IMPACT OF NUTRITION EDUCATION ON THE HEALTH STATUS OF CHILDREN UNDER FIVE YEARS IN IKOM LOCAL GOVERNMENT AREA OF CROSS RIVER STATE.

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ABSTRACT
Nutrition education and extension has been recognized as one essential long term sustainable intervention to tackle the problem of malnutrition; generate awareness; and to promote the nutrition status of a community. Maternal education appears to influence child outcomes both at the community level and at the individual level. Communities with higher proportions of more educated women are likely to provide better sanitation and medical services and shared health knowledge within the community. The study explores the impact of nutrition education on the health status of children under five years in Ikom Local Government Area of Cross River State. In order to carryout a reliable study, four research questions were raised and four hypotheses were formulated to guide the study. The design adopted for the study was survey design. A total sample of one hundred and eighty (180) respondents were randomly selected for the study using simple random sampling technique. The questionnaire was the main instrument used for data collection. Test-retest method of reliability was used to estimate the reliability of the instrument. The statistical technique employed was chi-square. The findings of the study revealed that there is a significant relationship between level of awareness of the people and nutrition education; there is a significant relationship between the income level of the people and the acceptance of nutrition education; there is a significant relationship between the health status of the people and nutrition education and there is a significant relationship between the attitudes of the people toward nutrition education. The study concluded that reliable information on nutrition education was provided to the people in the study area. It was recommended that lactation mothers should always feed their children adequately with balanced diets in order to make them healthy especially during the first two years after delivery.

Key words: Nutrition Education, Health Status, Children, Malnutrition.

INTRODUCTION
The nutritional status of a child under five years is of great concern because of its contribution to child development. Globally, nutritional status is considered the best indicator of the well-being of young children and a parameter for monitoring progress towards the Millennium Development Goals (MDGs). Access to food, healthcare and education is recognized as a basic human right. This right is enshrined in the Millennium Development Goals (MDGs) through which all member states of the United Nations have committed themselves to attaining universal primary education and eradicating hunger. Despite the high profile given to education within this international agenda to eradicate poverty, UNICEF (2006) reports that in the poorest countries as many as 29% of boys and 35% of girls are out of primary school and 70% of boys and 74% of girls are out of secondary school. Malnutrition is one of the biggest health problems that the world currently faces and associated with more than 41% of the deaths that occur annually in children from 6 to 24 months of age in developing countries which total approximately 2.3 million (Stretcher, 1999). WHO (2002) reports that 54% of all childhood mortality was attributable, directly or indirectly to malnutrition. Feeding practices during infancy are critical for the growth, development and health of children during the first two years of life and of importance for the early prevention of chronic degenerative diseases (WHO, 1979). Progress in improving infant and young children feeding practices in the developing world has been remarkably slow due to several factors (Currais & Rivera, 2005). It is estimated that among children living in the 42 countries with 90% of global childhood deaths, a package of effective nutrition interventions could save 25% of childhood deaths each year (Kreuter & Farrell,

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2000). The survival risk of early childhood in Nigeria remains, considerable, since malnutrition increases the risk of infection and infectious diseases. In communities or areas that lack access to safe drinking water, these additional health risks present critical problems. In developing countries, many young children are subjected to a host of developmental risk factors that can lead to some children being excluded from education or enrolling late. These factors operate within a complex web. Poverty that limit children's ability to achieve their full intellectual potential and thus extend the human cost of poor health and nutrition beyond general measures of mortality and morbidity (Baker & Wardle, 2003). Weinstein (1999) points out that the cumulative threats to the health and nutritional status of young children from conception right through the preschool years lead to one third of all under five years old being stunted (that is, having low height for age), which is associated with poor cognitive development. It is also widely recognized that iron deficiency during infancy and the preschool period can affect cognitive development of malnourished children. However, the long term effects of these early threats are, less well understood, including the implications for school enrolment, drop-out and achievement. Even moderate iodine deficiency especially in pregnant women and infants, lower intelligent quotient by 10 to 15 points, show in the calculable potentials of a nation's development. The most visible and severe effects are disabling goiters, cretinism and dwarfism. The tragedy behind this lack of progress in child survival is that two thirds of the under five deaths could be avoided, since life-saving interventions are well known and can be implemented on a large scale even in settings where resources are constrained. Recent advances in theories and research in developmental effects of poverty and malnutrition show that under conditions of endemic poverty, adverse biophysical and socio-cultural factors do not operate as independent agents but interact and can be moderated by developmental stages, health, socio-cultural and economic conditions (Case, Fertig & Paxson, 2005). Das (2000) declares that there have not been comprehensive studies that have responded to these developments. He calls for more studies to follow children from birth to adulthood and measure the independent cumulative effects of poverty, poor health and malnutrition on intellectual development and education through the generally recognized developmental periods, across a variety of eco-cultural settings. It is on this premise that the researcher deemed it necessary to investigate on the impact of nutrition education on the health status of children under five years of age in Ikom Local Government Area of Cross River State as a way of proffering solution to the problem in the area.

STUDY AREA AND METHODS

The research area is Ikom Local Government Area of Cross River State. Ikom Local Government Area is in the Central Senatorial District of Cross River State. It is bounded in the North by Ogoja Local Government Area; in the West by Boki Local Government Area; in the South by Etung Local Government Area; and in the East by Obubra Local Government Area. Ikom Local Government Area has an estimated area of 1,816,926 square kilometers and a total of 2,800 number of households. It also has a population of 163,691, according to 2006 census figure (Federal Republic of Nigeria, Official Gazette, Abuja, 2009). Ikom Local Government Area is made up of 70 villages, 23 clans and 11 wards with the same cultural groups that make up the areas of Okuni, Ikom Town, and Akam though with different languages. Ejagham is the indigenous language which is spoken by the majority of the indigenes of the Local Government Area, while the language commonly used as the language of unification is pidgin. The cultural norms and practices existing among the groups are Ekpe society, Nkang and Nmonikin society. It has an organized traditional institution with clan heads, Ntols (Chiefs), traditional heads of town and villages and a paramount ruler. The area is a tropical region with a high annual rainfall. A majority of the population is involved in farming while others are civil servants and businessmen and businesswomen. Some of the institutions that are within the area are as follow: General Hospital and other private owned ones, Banks and Industries such as Cocoa industries and garri processing industries. The design adopted for this study was survey design. Its purpose was to find out if there is a relationship between nutrition education and its impact on the health status of children under 5years in selected villages in Ikom Local Government Area. The design was also adopted based on the fact that it can describe the characteristics of the population from the chosen sample. It involved the collection of data from the field and made inferences for broad generalization in order to arrive at a reasonable decision for the study. The study population of the research work comprises of adult households (male and female) from the selected villages. They were selected based on the fact that they can provide reliable information for the study. A total sample of 180 respondents was selected for the study comprising of 90 males and 90 females. The selection was carried out by using the simple random sampling technique based on selected villages which include, Akparabong town, Bendeghe, Afi village, Ikom Town, Nde, three corners, Okuni, Akam, Adijinkpor 1 & 2, Omin-dom village, Edor, Balep, Opu, Ofutop, Alok, Yala-Nkum, Ekpokpa, Okangha-Nkpansi, Okangha-Njumaya and Alesi village. The instrument adopted for the study was the questionnaire. It was

divided into two sections A and B. Section A provided information on personal data while section B sought to provide information on a two-point scale (yes and no) with 26 items. To ensure the validity of the instrument, it was constructed with simple words, and then presented to experts in the department for vetting. It was further presented to the supervisor for screening and later gave it face and content validity before the use of the instrument. The reliability estimate of the instrument was determined through the test-retest method of reliability. The instrument was administered twice on the same subjects within an interval of two weeks between the first and second test. The coded scores for the instrument response in the two tests were correlated using Pearson Product Moment Correlation Analysis. The reliability co-efficient range from 0. 65 to 0.78. The statistical test employed for the study was Chi-square.

RESULT
HYPOTHESIS ONE
There is no significant relationship between level of awareness of the people and Nutrition Education.
TABLE 1: Shows response on the relationship between level of awareness of the people and nutrition education.

Level of awareness	Nutrition education		Total
	Adequate	Inadequate	
High	145	20	165
Low	9	6	15
Total	154	26	180

*Significant at 0.05 level, X2 3.841, df = 1

Table 1 above shows the relationship between level of awareness of the people and nutrition education which indicates a positive relationship; since the calculated chi-square ($X2$) value of 4.29 is greater than critical chi-square ($X2$) value of 3.841, thereby rejecting the null hypothesis earlier stated. This means that there is a significant relationship between the level of awareness of the people and nutrition education.

HYPOTHESIS TWO
There is no significant relationship between income level of the people and the level of acceptance of nutrition education.
TABLE 2: Shows responses on the relationship between income level of the people and acceptance of nutrition education.

Income level of the people	Acceptance of nutrition education		Total
	Adequate	Inadequate	
High	150	10	160
Low	12	8	20
Total	162	18	180

*Significant at 0.05 level, X2 3.841, df = 1

Table 2 Shows the relationship between income level of the people and acceptance of nutrition education which indicates a significant relationship; since the calculated chi-square ($X2$) value of 22.5 is greater than critical chi-square ($X2$) value of 3.841, thereby rejecting the null hypothesis earlier stated.

HYPOTHESIS THREE
There is no significant relationship between health status of the people and nutrition education.
TABLE 3: Shows responses on the relationship between the health status of the people and nutrition education.

Health status of the people	Nutrition education		Total
	Adequate	Inadequate	
High	145	25	170
Low	3	7	10
Total	148	32	180

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*Significant at 0.05 level, X2 3.841, df = 1
Table 3 shows the relationship between the health status of the people and nutrition education which indicates a positive relationship; since the calculated chi-square (X2) value of 19.5 is greater than the critical chi-square (X2) value of 3.841, thereby rejecting the null hypothesis earlier stated. This means that the result is significant.

HYPOTHESIS FOUR
There is no significant relationship between the attitudes of the people towards Nutrition Education.
TABLE 4: Shows responses on the relationship between the attitude of the people towards nutrition education.

Attitude of the people	Nutrition education		Total
	Adequate	Inadequate	
Positive	155	15	170
Negative	2	8	10
Total	157	23	180

*Significant at 0.05 level, X2 3.841, df = 1
Table 4 shows the relationship between the attitude of the people and nutrition education which indicates a positive relationship; since the calculated chi-square (X2) value of 42.9 is greater than the critical chi-square (X2) value of 3.841, thereby rejecting the null hypothesis earlier stated. This means that there is a high degree of correlation existing between the attitudes of the people towards nutrition education.
the Ho is rejected, this means that there is a high degree of correlation existing between the attitudes of the people towards Nutrition Education.

DISCUSSION
The research is aimed at examining the impact of nutrition education on the health status of children under five years in Ikom Local Government Area of Cross River State. The finding of the study from hypothesis one revealed that there is a significant relationship between the level of awareness of the people and nutrition education. This means that the level of awareness of the people influences the acceptance of nutrition education in the area. That is to say that, increased nutrition education will help parents to choose a healthy diet through the establishment of positive dietary practices and habits. This finding is in line with Fiona (2004) who asserts that nutritional status of children at early stage of life can be influenced through the creation of awareness so as to enable mothers gain nutritional knowledge on how to feed their children. Also, Goodman (2005) opines that education of the people in the community to accept nutrition education can be achieved through the provision of educational strategies such as increased health awareness and skill building policy on nutrition should be adopted on the basis guiding individuals on the collective behaviors of mothers in the society. He added that health friendly policies designed to encourage nutrition education are helpful thus discouraging unhealthy
actions. Dixey (2001) also opines that nutrition educational strategies include efforts to increase health awareness, communication and skill building so as to promote healthy behaviours among parents in the society.
The finding in respect to hypothesis two revealed that there is a significant relationship between income level of the people and the acceptance of nutrition education. This finding is in support of Curries and Moretti (2005) who observe that, parent's socio-economic status has a great impact on child health since it determines the availability of resources dedicated to nutrition of children and the possibility of their medical care. Also, Adams and Madhavan (2002) are of the opinion that socio-economic status of parents have a great influence on the healthy behavior of children under five years, since higher levels of income are correlated with better housing conditions, households with better latrine facilities and low contraction of diseases in the environment. Baker and Wardle (2003) also states that socio-economic status in the family is quantified by two additive indices measuring household environment and household wealth, each ranging from 0-4. The finding of hypothesis three revealed that there is a significant relationship between the health status of the people and nutrition education. This finding is in line with Galal (2005) who opines that children's access to education and to learning is affected by the availability and quality of schooling and child's inheritance characteristics such as parents' aptitude, motivation and behavior, which can be negatively affected by poor health and nutritional status. Defo (1997) is of the opinion that people in Africa especially Nigeria, are not concerned with nutrition education, rather they believe in the concept "anything goes" which invariably affected their children' health status since they

consumed poor quality diets with low vitamins. Also, Drewnoski and Hann (1999) stress that the educational level of mothers was positively related to the better nutritional status of children in the family as compared to those who do not have nutrition education. The finding of hypothesis four revealed that there is a significant relationship between the attitude of the people and nutrition education. This finding is in support of Ajzen and Fishbein (2001) who state that attitudes are very predictive of behavior overtime, because they are relatively stable and thus exert consistent force on behavioral decisions which may have either a positive or negative influence on acceptance of nutrition education in the environment where man dwells. Also, Decastro and Bellisle (2000), opine that nutrition knowledge influences peoples' attitudes toward food consumption which may impact positively on the nutritional status of children.

CONCLUSION

Many factors affect the health status of children, among which are malnutrition, poverty, poor environmental sanitation, ignorance and a host of others. Nutrition education has played an important role in controlling the effect of poor nutritional status of children in our society. Awareness is basically an important factor required by parents and caregivers for the improvement of the diets administered to children. The major areas of concern on awareness is that of the various practices by parents such as adequate breastfeeding of their young ones. The Health Status of the people and children is a very important indicator that requires adequate nutritional education which must be passed to the people in their homes and community. The need for the health practitioners such as the dietitians to enlighten parents on the need for the consumption of vegetables, fruits and other food constituents that provide balance diets are necessary in order to enrich the nutritional status of children in the study area. The impact of nutrition education program is best evaluated by studying the changes in dietary practices. Such changes include increased consumption of identified local nutritious food items such as beans, groundnuts and potatoes hitherto not very much consumed by members of the community, improved child feeding practices, improved nutritional status of children in particular as reflected by increased weight gains amongst under fives, and a significant decrease in the number of malnourished children. The study therefore has provided reliable information on the impact of nutrition education on the health status of children under 5 years in Ikom Local Government Area of Cross River State.

RECOMMENDATIONS
Based on the findings of the study, the following recommendations were made to guide the study.
1. Parents should introduced wide variety of nutritious foods in the family diet to enhance the nutritional status of children.
2. Mothers should be advised to breast-feed their children within the first six months in order to boost their immune system so as to fight against infections.
3. More families should be able to provide gardens around their homes to enable them plant vegetables and fruits in order to promote the health status of their children.
4. People living in the community should be encouraged to modify existing negative food-related attitudes in order to promote good feeding habits and practices among them.
5. People living in the community should make intelligent food choices so that them and their children can be better nourished.
6. Government should provide free medical services to children of zero to five years and financial assistance to indigent parents so as to help alleviate them from the burdens of child care.

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