



Food, Nutrition, Health and Fitness



The onset of adolescence brings with it many profound changes. The growth rate speeds up dramatically. This growth spurt occurs due to the activity of hormones that affect every organ of the body and this makes healthy eating very important. The nutrient needs rise throughout childhood, peak in adolescence and then level off or even diminish as the teenager becomes an adult.

The science of food and nutrients and their action on our health is called **Nutrition**. Nutrition and health, in fact, are two sides of the same coin. They are, therefore, inseparable. Health depends to a large extent on nutrition, and nutrition depends on the food intake. So food, is the most important single factor for health and fitness.

Balanced Diet

- A balanced diet includes a variety of foods in correct proportions to meet daily nutrient requirements.
- It promotes good health and provides a nutrient reserve for short periods of deprivation.
- Meeting Recommended Dietary Allowances (RDAs) ensures the inclusion of a safety margin for nutrient needs.

Recommended Dietary Allowances = Requirements + Margin of safety

A balanced diet takes care of the following aspects.

1. Includes a variety of food items
2. Meets the RDA for all nutrients
3. Includes nutrients in correct proportions



4. Provides a safety margin for nutrients
5. Promotes and preserves good health
6. Maintains acceptable body weight for height

Health and Fitness

According to **World Health Organisation (WHO)** “Health is the state of complete physical, emotional, and social well-being, not merely the absence of diseases or infirmity”.

Physical health is easily understood, while mental health involves emotional and psychological well-being.

Mental health means using cognitive and emotional capabilities to function in society and meet everyday demands.



- The absence of a recognized mental disorder doesn't necessarily indicate good mental health.
- Good mental health is characterized by effective functioning, feeling capable and competent, handling stress, maintaining satisfying relationships, leading an independent life, and bouncing back from difficult situations.
- Physical fitness** results from regular exercise, proper diet, nutrition, and rest.
- It encompasses general fitness (overall health) and specific fitness (task-oriented abilities).
- Optimal efficiency of the heart, blood vessels, lungs, and muscles is essential for physical fitness.
- Today, physical fitness is defined as the body's ability to function effectively in work and leisure activities, resist diseases, and handle emergency situations.
- Fitness includes aerobic fitness, muscular strength, muscular endurance, flexibility, and body composition.
- Being fit prepares individuals to face mental and emotional challenges, providing strength, energy, and reserve for sudden physical demands.



- Thus, health is a state of complete mental, physical and social wellbeing whereas fitness is the ability to meet the demands of a physical task.
- A well-nourished and fit person is better able to learn and has more energy, stamina, and self-esteem.
- A healthy eating pattern along with regular exercise will certainly help to remain fit. Teenagers between the ages of 12 and 18 who have unhealthy eating behaviours and are undernourished develop eating disorders.

Using Basic Food Groups for Planning Balanced Diets

- Planning a balanced diet involves dividing foods into groups and ensuring each group is included in meals.
- Food groups share common characteristics, like source, physiological function, or nutrients.
- The five food group classification is commonly used in India for meal planning, considering factors like availability, cost, and deficiency diseases.
- Not all foods within each group have equal nutrient content, so including a variety of foods from each group is important.
- Classifying foods based on nutrients ensures all essential nutrients are provided and offers greater variety within each group.

There are five basic food groups suggested by the Indian Council of Medical Research (ICMR). These include:

- Cereals, grains and products
- Pulses and legumes
- Milk and meat products
- Fruits and vegetables
- Fats and sugars

One gram of

- carbohydrate releases 4 Kcal. of energy
- protein releases 4 Kcal. of energy
- fat releases 9 Kcal. of energy

Guidelines for using the basic food groups

The five food group system serves as both a guide for planning and assessing balanced diets.

It's a simple daily food guide useful for nutrition education.

Guidelines for its adoption include:

1. Include at least one serving from each food group in each meal.
2. Make choices within each group, recognizing variations in nutritive value.
3. For vegetarian meals, ensure suitable combinations to enhance protein quality (e.g., cereal-pulse combinations or adding small amounts of milk or curds).
4. Incorporate raw vegetables and fruits into meals.
5. Ensure at least one serving of milk to provide calcium and other nutrients (except iron, vitamin C, and fiber).
6. Cereals should not contribute more than 75% of total calories.

Vegetarian Food Guide

- Vegetarian diets primarily consist of plant foods like grains, vegetables, legumes, fruits, seeds, and nuts.
- Some vegetarian diets may include eggs, milk products, or both.
- Vegetarians can utilize the daily food guide to ensure an adequate diet, with similar food groups and serving sizes as non-vegetarian diets.
- Alternatives to meat for vegetarians include legumes, seeds, nuts, tofu, and eggs for those who consume them.
- Legumes and dark leafy greens are important for supplying iron typically found in meats.
- Soy "milk," made from soybeans and fortified with calcium, vitamin D, and vitamin B12, can substitute cow's milk for vegetarians who don't consume dairy.
- The food guide pyramid emphasizes foods from the five food groups depicted in the lower sections of the pyramid.
- Each food group provides some, but not all, of the essential nutrients.
- No single food group is more important than another; a balanced diet requires all food groups.

Dietary Patterns in Adolescence

- Healthy eating is crucial for teenagers' health and well-being, especially due to increased nutritional needs during rapid growth and puberty.
- Adequate nutrition is essential for overall emotional and physical health, helping to prevent chronic illnesses like obesity, heart disease, cancer, and diabetes.
- Studies indicate that adolescents often consume insufficient amounts of vitamin A, thiamine, iron, and calcium, while consuming excess fat, sugar, protein, and sodium.
- Eating habits like consuming fast food regularly, skipping meals, avoiding fruits and vegetables, frequent snacking, and dieting are common among adolescents.
- Understanding these eating patterns is important for evaluating the nutritional adequacy of diets and ensuring they meet minimum requirements for health and well-being.

Irregular meals and skipping meals

- The number of missed meals and meals eaten away from home increases during adolescence, reflecting the growing need for independence.
- Girls are more likely than boys to skip meals, especially the evening meal, breakfast, and lunch, potentially due to the pursuit of thinness and frequent dieting attempts.
- Neglecting breakfast is common among teenagers and young adults under 25, with many believing they can control weight by skipping meals, which can actually lead to weight gain and poor performance due to slowed metabolism.

Snacking:

Snacking is probably a survival technique for teens. Snacking does not have to be a bad habit. It can help maintain energy levels, particularly in active and growing adolescents. Many adolescents fail to eat three regular meals per day because of the 'skipping meal' factor. Thus snacking can actually be beneficial to ensure adequate intake of essential nutrients. However, surviving only on snacks is harmful to health.

Fast foods:

Adolescents, particularly in urban areas, are more apt to eat fast food because it is convenient and typically a social affair, and they may believe it is the fashion of the day. Fast food is often packed with fat and “empty calories”. We should make smart food choices even when visiting fast food restaurants.

Dieting:

Obesity is becoming a crucial problem among adolescents. Intervention is needed to maintain ideal body weight among the entire population. If this is not maintained, 80 per cent of them will stay overweight as adults. This can put them at risk for many medical problems, including diabetes, high blood pressure, high cholesterol and sleep apnea (a sleep disorder).

- Unsupervised dieting in teens can lead to dangerous outcomes, including eating disorders.
- Symptoms may include skipping meals, binge eating, fasting, or using laxatives or diet pills.
- Consequences can include cycles of weight loss and regain, increased risk of eating disorders and obesity, lowered self-esteem, psychological problems, cardiovascular risk, and potential mortality.

Modifying diet related behaviour

- Limit television viewing to one or two hours per day, including video games and computer use, to avoid erratic eating habits associated with watching TV.
- Practice healthy eating habits by consuming three balanced meals of average size each day, plus two nutritious snacks, and avoid skipping meals.



- Snack on low-calorie foods like raw fruits or vegetables instead of high-calorie or high-fat options like potato chips, biscuits, and fried foods.
- Drink four to six glasses of water daily, especially before meals, to create a feeling of fullness and avoid excessive consumption of soft drinks and fruit juices.
- Keep a weekly journal of food and beverage intake, TV and gaming time, and body weight to track habits and progress.
- Engage in regular exercise for 20-30 minutes, 3-4 times per week, including activities like walking, jogging, swimming, or biking, along with sports, games, and yoga.
- Address substance use and abuse, particularly of tobacco, alcohol, and drugs, through nutrition intervention, support, and counselling to promote physical and psychosocial rehabilitation.

Eating disorders at adolescence

- Adolescence is a critical time for body-image development, and eating disorders like anorexia nervosa and bulimia are of particular concern due to their association with self-esteem issues and distorted body image.
- Anorexia nervosa involves extreme weight loss driven by a desire for an unrealistically thin body, often leading to self-imposed starvation and a distorted perception of one's weight.
- Bulimia involves binge eating followed by purging through methods like vomiting or laxative use, often occurring after unsuccessful attempts at weight reduction.
- Both disorders can lead to serious health consequences, including convulsions, renal failure, irregular heartbeats, dental erosion, delayed menstruation, stunted growth, and osteoporosis, particularly in adolescent girls.



- Appreciating one's uniqueness and valuing oneself can serve as a defense against eating disorders, along with interventions like balanced diets, increased dietary fiber intake, and nutrient supplementation.
- The physical, social, and emotional changes experienced during adolescence significantly impact nutritional status and eating patterns, emphasizing the importance of learning sound dietary principles for long-term health and well-being.



THANK YOU