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School Feeding Programme on Cognitive Functioning of Primary School Children among Some Selected Schools in Kaduna State, Nigeria

Michael Olugbenga

Teacher, Department of Education, National Open University of Nigeria, Nigeria

Abstract:

The study investigated school feeding programme on the health of primary school children in Kaduna state, Nigeria. It also examined the impact of the programme on the academic performance of the children in schools where school feeding programme is in operation and where it is not. The survey method was used to gather information. The simple sampling was used to select subjects. The research subjects were 100 pupils from primary 4- 6 drawn from some primary schools, randomly selected from 10 local government areas of Kaduna state. Two instruments were designed by the researcher and used for this study. The reliability of the instrument was done using the split – half method. Data were analyzed using simple percentage. The analysis revealed that the type of food served in school, the number of time children are served food, availability of food vendors are pointers to improved health while in school. From the hypotheses tested, the result showed that there was significant difference in schools where school feeding is in operation than schools that don't practice the programme. Therefore, it is necessary that government should ensure that school feeding programme is introduced in all schools and there should be proper monitoring in schools where the programme is already in operation.

Keywords: School feeding, health, academic performance, behaviour

1. Introduction

Good nutrition dictates how well a child performs in school. Children who lack certain nutrients in their diet [particularly iron and iodine], or who suffer from protein – energy malnutrition, hunger, infections or other dietary imbalance, do not have the same potentials for learning as healthy and well-nourished children [Pollitt, 2008].

Ill health and poor nutrition among school age children decreases their cognitive development either through physiological changes or by reducing their ability to participate in learning experience or both [Baird et al 2011].

Cook L 2012 pointed out those children with decreased abilities and sensory impairment naturally perform less well and are more likely to repeat grades and to drop out of school than children who are not impaired.

According to Steward [2007], irregular school attendance of malnourished and unhealthy children is one of the key factors in poor performance. Even temporary hunger common in children who are not fed before going to school can have an adverse effect on learning. Motunrayo [2009] also stated that children who are hungry have more difficulty concentrating and performing complex task, even if otherwise well nourished.

1.1. Statement of the Problem

The importance of food to man especially in children cannot be overemphasized. The value of food is not basically for physical growth alone but also for cognitive functioning of participating children. Children from poor homes are usually malnourished and lead to poor concentration, self-esteem, low energy and poor performance in school.

However, the observed existing poor performance among school children in Kaduna state could be attributed greatly to malnutrition. This study concern itself to understand nutrition status on the health of the school children.

1.2. Purpose

To understand the objectives of this study the following are the main objectives

- Examine if the pupils eat breakfast before they go to school
- Determine the extent of comprehension in class without food.
- Identify pupils' participation in class when they are fed.

1.3. Research Question

Following section represents the major research questions which can be answered from this study

- How has school feeding programme influence pupils retention
- How has the programme influence enrolment in schools

2. Malnutrition and Poverty on Cognitive Functioning

According to Snowman [2011], children who are malnourished or experiencing short term hunger have limited capacities to learn, poor nutrition can cause attention deficits, sensory impairment and poor attendance. She further stated that 300 million children worldwide and approximately half of Nigerian children thus have a reduced capacity to learn and may not be attending school because of malnutrition or temporary hunger. It was further revealed that schools where learners are fed meals or snacks during the midday at school is a way to reduce short term hunger and improve the nutrition of children so that they are better able to concentrate, understand and perform academically[Morrison,2009]. Ariyo 2018 reported that inadequate nutrition among school children can occur for a variety of reasons such as parents unable to ensure that breakfast is consumed due to schedules, children skipping breakfast or meals in an effort to conform to socially acceptable standards of body image, children missing some meals due to extracurricular activities before school.

3. Importance of Breakfast and Midday Meal to Cognitive Functioning and Health

Mathew2010 reported that the breakfast and midday meal are important to learning, memory and physical wellbeing in both children and adult. The importance of breakfast and midday meal include

- The ability to recall and use newly – acquired information, verbal fluency and control of attendance is enhanced
- Breakfast and midday meal are beneficial to nutrients intake, school attendance and academic performance
- It helps children in selection of critical information for problem solving more than their peers who skip breakfast and midday meal

The value of school feeding programme is not limited to the improvement in the cognitive functioning of participating children alone it is also linked to fewer classroom disruption, increased attendance and improved classroom behaviour. Jayson, 2006.

Hietman [2008] agreed that the programme has positive influence on the school day and also improve classroom behaviour, school attendance, tardiness and readiness to learn.

3.1. How School Feeding Programmes Can Improve Education Quality and Efficiency

School feeding programme are one of several interventions that can address some of the nutrition and health problems, the programme can also motivate parents to enroll their children in schools and to see that they attend regularly. Morrison 2009 stated that experience has shown that with proper implementation and monitoring of the programme can:

- Alleviate short term hunger- in malnourished or otherwise well-nourished school children. This increases the attention and concentration of pupils enhancing cognitive function and learning.
- Motivate parents to enroll their children in school and have them attend regularly.
- Address specific micro nutrients deficiencies in school age nutrients like iron that affects cognition.
- Increase community involvement in schools especially schools that are strongly supporting the programme.

4. Theoretical framework

4.1. Theory of Needs by Abraham Maslow

Maslow proposed a theory of needs based on a hierarchical model. The theory is basically from the least to the top. The lesser needs must be achieved which may transcend to the top. Maslow describes the body for physiological need for food especially for the provision of essential nutrients. Mark A.2012 stated in his work that in contrast to the directive authority of food, achievement is among the least potent of needs. According to Maslow's hierarchy, the need or desire for achievement will not drive a person's thoughts and behaviours until needs on the lower levels have been satisfied.

As a result, the cognitive processes and behaviour related the superior needs on the hierarchy cannot be achieved; excellent performance cannot be achieved by student whose needs are not met. Maslow hierarchy of needs explicitly describes the relationship between food and learning; it also generates questions like what must be consumed to improve physiological needs? What diets meets basic needs and do people surpass basic needs?

His work actually provided a structure for understanding a link between food and academic performance and clearly shows that a child who has not been provided with lower layer of needs cannot actually get the superior layer.

4.2. Methodology

The study seeks to find out the extent at which school feeding programme improves health status of the pupils in Kaduna state.

4.2.1. Participants

Participants were 100 children from primary 4 – 6[54 boys and 46 girls] in various primary schools in Kaduna state. Permission was taken from the school authorities and also from their parents.

4.2.2. Procedure

Participants were provided with very easy going questions and the questionnaire were completed with the help of a class teacher.

4.2.3. Target Population

The target for the population for the study was 100 upper primary school pupils selected from 10 different schools across the 23 local government areas.

4.2.4. Research Instrument

The researcher administered questionnaires personally with the help of their class teachers to obtain information from all selected respondents. This instrument is used to gather large data. It also gives respondents freedom to express their views and make suggestion. The questionnaire was divided into two parts, the first part was used to gather demographic data such as age, sex, and class etc. second part was to gather the place of school feeding programme on the health of primary school children.

4.3. Data Analysis

The researcher edited the retrieved questionnaires and identifies those wrongly entered, bad hand writing and spelling errors. Descriptive statistical tools such as frequency, simple percentage and mean were used to analyze the response.

Boys	Girls
54%	46%

Table 1: Pupils by Gender

4.3.1. Age of Students

The students were asked to indicate their age in order to find out their age bracket. The findings are presented in table 2.

Age	Frequency	Percentage
8-9	36	61%
10-11	23	39%
Total	59	100%

Table 2: Ages of Students

Data in table 2 reveals that majority were aged between 8 and 9 years, while the rest were 10 and 9.

4.3.2. Analysis of Research Questions

Data presented in this section was as a result of analyzing the research questions which was set to help attain research objectives. The research questions are restated and evidence pointed to their testing as presented in the subsection that follows.

Items	SA	A	D	TOTAL
Breakfast is the most important meal of the day	94% [n= 47]	6% [n= 3]	0%	100%
Hunger causes distraction and sleep in class	80% [n= 40]	18% [n= 9]	2% [n=1]	100%
I understand what I'm taught when I'm not hungry.	90% [n= 45]	10% [n= 5]	0%	100%
I lose concentration in class when I'm in class	89% [n= 44.5]	10% [n= 5]	1% [n= 0.5]	100%
Provision of midday help reduce hunger	84% [n= 42]	10% [n= 5]	6% [n=3]	100%

Table 3: The Impact of School Feeding Programme on the Cognition

The data reveals that 94% of the students strongly agree that breakfast is an important meal throughout the day, 6% agree and 0% disagrees. 80% strongly agreed that hunger causes distraction in class, 18% agreed and 2% disagreed. 90% of the respondent strongly agreed that they understand what they are taught when they are not hungry, 10% agreed

and 0% disagreed. 89% strongly agreed they lose concentration when they are hungry, 10% agreed and 1% disagreed. 84% of the respondents strongly agreed that provision of midday meals in school reduce hunger while in school, 10% agreed and 6% disagreed.

5. Discussion of the Findings

The findings revealed that pupils with who ate breakfast to school perform better in school and those who don't eat breakfast may find it difficult to compromise mathematics, reading ability, late morning problem solving task and poor behaviour. The study also revealed that schools where school feeding is in operation there is less truancy, concentration in class is high and distraction in class is reduced.

6. Conclusion

The study revealed that school feeding programme helps to improve cognition of pupils and also help improve behaviour of students while in school.

The study also found out that inadequate feeding brings about poor behaviour, low self -esteem, infection and poor performance in school.

7. Recommendation

The researcher made the following recommendation

- Government should ensure that the meals served in public schools are highly nutritious
- In schools where school feeding is in operation there should be close monitoring of the meals served.
- Parents should ensure that their children eat breakfast before going to school.

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