



## NUTRITIONAL STATUS OF UNDER FIVE CHILDREN IN RURAL AND URBAN AREAS OF TRIVANDRUM: A COMPARATIVE STUDY.

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### ABSTRACT

Nutritional assessment in the community is essential for accurate planning and implementation of intervention programmes to reduce morbidity and mortality associated with under-nutrition. The study was, therefore, carried out to determine and compare the nutritional status of children of Trivandrum district of Kerala state in India. The setting was stratified into urban and rural. Information obtained on each pupil was entered into a pre-designed proforma for assessing socio demographic variables; tool to assess nutritional status and anthropometric assessment measures was done. The weight and height were recorded for each child, and converted to nutritional indices (weight for age, weight for height, height for age). A total of 174 children (87 and 87 children from the rural and urban communities, respectively) were studied. Study concludes that, prevention of malnutrition should be given a high priority in the implementation of the ongoing primary health care programmes with particular attention paid to the rural population.

**KEYWORDS :** Under five children, nutrition, malnutrition.

### INTRODUCTION

In India, undernutrition in children below the age of five is a serious public health issue. It is more common than anywhere else in the globe and approximately twice as common as in Sub-Saharan Africa. 80% of the world's undernourished children reside in just 20 nations. Nearly 60 million children in India are underweight.

According to UNICEF, inadequate diets, recurrent illnesses, poor breastfeeding habits, the introduction of complementary foods too slowly, and a lack of protein in the diet are the main causes of childhood malnutrition. Health state, taboos surrounding certain foods, growth, and individual dietary preferences are additional factors that affect food intake. Malnutrition can also arise from neglect, irregular mealtimes, insufficient food portions, and inadequate parental education.

The Global Hunger Index is released annually by the International Food Policy and Research Institute (IFPRI) (GHI). India is listed as rated 102 out of 119 nations in the report for 2019. According to the National Family Health Survey 4 (NFHS 4) conducted in India, 35.7% of children under the age of five were underweight, 38.4% were stunted, and 21% were wasting. The prevalence of undernutrition has not decreased as intended from the National Family Health Survey 1 to the National Family Health Survey 4. The Comprehensive National Nutrition Survey report (2016-2018) states that 33% of Indian children under the age of 4 were underweight, 17% were wasting, and 35% were stunted. The United Nations Children's Fund has dubbed malnutrition in the form of undernutrition, specifically underweight, stunting, and wasting, as the "silent emergency."

The Indian government is firmly committed to reaching the Sustainable Development Goals by 2030. (SDGs). Sustainable development goals (SDGs) cover all of these nutrition-related factors, including eradicating hunger, ensuring food security, promoting good nutrition, and fostering sustainable agriculture [12]. The nation will not achieve its SDG aim of reducing child mortality if undernutrition is not properly reduced.

The financial standing of the family, knowledge of illnesses like acute respiratory infections and diarrhoea, the mother's educational level, and access to clean water supply all affect the nutritional quality of children in underdeveloped nations. Children who are malnourished are more likely to get sick. Children who are statistically underweight die from illnesses like diarrhoea, measles, malaria, and lower respiratory tract infections. The physical and cognitive development of young

children is negatively impacted by undernutrition over time. According to a global assessment on child stunting and economic outcomes, an increase in height of 1 cm was linked to a 4% rise in male wages and a 6% increase in female wages. For both human and economic growth, it is essential to invest in reducing child malnutrition. A substantial correlation between the severity of weight-for-age deficiencies and mortality rates was found in data from six longitudinal investigations on the relationship between anthropometric status and mortality of children aged 6-59 months. In fact, it has been calculated that 6.3 million, or 54%, of the 11.6 million deaths of children under the age of five that occurred in underdeveloped nations in 1995 were due to malnutrition.

Despite India's expanding economy, both urban and rural areas still have significant rates of undernutrition-related child mortality. Therefore, it is essential to analyse children's nutritional condition while developing health strategies. The use of appropriate anthropometric indicators allows the identification of the nature and extent of protein energy malnutrition in the community. Few earlier studies on undernutrition focused solely on chronic undernutrition, or stunting, and the bulk of older studies on undernutrition were conducted either in the rural or urban areas. In order to close this gap, the current study was carried out to determine the prevalence of undernutrition in children under the age of five and its causes in rural and urban areas of the Trivandrum district.

### MATERIALS AND METHODS

The study was, carried out to determine and compare the nutritional status of children of Trivandrum district of Kerala state in India. This study followed a quantitative approach using a non experimental comparative research design. The setting was stratified into urban and rural. Information obtained on each pupil was entered into a pre-designed proforma for assessing socio demographic variables, tool to assess nutritional status and anthropometric assessment measures was done. The weight and height were recorded for each child, and converted to nutritional indices (weight for age, weight for height, height for age). A total of 174 children (87 and 87 children from the rural and urban communities, respectively) were studied.

### RESULTS

#### Socio Demographic Data

By the demographic data it was understood that the majority of children (71% ) were in the age group of 1 to 2 yrs. and in the urban area majority of children (74.97). About the type of the family more than Sort of the children (68% ) were in joint family and in urban area it is nuclear family among 2% of subjects.

Regarding the occupation of the father in rural area 54 were coolies and in urban area majority (35.5) of them were business men. Regarding the occupation of the mother majority (31.7) of them were home makers in the rural area and in the urban area 34.7 were government employee. Regarding the variables related to the nutritional status in the case of birth weight of the children in the rural area, most (54.7) of them had the birth weight between 2 to 3 kg and in the urban half of the children 50.9 had the birth weight above 3 kg. Regarding the time of weaning, majority of children (78.7) in rural area started weaning was started after 6 months. In urban area more than half (64%) of the children started weaning before 6 months.

### Nutritional Status Of Under Five Children

**Table 1: Frequency And Percentage Distribution Of Nutritional Status Of Under Five Children (n=174)**

Rural Area			Urban Area		
Degree of malnutrition	f	%	Degree of malnutrition	f	%
Normal	25	28.75	Normal	58	66.7
Mild	34	39.08	Mild	18	20.7
Moderate	22	25.29	Moderate	11	12.6
Severe	6	6.89	Severe	0	0

### Association Between Nutritional Status And Selected Socio Demographic Variables

**Table 2: Variables, Chi Square Value And Df.**

Variables	Chi square value	df	Significance
Age	70.36	3	P=0.01
Birth Order	2.73	3	P=0.01
No of children	2.84	3	P=0.01
Education of father	10.34	3	P=0.01
Education of mother	10.82	3	P=0.01
Occupation of father	41.49	3	P=0.01
Occupation of mother	20.7	3	P=0.01
Type of family	45.21	2	P=0.01
Birth weight	5.21	1	P=0.01
Age at weaning started	4.86	1	P=0.01
Period of exclusive breast feeding	6.4	2	P=0.01
Breast feeding started	4.89	1	P=0.01

### DISCUSSION

Undernutrition was a widespread problem among the investigated schoolchildren, with significant prevalence rates. This is consistent with the findings of earlier research from other emerging nations. These high rates are troubling, though, as India had supported several child survival initiatives over the past ten years that were meant to significantly improve child development and health. The results of the child survival programmes could be undermined by the high frequency of undernutrition, which is thought to be caused by the current economic downturn in India.

This gradual rise in the prevalence of malnutrition with age may be due to the recent decline in the socioeconomic status and level of living in the nation. As a result, this might have resulted in an environment where older kids are left to fend for themselves, exposing them to additional dangers including child labour and inadequate nutrition that are harmful to their overall wellbeing. Children grow quickly during adolescence as they get ready to become adults. This process may be hampered by inadequate nutrition and parasite illnesses such as intestinal helminthes, which would exacerbate the already precarious nutritional situation.

Comparing the nutritional indices of rural and urban students revealed that the latter had much higher mean nutritional indices while having higher weights and heights, likely as a result of their age on average. According to earlier research conducted among schoolchildren in India and other

developing nations, students in urban communities had superior nutritional condition. The socioeconomic level of the parents could be the cause of this. In Nigeria, the urban population has a higher proportion of high socioeconomic class children than the rural area does. This most likely explains why students in urban areas had better nutrition than those in rural areas. Additionally, the difference in the nutritional quality of the children in the two areas may be caused by the typical higher prevalence rates of intestinal parasites in rural communities compared to urban populations.

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