions

- What is the level of preference of school meals by private and public boarders in Edo State?
- What challenges do private and public school boarders, who do not prefer school meals, face with the feeding service of their school in Edo State?
- What is the level of challenges faced by boarders who pay higher and lower amount of fees each term?
- Is the amount of fees paid per term related to the level of challenges faced by the boarders?
- What other challenges do the boarders face with school feeding service?

3. Hypotheses

The amount of fees paid each term is not significantly related to the levels of challenges faced by the boarders.

4. Research Methodology

The quantitative technique of non-experimental descriptive survey was used to collect numerical data for answering the research questions and testing stated hypotheses on the challenges of school feeding service in selected boarding secondary schools in Edo State. The one thousand seven hundred and fifty five (1755) boarders in one public and one private boarding secondary schools during the 2017/2018 academic session in Edo State constituted the population of the study (Offices of the Principal, 2018). A sample size of three hundred and seventeen (317) boarders was randomly selected through balloting with replacement across all classes in the schools. The sample size is appropriate owing to Krejcie and Morgan's position that a population of 1800 can use a sample of 317 (Kenya Projects Organization, 2016). The population 1755 of the study is appropriate as it was approximated to 1800 and hence the 317 respondents.

The Challenge of School Feeding Service (Boarders) Questionnaire (CSFSQ), designed by the researchers, was used to collect data. The questionnaire had two sections. The Section A assessed the bio data of the respondents such as their 'ownership of school', and 'amount of fees paid per term'. The Section B had 'yes' and 'no' response option, identification of challenges from a list and stating other challenges not specified in the list. Finally, the test retest method was used to check the reliability internal of the CSFSQ and a reliability coefficient (r) value of 0.73 was obtained and this was considered high enough for the study.

Data were analyzed using descriptive statistics of frequency counts and percentages. Inferential statistic of chi-square was used to test the hypotheses at 0.05 level of significance.

For the 'level of preference', scoring was done assigning '1' to 'yes' and '0' to 'no'. Percentages < 50% was qualified as 'high level of preference' while $\geq 50\%$ was classified as 'low level of preference'. For the 'level of challenges', scoring was done by assigning '1' to 'low', '2' to 'moderate' and '3' to 'severe' for respondents that identified one or two, three or four and at least five challenges respectively. For other faced by the boarders, < 26%, (26-50)% and > 50% were remarked as minor, mild and major problems respectively.

5. Results

Table 1: Level of preference of school meals by private and public boarders in Edo State

School ownership	Yes (%)	No (%)	Total (%)	Level of preference
Private	12 (7.69)	144 (*92.31)	156 (100)	Low
Public	14 (8.70)	147 (*91.30)	161 (100)	Low
Total	26 (8.20)	291 (*91.80)	317 (100)	Low

Key: *percentage of decision

Data in Table 1 show the level of preference of school meals by private and public boarders in Edo State. Precisely, 92.31% of the private boarders indicated that if they had a choice, they would not eat school meals. Similarly, 91.30% of the public boarders noted that if they had a choice, they would not prefer school meals. With an overall 91.80%, private and public boarders have low level of preference of school meals in Edo State.

Table 2: Challenges/Reasons for not eating school meals by private and public boarders in Edo State

Challenge (N per item)	Private	Public	Total (%)
	Freq. (%)	Freq. (%)	
Food, sometimes not tasty	122 (41.9)	169 (*58.1)	291 (100)
Food, sometimes not properly cooked	221 (*75.9)	70 (24.1)	291 (100)
Fingers/skin of cooks unkempt	96 (33.0)	195 (*67.0)	291 (100)
Cooks, sometimes do not wear aprons/headgears	55 (18.9)	236 (*81.1)	291 (100)
Meal, not containing all classes of food	225 (*77.3)	66 (22.7)	291 (100)
Food, sometimes served late	203 (*69.8)	88 (30.2)	291 (100)
Quantity of food, poor	141 (48.5)	150 (*51.5)	291 (100)
Kitchen store/dining hall, not always clean	146 (*50.2)	145 (49.8)	291 (100)
Others	160 (*55.0)	131 (45.0)	291 (100)

Key: *percentage of decision

Table 2 reflects data of the challenges/reasons why private and public boarders, who do not prefer eating school meals, detest not eating school meals in Edo State. Precisely, 75.9% of the private boarders indicated that the food is sometimes not properly cooked. Again, 77.3% and 69.8% of them noted that the meal does not contain all classes of food and it is sometimes served late respectively. About 50.2% of them noted that kitchen store/dining hall is not always clean. Private school boarders prefer not eating school meals because the food is sometimes not properly cooked, does not contain all classes of food, is sometimes served late and kitchen store/dining hall is not always clean. Conversely, 58.1% and 67.0% public boarders indicated that the food is sometimes not tasty and the fingers or skin of the cooks are unkempt. The public boarders also reflected that the cooks sometimes do not wear aprons or headgears and the quantity of food is poor as reflected by the 81.1% and 51.5% of them respectively. Public school boarders prefer not eating school meals because the food is sometimes not tasty, the quantity of food is poor, cooks sometimes do not wear aprons or headgears and their fingers or skin are unkempt.

Table 3: Chi-square analysis of the level of challenges faced by boarders who pay higher and lower amount of fees each term

Amount of fees paid	Low	Moderate	Severe	Total	Chi-square	df	Asymptotic sig. (2-sided)
	Fo (Fe)	Fo (Fe)	Fo (Fe)				
≥162000 (Private)	15 (16.3)	27 (28.2)	102 (99.5)	144	.445	2	.801
<162000 (Public)	18 (16.7)	30 (28.8)	99 (101.5)	147			
Total	33	57	201	291			

Data in Table 3 show the chi-square analysis of the level of challenges faced by boarders who pay higher and lower amount of fees each term. The chi-square test revealed that the amount of fees paid per term is insignificantly related to the level of challenges faced by the boarders (chi-square = .445, df = 2, p > .801). The hypothesis that the amount of fees paid each term is not significantly related to the level of challenges faced by the boarders is, therefore, retained. Hence, amount of fees paid each term is not significantly related to the level of challenges faced by the boarders in Edo State.

Table 4: Other challenges faced by boarders

Other challenges faced	Private (Freq. per 160)	Public (Freq. per 131)	Remark
	Frequency (%)	Frequency (%)	
Too much/lack/insufficient spices/seasoning	13 (8.13)	1 (0.76)	Minor problem
Sour food	8 (5.0)	-	Minor problem
Favouritism in food serving	5 (3.13)	-	Minor problem

Fed well towards vacation/visitation of parents	2 (1.25)	-	Minor problem
Seizure of food/kneeling as punishment	9 (5.63)	-	Minor problem
Snacks or beverages served, dissatisfying	12 (7.5)	-	Minor problem
No enough time to eat	1 (0.63)	-	Minor problem
Stones, insects or too much water in beans, rice, soup, spaghetti or tea	27 (16.88)	2 (1.53)	Minor problem
Lack of provision	15 (9.38)	9 (6.87)	Minor problem
Food time table containing more carbohydrate	7 (4.38)	-	Minor problem
Irritating food	1 (0.63)	-	Minor problem
No enough serving plates	1 (0.63)	-	Minor problem
Improperly washed plates, pots or utensils	3 (1.88)	-	Minor problem
Lack/insufficient/inadequate fruits	3 (1.88)	2 (1.53)	Minor problem
Not allowed to pluck fruits to augment for fruits	3 (1.88)	-	Minor problem
Sweat enters eba while pounding	1 (0.63)	-	Minor problem
Cold food	1 (0.63)	-	Minor problem
Too small meat	-	1 (0.76)	Minor problem
Old women as cooks	-	1 (0.76)	Minor problem

Table 4 shows data of other challenges faced by boarders. In the private school, the highest percentage of 16.88% was recorded of boarders who noted that stones, insects or too much water was in the beans, rice, soup, spaghetti or tea served to them. The least percentage of 0.63% each was indicated by private boarders who noted that there is no enough time to eat, food is irritating, no enough serving plates, sweat enters eba while pounding and cold food is served. In the public school, the highest percentage of 6.87% was noted of boarders who advocated for provisions from parents or caregivers. The least percentage was also recorded of public boarders who noted too much, lack/sufficient seasoning or spices, too small piece of meat and the use of old women as cooks. In both private and public schools, other challenges indicated were all minor problems.

6. Discussion of findings

Results showed that private and public boarders have low level of preference for school meals in Edo State. The result could likely be that individuals differ in their taste and liken for food and other products. One or more of these reasons can make people detest eating some meals including culture, health reasons, personal choices, cleanliness of the handler and his/her preparation habits, preparation or serving area, storage, appearance of food, improperly or poorly cooked food, mixing of cooked food with stones, insects and other items, too much salt or other seasoning in food, and tastelessness of food. Despite these reasons, private and public school boarders have no alternative than to consume what is presented before them. That is why boarders' low

level of preference for school meals is ascribed to the results in the next paragraph.

Findings also revealed that private school boarders prefer not eating school meals because the food is sometimes not properly cooked, does not contain all classes of food, is sometimes served late and kitchen store/dining hall is not always clean. In addition, public school boarders prefer not eating school meals because the food is sometimes not tasty, the quantity of food is poor, cooks sometimes do not wear aprons or headgears and their fingers or skin are unkempt.

Results also showed that the amount of fees paid each term is not significantly related to the level of challenges faced by the boarders in Edo State. Government-sponsored and private-sponsored school feeding programme potentially experience similar challenges as far as the feeding operation is concerned. As a result of the feeding programme sponsorship, result is inversely related to lack/insufficient/unpredictable and complex funding for sustainability and efficiency of school feeding programme including the provision of low cost nutritious meals in India, Kenya, Ghana, South Africa, Rwanda, Namibia, Senegal, and Malawi (Wentzel-Viljoen, 2003; Council for Social Development, 2010; Buhl, 2010; Esiet, 2011; Giyose, Muita, Ikiara, Godia, Songa, Wefwafwa, & Kabaluapa, 2011; McConnell, Garnett & Mukashyaka, 2011; Burbano de Lara, Salvador, Mafule, Eotich & Toure, 2011; Namibia Ministry of Education, 2012).

Finally, results showed that in both private and public schools, other challenges indicated were all minor

including among others stones, insects or too much water in the beans, rice, soup, spaghetti or tea; lack of provision; too much/lack/insufficient spices/seasoning and lack/insufficient/inadequate fruits. Challenges of this nature are common with cooked food both at home and outside the home. This is because, perfect foods can sometimes be rare to find. Where these become too regular, a problem ensues that warrants attention.

7. Recommendations

Based on the findings, the following were recommended:

- that food handling guidelines covering personal cleanliness, preparation, storage and serving of meals be provided to each food vendor while equally displaying same in the central kitchen;
- that Meal Time Table be reviewed every year to correct for identified lapses especially in the culture of the boarders; and
- that food vendors undergo regular training and retraining to keep them abreast with what constitute an adequate meal, proper use of seasoning, cooking and avoidance of contact between raw or cooked food with other objects, and insects.

8. Implications for School Health Education

Students in boarding secondary schools are not only emotionally separated from their parents or guidance, but physically separated from them. School feeding happens to be part of their physical wellbeing. For school food to appeal to boarders and improve their health and nutritional statuses, the following are needed:

- that food be properly cooked in order to ease digestion and destroy some food borne pathogens likely impair health in school;
- that school food be adequate enough to include carbohydrate, protein, fats, water, fresh fruits and leafy vegetables. At least two portions of fruits are needed for students to build resistance against disease-causing organisms;
- that food preparation areas be clean always with constant running water. With this, occasions of cholera or diarrhea will be contained
- that school food be tasty to call for attraction for consumption;
- food vendors be well-groomed and properly dressed with headgears, and facemasks to

prevent food-poisoning by bacteria or viruses.

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