

# Unit-3



## Balanced Diet

- Definition and Concept
- Factors affecting balanced diet

## RDA-Definition

- Reference men and woman
- Food pyramid

# Definition

A diet which contains different types of food possessing the nutrients- ***Carbohydrate,protein,fats,vitamin s,minerals and water*** –in a proportion to meet the requirement of the body.



# Introduction

- Balanced diet is achieved by eating variety of foods.
- There is no single food with correct amount of all essential nutrients.
- Eating a balanced diet requires a certain amount of knowledge and planning.

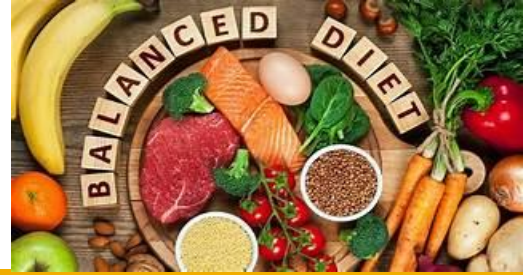


# Cont..

- The basic composition of balanced diet is highly variable as it differs from country to country depending on the availability of food.
- Social & cultural habits, economic status, age, sex & physical activity of the individual largely influence the intake of diet



# Why balanced diet is important?



- Body's organs and tissues need proper nutrition to work effectively.
- Without good nutrition, body is more prone to disease, infection, fatigue, and poor performance.
- Children with a poor diet run the risk of growth and developmental problems. Bad eating habits can continue for the rest of their lives.

# Factors affecting balanced diet

**Food choices for a balanced diet depend on many factors such as:**

- individual energy and nutrient needs.
- health concerns.
- cultural or religious practices.
- cost.
- food availability
- food preference
- social considerations
- environmental considerations
- advertising.

# In detail about each factor

1. **Individual energy and nutrient needs-** The amount of energy, carbohydrate, fat, protein, vitamins and minerals needed differs between different age groups and between males and females.
2. **Health concerns-** Diets which exclude many foods due to a person's health concerns or medical reasons need to be planned carefully.
3. **Cultural or religious practices-** Ethical and religious practices, such as avoiding meat, may limit the range of foods people eat.
4. **Cost-** Cost is a particularly important factor for people with low incomes. Food prepared at home is often cheaper than eating out or buying take-aways.
5. **Food availability-** Most foods are grown in a particular season of the year, e.g. strawberries are harvested in summer. These are called 'seasonal foods'.
6. **Food preference-** Not everyone likes the same food, but some foods are particularly popular or unpopular. The taste, texture or appearance of foods can affect people in different ways. People should choose a balanced diet with a wide range of foods they enjoy.
7. **Social concerns-** Human welfare and fair trading, where growers or producers in developing countries are paid a good minimum price to cover their costs, can be a high concern for some people.
8. **Environmental concerns-** Scientific intervention in the food chain also causes concerns for some people. Genetically modified (GM) ingredients changing a plant, animal or micro-organism's genes or inserting one from another organism. People may decide to choose non-genetically modified food products. People may also choose foods labelled as organic. The word 'organic' has come to have the meaning of foods grown without the use of inorganic fertilisers, or pesticides. Food sold as 'organic' must come from growers, processors and importers who are registered and approved by organic certification bodies, which are shown on the food label.

# Recommended dietary allowances

RDA is defined as the nutrients present in the diet which satisfy the daily requirement of nearly all individuals in a population.





# Factors that affects RDA

- RDA of an individual depends on many factors like:
  1. Age
  2. Sex
  3. Physical work
    1. Sedentary
    2. Moderate
    3. Hard (Heavy)
  4. Physiological stress
    1. Pregnancy
    2. Lactation

# RDA for Indian Nationals

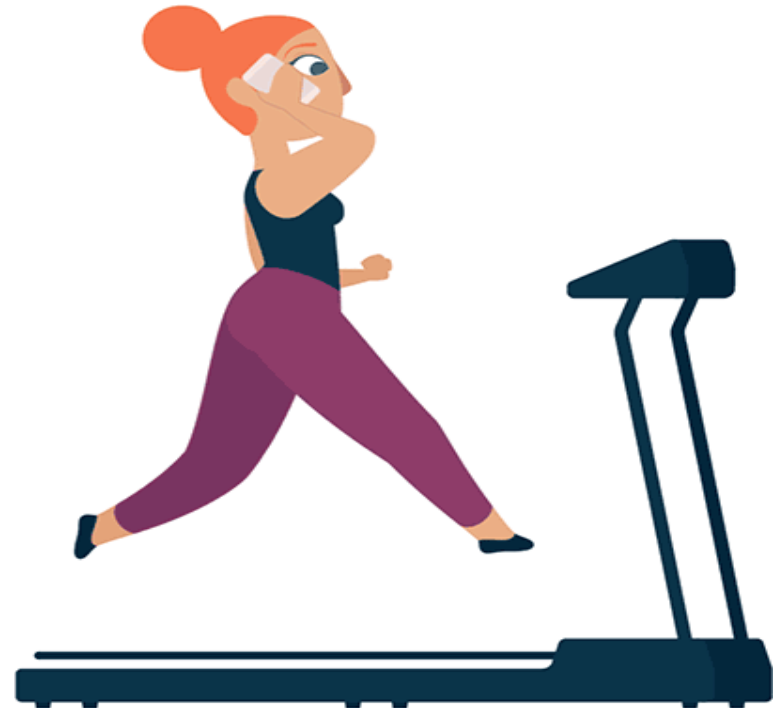
ICMR has defined well  
nourished Indian adults  
who had satisfactory  
growth during childhood  
as

- Reference men
- Reference woman



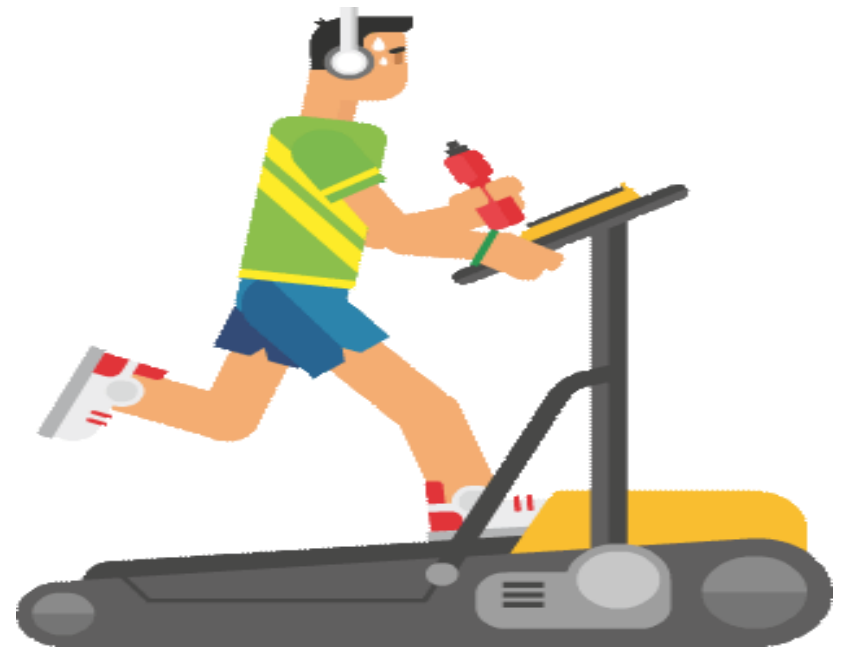
# Reference Women

1. between 20-39 years of age
2. healthy and weighs 50kg.
3. may be engaged 8 hours in general household work or in light industry or in any other moderately active work.
4. 8 hours in bed
5. spends 4-6 hours sitting or moving around in light activity
6. 2 hours walking or active recreation or household chores.



# Reference Men

1. between 20 – 39 years of age
2. weighs 60 kg
3. free from disease and physically fit for active work.
4. employed for 8 hours
5. 4-6 hours sitting and moving about
6. 2 hours in walking or in active recreation or household duties
7. 8 hours in bed



# Food Pyramid



A food pyramid is a pyramid-shaped diagram representing the optimal number of servings to be eaten each day from each one of the basic food groups.

**Fats, Oils and Sweets  
use Sparingly**

**+ Calcium, Vitamin D,  
Vitamin B-12  
Supplements**

**Milk, Yogurt and  
Cheese Group  
3 Servings**

**Meat, Poultry, Fish  
Dry Beans and  
Nut Group  
2 Servings**

**Vegetable  
Group  
3 Servings**

**Fruit Group  
2 Servings**

**Fortified-  
Cereal,  
Bread**

**Rice and  
Pasta  
6 Servings**

**Water 8 Servings**

# 6 nutrients in balanced diet

- Carbohydrate
- Protein
- Fat
- Vitamin
- Mineral
- Water



# CARBOHYDRATE

RDA:400g

Functions-

- 1) It is chief source of energy(60-70% total energy).
- 2) brain and other parts of CNS are depend on glucose for energy.
- 3) Required for the oxidation of fat.
- 4) Synthesis of pentose's for DNA,RNA,NAD<sup>+</sup>,FAD synthesis.



# Sources of carbohydrate

Table sugar

cereals

pulses

Roots & tubers

bread

# PROTEIN

**RDA:56g**

## **Functions-**

- These are the fundamental basis of cell structure & function.
- Maintains osmotic pressure & have role in clotting of blood, muscle contraction .
- All the enzymes, several hormones, immunoglobulins are proteins.
- Used as energy sources.

# Sources of Protein

pulses

milk

Leafy vegetables

meat

cereals

egg

# FAT

RDA:70g

## Functions-

- It provide 15-50% total energy.
- concentrated fuel source of body.
- Constituents of membrane structure & regulate membrane permeability.
- Source of fat soluble vitamins.
- As cellular metabolic regulators.
- As insulating material protect internal organs.

# Sources of fat

butter

cheese

cream

Red meat

egg

# VITAMINS

Chemical compounds required in very small quantities which are essential for normal and health metabolism.

According to the solubility-

1. Water soluble

2. Fat soluble

# VITAMINS

## Fat-soluble

Vitamin A  
Vitamin D  
Vitamin E  
Vitamin K

## Watersoluble

### Non B- Complex

Vitamin C

### B-Complex

Thiamine (B1)  
Riboflavin(B2)  
Niacin (B3)  
Pantothenic acid(B5)  
Pyridoxine(B6)  
Biotin(B7)  
Folic acid (B9)  
Vitamin B12

# Mineral



Minerals are inorganic substances needed in small amounts by all cells for normal functioning.





# WATER

Most abundant constituent the human body  
it makes up about 60% body weight.

# Functions of water

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- Provision of moist environment
- Aqueous condition for metabolism
- Moistening of food for swallowing
- Regulation of body temperature
- Being a major constituent of blood and tissue fluid it transport substances

THANK YOU...

