

☆ Vitamins ☆

Vitamin	Main source	Deficiency
Vit A	Retinol → animal origin → liver ,cod liver oil & eggs Beta carotene → plant origin → colored veg : carrots , tomatoes , spinach	<ul style="list-style-type: none"> ➤ Clinical → xerophthalmia → child 0-4 yr ➤ Night Blindness → (complete or partial) ➤ Follicular hyperkeratosis ➤ Conjunctival xerosis ➤ Corneal xerosis ➤ Bitot's spots ➤ Keratomalacia
Vit D	In egg yolk + natural (UVR in sun light)	Rickets (children) Osteomalacia (adult)
Vit E	In wheat germ & green leafy veg e.g. (corn ,eggs ,veg oils & liver)	Bleeding tendency
Vit K	Plants + normal flora	Hemorrhagic manifestation
Vit B1 (Thiamine)	Beans ,legumes & brewer yeast	Beri -beri w/ can occur in main 3 forms : 1- peripheral neuritis 2- cardiac beriberi 3- infantile beriberi
Vit B (riboflavin)	Milk ,liver , meats , fish & veg	Angular stomatitis & Magnata tongue
Vit B12		Megaloblastic anemia (pernicious), demylelinating neurological lesion in spinal cord & infertility
Nicotinic acid	Yeast ,liver ,peanut , meat & Instinal flora	Pellagra : 3 D's " Dermatitis Dementia Diarrhea

Vit C

Vegetables & fruits (pepper ,berries , strawberry ,citrus ,green onion , green cabbage)

Scurvy ;

Signs :

- Swallowen & bleeding gums
- Sc bruising
- Bleeding in to the skin & joints
- wound healing
- Anemia & weakness

☆Minerals ☆

Calcium

Milk ,cottage cheeses ,yoghurt ,parsley

Osteoporosis

Irregular blood pressure ,clotting factors & muscular movements

Iron

Liver ,red meat .applies ,dried fruit ,molasses

Iron def anemia

☆Malnutrition ☆

Def : relative or absolute deficiency or excess of one or more essential nutrients

Major forms :

a- under – nutrition : does not meet the needs for all activities & body maintenance , **either**

➤ **macro** → protein def → marsamus & kawshikor) or ➤ **micro** → IDA ,IDD,VAD

B- Over – nutrition : intakes exceeds the body needs e.g (**obesity**)

How can u assess the obesity ??

1- BMI

BMI = wt Kg / hight (m²)

Evidence of BMI → it's associated with TYPE 2 DM ,cardiovascular morbidity & mortality

2- WC

Best one to detect the mortality

Level 1 >94 (m) > 80 (f) → there should no further wt gain

Level 2 >102 (m) > 88 (f) → require wt management to ↓the risk of DMII & CVS complication

3- WHR

↑ risk of DM & CVS if :

M >95% F > 80% → below these is considered low risk (peripheral obesity)

Visceral (apple shaped) peripheral (pear shaped)

