Objectives: optimization of diagnosis and management of postmenopausal osteoporosis based on vitamin D3 in blood serum. Materials and Methods: the study involved 73 postmenopausal women, which were divided into two groups depending on the status of bone mineral density: group 1 consisted of 53 patients with postmenopausal osteoporosis (T-score <-2.5, SD). Mean age was 58.5 +/- 4.4 years. Duration of menopause made up 9.26 +/- 6.05. Group 2 was recruited for comparison (bone mineral density > -1.0, SD, none of bone fractures in the anamnesis). Mean age was 57.8 +/- 5.5 years. Menopause duration was 8.3 +/- 5.6 years. Screening of mineral bone density was conducted by way of dual energetic X-ray absorptiometry of lumbar zone and femoral neck. Vitamin D3 25 (OH) level was initially measured in blood serum of all patients with immune-enzyme assay. Results: D3 vitamin hypovitaminosis (deficiency and insufficiency) was found in 82.1% of women in postmenopause no matter what the status of bone mineral density was. Prior saturation with 5000 IU/day of cholecalciferol allowed to achieve normal ranges of 25(OH) vitamin D3 within 12 weeks in 88% of patients. The following supporting therapy with cholecalciferol in the dose of 800 IU/day + 1000 mg of Ca during 12 months was sufficient only in 50% of women that indicated at the necessity to increase the recommended dose of cholecalciferol in a complex therapy of PMO. Conclusion: It is necessary to detect 25 (OH) D3 vitamin level in blood serum in all women in menopause no matter what the bone mineral density is. In case of D hypovitaminosis it is expedient to perform correction of vitamin D deficiency to prevent defects of bone mineralization. Supporting dose of cholecalciferol, that is 800 IU/day, is sufficient in a complex therapy of postmenopause osteoporosis.