

## Expert Column

## Malnutrition In Children And Dietary Management

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**R**apid growth during infancy is followed by generally slow growth in children between the age group of 1-6 years. The child becomes more active and social as well as environmental influences have a great impact on the child's food behavior and eating patterns. The school age i.e., between 6-12 years is a latent period of growth and during this phase growth is slow and body changes occur gradually. **Life cannot be sustained without adequate NUTRITION** and nutritional requirement is same for boys and girls upto 9 years. In some parts of the world, malnutrition is a pressing issue. Because of famine that remains endemic in some parts of the world, WHO figures suggest that malnutrition contributes to 30,000 deaths every day in children under 5 years.

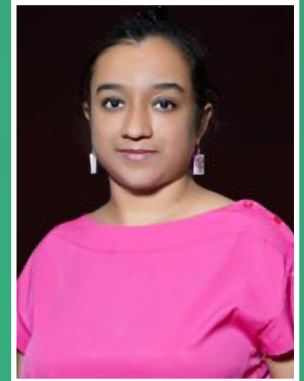
The prevalence of BMI < 18.5 kg upon M2 in adults remains as high as 20% and growth retardation due to malnutrition in children is as high as 50%. Childhood malnutrition is the underlying cause of mortality in 35% of all deaths of children under 5.

**What is malnutrition?**

Earlier the main cause of malnutrition among children, according to studies, was because of protein deficiency. However, subsequent systematic study of the habitual diet of these children indicated that the concentration of protein in their diet was adequate, but they were suffering from energy or food inadequacy since they were not eating enough of their habitual diet. Proteins form the main structural component of body cells and adequate intake is essential for health. Proteins are made of 20 different amino-acids, of which 9 are

essential and 11 are non-essential.

Malnutrition is the result of dietary protein deficiency. PEM is an important nutrition problem among preschool age children. Every living body needs vitality. It comes from ones food.



The people who have no/very weak immunity, what is it that they lack? They lack strength and power which comes from food. Foods provide heat for the body. There are serious deficiencies in the diet of the Indian people, particularly among the poor. Consequences of these dietary deficiencies are : multiple nutritional deficiencies in our country are predominant along with other parts of the world.

Malnutrition is global burden – more prevalent in developing countries, “often starts in the womb and ends in the tomb”. Protein energy malnutrition (PEM) affects every 4th child in the world.

- ▶ Protein Energy Malnutrition Among Preschool (under 3 years)
- ▶ Vitamin A Deficiency In School Going Children(3-16years)
- ▶ Iron deficiency anemia in all groups especially pregnant woman
- ▶ Iodine Deficiency In Endemic Goiter
- ▶ B-Complex deficiency is common in Indians as the maximum Indian population is vegetarian.

**3 Major Indicators of PEM:**

Stunting (low height for weight),

Wasting (low weight for height),

Underweight (low weight for age)

**Clinical Features of Severe Undernutrition:**

1. Loss of weight
2. Thirst, weakness, feeling cold, craving for food
3. Lax, pale dry skin, hair thinning or loss
4. Cold and cyanosed extremities
5. Muscle wasting, loss of subcutaneous fat, oedema
6. Slow pulse, low BP, small heart, distended

abdomen with diarrhea

7. Diminished tendon jerks
8. Susceptibility to infections
9. Depression, introversion, aggression at food sight
10. Vitamin deficiencies especially thiamine, folate and Vit C.

**A Brief Discussion on the Ideal Diet Plans for Children in the Age Groups: 3-6 years**

A DIET PLAN FOR AGE GROUP 3-6 YEARS

ENERGY REQUIREMENT 1600 KCAL/DAY

PROTEIN NEED 30 GM/DAY

(Note: These values are approximate and the nutritional requirements may vary from child to child)

MEAL	MENU	QUANTITY
BREAKFAST MID MORNING	MILK SHEERA CHIKKU, DRY FRUITS	1 CUP (150 ML) 1 CUP 1 SMALL
LUNCH	POTATO PARATHA RICE DAAL PALAK CUCUMBER SALAD CURD	1 MEDIUM 1 CUP ½ CUP ½ CUP 50 GM
MID AFTERNOON	MILKSHAKE	1 GLASS (200 ML)
DINNER	MIX VEGETABLE CHAPATI RICE GHEE DAAL CURD	1 CUP 2 MEDIUM 1 CUP 1 SPOON 1 CUP 50 GM
BEDTIME	MILK	1 CUP (150 ML)

