

An Editorial Note on Vitamin D Deficiency

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EDITORIAL

Vitamin D deficiency, also known as hypovitaminosis D, is characterised by a low vitamin D level. It is more common in those who do not get enough sunshine (especially sunlight that contains enough ultraviolet B rays (UVB)). Vitamin D deficiency can also be caused by a lack of vitamin D in the diet, vitamin D absorption problems, and illnesses that prevent vitamin D from being converted into active metabolites, such as liver, kidney, and genetic conditions. Deficiency affects bone mineralization, resulting in softening illnesses in youngsters such as rickets. In adults, it can exacerbate osteomalacia and osteoporosis, increasing the risk of bone fractures. Vitamin D insufficiency causes muscle weakness, which increases the risk of falls and bone fractures in adults. A lack of vitamin D has been linked to the development of schizophrenia. Under UVB exposure from sunshine, vitamin D can be produced in the skin. Mushrooms, as well as oily fish like salmon, herring, and mackerel, are good sources of vitamin D.

Vitamin D is commonly added to milk, and it is also added to bread, drinks, and other dairy products on occasion. Vitamin D is currently found in a variety of multivitamins in varying doses. Vitamin D insufficiency is only detectable by blood testing, although it is the cause of various bone problems and is linked to the following conditions:

- Rickets is a paediatric condition that causes stunted growth and lengthy bone deformities.
- Craniotabes, or abnormal softness or thinning of the skull, is the first indication of vitamin D insufficiency.
- Osteomalacia is a bone-thinning illness characterized by proximal muscle weakness and bone fragility. It affects only adults. Women who have had numerous pregnancies and have a vitamin D deficiency are more likely to develop osteomalacia.
- Osteoporosis is a condition in which bone mineral density is diminished and bone fragility is enhanced.
- Fracture risk is increased.

- Reduced blood calcium causes muscle pains, weakness, and twitching (fasciculations) (hypocalcemia).
- Localized inflammatory bone loss that can lead to tooth loss is known as periodontitis.

Pre-eclampsia

There has been a link between vitamin D insufficiency and pre-eclampsia in pregnant women. The specific association between these illnesses is unknown. Vitamin D deficiency in the mother can impact the infant, causing overt bone illness before delivery and bone quality impairment after birth.

COVID-19 and respiratory infections

Vitamin D insufficiency has been linked to an increased risk of severe acute respiratory infections and COPD. Vitamin D insufficiency and COVID-19 symptoms have been linked in recent studies. According to an analysis, vitamin D insufficiency is not linked to a higher risk of COVID-19, but it is linked to a higher severity of the disease, including 80 percent higher rates of hospitalization and fatality.

Schizophrenia

A lack of vitamin D has been linked to the development of schizophrenia. Vitamin D levels are typically lower in people with schizophrenia. Seasonality of birth, latitude, and migration, all of which have been associated to schizophrenia, all imply vitamin D insufficiency, as do other health issues including maternal obesity. Vitamin D is necessary for the nervous system's regular growth. Vitamin D insufficiency in the mother can lead to prenatal neurodevelopmental abnormalities that affect neurotransmission, brain rhythms, and dopamine metabolism. Vitamin D receptors, CYP27B1 and CYP24A1, are present in different parts of the brain, indicating that vitamin D is a neuroactive, neurosteroid hormone that is required for brain development and appropriate function. Vitamin D suppresses inflammation, which is a causal role in schizophrenia.

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