A Comparative Study of Nutritional Assessment of School Going Girls And Boys of Age Group of 8 to 10 Years Belonging to ASARA village of District – Baghpat

Sangeta Garg
Part time counselor
IGNOU SC-2798
J.V.College
Baraut, Baghpat, India

Dr. Devesh Gupta
HOD
(DSTDeptt.)
J.V.College
Baraut, Baghpat, India

Abstract / सारांश

Without adequate nourishment life cannot be sustained. Children are our most valuable possessions, a trust and investment. School is a dynamic period of physical growth and development when a child undergoes mental, emotional and social changes. Between 8 and 10, the child's body begins to prepare for adolescence. School children may

be subject to many stresses which affect the appetite. Communicable diseases occur often in this age group. They reduce the appetite on one hand, but they increase body needs on the other hand. School work, class, competitions and emotional stresses in getting along with many children may have adverse effects on appetite.

The food that provides the nutrients required for physical growth is one environmental factor essential for growth and development, where as the feeding process itself, at least during infancy and childhood, is an integral part of psychosocial development. A poor environment, for example- one providing inadequate nutrition can prevent a child from reaching his full genetic potential, not only in physical size and strength but also, according to all indications of contemporary research, in mental development as well.A large number of diet and nutrition survey had been carried out by different workers on the nutritional status of school children in the developing countries.The present study was undertaken in rural area (Asara village)of Baghpat District to find out the nutritional status of the school going girls and boys.

1. To find out and to compare the anthropometric measurements of boys and girls of 8 to 10 year of age.
2. To find out the dietary pattern and intake of boys and girls of 8 to 10 year of age.
3. To determine the various clinical features and to compare the prevalence of various nutrient deficiency diseases in boys and girls.

4.To compare the nutritional status of school going girls and boys.

Methods And Materials

The present study was conducted on nutritional status of school going children in rural area of Asara village of district Baghpat, Uttar Pradesh.

Selection of Area and Samples:

Asara village of Baghpat district is situated in the eastern part of Uttar Pradesh. Seventy children were selected for this study from primary school of Asara village. There were 35 girls and 35 boys in the age group of 8 to 10 years. Age of each child was recorded from date of birth entered in the school register. The nutritional status of schoolers were observed in study area:

Period of study:-

The data was collected in the month of September 2018 and data is accurate.

Development of tools and collection of data:-

A question was developed to collect the information of the children. Interview method was used to collect the information. Observations were also made by the investigator. The following information were collected:

● General information of the family.

● Information about nutrient intake of child.

● Information about anthropometric measurements of child.

● Information about clinical features.

General information of the family:

Information regarding type of family, religion and caste, age, sex, education, income, type of food habits and ordinal position were collected.

Information about the food intake of child:

The housewife or the oldest woman responsible for cooking and serving meals to the child was interviewed to find out the food intake of the child by 24 hours recall method.

The raw as well as cooked amount of food stuffs used for the whole family per day for all the meals, the cooked amount 'consumed by individual' in term of standardized cup sets were also assessed from mother. Cooked amount of each food items consumed by the individual was then converted into raw food stuffs in the following ways:-

Raw amount or a particular food stuff consumed by the child from a given preparation = Total raw quantity of food stuff used in preparation × Individual intake of the cooked amount of the preparation / Total cooked quantity of the food preparation

The nutrient's their diets were calculated by using the "nutritive value of Indian foods".

Mean nutrient intake was calculated for each child and was compared with recommended dietary allowances by calculated.

The mean intake of various nutrients by girls and boys were calculated to assess any difference in their present diet.

Anthropometric measurements

Nutritional status of the school children was assessed by taking anthropometric measurements with the standard recommended for their age, height, weight, mid upper arm circumference. Chest circumference were taken by following methods:

Weight

The weight of each child was recorded to the nearest of 0.1 kg with minimum clothing on and shoes off. The some weighing machine was used for each child.

Height

The height of each child was recorded to the nearest 0.1 cm with shoes off. The children were made Rostand with heels together on a flat surface with buttocks and heels touching the scale (marked of wall).

Mid upper arm circumferences

A measuring tape was used in determining the mid upper arm circumference of the children. The tape was placed on the limb gently but firmly to avoid compression of soft tissues, between the acromion process of the scapula and olecranon process of ulna. Chest and head circumference:
Chest and head circumference was measured with the help of measuring tape.

Clinical features

Each child was clinically examined to find out the prevalence of disease. The signs and symptoms were compared according to the report of W.H.O expert committee

on medical assessment on nutritional status. The following signs and symptoms were recorded for each child like related to general appearance, hair, face, teeth, skin, eye, tongue, lip, gums, extremities. Parents were inquired for childhood diseases like fever and cold. Diarrhoea, chicken pox, small pox, typhoid, mumps, whooping cough and jaundice.

Analysis of data

The data was collected in percentages, where ever needed, the mean values of different parameters were also calculated. The suitable statistics was used to find out the significance of difference.

Result and Discussion

Table no. 1: General information of boys and girls related to age

S.N.	Age group	Number of subjects		Percentage of subjects	
		Boys	Girls	Boys	Girls
1.	8 year	13	13	37.14%.	37.14%
2.	9 year	13	12	37.14%.	34.29%
3.	10 year	9	10	25.72 %	28.57%

Table no. 1 shows that the subjects studied were between 8 to 10 years old. There were 37.14% boys and girls are group of 8 year old. There were 37.14% boys and 34.29% girls of age group of 9 years and in the group of 10 years there were 25.71% boys and 28.57% are girls.

Table no. 2 :General information related to type of family.

S. N.	Type of family	Boys (In percent)	Girls (In percent)
1.	Nuclear	75%	60%
2.	Joint	25%	40%

Table no. 2 shows that 75% and. 60% girls belonged to nuclear family and 25% and 40% girls belonged to joint family.All the girls and boys were belonging the low income group, the range of the income was below rs. 1500 per month.

Specific information

　　　　Specific information related to dietary intake, anthropometric measurements and clinical features of boys and girls were analysed.

Dietary intake:-

Table no. 3 :.Energy-Recommended daily allowances of energy for school going children is 1950 k-cal.

Statistical Measures Used	Boys. Girls
Mean	746.15 801.44
Standard deviation	204.02 224.31
t value	1.08

Table no. 3 shows that the t-value is insignificant at .05 level because calculated value is lower than tabulated value (2.0). This mean that there was no significant difference in the energy intake of girls and boys.

Energy intake based largely on cereal consumption.

Table no. 7 shows that the mean energy intake of boys and girls were less than recommended daily allowances. The reason may be the low income level and unawareness.

Table no. 4 :

Protein

Recommended daily allowances of protein is 41 gm.

Statistical Measures Used	Boys.	Girls

Mean	26.8	27.85
Standard deviation	12.59	8.41
t value		0.41

Table no. 4 shows that the 't' value is insignificant at .05 level. So, there was no significant difference in the protein intake of boys and girls.

The average daily protein intake of school going girls and boys were less than recommended daily allowances. Because there were lack consumption of protein rich foods like milk and milk products.

Table no. 5 :.Calcium-Recommended daily allowances of Calcium is 400 mg.

Statistical Measures Used	Boys. Girls
Mean	272.14 230.70
Standard deviation	186.72 132.01
t value	1.07

Table no. 5 shows that the t-value is insignificant at .05 level. It means that there is no significant difference in the calcium

intake of boys and girls.The average daily calcium intake of boys and girls was less than recommended daily allowances.

Table no. 6 :.Iron-Recommended daily allowances of iron is 26 mg.

Statistical Measures Used	Boys.	Girls
Mean	9.49 9.9	
Standard deviation	4.15	3.92
t-value	0.442	

Table no. 6 showed that t-value is less than tabulated value. This means that there is no significant difference in the iron intake of girls and boys.

Iron intake of boys and girls is less than recommended daily allowances.

It was found that the rural children had inadequate amount of iron containing foods.

Table no. 7 : Vitamin C-Recommended daily allowances of vitamin C is 40 mg.

Statistical Measures Used	Boys. Girls	
Mean	12.25	12.88

Standard deviation	15.65	07.15
t-value	0.068	

Table no. 7 shows that t-value is insignificant at.05 level. So, there is no significant difference in the vitamin C intake of girls and boys.

Mean intake of vitamin C of girls and boys is less than R.D.A. It was found that the rural children had inadequate amount of vitamin C containing foods like citrus fruits.

Table no. 8 : Vitamin A-Recommended daily allowances of vitamin A is 2400 mg.

Statistical Measures Used	Boys.	Girls
Mean	256.43	381.11
Standard deviation	267.58	676.29
t-value	0.0084	

Table no. 8 shows that t-value is insignificant at .05 level. So, there is no significant difference in the vitamin A intake of girls and boys.

Summary

The study was conducted on 70 school going children residing in rural area of Asara Village district Baghpat. Through the study of an effort was made to assess the nutritional status of school going children. Efforts were also

made to study the difference between the nutritional status of girls and boys.Information was collected on age, type of family, dietary intake, anthropometric measurements and clinical examination.It was observed that 37.14% of girls and boys and 28.57% girls were 10 years old.75% of boys and 60% of girls were belonging to nuclear family and 25% boys and 40% girls were belonging to joint family.It was observed that the nutrient intake was inadequate in all of the girls and boys.

.Hence, nutritional status of school going girls and boys was not satisfactory. There was no significant difference between nutritional status of girls and boys.

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