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Arti Yadav

Research Scholar, Institute of Home Science, Bundelkhand University, Jhansi, Uttar Pradesh, India

Deepthi Bhadoria

Associate Professor, Arya Kanya Mahavidhyala, Shipri Bazar, Jhansi, Uttar Pradesh, India

Dolly Rani

Assistant Professor, Government Girls Post Graduate, College, Etawah, Uttar Pradesh, India

A study on nutritional status of pre-school children of Agra district

Arti Yadav, Deepthi Bhadoria and Dolly Rani

Abstract

Life actually thrives on food. It can be maintained only with adequate nutrition. The relationship between food, nutrition and health is immense. Inadequate nutrition may lead to malnutrition, growth retardation; reduce work capacity and poor mental and social development. India is listed in the countries where malnutrition and child mortality is alarmingly high. Keeping in view the above facts the present study was conducted among urban area of Agra district to know the nutritional status of pre-school children. The 2006 WHO Growth Standards were used for the determination of nutritional status of pre-school children. The study reported that the mother's nutritional knowledge was significantly associated with their children's nutritional status.

Keywords: Nutritional status, pre-school children

Introduction

Nutritional status is a major determinant of the health and well-being of children. Inadequate or unbalanced diet and chronic illness are associated with poor nutrition among children. Anemia, underweight and malnutrition of the major problem throughout the developing world like India.

Children in our country are not in good health. Almost one third of our children are underweight, stunted and are at risk of death and disease/illness. At the global level too many children from other developing countries like India live under the Poverty line and have no access to health facilities, clean water, and good nutritious food to live a long healthy life.

According to world statistics reported (WHO, 2012) that India ranks 2nd in the world for child malnutrition. India is listed in the countries where malnutrition and child mortality is alarmingly high. According to the data released by the Office of the Registrar General of India indicate that although the mortality rate especially infant and under-five mortality rate is declining over the years, yet there are some states where these rates are very high. This shows that instead the progress in health care sector in India, children especially in the age group 0-6 years continuously lost their lives due to inadequate nutrition and proper care.

High malnutrition in country poses significant obstacle in achieving better child health outcomes (Ragini, 2014) [5]. India has a highest number of underweight children less than 5 year in the world and 70% of children are Anemic. Thus, the mortality rates and nutritional status of children reflects the threats in child health. Therefore, keeping in view, the above facts, the proposed study entitled "A Study on Nutritional Status of Pre-School Children of Agra District" has been conducted among urban area of Agra district with the following objective -

To assess the nutritional status of pre-school children.

Research methodology

Descriptive research design was used to conduct the present research. Multistage Stratified random sampling method was used for selecting the sample. Total 200 Preschool children from Agra urban were included in the selected sample. Anthropometric measurements were used for the determination of nutritional status of preschool children. Anthropometric measurements commonly used for children include height, weight, mid-upper arm circumference (MUAC), and head circumference. Some measurements are presented as indices, including length/height-for-age (HFA), weight-for-length/height (WFH), weight-for-age (WFA), body mass index-for-age (BMI-for-age), and head circumference-for-age.

Corresponding Author:

Arti Yadav

Research Scholar, Institute of Home Science, Bundelkhand University, Jhansi, Uttar Pradesh, India

Each index is recorded as a z-score, which describes how far and in what direction an individual’s measurement is from the median of the World Health Organization Child Growth Standards. A z-score that falls outside of the “normal” range indicates a nutritional issue. Data was analyzed with the help

of ‘Anthro app’ and ‘SPSS software’.

Result and Discussion

After statistical analysis the results have been presented as under according to the objective of the study-

Table 1: Nutritional status of the selected pre-school children N = 200

S.no.	Anthropometric indicators and condition	Categories (z score)	Number	Percentage
1	Height/length for age	Severe stunting (<-3)	44	22
		Moderate stunting (≥-3 to <-2)	36	18
		Normal (≥-2 to ≤+3)	120	60
		Extreme tallness is not usually a nutrition issue. May indicate endocrine (>+3)	0	0
		Total	200	100.00
2.	Weight for age	Severe underweight (<-3)	53	26.5
		Moderate underweight (≥-3 to <-2)	64	32.0
		Normal (≥-2 to ≤+1)	71	35.5
		Do not use weight-for-age to determine overweight (>+1 to >+3).	12	6.0
		Total	200	100.00
3.	Weight for length/height	Severe wasting/ severe acute malnutrition (SAM) (<-3)	50	25.0
		Moderate wasting/ Moderate Acute Malnutrition (MAM) (≥-3 to <-2)	57	28.5
		Normal (≥-2 to ≤+1)	81	40.5
		Overweight/ Obesity (>+1 to >+3)	12	6.0
		Total	200	100.00
4.	BMI for age	Severe wasting/ Severe Acute Malnutrition (SAM) (<-3)	50	25.0
		Moderate wasting/ Moderate Acute Malnutrition (MAM) (≥-3 to <-2)	57	28.5
		Normal (≥-2 to ≤+1)	81	40.5
		Overweight/ Obesity (>+1 to >+3)	12	6.0
		Total	200	100.00
5.	Head circumferences for age	Very small head circumference (severe microcephaly) (<-3)	09	4.5
		Small head circumference (microcephaly) (≥-3 to <-2)	46	23.0
		Normal (≥-2 to ≤+2)	145	72.5
		Large head circumference (macrocephaly) Not related to nutritional status. (>+2 to >+3)	00	00
		Total	200	100.00
6.	Mid Upper Arm Circumferences (MUAC)	Severe Acute Malnutrition (SAM) <115mm	45	22.5
		Moderate Acute Malnutrition (MAM) ≥115 mm to <125mm	62	31.0
		Normal >125mm	81	40.5
		Overweight/ Obesity (>+1 to >+3)	12	6.0
		Total	200	100.00
7.	Triceps skinfold	Severe wasting/ Severe Acute Malnutrition (SAM) (<-3)	45	22.5
		Moderate wasting/ Moderate Acute Malnutrition (MAM) (≥-3 to <-2)	62	31.0
		Normal (≥-2 to ≤+1)	81	40.5
		Overweight/ Obesity (>+1 to >+3)	12	6.0
		Total	200	100.00
8.	Subscapular skinfold	Severe wasting/ Severe Acute Malnutrition (SAM) (<-3)	45	22.5
		Moderate wasting/ Moderate Acute Malnutrition (MAM) (≥-3 to <-2)	62	31.0
		Normal (≥-2 to ≤+1)	81	40.5
		Overweight/ Obesity (>+1 to >+3)	12	6.0
		Total	200	100.00

Percentage is calculated on the basis of total respondents (N=200)

Table 1. Indicate the nutritional status of the pre-school children of the selected respondents. The result reveals that on the bases of height/length for age 60 percent pre -school children’s nutritional status was normal. In reference to the weight for age 35.5 percent pre-school children’s nutritional status was normal, while 32 percent and 26.5 percent of the pre – school children were moderate underweight and severe underweight respectively.

Data regarding to the weight for length/height, and BMI for age shows the same result as 40.5 percent of the pre – school children had normal nutritional status while 28.5 percent and 25 percent of pre – school children had Moderate Acute Malnutrition (MAM) and Severe Acute Malnutrition (SAM) respectively.

On the bases of head circumferences for age the data shows that 72.5 percent of the respondents had normal nutritional

status. The result regarding to the Mid Upper Arm Circumferences (MUAC), Triceps skinfold and Subscapular skinfold shows that 40.5 percent of the pre – school children had normal nutritional status while 31 percent and 22.5 percent of pre – school children had Moderate Acute Malnutrition (MAM) and Severe Acute Malnutrition (SAM) respectively.

Conclusion

It is concluded from the study that 40 percent of the pre-school children had normal nutritional status. While rest of the children had some kind of male nutrition (moderate malnutrition and severe malnutrition), which was really very serious concern for their parents, our policy maker, our society as well as entire the whole.

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