International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

A Study on Nutritional Status of School - Going Children 10-12 Years of Chennai District

Dr. R Senthil Kumar[1], M Kavitha[2]

Assistant Professor, Department of Curriculum Planning and Evaluation, TNTEU, Chennai-97*, Tamil Nadu, India

Abstract: ***Nutritional status is determined from a nutritional assessment of anthropometrics, the study aims to assess the anthropometric measurement of school-going children 10-12 years in Chennai District. In the cross-sectional study,162 (82 boys and 80 girls) children were respondents from Government and private schools in Chennai District. Anthropometric measurements including WFH, WFA, and HFA were assessed by Water Low's classification, and Gomez's Classification the results indicate that the majority of the children were underweight, and severe wasting, & Grade II level of Malnutrition, and had No stunted was found in the present study, The nutritional inadequacies influenced by poverty, the literacy level of parents, and the lack of infrastructure. This condition needs careful consideration.***

Keywords: Anthropometric, Malnutrition, Nutritional inadequacies, Wasting, Stunning

1. Introduction

Education acts as the foundation for future pillars, ensuring the stability of the country's development. Many children of disadvantaged and unprivileged groups don't get this proper primary education, to facilitate the education of these students, the government introduced many schemes as Education is the fundamental human right for everyone stated by The Universal Declaration of Human Rights. Even though a child gets free education the child must be well nourished to grasp the academic activities. But as said above nutrition is equally important as Education.

Among all age groups, the school-age period is nutritionally significant because this is the prime time to build up body stores of nutrients in preparation for the rapid growth of adolescence (Sati et al., 2012). Primary Education is not just book-based knowledge as perceived by many of us, but it is also based on the Physical mental & social skill development of the Children. In the early classes, students are thought to control and coordinate them bodies, this control, and coordination are monitored by the brain. For a student's perfect qualification, the brain must actively integrate and promote his/her ideas or thoughts, or views for which nutrition is essential.

Nutrition plays a vital role in the growth and development of children. Inadequate nutrition may lead to malnutrition, growth retardation, reduced work capacity, and poor mental and social development (Awasthi and Kumar,1999; Manna et al., 2011). Early nutritional support can improve nutritional status, minimizing the chances for innocuous problems becoming more serious. Nutritional assessment should be a routine procedure for people of all ages and including young children demonstrating a preventive stance (Christiaensen and Alderman, 2001).

Some students are being malnourished because of their health issues, poverty, and family situations. In rural areas, students don't get proper transportation facilities as they raise early in the morning to catch up on their mode of transportation so that they reach school on time. In this case, students skip their breakfast which leads to a situation where they get exhausted at once from their travel and couldn't concentrate on the classes further or cannot participate in the activities which are conducted in the schools enthusiastically. Research has shown that students who skip breakfast are affected by Anaemia and weight loss.

Objectives

The objectives of the study are to

1) To Assess the nutritional status of school-going children 10-12 years.
2) To Find out the level of nutritional status of school-going children 10-12 years.

2. Reviews

1) Anthropometric measurements of school children in North-Eastern Morocco Mohamed El hioui, Ahmed Ahami1, Hanan Fadel1and Fatima-Zahra Azzaoui1 (2020)

The cross-sectional aims to evaluate the prevalence of stunting, wasting, overweight, and obesity may school children using anthropometric indices in the urban environment of Driouche (North East of Morocco). The nutritional status of 299 children (6 to 16 years of age) was assessed using the anthropometric measurement of WHO reference as Height for Age Z-score (HAZ), Weight for Age Z-score (WAZ), and Body Mass Index for Age Z-score (BAZ). The results of the study showed that the deficit in terms of height for age was suffered from wasting, stunting increased significantly, and the prevalence of wasting increased from thinness and overweight. Moreover, the prevalence of obesity is very less in all school children.

2) Dipika Agrahar Murugkar Paridhi Gulati and Chetan Gupta's (2013) conducted the study under "Nutritional status of school-going children 6-9 years in a rural area of Bhopal District (Madhya Pradesh) India" In this cross-sectional study about 200 school-going children (6-9 years) in Bhopal district were studied. Personal interviews consisting, of food frequency questions and 24-

hour dietary recall of children were used. Anthropometric measurements were assessed by Water lows, Gomez's classification, and CDC cut-off for BMI-for-age determined the extent of malnutrition in children, and were compared with IAP standards. the findings of the study revealed that the height, weight, and BMI of all respondents were significantly ($p \leq 0.05$) lower than the reference value. As per Water Low's and Gomez"s classification, only 12% of the children were normal. 55% of the children were wasted and 47% were severely malnourished.

3. Materials and methods

The cross-sectional study was carried out in the study, Children studying in the age group of 10-12 years in Government and private school in the Chennai district was chosen as the subject of study. The sample size of the study consists of 162 children 82 boys and 80 girls in the study. In this study

Inclusion Criteria

- In the present study children participants who had completed 9 years of age
- On the date of the interview and were not more than 12 years of age.
- In the present study male as well as female children participants were included.
- In the present study children's participants who were continuously attending
- The school was included.

Exclusion Criteria

- In the present study, the children's participants were less than 9 years of age and more than 12 years of age.
- In the present study, the children's participants had physical deformities of the limbs and spine.
- In the present study, the children participants who were suffering from diseases and having mental defects were excluded from the study.
- In the present study the children's participants who were not cooperated with anthropometric measurements
- Anthropometric measurements such as Height, weight, and BMI were collected

1) Height

Height was measured to the nearest 0.1 cm using a calibrated stadiometer.

2) Weight

The weight of a child was recorded using a bathroom scale, which was calibrated using standard weights. Take a weighing scale. Keep it on a flat floor. Adjust to zero. Ask the individual to remove any heavy clothing. Ask the individual to stand bare feet at the center of the weighing scale with his hands. On the side and head held straight. Record the body weight to the kgs.

3) Body Mass Index (BMI)

To calculate BMI, an individual's sex, height, Date of Birth, and body weight Were noted. BMI is then calculated with the help of Medscape Body Mass Index – is calculator system produced by QxMD software. Inc

Table 1: BMI for Age scale

Underweight	BMI less than 18.5
Normal weight	BMI between 18.5 and 24.
Overweight	BMI between 25 and 29.9
Obese	BMI 30 or greater

Anthropometric assessment

Anthropometric assessments data collected were used to calculate Body mass Index, (BMI), Weight for Heigh, (WFH) Height for Age (HFA), and Weight for Age (WFA) the height and weight of the age group were compared with the standard Recommended dietary allowance (RDA) values for Indians (ICMR 2009)

The Malnutrition status of children was analyzed by water low's classification (Water Low 1972) and Gomez's Low Classification (Gomez et al., 1955)

Water Low's Classification of Malnutrition

% Weight for Age =

$$\frac{Weight\ of\ respondent}{Weight\ of\ normal\ child\ of\ same\ age} * 100$$

% Height for Age =

$$\frac{Height\ of\ respondent}{Height\ of\ normal\ child\ of\ same\ age} * 100$$

Gomez's classification of malnutrition

Reference weight for age =

$$\frac{Weight\ of\ respondent}{Weight\ of\ normal\ child\ of\ same\ age} * 100$$

Table 2: Water Low's and Gomez's classification of Malnutrition in children

Condition	Water Low's classification		Gomez's classification % Reference weight for age
	Weight for height (Wasting)	Height for age (Stunting)	
Normal	>90	>95	90-110
Mild	80-90	90-95	75-89
Moderate	70-80	85-90	60-74
Severe	<70	<85	<60

Statistical analysis

SPSS Version (20.0) & Ms. Excel -2019 were used to analysis the data

Table 3: Percentage of Nutritional status percentage in children according to Water Lows and Gomez's Classification

Nutritional status	Children (10-12years) n=160 (%)					
	Weight for Height (Wasting)		Height for Age (Stunning)		Weight for Age%	
	F	%	F	%	F	%
Normal	51	31.5	155	95.7	36.4	59
Mild	11	6.8	7	4.3	17.9	29
Moderate	56	16.0	-	-	25.9	42
Severe	74	45.7	-	-	19.8	32

4. Result

Out of 162 children age wise 11years were (94) followed by 10 years (64), and 12 years (4) and gender-wise (82) students were boys and (80) were Girls, according to the type of school (82) students from government schools and (80) students were Private schools. Regarding Parent's literacy both the father and mother literate groups were (103), Mother literate (70), the father (17), and both illiterate groups (20). Regarding Parent's Occupation most of the student group from skilled 65,46 were unskilled, clerical 38, and 13 were professional, according to family type (95) were from a nuclear family (Max of 4 members in the family), and (65) were from (More than 5 members in the family) frequency of children according to Parent's Obese group Normal parents of the children were (105), and Parents obese were 32 followed by parent's affected heredity disease were 32, Normal parent was 130.

In the above-mentioned table-3, most of the children were underweight 124, whereas 37 were normal, and (1) were obese. And because of the overweight 0%, there were no children in the Overweight category.

There is no significant difference between BMI values and socio-demographic variables among school children 10-12 years.

In the result of the study, the prevalence rate of WFH (wasting) severe wasting was 74, whereas 26 were moderate, and 11 were mild.

In the result of the study the prevalence rate of HFA (Stunning) because 0 % of stunning, there is no subject stunned mild was very low

In the result of the study, the prevalence rate of WFA (underweight) severe was 32, Moderate was 42, was mild.

5. Conclusion

The present study aimed to assess the nutritional status of old 6-12-year-old children studying in government and private schools of Chennai district. Based on the study it was found that the nutritional status of More than 50% of the respondent was affected by wasting and being underweight malnutrition and No stunning respondents were found in the present study, The major part of the study revealed considerably lesser intake of nutrients. Parents have a lack of Knowledge of Nutritious food and RDA. Nutritious food is necessary for children, physical, cognitive, and emotional well-being, primary age is a dynamic period and rapid growth has occurred in this stage so proper nutrition is important for the growth and development of the respondent, as per the results of democratic variables most of the children's parent's occupation is unskilled labours, it is suggested that government and private school more concentrate on student's nutrition.

References

[1] Mohamed El hioui1, Amed Ahami1, Hanan Fadel, Fatima zahara Azzoui (2020) Anthropometric measurements of school children in North-Eastern Morocco. International Research Journal of Public and Environmental Health Vol.7 (4), pp. 100-104, August 2020.
[2] Dipika Agrahar Murugkar, Paridhi Gulati Chetan Gupta (2013) Nutritional status of school-going children 6-9 years in a rural area of Bhopal District (Madhya Pradesh) India. International Journal of Food and nutritional science Vol-2, Iss,4.
[3] Sunil Kumar Garg, Khushpreet Kaur, Neelam Baberwal, Parminder Kaur, Rajveer Kaur, Ramandeep Kaur, Ranjit Kaur, Rupinder Kaur, Sheenam Rani, Sukhwinder Kaur Prevalence of Malnutrition among school childr3en aged 6-12 years attending selected school district Sri Muktsar sahib. GFNPSS Global Nurshing Journal of India Volume 3 Issue I, January-April 2020.3.1.2020.184-186.
[4] Awasthi, N., Kumar, A. P. Nutritional status of hill primary school children. Ind J. Nutr Dietetics. 1999; 36:453-459.
[5] Christiaensen L and Alderman HC (2001). Malnutrition in Ethiopia: Can Maternal Knowledge Augment the Role of Income? Africa Region Working Paper Series 22.
[6] Sati, V., Dahiya. S. Nutritional assessment of rural school-going children (7-9 years) of Hisar district, Haryana. Open Access Scientific Reports. 2012; 1(7): 2-4
[7] ICMR, 2009. Nutrient Requirements and Recommended Dietary Allowances for Indians. Report of the Expert Group of the Indian Council of Medical Research. ICMR, New Delhi.
[8] WHO (2020). Obesity and overweight.