

VITAMINS

Dr. Savita

INTRODUCTION

- It is **Organic** food factors.
- Essential for healthy and well balanced growth of the body.
- Small amount of vitamin is sufficient for the normal functioning of the body.
- Partial deficiency of vitamins causes deficiency diseases.

TYPES

- A) **Water** soluble:- Vitamins B complex & C
- B) **Fat** soluble:- Vitamins A, D, E & K

VITAMIN A (RETINOL)

- **Source** - Milk, butter, ghee, fish, cod liver oil, mutton, eggs, green and yellow vegetables, fruits, **carrots**, cabbage, mangoes and papaya etc.
- **Daily requirement** - 5000 I.U.

FUNCTION

- (i) Healthy growth of epithelial lining and mucous membrane
- (ii) Essential for **new cell growth**
- (iii) Forms visual part in **retina**
- (iv) This is **anti-infective** and **growth promoting** vitamin.

DEFICIENCY

- Night blindness
- Dry skin (toad's skin)
- Dry eyes (xerophthalmia)
- Retards growth and lowers resistance for bacterial infection
- Respiratory infections like common colds, bronchitis.
- It also leads to faulty development of teeth and spongy gums.
- Formation of phosphatic calculi.

VITAMIN D (Calciferol)

- **Source** - Milk, butter, ghee, egg, yolk, cod liver oil, exposure to **sunlight**.
- Naturally it is produced in the skin by the action of ultraviolet rays of sun.
- **Daily requirement** - 400-1000 IU.

FUNCTION

- (i) Essential for **calcification** of bones & teeth and prevention & cure of rickets & osteomalacia.
- (ii) Require for assimilation of calcium & phosphorus and development of bones & teeth.

DEFICIENCY

- Rickets in children
- Osteomalacia in adults

Vitamin E (Tocopherol)

- Vitamin E This is called as **Anti-sterility vitamin**.
- **Source** - Milk, vegetables oils, green leafy vegetables, germinating seeds, wheat, cereal.
- Tocopherol is an oil extracted from wheat germ is the most known source of Vit. E.
- **Daily requirement** – 15 mg

Function

- (i) It promotes reproduction.
- (ii) Helps in rapid **cell division** and **growth** of embryo.

DEFICIENCY

- (i) Death of fetus in uterus.
- (ii) Sterility in males and females in animals.
- (iii) muscle defects.

VITAMIN K (PHYLLOQUINONE)

- This is called as **Coagulation vitamin**.
- **Source:** Milk, green vegetables, cabbage, tomato, cauliflower, spinach, wheat, soya bean oil.
- **Daily requirement:** 0.2 to 3.2 ng/ml

Function

- (i) Essential for normal **coagulation** of blood.
- (ii) normal functioning of liver.

Deficiency

- Hypo-prothrombinemia
- Occurrence of hemorrhages in the skin and subcutaneous tissues of organs due to prolongation of blood clotting.

1) **Vitamin B-Complex**

Vitamin B1 (Thiamine)

❑ **Function**

- (i) Promotes appetite & growth and nerve function
- (ii) Essential for growth & health of body.

❑ **Source** - Milk, eggs, unpolished grains, fish, yeast

❑ **Daily requirement** - 2 mg.

❑ **Deficiency** - Beriberi, loss of appetite, neuritis, mental depression and conjunctivitis.

Vitamin – B2 (Riboflavin)

- ❑ **Function** - Makes metabolism of carbohydrates & fats easy.
- ❑ **Source** - Milk, butter, eggs, green vegetables, fruits.
- ❑ **Daily requirement** - 2-3 gms
- ❑ **Deficiency** - Ocular manifestations, irritation of eyes, photophobia, burning, itching, angular stomatitis, glossitis and dermatitis of skin

Vitamin B6 (Pyridoxine)

❑ **Function**

- (i) This is called as anti-dermatitis vitamin
- (ii) Helps as a co-enzyme in many metabolic processes.
- (iii) Essential for normal protein metabolism & for Hb synthesis

❑ **Source** - Whole grains, cereals, pulses, milk, vegetables, nuts and fruits.

❑ **Deficiency:** Skin diseases, anemia, muscular dystrophy, rigidity.

Vitamin B12 (Cynocobalamine)

- ❑ **Function** - (i) It is called as Anti pernicious factor (ii) Cures pernicious anemia in very small doses. (iii) Maintains normal functions of RBCs.
- ❑ **Source** - Milk, meat, Liver, cereals and pulses.
- ❑ **Deficiency** - Megaloblastic or Pernicious anemia.