

Vitamin D Deficiency- The New Pandemic of India

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The problem of Vitamin deficiency is around 72% in the general population. India is socially religious and cultural practices do not facilitate adequate sun exposure thereby we are neglecting the benefits of the god given gift sun sign.

The subclinical vitamin deficiency is highly prevalent in India both Urban and rural settings and vit d deficiency definitely plays an important role in bone disorders like rickets osteoporosis cardiovascular diseases diabetes cancer infection like tuberculosis in India.

We currently have a food fortification program for vitamin D in food items like cooking oil fortified with vitamin D which can prevent a small percentage of people from vitamin D deficiency in India.

We know the vitamin D is photosynthesized under the skin on exposure to the ultraviolet B rays doing them sunlight and we should get enough vitamin D by this synthesis during the time as we have plenty of sunshine in the tropical country like India when compared to the west but still we fall in a big spectrum of vitamin D deficiency in India.

It is a new pandemic for the physicians especially orthopedicians as we see out of the 10 patients we see in the OPD around seven to eight patients have vitamin D deficiency The cultural and factors like socio-economic factors food especially as the most Indians are vegetarians and we have a very limited dietary source of vitamin D when compared to the other part of the world and most of the Indians are unaffordable for very good vitamin D rich food so mostly the fortification of the stable foods with Vitamin D especially the cooking oil Sunflower oil has done a big benefit but still we are way behind because we have the lot of patients with Vitamin deficiency and we know the normal level of the vitamin D is a should have a 30-100 ng/ml as a normal and if it is below 30ng/ml is insufficiency and below 20ng/ml is a severe deficiency and

another major problem is affordability for doing test for 25-OHvitamin D is also very less. As of now we are able to test only for limited number of patients, but as a routine practice we cannot do so what I doing in my clinical practice is do detailed clinical history and identify the symptoms of Vitamin D deficiency and prescribe the vitamin D for the patients whom suffering with the symptoms of vitamin D deficiency. A word of caution regarding the prescription of vitamin D, because it is a fat soluble vitamin so we cannot write in liberty like the vitamin B complex and vitamin C which is the water soluble vitamin. The supplementation should be very precise, and it should be done for the shorter period like for deficiency the prescribed dose of 60000 International units weekly once for a period of 8 weeks and be sure that you routinely verify their vitamin D level and we confirm that there have the normal serum level vitamin D which is 30-100ng per ml and you know vitamin D is synthesized and the skin by the ultraviolet B rays. The most common source of vitamin D is synthesized in our body and other common sources are especially fatty food sources like Salmon fish, cod liver oil and milk and very less number of vegetable sources like yeast and mushrooms. So, most of the diet is deficient in Vitamin D. We all know vitamin D is very essential for bone metabolism and the role of Vitamin D in it.

The vitamin D most active form is 1, 25 hydroxyvitamin D and its deficiency causes common skeletal illness like Rickets, osteomalacia and osteoporosis since vitamin D in maintains regulation of the bone balance of both calcium and phosphorus minerals and it is especially helpful in mineralization and remodelling. Thus without adequate level of 1 25 dihydroxyvitamin D in the blood same blood calcium cannot be absorbed and low calcium leads to increase in them serum parathormone concentration which leads to increase tubular reclamation of calcium in Kidneys and it will result from breakdown of Skeleton at the cost of the bones.

Coming to the extra skeletal causes there are a lot of extra skeletal complications following the vitamin D deficiency especially its

impact in immune system then it can multiply the probability of cardiovascular diseases , insulin resistance can cause type 1 and type 2 Diabetes mellitus, Cancer like colorectal, prostate, ovarian , breast, lungs and esophagus and it can cause infections like Tuberculosis.

The nutritional factors are the most important cause of Vitamin D deficiency India as most of the dietary sources of vitamin D have very low vitamin D content. The only commonly found vitamin D rich food is fortified milk even though the fortified milk contains very less number of Vitamin D Mixed in it. Generally Indian foods have low quantity of calcium present. so naturally it leads to secondary hyperparathyroidism which can indirectly affect the vitamin D function and affect calcium balance. The high sodium intake which was a direct relationship to lower the bone mass. India we take lot of tea and coffee where we boil the milk multiple times, the first time the level of vitamin D is high when compared to the multiple boiling so it has reduced significantly reduced levels of Vitamin D and coming to the average consumption of the milk it is very less when compared to the developed countries and more importantly our Indian diet has a high phytates which chelate micronutrients like Iron calcium and reduced absorption of calcium in intestines.

So as a clinician it's high time to wake up and start treating the patients in conjunction with lowering vitamin D deficiency in the community and safeguarding Indians from another pandemic.