

Editorial**Year: 2014 | Volume:2 | Issue-2****Vitamin D Deficiency – The Modern Epidemic****¹Dr Subrata Bagchi**¹Prof, Community Medicine, NRS Medical College, Kolkata

Researchers have analyzed data on vitamin D status on adult population in USA and found Vit D deficiency or insufficiency in 50-78%¹. In United Kingdom

90% of adult population had low vitamin D². It is extremely common in Sunny Middle East because people cover their body with clothes. The causes of vitamin D deficiency are – modern life style, Sun phobia because of skin cancer, wrinkles, aging spots; obesity, medical illness e.g. mal-absorption, liver & kidney disease; medications e.g. phenytoin, phenobarbital, steroid. Natural vitamin has two forms, vitamin D3 (cholecalciferol) and vitamin D2 (ergocalciferol). Vitamin D3 is superior to vitamin D2.

Vitamin D affects every system in human body. It plays a vital role in health of muscle and bones, normal functioning of immune system, controls growth of normal and cancerous cells, prevention & treatment of type 2 diabetes, prevention of heart disease, kidney disease & heart failure, prevention of coronary artery

disease, treatment of Psoriasis, Prevention of Dental problems and prevention & treatment of depression³.

In people with Vit D deficiency the parathyroid glands produce more than normal amount of PTH, which cause excessive dissolving of calcium from bone leading to bone aches and pain. Vitamin D deficiency is a major cause of osteoporosis. There is a direct correlation between Vit D level and bone mineral density. Post-menopausal women with osteoporosis had low level of Vit D. Steroids antagonize effects of Vit D.

Modern research has clearly established that Vit D plays a vital role in the normal functioning of immune system. Individual low in Vit D are at increased risk of common cold, flu, swine flu, rheumatoid arthritis, SLE, inflammatory bowel disease. Vitamin D plays a significant role in development of immune system and lung during foetal growth. Vitamin D supplementation during pregnancy can reduce the risk of asthma in a child. Vitamin D supplements help in the treatment of tuberculosis specially those cases

Address for correspondence:

The Editor/ Managing Editor,
Journal of Comprehensive Health
Dept of Community medicine
NRS Medical College,
138, AJC Bose Road, Kolkata-700014

resistant to usual drug treatment.

Vitamin D is helpful to prevent and treat cancer e.g. colon, breast, prostate and ovary. It may work by following mechanism promoting death of cells, turning on and off certain genes, cutting off blood supply to cancerous tissue, prevent metastasis⁴

Vitamin D is a natural antihypertensive agent. It reduces blood pressure by reducing insulin resistance and inhibits Renin Angiotensin

Type I diabetes develops due to malfunctioning of immune system, Vit D plays a vital role for normal functioning of immune system. Proper Vit D supplementation can prevent Type I Diabetes. Vitamin D is important for normal glucose metabolism viz. by directly acting on insulin producing cells in pancreas to produce more insulin, by reducing insulin resistance, by increasing insulin production by improving level of calcium inside the cells. Vitamin D has a protective effect against development of type 2 diabetes.

Vitamin D deficiency causes chronic kidney disease. Vit D supplementation can improve depression.

Vitamin D deficiency in pregnancy increases the risk of gestational diabetes, preeclampsia, and cesarean section. In a study from India researchers found that 84% of pregnant women living in sun drenched Northern India were deficient in Vit D⁷

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Aldosterone System (RAAS) by inhibiting rennin. It decreases inflammation and insulin resistance, two important mechanism involved in development of coronary heart disease. In a study from India, vitamin D deficiency emerged as a new risk factor for cardiovascular diseases⁵. Evidence is beginning to accumulate implicating vitamin D and its receptors in the pathogenesis of both coronary artery diseases and acute coronary syndrome⁶

Risks to newborn are low birth weight, rickets and soft skull bones, asthma and Type I diabetes in childhood. Lactating woman need more Vit D. The milk of lactating women who had adequate level of Vit D contained Vit D equal to amount contained in infant formula.

Vitamin D deficiency is very common in India in all age groups and both sexes across the country. One study from North India reported 60000-120000 IU/month to achieve Vitamin D level more than 30 ng /ml. This is the level at which calcium absorption from the gut is maximum. The current recommendation of taking 1 to 1.5 gm of dietary calcium and 2000 IU of Vitamin D in the diet should be adhered to avoid Vitamin D deficiency in the Indian population⁸.

It is high time Govt. of India should come forward to counter the menace of Vitamin D deficiency as a public health problem

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