

Nutritional Anaemia

The need for iron increases with rapid growth and expansion of blood volume and muscle mass. As boys gain lean body mass at a faster rate than girls, they require more iron than girls. The onset of menstruation imposes additional needs for girls. Adolescents should be encouraged to consume iron rich food (green leafy vegetables, jiggery, meat) complemented with a vitamin C source like citrus fruits (oranges, lemon) and Indian gooseberry (Amla). Adolescent girls need additional requirement of Iron to compensate for menstrual blood loss.

IRON DEFICIENCY IN DIET LEADS TO NUTRITIONAL ANAEMIA.

WHAT IS ANAEMIA?

Our blood contains a red pigment called haemoglobin, which carries oxygen and is rich in iron. Anaemia is the loss of oxygen carrying capacity of the blood due to deficiency of haemoglobin in the red blood cells.

Iron deficiency anaemia is a major nutritional problem in adolescent boys and girls in India. The ill effects of anaemia can be seen as:

- Reduced capacity to work and thus decreased productivity.
- Increased risk to pregnant girls/ women. (In India 20-140% of maternal deaths are due to anaemia).
- Anaemia may increase susceptibility to infections by impairing the immune Functions.

HOW CAN ANAEMIA BE PREVENTED?

Anaemia can be managed through proper diet and iron supplementation. To prevent anaemia, increase the intake of green leafy vegetables and fruits. If an adolescent look pale, fatigued or listless and anaemia is suspected, refer to the nearest PHC. Anaemia is treated by giving iron and folic acid tablets on a daily basis till 2-3 months after haemoglobin levels have returned to normal.

OTHER DEFICIENCY STATES

Inadequate nutrition during adolescence can potentially retard growth so that the adolescent remains short and thin. The full height potential may not be reached and the adolescent may remain stunted. The sexual maturation may be delayed with late onset of puberty. Poor nutrition impairs work capacity and the boy/ girl may feel tired all the time.

Zinc deficient leads to a much wider spectrum of disorders commencing with intrauterine life and extending through childhood to adulthood with serious health and social implications. Iodine deficiency disorders include mental deficiency impaired mental functions, neurological defects, increased still birth and prenatal and infant mortality.



National Health Mission
Department of Health & Family Welfare
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NUTRITIONAL NEEDS OF ADOLESCENTS AND ANAEMIA

Growth and Development in Adolescence



Adolescence is a significant period for physical growth and sexual maturation. Nutrition being an important determinant of physical growth of adolescents is an important area that needs attention.

Inadequate nutritional intake during adolescence can have serious consequences throughout the reproductive years and beyond. Poor nutrition during adolescence can impair the work capacity and productivity of adolescent boys and girls in their later years. Further, an undernourished girl is at risk of developing complication during pregnancy and the chances of her giving birth to a low birth weight baby increases, thus, perpetuating a vicious cycle of malnutrition and ill-health.

Major components of food:

Major component of food include protein, fats, carbohydrates, minerals and vitamins which perform different functions.

PROTEIN



FATS



CARBOHYDRATES



MINERALS AND VITAMINS



Functions of various food components:

- Protein is of greatest importance in nutrition. Protein is required for body building and help inn repair and maintenance of body tissues.
- Fats are high-energy foods and a source of energy. They also make the food more palatable and provide fat-soluble vitamins.
- Carbohydrates form the major component of most diets and are the main source of energy.
- Vitamins and minerals are required in small quantities. They do not yield energy but enable the body to use other nutrients and also play an important role in growth, repair and regulation of vital body functions.
- Requirements of iron and calcium are particularly increased in adolescence.
- Calcium needs during adolescence are greater than they are in either childhood or adulthood because of rapid increase in lean body mass and any skeletal growth.
- Zinc is especially important in adolescence because of its role in growth and sexual maturation. Some sources of zinc are grains, nuts, meat, cheese and milk.

Balance Diet:

A balanced diet is one that provides all nutrients (carbohydrates, proteins, fats, vitamins and minerals) in required amounts and proportions for maintaining health and general well being and also makes a small provision for extra nutrients to withstand short duration of leanness. It can be achieved through a blend of four basic food groups, i.e. carbohydrates, proteins, fats, vitamins and minerals. As these are present in different types of food item like dals, chapatti or rice, green vegetables, easily available fruits and milk, it is important to eat these food items in the right mix every day.

Eating right and nutritious for food during adolescence

- Helps in achieving rapid growth and full growth potential.
- Helps in timely sexual maturation.
- Ensure adequate calcium deposition in the bones and helps in achieving normal bone strength.
- Establishes good eating habits and sets the tone for a lifetime of healthy eating. This prevents obesity, osteoporosis (weak bones due to deficiency of calcium), and diabetes in later life.

Young girls who have inadequate nutrition do not grow well and become stunted women. Adolescent girls often suffer from anaemia because of poor consumption of iron rich foods and also due to worm infestation and frequent infections. Because of severe malnutrition and repeated illness, the growth spurt in early adolescence does not occur and a slower and prolonged pubertal growth period is seen in adolescents from lower social economic status. Hence, any damage to the body physiology during adolescence, which places extra nutritional demand on the body, like early pregnancy, is detrimental as growth is still to be attained.

Adolescent mother are likely to deliver low birth babies. Due to poor milk production the infant may not be able to gain enough weight and remain malnourished. If these babies are girls, they are likely to continue the cycle by being stunted in adulthood, and so on, if something is not done to break this cycle. Support is needed for nutrition at all stages- infancy, childhood, adolescence and adulthood.