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### Author(s), affiliation

Curchi Mirela, Elena Deseatnicova, Agachi Svetlana, Groppa Liliana, Disciplina de reumatologie și nefrologie, USMF „Nicolae Testemițanu”

### Introduction

Vitamin D has several immunomodulatory properties, which support its anti-inflammatory role in many disorders. Low levels of vitamin D 25OH in serum are frequently detected in patients with rheumatic diseases. Optimal values of 25OH vitamin D can have beneficial effects in the clinical picture of patients with joint damage.

### Keywords

**25(OH)vitamin D, osteoarthritis of the knee, VAS**

### Purpose

To appreciate the effects of vitamin D supplementation on the symptoms of osteoarthritis of the knee (OA) and the level of pain in these patients.

### Material and methods

Observational, case-control study 64 patients divided into 2 groups : group 1 - 38 patients with OA with vitamin D deficiency and group 2 - 26 with OA with optimal vitamin D level, (average age of patients 64, 2±1,4 [71-56] years), women 81,5%, men 18,5%. Indices used: *body mass index* (BMI), ESR, PCR, 25 OH Vitamin D, VAS - *visual analog scale*. Statistics: t-Student and Pearson r.

### Results

The body mass index was 29,13 (95%CI 32,04-26,02) vs. 26,46 (95%CI 28,93-24,40) kg/m<sup>2</sup>, p<0,05. The level of vitamin D 25(OH) was 11.3±4.4 (95%CI 5.84 - 25.21) ng/ml vs. 32.63±6.4 (95% CI 58.3 30.29), p<0.05. The percentage of vitamin D insufficiency <10 ng/mL in all patients was 59.3%. Male and female patients did not have significant differences between vitamin D levels (17.01±5.15 ng/ml) and (17.74±4.03 ng/ml) (p=0.862). PCR and ESR values were within the normal range in both groups of patients. In contrast, pain values after VAS were higher than 5.5±0.4 (95%CI 8.32-3.08) vs. 3.8±0.4 (95% CI 7.84-3.00) in patients with vitamin D deficiency. A weak positive correlation was found between the degree of pain after VAS and vitamin D deficiency r=0.302, p=0.042.

### Conclusions

Low levels of vitamin D have been a common cause of more intensive pain in patients with OA of the knee. Monitoring and correction of vitamin D levels in the case of OA of the knee may be recommended in the management of these patients.