PREVALENCE OF VITAMIN D DEFICIENCY AMONG HEALTHY PREMENOPAUSAL FEMALES WORKING AT FAYOUM UNIVERSITY

THESIS

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Summary

Vitamin D is a fat-soluble vitamin, it is unique because it can be ingested as cholecalciferol (vitamin D_3) or ergocalciferol (vitamin D_2) and also the body can also synthesize it (from cholesterol) when sun exposure is adequate (hence its nickname, the "sunshine vitamin").

The major source of vitamin D is sunlight exposure. It contributes **80%** to **90%** of vitamin D supply in free-living persons.

Very few foods in nature contain vitamin D. Cod fish oil and the flashes of fatty fish (such as salmon, tuna, and mackerel) are among the best sources.

It has skeletal and nonskeletal functions such as regulation of cell proliferation and differentiation, regulation of hormone secretion, regulation of immune function and blood pressure regulation.

Vitamin D insufficiency/deficiency is a worldwide, public health problem in both developed and developing countries.

Vitamin D insufficiency has been defined as a 25(OH) D concentration of **50**–**75**nmol/L (**20–30**ng/mL), deficiency below **20**ng/mL (**50**nmol/L), and severe deficiency below **10**ng/mL (**25**nmol/L).

There are many causes of deficiency such as reduced skin synthesis as a result of inadequate exposure to sunlight, decreased bioavailability as in malabsorption and obesity, decreased activation as in hepatic and renal failure, increased catabolism due to some drugs (Anticonvulsants, glucocorticoids) and breastfeeding.

It is linked to many diseases such as osteoporosis, diabetes, dyslipidemia, cardiovascular, autoimmune, cancers, infections and increased mortality.

This study aimed to screen prevalence of vitamin D deficiency among healthy premenopausal females among **40-50** years old working at Fayoum University.

200 females screened for the level of 25 (OH) vitamin D using EIA technique.

Our results showed that **45** females of **200** were sufficient (**22.5%**), **91** females were insufficient (**45.5%**), **64** females were deficient (**32%**). Vitamin D deficient females subdivided into deficient (**82.8%**) and severely deficient (**17.2%**).

There was a significant difference between the mean of vitamin -D in the different BMI, in normal body weight subjects was **77.9** ± **21.7**, of the overweight people **51.4** ± **15.5**, in obese people **40** ± **22.4** and the difference was highly statistically significant (P value **< 0.001**).

The mean vitamin D level for western wearing clothes was **66.8** ± **16.4**, for ladies wearing hijab **62** ± **23.2**, and for ladies wearing niqab **28.3** ± **16.3** and the difference was highly statistically significant (P value **< 0.001**).

The mean of vitamin D level in dark-skinned subjects was **57.2** ± **21.2**, while in white-skinned subjects was **96.2** ± **33.8**, and the difference was highly statistically significant (P value **< 0.001**).

Thus more than **75 %** of the premenopausal women working at Fayoum University had either vitamin D deficiency or insufficiency.

Insufficient sun exposure, obesity, and darker skin are the main factors leading to or associated with vitamin D deficiency.