Objective: To evaluate the distribution of bone mineral density (BMD) in parts of the skeleton, depending on the saturation level of vitamin D.

Materials and Methods: The study included 85 women in childbirth aged 25 to 35 years (mean age 28.5 ± 2.5) 3-5 day postpartum period. D.U 63 (60%) women pregnancy was physiologically, in 15 (14%) of pregnancies complicated by the presence of mild preeclampsia, 20 (19%) developed gestational diabetes without medication.

We measured the levels of 25-(OH)-vitamin D in the blood serum by chemiluminescense analyzer Architect 2000 and Roche Cobas E411. BMD was measured by dual-energy X-ray absorptiometry (DEXA). For assessment of BMD reduction we used Z-test.

Results: The level of vitamin D, the corresponding norm (I group) revealed - in 35 (41%) corresponds to the insufficiency and deficiency in (II group) - 50 (59%). Mean values of vitamin D in the I group - 36.4 ± 21 ng/ml, at II - 24.2 ± 14.4 ± 2.8 ng/ml, respectively.

The incidence of osteopenia in Group 1 - 25 (29%) in group 2 - 46 (54%) in the distal forearm bones in one group - 10 patients (28%) (Z criterion of -1.1 to -2.2 SD), in group 2 - 20 patients (40%) osteopenia (Z criteria of -1.2 to -2.4 SD). In the proximal femur in group 1 - 5 patients (14%) (Z-criterion of -1.2 to -2.0 SD), in group 2, at 8 patients (16%) osteopenia Z-criteria of -1.0 to -2.2 SD. At the lumbar spine in 1 group - 10 postpartum women (28%) osteopenia (Z-criterion of -1.1 to -2.1 SD), in group 2 - in 18 parturients (36%) osteopenia (Z-criterion of -1.2 to -2.2 SD).

Conclusion: Thus, with a normal level of vitamin D, and with insufficiency and deficiency of vitamin D the most vulnerable parts of the skeleton is the distal forearm, which is the first to develop BMD reduction. In the group with insufficiency and deficiency of vitamin D osteopenia occurs 2 times more often in the forearm, and 1.5 times more frequently in the lumbar spine.