

A Study on Vitamin D among Athletics Officials in India

Prof. Rajesh Kumar

Principal and Chairman, University College of Physical Education, Osmania University, Hyderabad, T.S. India

Abstract - Vitamin D regulates calcium absorption and, in conjunction with the parathyroid hormone, bone mineralization. Biochemical studies have implicated vitamin D deficiency in many chronic diseases including, but not limited to, infectious diseases, autoimmune diseases, cardiovascular diseases, diabetes and cancer. Numerous epidemiological publications support the extra-skeletal benefits of vitamin D and they cannot be ignored even though majority of these are association studies or small randomized controlled trials. Indian Scenario: This study is conducted randomly on 10 male athletic officials between the Age group of 45 to 55 Years through blood Test Vitamin D 25 Hydroxy, D2 + D3 at Hyderabad. It was found all the 10 Members are having Vitamin D deficiency Levels less than 20 ng/ml. Vitamin D is needed to keep the body functioning well, helps for strong bones, prevent cancer, muscle weakness etc. Hence it is recommended to have enough Vitamin D food, supplements and carefully planned sunlight for the general population.

Index Terms - Vit D deficiency, diabetes, cancer etc.

INTRODUCTION

It has been estimated that 1 billion people worldwide have Vit D deficiency or insufficiency¹. India with its socio-cultural diversity, receiving reasonable sunlight throughout the year, it was believed that Indians would not suffer from Vitamin D deficiency. Geographical location of the country extending 8.4° N latitude to 37.6° N latitude with tropical weather conditions should ideally provide ample exposure to sunlight. However, Vitamin D regulates calcium absorption and, in conjunction with the parathyroid hormone, bone mineralization. Biochemical studies have implicated vitamin D deficiency in many chronic diseases including, but not limited to, infectious diseases, autoimmune diseases, cardiovascular diseases, diabetes and cancer. Numerous epidemiological publications support the extra-skeletal benefits of vitamin D and they cannot be

ignored even though majority of these are association studies or small randomized controlled trials. Vit D deficiency is very common in India in all the age groups and both sexes across the country Prof. Bakhtiar Choudhary said reasons our ancestors started the day with prayers and Surya namaskars facing the sun, know a day the people are in home and work with no proper sunlight. The Vitamin D is ignored which results in the Deficiency in the body.

OBJECTIVES OF THE STUDY

The Objective of the study is to find the Vitamin D Deficiency among athletic officials between the age group of 45 to 55 Years in India.

METHODOLOGY

This study is conducted randomly on 10 male athletic officials between the Age group of 45 to 55 Years through blood Test Vitamin D 25 Hydroxy, D2 + D3 at Hyderabad.

RESULTS AND DISCUSSION

It is unusual to note that many adults are found to be severely deficient in Vit D. This may be because of changes in climate, changes in eating habits and due to subclinical malabsorption. Food intolerances among athletic officials need to be evaluated as they contribute for poor absorption of Micronutrients. The following

Table-1. Results of 25 (OH) VIT 3 (Vitamin D2+ Vitamin D3)

S. No	25(OH) D2 Ergocalciferol	25(OH) D3 Cholecalciferol	Total Result
1	1.43 ng/ml	13.47 ng/ml	14.90 ng/ml
2	2.13 ng/ml	14.57 ng/ml	16.70 ng/ml
3	1.50 ng/ml	13.50 ng/ml	15.00 ng/ml
4	2.50 ng/ml	14.50 ng/ml	17.00 ng/ml

5	1.35 ng/ml	13.35 ng/ml	14.70 ng/ml
6	2.15 ng/ml	14.60 ng/ml	16.75 ng/ml
7	1.30 ng/ml	12.35 ng/ml	13.65 ng/ml
8	1.53 ng/ml	13.57 ng/ml	15.10 ng/ml
9	2.40 ng/ml	14.20 ng/ml	16.60 ng/ml
10	1.63 ng/ml	13.67 ng/ml	15.30 ng/ml

VITAMIN D DEFICIENCY PREVENTION AND TREATMENT

The most basic way to prevent as well as treat Vitamin D deficiency is to have unprotected sun exposure for some time on a daily basis. Experts say 15-20 mins in the midday sun is the best to get enough Vitamin D. Wearing high quality sunglasses to protect the eyes is important. Some sources mention Cod Liver Oil as a good source for Vitamin D. But I would personally not recommend it because the quality and quantity of Vitamin D you get from this source is not reliable. There are also other health issues reported by the consumption of cod liver oil. Pharmaceutical preparations are better than commercially sold dietary supplements. There are a few food sources for Vitamin D. But then, these may not be the ideal sources for Vitamin D3. They, most likely have Vitamin D2 needs conversion in to D3 for all functions.

CONCLUSION

Vit D deficiency is a serious global health issue. Socio-cultural changes resulting in inadequate diet & sunlight exposure, dependencies and diseases may contribute to chronic Vit D deficiency along with other micronutrient deficiencies. It is obvious; it may no longer be correct to assume that vitamin D levels in populations follow latitude gradients. Strategies such as food fortification, education with regard to sunlight exposure, pharmacological supplementation and frequent monitoring of blood levels are important. There is a need for more epidemiological studies on different age groups and relation to serious pathology due to Vit D deficiency. The Recommended Dietary Allowance (RDA) for adults is 600 international units (IU) of vitamin D a day. That goes up to 800 IU a day for those older than age 70. To meet this level, choose foods that are rich in vitamin D. For example, choose fatty fish, such as salmon, trout, tuna and halibut,

which offer higher amounts of vitamin D, or fortified foods, such as milk and yogurt.

RECOMMENDATION

It is important to carry out the Blood estimation of Vit D periodically. The test to determine Vitamin D levels is – 25 Hydroxy (OH) 2 D blood test. This test is slightly expensive in India. It is around Rs.2000. It is strongly advised that everyone must get the test done once a year Vitamin D is essential for strong bones, because it helps the body use calcium from the diet. Traditionally, vitamin D deficiency has been associated with rickets, a disease in which the bone tissue doesn't properly mineralize, leading to soft bones and skeletal deformities Research suggests that vitamin D could play a role in the prevention and treatment of a number of different conditions, including type1 and type 2 diabetes, hypertension, glucose intolerance, and multiple sclerosis.

REFERENCES

- [1] Hollick MF. Vitamin D deficiency. *N Engl J Med* 2007;357:266-281.
- [2] Harinarayan CV, Joshi SR. Vitamin D status in India-Its implications and Remedial Measures. *J Assoc Physicians India* 2009;57:40-48.
- [4] Marwaha RK, Sripathy G. Vitamin D and Bone mineral density of healthy school children in northern India. *Indian J Med Res* 2008;127:239-244.
- [5] Harinarayan CV. Prevalence of vitamin D insufficiency in postmenopausal South Indian women. *Osteoporos Int* 2005;16:397-402
- [6] M.F. Holick, Photobiology of Vitamin D, in: D. Feldman, J.W. Pike, F.H. Glorieux (Eds.), *Vitamin D*, second ed., vol. 1, Elsevier Academic Press, 2005, pp. 37–46.
- [7] C.M. Skeaff, J.E.P. Rockell, T.J. Green, Serum 25OHD Concentrations of New Zealanders Aged 15 Years and Older, UV Radiation and its effects – an update 2006, Royal Soc. New Zealand, 2006.
- [8] J.J. McGrath, M.G. Kimlin, S. Saha, D.W. Eyles, A.V. Parisi, Vitamin D insufficiency in south-east Queensland (letter), *Med. J. Aust.* 174 (2001) 150.
- [9] M.C. Chapuy, P. Preziosi, M. Maamer, S. Arnaud, P. Galan, S. Hercberg, P.J. Meunier, Prevalence

of vitamin D insufficiency in an adult normal population, *Osteoporos. Int.* 7 (1997) 439–443.

- [10] M.F. Holick, High prevalence of vitamin D inadequacy and implications for health, *Mayo Clin. Proc.* 81 (2006) 353–373
- [11] D. Corless, M. Beer, B.J. Boucher, S.P. Gupta, Vitamin-D status in long-stay geriatric patients, *Lancet* 1 (1975).
- [12] Prof. Maj S Bakhtiar Choudhary (Retd)*Ashad B Choudary**Sahera Jamal***(2019)
- [13] Vitamin ‘D’ Panacea of Life” Understanding the need of the day, International Sports Science conference.