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# PHARMACEUTICAL SCIENCES

## WAYS TO OVERCOME VITAMIN D DEFICIENCY IN THE HUMAN BODY

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**Introductions.** Vitamin D has a number of therapeutic benefits, including supporting bone metabolism and their strength, reducing cardiovascular risks and prevalence of oncology. Today, low vitamin D diets, exposure of environmental factors, and the health status of people lead to the impossibility of achieving the necessary levels of vitamin D in the blood to maintain health. Because of this, more than 80% of the world's population and 90% of Ukrainians are in conditions of vitamin D deficiency, which requires prevention, and in more complex cases, treatment using products containing vitamin D.

**The aim of the work** is to research approaches to overcoming vitamin D deficiency in the human body, in particular, using drugs and dietary supplements presented on the pharmaceutical market of Ukraine.

**Materials and methods.** Research objects: regulatory regulation of the use of vitamin D products; the pharmaceutical market of a selected group of drugs and dietary supplements; data from scientific sources on the topic of the work. Methods used: analytical, graphic, marketing research, mathematical and generalization.

**Results and discussion.** Vitamin D deficiency among the population is a serious problem, as it leads to changes in the body's mineral metabolism and, as a result, to a decrease in bone density and an increase in the risk of osteoporosis.

Epidemiological studies prove that the share of citizens of Ukraine with normal levels of vitamin D does not exceed 10% of the population.

Among the preventive measures aimed at preventing vitamin D deficiency in the body, attention should be paid to the need for sunbathing for the synthesis of the vitamin in the skin and ensuring a balanced diet. According to the recommendations of international clinical guidelines, daily additional intake of vitamin D in a dose of 400 IU and above is appropriate according to the laboratory indicators. Established vitamin D deficiency requires timely treatment, taking into account an individual approach and selection of the necessary dosage.

According to the results of the marketing research of vitamin D products, it was found that the pharmaceutical market has a wide range of drugs (24 names) and dietary supplements (211 names) of domestic and foreign production. Among the producers of medicinal products, the preference is for Ukraine (58.3%), and among dietary supplements - for the USA (39.8%) and Ukraine (20.4%). By dosage forms, the majority are soft capsules, tablets among drugs and capsules, tablets, drops among dietary supplements. Analysis of the physical and price availability of vitamin D products shows a wide range of drugs and, especially, dietary supplements in different price categories depending on the manufacturer and dosage.

**Conclusions.** Therefore, given the diversity of the range of vitamin D products on the domestic pharmaceutical market, the doctor should consult the patient and prescribe for the prevention or treatment of deficiency or suggest conducting a laboratory test to determine the level of vitamin D in the blood. In turn, a pharmacy specialist should help make a rational choice of a vitamin D product in terms of composition, dosage, dosage form, price and availability, especially in the case of using dietary supplements with vitamin D for preventive purposes.