

## PREVALENCE OF VITAMIN D DEFICIENCY IN PEOPLE AGED 18-40 YEARS OLD REFERRED TO YASUJ LAB IN WINTER OF 2017

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Published online: 01 May 2018

### ABSTRACT

**Introduction & Objectives:** The prevalence of vitamin D deficiency in Iran and in women is high, vitamin D is a fat soluble vitamin, both as a hormone and as a vitamin, and when exposed to sunlight in the skin, and in the liver to 25 Hydroxyvitamin D is hydrochloric acid, and after transferring to the kidney, it contains 1 and 25 hydroxyvitamin D, the active form of vitamin A, from foods containing vitamin D, fatty fish, fish oil, enriched foods and vitamin supplements. . In addition to skeletal effects, including the preservation of natural bone regeneration, its lack of cancer and diseases Metabolic role. The natural level of hydroxyvitamin D in the serum is about 20 to 80 ng / ml, the level of vitamin D is between 11 and 20 ng / ml, and below 10 ng / ml is a deficiency in vitamin D . Therefore, the aim of this study was to investigate the level of vitamin D and the prevalence of this vitamin deficiency in young people (18 to 40 years old) in Yasuj. If necessary, educational programs are based on their findings, and by raising awareness of this group Prevent the development or progression of this vitamin deficiency.

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doi: <http://dx.doi.org/10.4314/jfas.v10i2.30>



**Method of this study:** This descriptive-cross-sectional study was carried out on 120 people in Yasouj labs in the fall and winter of the year (Dr. Salehi labs). A total of 150 people were enrolled in this study, 30 of them (to The reason for not being completely healthy was the number of people who were excluded from the study. In total, 120 were taken (people from all parts of the city referred to the laboratory), after ensuring that they were not sick and have vitamin D supplementation The vitamin D test used in the individual case in the laboratory was used according to the kit used Zan Vitamin D (0-10 ng / ml) Severe deficiency (10-30%) A mild deficiency or inadequate level of vitamin D and (100-30.1) was normalized All information obtained by spss 21 and in the analytical section for The correlation between variables and vitamin D levels was determined by Chi-square test.

**Results:** The prevalence of vitamin D deficiency in general was 46.7% in men and 19.6% in men and 67.6% in women. The mean age of the participants was  $28.96 \pm 6.8$ . In the age range of 18- 25 years old, vitamin D 9.5% had severe deficiency, 21.4% had moderate deficiency and 69% had normal, in the range of 26-32 years, 16.7% had severe deficiency, 22.2% had mild deficiency, 61.1% had normal, and in The age range of 33-40 years was 16.9%, severe deficiency, 35.7% mild deficiency and 47.6% normal, there was no significant correlation between age and vitamin D levels, and vitamin D deficiency was not common in all ages and with age (P value = 376 )

**Conclusion:** The prevalence of vitamin D deficiency in all subjects was 40.9% and the prevalence was almost three times higher in men than men, but in all age groups, there was a high prevalence of vitamin D deficiency among unemployed people, Vitamin D deficiency was more common.

## INTRODUCTION

The global prevalence of vitamin D deficiency is increasing in developed and developing countries. The prevalence of vitamin D deficiency in Iran has been reported to be 45% to 80%, and in women it is more common (1). Vitamin D (25 Hydroxyvitamin D) is a fat-soluble vitamin and has a dual role, both as a hormone and as a vitamin, and vitamin D is encountered with sunlight in the skin, and to be biologically active In the liver, it contains 25 hydroxyvitamin dehydroxylates, and then transferred to the kidney therein as 1 and 25 hydroxyvitamin D, the active form of vitamin A (2). From food sources containing vitamin D, fatty fish, fish oil, enriched foods and vitamin supplements (3). The vitamin D receptor is a family of steroidal / intracellular steroid / thyroid hormone receptors that is expressed by the cells of most organs, including the brain, heart, skin, endocrine, prostate, breast ... Active

vitamin 1.25 hydroxy form with binding to The receptor itself is at the core of the target cell, it effects its effect (4). In addition to highly skeletal effects, including the preservation of bone marrow regeneration, it is found to be a deficiency in many chronic diseases, such as obesity, hypertension, cardiovascular disease, diabetes mellitus, metabolic syndrome and some cancers (2). The normal amount of hydroxyvitamin D in the serum is about 20 to 80 ng / ml, between 11 to 20 ng / ml of 25 hydroxy vitamin D inadequate and below 10 ng / ml is a deficiency in 25 hydroxyvitamin D (4). In a study conducted in Yazd, the deficiency of this vitamin in women was higher than that of men, and the incidence of deficiency of this vitamin was reported to be about 50% (5). Another study in Kermanshah on serum vitamin D levels was found in diabetics and healthy individuals. In diabetics, the prevalence of vitamin deficiency was 80% and in healthy subjects 61%, and the age range of vitamin D deficiency was about 10 to 60 years old and in addition to the rate Vitamin D and serum creatinine, calcium, and blood pressure levels were not significantly correlated with the lower levels of this vitamin (6). Studies in Africa have shown that vitamin D levels are in normal and even higher levels than normal. Vitamin D deficiency is common in both Iran and the whole world (1), and the complications of this defect and the lack of disease Chronic diseases (2), so health education and the use of preventive methods play a major role in controlling it. Increasing the level of general information about vitamin D deficiency and its effective factors and its complications will have a direct relationship with the promotion of community health and the improvement of patients and reduce the complications of the disease. Therefore, the aim of this study was to investigate the level of vitamin D and the prevalence of this vitamin deficiency In young people (18 to 40 years old), Yasuj is trying to develop educational programs based on their findings, if necessary, and by raising the level of awareness of the group to prevent the development or progression of this vitamin deficiency.

#### **MATERIALS AND WAYS:**

This study was a descriptive-descriptive study in the fall and winter of 1995 on 120 people referred to the Yasuj lab. 78% of the vitamin D deficiency was found, and the sample size was calculated to be 120, which for all individuals The participant, after a brief explanation of the study and the question of whether there is a specific disease (bone disease, diabetes, cancer, liver disease, kidney disease, pregnancy, etc.), or any issues that could interfere with the responses to the tests. Like taking vitamin D supplements and asking questions about age, gender, job and assuring them that information They will remain confidential, they will be included in the study. Sampling was done in equal proportions for men and women of the age

range indicated. In this way, from the patient records and the results of vitamin D tests, the vitamin D levels by the ELISA unit The results of this study showed that the vitamin D (0) - (10) has a severe deficiency, (30) - (10.1), a mild deficiency, or an insufficient level of vitamin D, and (80) - (30.1) Normal is considered to be all information obtained by spss 21 and in the analytical section to examine the relationship between variables and vitamin D from the test of am Ray chi-square test was used.

### FINDINGS:

According to the kit, vitamin D levels are classified into three (10-0) severe deficiencies, (10.1-30), mild deficiencies, or insufficient levels of vitamin D and (80-30.1) normal. The mean age of the participants ( $28.96 \pm 6.8$ ), women ( $28.21 \pm 6.7$ ) and men ( $29.94 \pm 6.8$ ) were the same. According to Table 1, in the age range of 18- 25 years old, vitamin D 9.5% had severe deficiency, 21.4% moderate deficiency and 69% normal, in the range of 26-32 years, 16.7% had severe deficiency, 22.2% had mild deficiency, 61.1% were normal and in the age range of 33-40 years 16.9% had severe deficiency, 35.7% had mild deficiency and 47.6% normal. According to chi square test, there was no significant relationship between age and vitamin D levels and vitamin D deficiency in all ages and with No increase in age (P value = 376).

**Table 1.** Frequency distribution of subjects according to vitamin D levels and age groups

pvalue	X2	normal (30.1 to 100) Number of percentages		Mild deficiency (10.1 to 30) Number of percentages		Severe shortage (0 to 10) Number of percentages		Age variable
0.376	4.63	69	29	21.4	9	9.5	4	25-18
		61.1	22	22.2	8	16.7	6	32-26
		47.6	20	35.7	15	16.9	7	40-33

Of the participants, 56.7% were female and 43.3% were male. According to table 2 of the women, 25% had severe deficiency of vitamin D 32.4%, mild deficiency and 42.6% normal, while in men, 19.3% Combo was mild and 80.8% normal. According to Chi-square test, there

is a significant difference between sex and vitamin D levels and the level of vitamin D in women is lower than men (0.01 = Pvalue).

**Table 2.** Frequency distribution of subjects according to vitamin D and sex variable

pvalue	X2	normal 30.1)to 100( Number of percentages	Mild deficiency (10.1 to 30) Number of percentages	Severe shortage (0 to 10 ng / ml) Number of percentages	Gender variable
0.0001	22.4	36 22	42.6 29	25 17	Female
		80.8 42	19.3 10	0 0	Man

**Table 3.** Frequency distribution of subjects according to vitamin D level and occupation

Pvalue*	X2	normal 30.1)to 100( Number of percentages	Mild deficiency 10.1)to 30( Number of percentages	Severe shortage 0)to 10( Number of percentages	Variable (occupation(
0.0001	32.5	27	40.19 18	31.8 14	Unemployed
		1259 77.6	18.3 14	3.9 3	Employed

• The test was Chi-square test.

According to Table 3, 31.8% of the unemployed were insufficient for vitamin D deficiency, 40.9% had mild deficiency and 27% normalized, and 3.9% had severe deficiency, 18.3% had mild deficiency and 77.6% normal, respectively. According to chi square test Vitamin D had a significant difference between employed and unemployed people.(0.01 = Pvalue).

**Table 4.** Prevalence of vitamin D deficiency

<b>The ratio of vitamin D deficiency in women to men</b>	<b>CI</b>	<b>Prevalence of vitamin D deficiency</b>	<b>Variable</b>
<b>3.52</b>	<b>(45.98- 64.8)</b>	<b>%67.6</b>	<b>Female</b>
	<b>(8.5-29.9)</b>	<b>%19.2</b>	<b>Man</b>
	<b>(32.44- 49.69)</b>	<b>%46.7</b>	<b>Total</b>

The prevalence of vitamin D deficiency was 46.7% in men and 19.6% in men and 19.2% in men.

## DISCUSSION AND CONCLUSION

The mean age of the participants was  $28.98 \pm 6.8$ , women  $21.29 \pm 6.7$  and men  $29.94 \pm 6.8$ , and the ratio of vitamin D deficiency in women was 3.5 times higher than men. In general, the prevalence of vitamin D deficiency was 46.7%, with a gender incidence of 67.6% in women and 19.2% in men. In the study of LalehBinizadeh et al., The prevalence of vitamin D deficiency was 65.7% and the prevalence The shortage in this study is also high (7) and that the prevalence in all of them is higher than our study can be attributed to the fact that in our study, the number of women and men is almost equal, and in the study of Beni-Zade, the number of women is twice that of men and because The prevalence is higher in women and the overall incidence is also higher. In the study of uterus and colleagues, the overall prevalence is 63% and the cause of the higher incidence in this study According to this study,

the mean age was  $28.96 \pm 6.8$  in young people between the ages of 18 and 40. The prevalence of vitamin D deficiency was common in all ages, and there was no significant relationship between age and vitamin D deficiency, and a similar mean of all ages Had Similar to our study, LalehBinizadeh et al., Found that there is not a significant relationship between age and vitamin D deficiency (7), and the reason for this is the prevalence of this deficiency in all ages from childhood to middle age, but in the study of mercy, an outbreak was observed in The youth are higher than the elderly, due to the type of modern life and living in the apartment for young people and the type of occupation of older people who are more likely to be employed in agriculture and livestock. In the recent study, age-related levels of vitamin D decreased and the shortage In older people it is due to decreased vitamin D production and hormonal disorders with age Both of these studies contradict our study, which can be due to the geographical and nutritional differences of the subjects studied.

In our study, the prevalence of deficiency in women is higher than that of men, which is the result of our study, which is due to the presence of Yasouj women, but the reason for the difference in the prevalence of women and men due to the widespread presence of women is less The exposure of women to sunshine is greater than that of men and women are less likely to be exposed to open arms than men. In the study of mercy, vitamin D in men is higher than that of women (15) and this is similar to our study. A patiently study also showed that there is a significant difference between sex and vitamin D deficiencies (5). In the study of occupation The number of unemployed people, most of whom were women, had lower levels of vitamin D due to their low exposure to sunlight, while the average working age of vitamin D was higher. There was also a shortage of vitamin D in working people due to working in construction environments and considering that people in the city of Z In the study, the prevalence of vitamin D deficiency among hospital staff is high, due to the type of work environment and less exposed to sun exposure, and the mean serum level in nurses is higher than other employees (5).

## **SUGGESTIONS**

Due to the high prevalence of vitamin D deficiency in the city, and especially among women, it is suggested that plans for the use of vitamin D supplements from the younger ages and raising awareness of the side effects of vitamin D deficiency be developed.

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**How to cite this article:**

Niknam H, Shahroodi M, Keshavarz F, Hemmati T. Prevalence of vitamin d deficiency in people aged 18-40 years old referred to yasuj lab in winter of 2017. *J. Fundam. Appl. Sci.*, 2018, *10(2)*, 422-430.