

COMPARATIVE STUDY OF BREAKFAST INTAKE AMONG SCHOOL CHILDREN IN URBAN AND RURAL AREAS OF NSUKKA

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ABSTRACT

A comparative study of the breakfast intake of school children between the ages of 10-12 years in Nsukka urban and rural areas was investigated. Sixty urban and thirty rural school children were randomly selected from three primary schools. Data was collected using a structured; pre tested and validated questionnaire which was analysed using statistical package for social science (SPSS) and descriptive statistics (frequency distribution and percentages). Chi-square analysis was also used to compare the breakfast intake of these school children in the urban and rural areas. The result of the study showed a higher breakfast consumption of children in the rural than the urban areas though the result was not statistically significant. The percentage distribution showed that 90% of the rural children took breakfast compared to the 78.3% of the urban school children while 10% and 21.7% of the rural and urban children respectively did not consume breakfast. The factors that contributed to the rural children not taking breakfast include unavailability of food, and not being hungry. In the urban area the factors that affect breakfast intake include lack of time, not being hungry and unavailability of food. However, there was a significant difference ($P < 0.05$) in the availability of food in rural homes and the quantity of food purchased in the market compared to the urban dwellers. The rural dwellers had more food in their homes and purchased less food in the market. Poverty was implicated as the major cause of low breakfast intake. Other factors that affected breakfast intake were family size, occupation of the head of the house hold and educational level.

Keywords: Breakfast intake, Rural, Urban, School Children, Factors

INTRODUCTION

Breakfast is considered the most important meal of the day (Marika, 2003), it is described as the first meal of the day that breaks the fast that had been on for over twelve to fourteen hours (Wayon *et al.*, 1997). Without a breakfast meal there is the possibility of low blood glucose levels (hypoglycaemia) and low metabolic rate, irritability and fatigue (Marika, 2003). The quality of the breakfast is important as the nutritional status of a child can be affected as well as the physical and mental growth, health and general well being of the child.

Breakfast is important in the health of children as the body is low in energy reserve and there is a need for the breakfast meal to provide the energy needed for the day. Breakfast provide 25% of the daily nutrient requirement in children (Gibson and O'Sullivan, 1995). Consumption of breakfast enables children to achieve in school work as it is high in carbohydrate provides glucose which is the preferred

source of energy for the brain (Furman and Noli, 1993). Studies have shown that breakfast meal is associated with improved strength and endurance in the late morning as well as better attitude towards school work (Murphy, 1998). Sustained mental work requires blood glucose and its metabolic components which are obtained from the first meal of the day (Marika, 2003). The consumption of breakfast by children prevents adverse reaction like irritability, fighting and fatigue (Murphy, 1998).

Despite the definite advantage of breakfast in children, studies have shown that there has been a consistent decline in the breakfast consumption of children in both the developing and the Western world (Rampersand and Pereira, 2005). These authors reported a decline in the breakfast consumption since the mid 1960s and the situation is getting worse with increase in urbanization in the developing world and the busy life style of parents that accompanies it. The skip of breakfast on regular basis affect the nutrient requirement of children, precipitates malnutrition leading to poor physical and

mental growth, health problems such as frequent colds and infections due to decrease immunity (Marika, 2003).

This study was therefore designed to compare the breakfast consumption of school children in urban and rural areas of Nsukka and determine their reasons for not taking breakfast.

MATERIALS AND METHODS

A cross-sectional study was conducted in urban and rural areas of Nsukka in Enugu State. Ninety children between the ages of 10 – 12 years, consisting of 60 children from the urban area and 30 rural children were studied. Information on breakfast consumption of these children was obtained with the use structured validated questionnaire. This study lasted for period of 12months.

Data Analysis: The data were analysed using the statistical package for social science (SPSS). Descriptive statistics (frequency distribution, percentages), were used to analyze the data. Chi-square analyses were used to compare the variables.

RESULTS

The result showed that 60 % of the children lived in the urban areas and 40 % were rural dwellers. In the urban area 60 % of the children were 12 years above and the remaining 40 % were between 10 – 11 years. The children that lived in the rural area, 26.7 % of them were 12years and above while 73.3 % were between the ages of 10 – 11 years. In the urban area 76.6 % of the households had fathers as the head of the house hold and 16.7% of the household had mothers as family heads. In the rural areas 96.7% of the household heads were fathers while 3.3 % were mothers.

A significant number (60 %) of the family heads in the rural areas were farmers while 55 % of the urban fathers were civil servants (Table 1). There were more children (93.4 %) who were between the ages of 2 – 9 years in the urban areas compared to the rural who had 43.3 % of this age range.

A significant percentage of the urban dwellers (83 %) purchased most of their foods compared to the 33 % of the rural dwellers (Table 2). Break fast consumption by children in the rural and urban areas of Nsukka indicated that rural children had more breakfast (90 %) than their rural counterparts (78 %) (Table 3). The urban dwellers indicated that their reason for not taking breakfast were lack of time, unavailability of food and not being hungry. While the rural participants reported that

their reasons were no food and not being hungry. However more of the rural children (90 %) ate breakfast compared to 78 % in the urban (Table 4).

Food consumed as breakfast included bread and tea (14.8 % in rural and 36.2% in urban areas of Nsukka), beans (rural 25.8 %, urban 6.6 %), akara and pap (rural 14.8 %, urban 6.6 %), cornflakes/biscuits (0 % in rural and 8.3 % in urban), okpa (10.0 % in rural and 8.0 % in urban) and cooked meals (33.3 % in rural and 20.0 % in urban) (Table 5).

DISCUSSION

Breakfast intake and quality of food consumed is important to a child's nutritional status as it may affect the mental and physical development of children, as well as the health of the child (Dams and Metz, 2005). Malnutrition in all its forms remains a major problem in most developing countries of the world. Protein energy malnutrition with micronutrients deficiency is common in the developing countries (Egal and Lopriore, 2006). These authors indicated that this could be attributed to inappropriate diets in terms of quantity, quality and safety in both rural and urban areas. Skipping breakfast will affect a child's food quantity and the type of breakfast meal will affect the quality of the nutrient intake.

The result of the study showed that a higher percentage of the rural children (90 %) consumed breakfast compared to the 78 % in the urban area. In the rural area 10 % of the children did not take breakfast compared to the 21.7 % of the urban children. This could be attributed to availability of food that was higher in the rural families compared to the urban families. The rural families (66.7 %) cultivated food compared to the 16.7 % of the urban family that had some home produce but depended more on purchasing their food. Egal and Lopriore (2005) indicated that 90 % of the foods consumed in urban areas are mostly purchased. These authors showed that there might be problem of access as well as affordability as food is expensive in most urban areas. This may explain the high availability of food in the homes of the rural families; there was always food to prepare breakfast meals for the children.

The mothers in the rural areas were mainly housewives; they had more time to prepare cooked breakfast meals for the children before going to school. In the urban areas the mothers were mostly civil servants who had demanding jobs that kept them away from home. Furthermore the rural mothers utilized left over foods from the previous day's dinner as breakfast meals for their children.

Table 1: Occupation of family heads and family size in the rural and urban areas of Nsukka

Socio-Economic characteristic	Rural		Urban	
	Frequency	Percentage	Frequency	Percentage
Occupation of family heads				
Civil service	2	6.7	33	55.0
Trading	18	60.0	8	13.3
Farming	4	13.3	-	-
Teaching/lecturing	6	13.3	19	31.7
Total	30	100	60	100
Size of Family				
Age 2 – 6 years	6	20.0	31	51.7
Age 7-9 years	7	23.3	25	41.7
Age 10 years & above	17	56.7	4	6.7
Total	30	100	60	100

Table 2: Sources of food consumed by families in rural and urban areas of Nsukka

Sources of food	Rural		Urban	
	Frequency	Percentage	Frequency	Percentage
Partly home produce	20	66.7	10	16.7
Some purchased	-	-	-	-
Mostly purchased	10	33.3	50	83.3
Total	30	100	60	100

$$\chi^2 = 5.880; df = 1; p = 0.015$$

Table 3: Breakfast intake of rural and urban children

Breakfast intake	Rural		Urban	
	Frequency	Percentage	Frequency	Percentage
Children that ate breakfast	27	90	47	78.3
Children without breakfast	3	10	13	21.7
Total	30	100	60	100

$$\chi^2 = 34.109; df = 30; p = 0.277$$

Table 4: Reasons for not consuming breakfast in rural and urban areas of Nsukka

Reasons for lack of breakfast consumption	Rural		Urban	
	Frequency	Percentage	Frequency	Percentage
No food	2	6.7	4	6.7
No time	1	3.3	4	6.7
Not hungry	1	3.3	5	8.3
Those that consumed breakfast	27	90	47	78.3
Total	30	100	60	100

$$\chi^2 = 0.750; df = 1; p = 0.38$$

Table 5: Type of food consumed as breakfast by rural and urban children of Nsukka areas

Type of food	Rural		Urban	
	Frequency	Percentage	Frequency	Percentage
Bread and tea	4	14.8	17	36.2
Beans	7	25.8	4	6.6
Akara and pap	4	14.8	4	6.6
Cornflakes, processed food, biscuits	-	-	5	8.3
Okpa	3	10.0	5	8.0
Cooked meals	9	33.3	12	20.0
None	3	10.0	13	21.7
Total	30	100.0	60	100.0

$$\chi^2 = 34.109; df = 30; p = 0.277$$

On the contrary this is not the practice in the urban areas. Traditionally breakfast used to be a large meal eaten before school and designed to carry families through a large part of the day (Murphy, 1998).

Today this tradition is disregarded because people in urban areas are short of time and stay away from home for most of the day. Urban parents have resorted to giving their children processed food,

easily available foods (Egal and Lopriore, 2006). This in line with the result of the study that showed that urban mothers gave their children such foods as biscuit, cornflakes and indomie or street foods compared to the rural children who were given more of home made cooked food.

Conclusion: The rural children consumed breakfast more than the children in the urban area. Factors that were contributory to this result include food availability in the homes of rural dwellers. Other factors that affect breakfast intake were family size, occupation and of the heads of family and educational level. Studies have shown that regular skipping of breakfast precipitates many nutrient deficiencies as well poor physical and mental growth, malnutrition, health problems, low immunity and susceptibility to infections in children (Marika, 2003). It is therefore important that mothers be given public health education on the importance of breakfast intake and the detrimental effect of frequent skipping of breakfast.

REFERENCES

- DAMS, J. and METZL, J. D. (2000). School meals and education. *International Journal of Food Science and Nutrition*, 40: 6 – 14.
- EGAL, F. and LOPRIORE, C. (2006). Agriculture/Health Collaboration: The key to fighting malnutrition in all its forms. *Report of the Standing Committee on Nutrition, UN Geneva Switzerland*. 33: 15 – 17.
- FURMAN, D. E. and NOLI, P. M. (1983). Improving the learning and attitudes of elementary students: *A nutrition intervention. Madera, CA. ERIC Document Reproduction Services* No. 248001.
- GIBSON, A. and O'SULLIVAN, L. (1995). Breakfast cereal consumption patterns and nutrient intakes in British school children. *Journal of Royal Society of Health*, 115 (6): 366 – 370.
- MARIKA, S. (2003). Breakfast to learning. *Journal American Dietetic Association*, 51(2): 8 – 21.
- MURPHY, J. M. (1998). Cross-sectional and longitudinal observation in an inner-city school sample. *Archives of Pediatric and Adolescent Medicine*, 152: 899 – 907.
- RAMPERSAND, G. C., PEREIRA, M. A. (2005). Breakfast habits, nutritional status, body weight and academic performance in children and adolescents. *Journal of American Dietetic Association*, 105(5): 743 – 760.
- WAYON, D. P., HAINES, O. G. and CRAWLEY, C. (1997). An experimental study of the effects of energy intake at breakfast on test performance of 10 years children in school. *International Journal of Food Science and Nutrition*, 48: 5 – 12.