

# VITAMIN D-DEFICIENCY AND INSUFFICIENCY IN PEOPLE OF REGIONS OF UKRAINE

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**Introduction.** Vitamin D plays an important role in skeletal development, bone health maintenance, and neuromuscular function. Because the signs and symptoms of vitamin D deficiency are nonspecific, it often goes unrecognized and untreated.

**Aim.** To determine the frequency of vitamin D-deficiency and insufficiency in people of different age, not previously treated with vitamin D, who living in different regions of Ukraine (west, centre, east) and to determine factors associated with low vitamin D concentration

**Methods.** There were examined 450 patients from different regions of Ukraine (mean age  $57.0 \pm 13.7$  yrs.). 25(OH) vitamin D and PTH level evaluated by Elecsys 2010. BMD was examined by ultrasound densitometry (HOLOGIC, Sahara). Ca and vitamin D-intakes level was determined by three days food frequency questionnaire.

**Results.** The study showed that 85.4% examined people had deficiency of vitamin D, 13.9% – insufficiency and 0.7% normal level of 25(OH) vitamin D. The mean level of 25(OH) vitamin D was  $(42.66 \pm 16.68)$  nmol/l in people of western region,  $(27.08 \pm 14.96)$  nmol/l in central and  $(29.64 \pm 14.58)$  nmol/l in eastern region of Ukraine. The difference between the groups wasn't significant. 9.9% people had higher level of PHT. It important to show the weak negative correlation between PHT and 25(OH) vitamin D ( $r = -0.11$ ,  $p = 0.049$ ); positive significant correlation between 25(OH) vitamin D and Ca-intakes ( $r = 0.13$ ,  $p = 0.012$ ) in examined patient It wasn't determined any significant correlation between 25(OH) vitamin D level and BMD ( $r = -0.06$ ,  $p = 0.27$ ) and Stiffness ( $r = 0.17$ ,  $p = 0.71$ ).

**Conclusion.** 85.4% examined people had deficiency of vitamin D, 13.9% – insufficiency and 0.7% normal level of 25(OH) vitamin D. There is no significant difference in mean level of 25(OH) vitamin D in patients from researched regions. 9.9% people had higher than maximum target level of PHT. It was determined significant correlation between 25(OH) vitamin D and PTH; also 25(OH) vitamin D and daily Ca-intakes. No correlations between 25(OH) vitamin D level and ultrasound densitometry data.