
Assessment of Nutritional Status of Pre-school Children in Nando, Oyi Local Government Area Anambra State, Nigeria

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Abstract

Malnutrition arises from many complex deprivations and it manifests as ill-health, wasting and growth retardation stunting, wasting and mortality. The dominance of wide spread poverty, poor development of health care systems and malnutrition had led to death of millions of children. The pre-school children with sub-clinical deficiency of nutrition triggers under nutrition and recurrent infections, the assessment of the nutritional status of pre-school children in Nando, Anambra state, Nigeria is timely especially in the world clarion cry to achieve the millennium development goals (MDG 1 and 4). The result of the study shows that 29-30% and 23-30% males and females were stunted respectively. There was high weight achievement on the females than males. Some recommendations were made.

Malnutrition arises from the complex of nutritional, biological and social deprivation. It manifests as ill health, wasting and growth retardation resulting to stunting, functional disadvantages and mortality. Malnutrition increases susceptibility to infection diseases (Nnam, 2007). Malnutrition exists in every part of the world, to some extent, which affects the entire populace. (United Nations/sub-committee on Nutrition (UN/SCN, 2002), reported that every year infections claim the lives of millions mainly children under five years in the developing countries. The dominance of wide spread poverty, poor development of health care systems and malnutrition had led to the death of many children. These killer diseases include diarrhoea, vaccine, preventable disease and upper respiratory infections. (Administrative committee on coordination/ sub-committee on nutrition (ACC./SCN (2002); Yeng, 2006 and WHO, 2000).

The prevalence of malnutrition is very high globally and is associated with high rate of morbidity in children under five years especially in developing countries. Singh

(2004) reported that clinical evidence of deficiencies of various nutrients in pre-schools, and in most cases children die needlessly each year from diseases linked to malnutrition (Food and Agriculture Organization/ World Health Organization, (1999) FAO/WHO, (1993) FAO/WHO and Scrimshaw (1996)

Okeke (1998) noted that under nutrition reduces immunological capacity to defend against diseases. These diseases deplete and deprive the body of essential nutrients. Health experts have recently recognized the long term effects of early under nutrition and inadequate child feeding for obesity and chronic diseases, including diabetes and cardiovascular diseases.

The millennium development goal (MDG) is to reduce child mortality. Also the goal is aimed to eradicate extreme poverty and hunger. Nnam, (2007) reported that due to poverty, many families cannot afford an adequate meal in a day, and improving their young child feeding practices will reduce under five mortality. Ngwu (2004). FAO/WHO (1993) affirmed that improved nutrition on pre-school children results in better functioning in adulthood and Tomkins and Watson (1993) noted that many under fives are under weight, wasted and stunted; this is a result of nutritional inadequacy which prevents proper growth even with great genetic potentials. The assessment of nutritional status using the anthropometric measurement of pre-school children in Nando is very vital as it will be a reflection of the entire community. This will help to determine their nutritional outcome, as it will be a base in providing information for intervention and overall survival of the family (Ajala, 2006 and UN/SCN 1999).

Nando is one of the communities in Oyi Local Government Area of Anambra State. The vegetation is grassland, interspersed with tropical forests. Nando is known for its high agricultural production predominately yam, cassava and rice. The consequent effect of inadequate intake of food in any community has more impact on pre-school children Martortell, (2001) noted that achieving food security in its totality continues to be a challenge not only for the developing nations, but also for the developed world. Food security in the African continent has worsened since 1970 and the proportion of the malnourished population has remained within the ranges of 33% and 35% in Sub-Saharan Africa. The prevalence of malnutrition within the continent varies by region. Over 70% of the food insecurity population in Africa lives in the rural area. Thus severe economic situation in Nigeria is affecting both poor and rich and this affects the consumption of essential food nutrients which increase the poor state of nutrition of pre-school children in the community. The result of this study will provide baseline information on nutritional status of the pre-school children in Nando and will provide goals for nutritional interventions for the community.

Objective of the Study

The main objective of this study is to investigate assessment stats of pre-school children using established method (anthropometric) specifically, the study

- a. Investigate the distribution linear growth of the pre-school children in Nando

- b. Investigate the distribution of stunting, wasting and malnourishment among pre-school children in Nando.
- c. Investigate the changing patterns in the pre-school children growth.

Research Questions

1. What are the outcome of lean body mass (weight gain) and skeletal growth (height) in nutritional achievement in Nando?
2. What are the distributions of stunting, wasting and malnutrition among males and females of pre-school children?
3. What are the changing patterns in pre-school children growth in Nando?

Materials and Methods

Study Area

Nando is located in Oyi Local Government Area of Anambra State in Nigeria. Nando has a population of thirty-two thousand, five hundred (National Population Census, 2006).the vegetation is grassland, interspersed with tropical forests. Nando has 65 inches (11.6m) annual rainfall between March and November with an average daily rainfall of 40 inches (91.02m). The temperature goes to extreme with season on a mean temperature of 70⁰f (21⁰c) (Oyi Local Government Area Data, 2004). The inhabitants of Nando are predominantly peasant farmers. The ecological zone in which Nando is placed offers it a very high potential for agriculture. Agricultural products include chiefly rice and cassava; others are yam, vegetable and a lot of palm products.

A population of two hundred and twenty seven pre-schoolchildren was used for the study. The entire populations were used sampled. Permission was obtained from the teachers, parents and care givers to commencement of the study. Ages of the children were collected from the school register, birth certificate and/or baptism cards. 108 were from St. John of Ark school (SJAS) and 119 from Community primary and nursery school, Nando (CPNS). Data was collected through the use of questionnaire and anthropometric measurements.

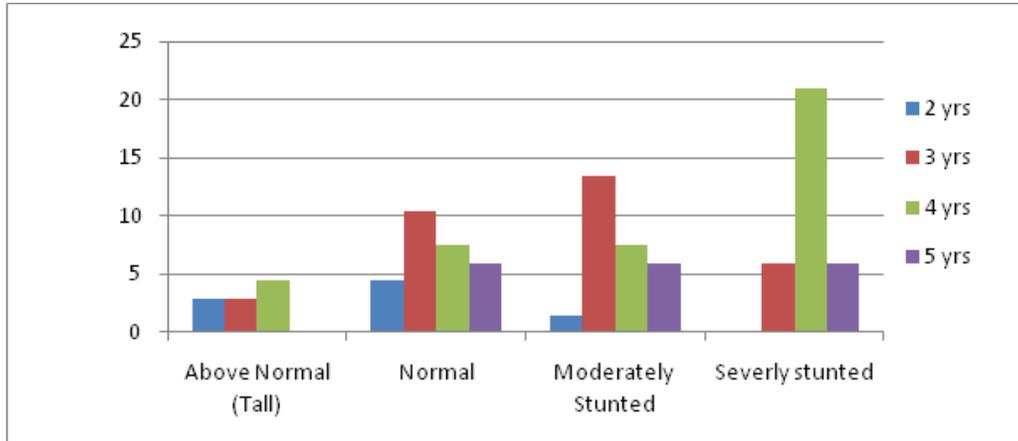
A semi structured questionnaire was used. Both content and face validity were confirmed by experts and lecturers in Department of Nutrition and Dietetics University of Nigeria, Nsukka. The questionnaire was used to collect batch C information. The pre-school children weight and height were measured, and compared with WHO (1983) established standards.

Anthropometric measurement equipments were used in measuring rods, weighing balance/balance for height and weight respectively. Bathroom scale was used to take the weight of the children. The subjects were made to stand on the centre of the platform without touching anything. No foot wear was worn, the measurement was read to the nearest 0.1kg (Okeke, Onyechi and Ibeanu, 2011; Nnayelegu and Ngwu (1985).

A vertical measurement rod was used. The children were made to stand on a flat surface without foot wear. The feet were made to be parallel with heels, shoulder and back of head touching the rod. The arms should be hanging loosely at the sides. The

head piece was gently lowered touching the head. The scale measurement was read to an accuracy of 0.1m (WHO. 1993).

MALES



FEMALES

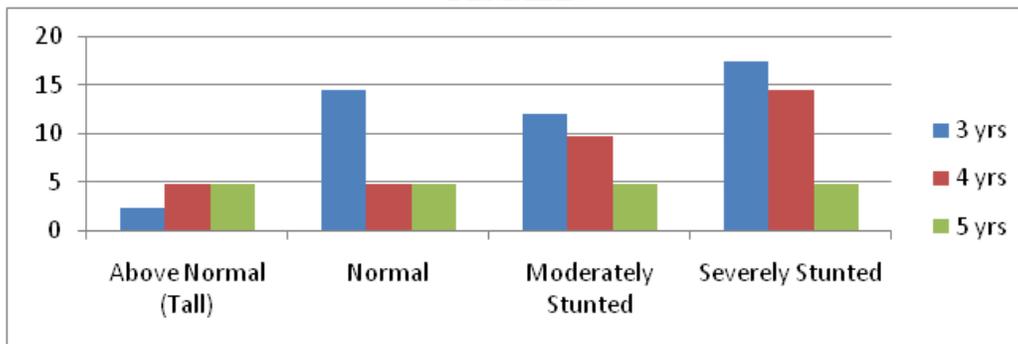


Fig 1: Distribution of Stunting among Male and Female in SJAS According to their Ages (yrs)

Fig 1 shows the distribution of malnourished children (male and female) in SJAS, 4.5%, 10%, 7.5% and 5.9% of males were of normal height for their age while among females 14.6%, 4.9% and 4.9% were of normal height for their age. For the males in SJAS, 1.5%, 13.4%, 7.5% and 5.9% were moderately stunted. The females 12.1%, 9.8% and 4.9% were moderately stunted. This answers research question one.

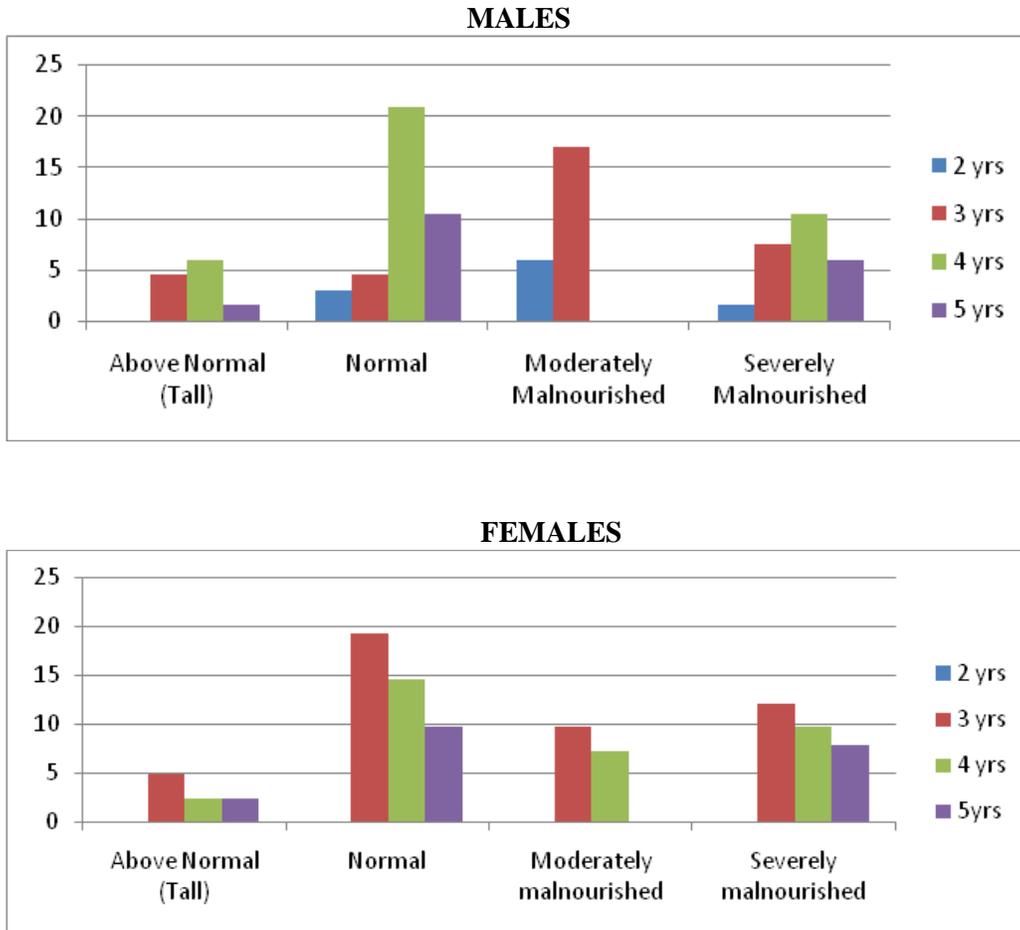


Fig 2: Distribution of Malnourished Children among Males and Females in SJAS According to their Age (years)

Fig 2 shows that among males in SJAS, 2yrs old, 4.9% were above normal (tall), 4.5% were normal, 17.1% were moderately malnourished and 7.5% were severely malnourished. Among females of same age in same school, 4.9% were tall, 19.4% were normal, 9.8% were moderately malnourished and 12.3% were severely malnourished. This table answers research question two.

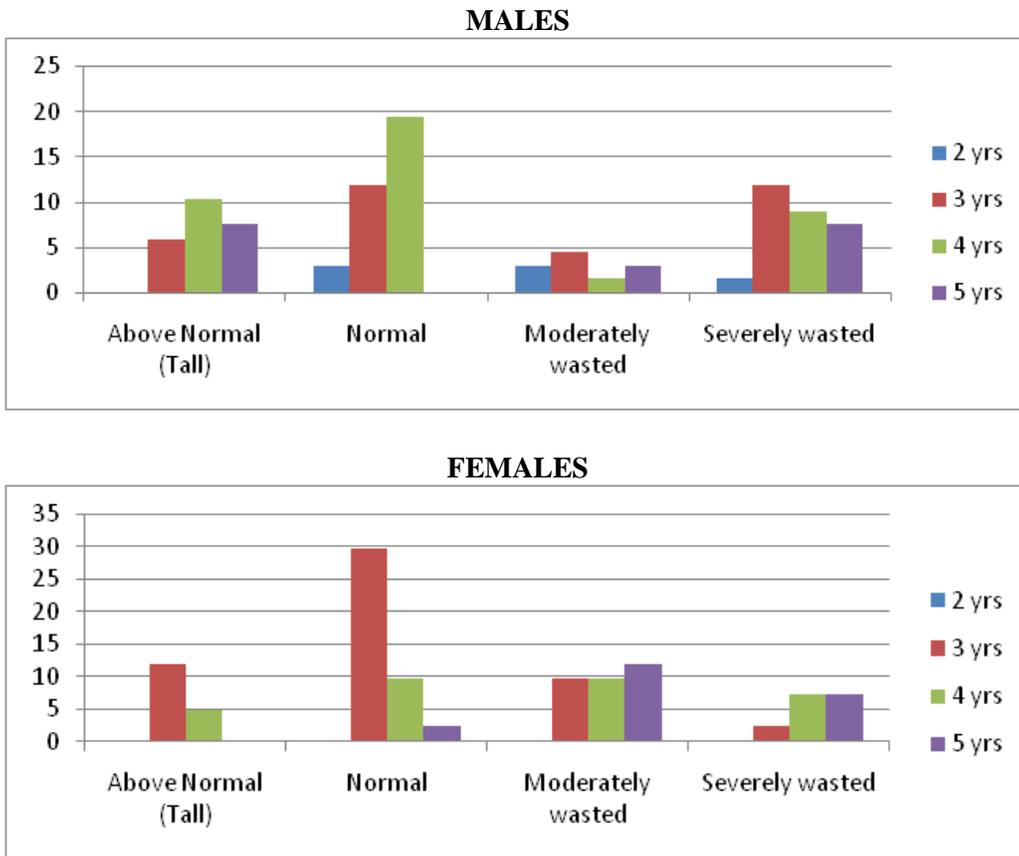
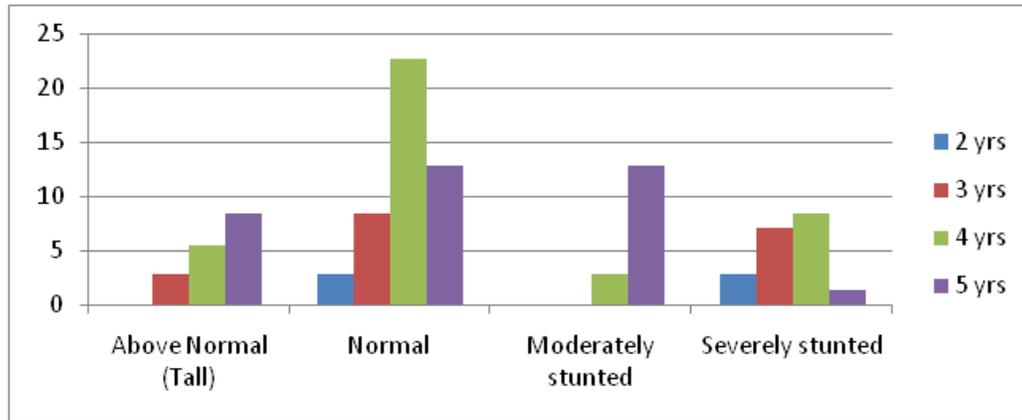


Fig 3: Distribution of Wasting among Males and Females in SJAS According to their Age (years)

Fig 3 above shows that among 4yrs, 10.4% were tall, 19.4% were normal weight for their age. 1.5% was moderately wasted and 8.9% were severely wasted among males. For the females of same age, 4.9% were tall, 9.8% were normal, 9.8% were moderately wasted and 9.3% were severely wasted. This table show growth pattern among males and females. This answers research question three.

MALES



FEMALES

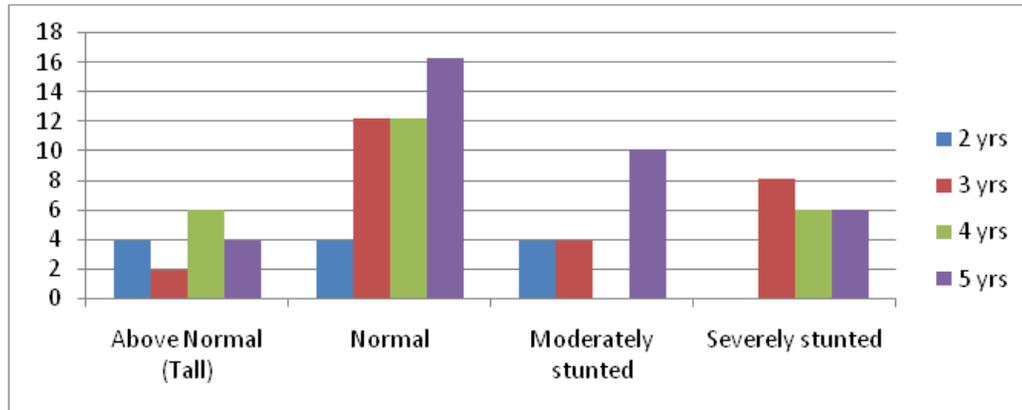
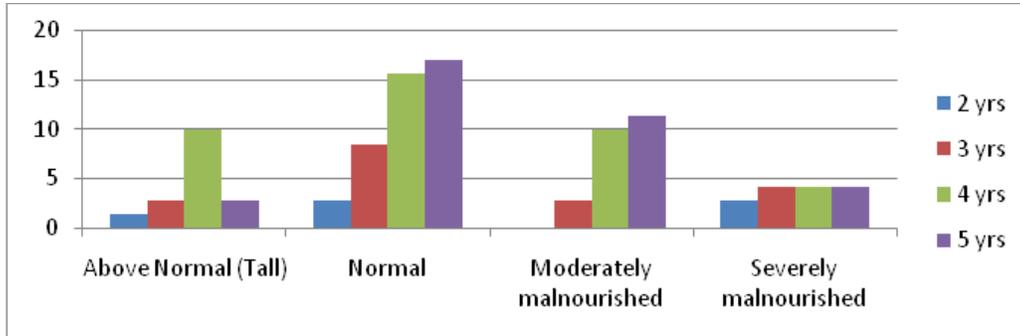


Fig 4: Distribution of Stunting among Pre-school Children in CPNS

Fig 4 above shows that among 3 yrs of age (males), 2.3% were tall, 8.5% were normal, 7.1% was moderately stunted and 7.1% were severely stunted among males. For the females, 20% were tall, 12.0% were of normal height and 8.2% were severely stunted. This answers research question one

MALES



FEMALES

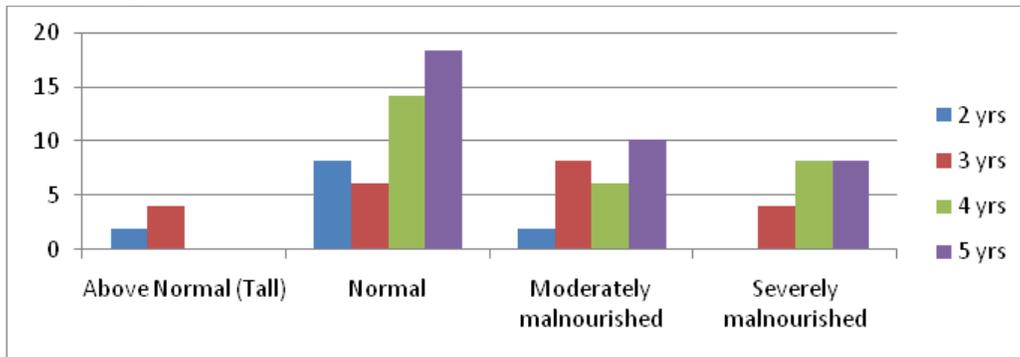
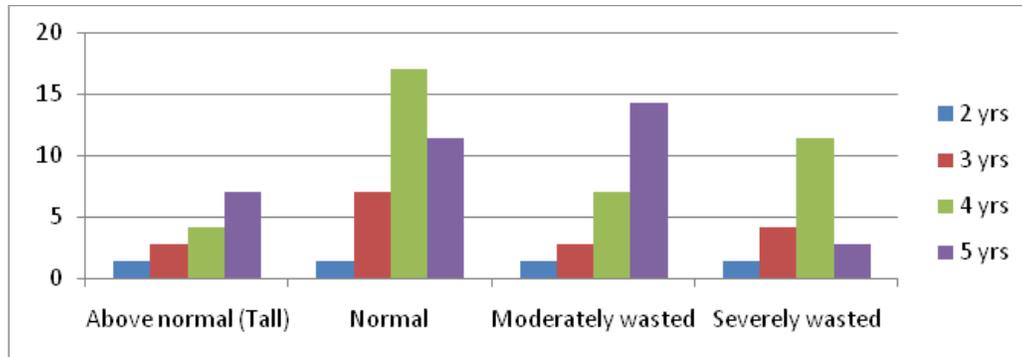


Fig 5: Distribution of Malnourished Children among Males and Females in CPNS according to their Age (years)

Fig 5 above shows that 2.4%, 2.8%, 2.8% and 2.8% among the age of 2 yrs were above normal, normal, moderately malnourished and severely malnourished respectively among males. Among females 2%, 8.2%, 2%, and 2% were above normal, normal moderately malnourished and severely malnourished respectively among the age of 2 yrs. This answers research question two

MALES



FEMALES

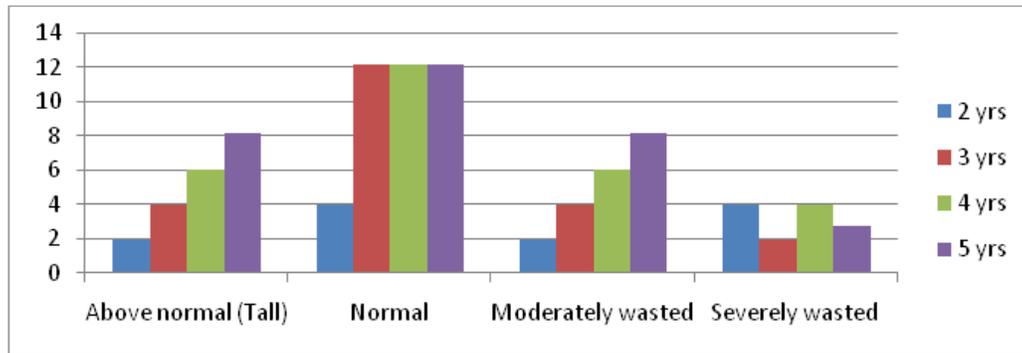


Fig 6: Distribution of Wasting among Males and Females in CPNS according to their Age (years)

Fig 6 shows that among pre-school children aged five, 7.1% were above normal, 11.4% were normal, 8.2% was moderately wasted and 8.2% were severely wasted. This answers research question three

Discussion

The use of weight-for-age, weight-for-height indicators were tools to detect malnutrition among pre-school in Nando. Malnutrition affects adversely weight and height achievement in children. Onofiok and Nnayelugo (1990) noted that stunting can be traced to inadequate food intake. They also reported that children in West African are at high risk of infection during weaning, this means stunting can commence from weaning period.

In SJAS, 29.9%, 32.8% and 25.5% were wasted, stunted and underweight respectively and in CPNS 20%, 20% and 14.3% were same among males. This report in

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~~this study agreed with Nigeria proportion of malnutrition and under weight (36%), severely under weight (12%), stunted 43%, severely stunted 22%, wasting (9%) and severely wasted 2%. High risk of death can occur from serious consequences of wasting and stunting. In India, 50% of under-five are stunted and malnourished (Singh, 2004). This is in contrast with the Stacey in rural Cote d'Ivoire, where the pre-schools' nutritional status that the nutritional problems in rural Cote d'Ivoire are mild by African standard (Stress, 1990).~~

This present study revealed high weight achievements in females than males in SJAS, and CPNS using weight-for-height indicator (NCHS, 1976). Lesite et al (2001) reported that females' weight and height achievement differed from those of males not only because of physiological and only because of differential access to food. Singh (2004) noted that poor food choices by care givers compromise their intake of nutrients especially micronutrient from dietary sources.

Conclusion

There is continued exercise of malnutrition and is a related problem as shown by the anthropometric indices and there are high intakes of energy food. Nutritional inadequacy prevents proper growth even with great genetic potentials. Good stimulation at home will enhance favorable feeding pattern in children.

Recommendations

1. A much more detailed nutrition intervention is needed, as this will help to eradicate malnutrition in Nando.
2. Nutritional education is vital to enhance nutritional knowledge of parents and care-givers as this improves family health and nutrition.

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