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Influence of dietary calcium intake on bone mineral density in postmenopausal women with estrogen deficiency in menstrual history

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Introduction: Estrogen deficiency plays a critical role in development of osteoporosis. Identifying risk factors for osteoporosis that are related to nutrition is important considering that these are factors that can be modified.

Purpose: To examine influence of dietary calcium intake on bone mineral density in postmenopausal women with estrogen deficiency in menstrual history.

Material: A total of 100 postmenopausal women living in Sarajevo area, aged 50-65 years, with estrogen deficiency in menstrual history were included in the study. Examination and control group were formed based on mineral bone density values. The women in the examination group had osteoporosis. The women in the control group had osteopenia or normal mineral bone density.

Methods: Mineral bone density was measured at the lumbar spine and proximal femur by Dual-Energy X-ray Absorptiometry using Hologic QDR-4000 scanner. Estimates of daily dietary calcium intake were performed based on a Food Frequency Questionnaire.

Results: The average daily intake of dietary calcium among women who had osteoporosis was 1115.10 mg, and in women who hadn't osteoporosis 1245.20 mg. The difference between two groups was statistically significant ($p < 0.001$). There was registered significant correlation between intake of dietary calcium and mineral bone density in examination ($p < 0.01$) and in control group ($p < 0.01$).

Conclusion: Results of the study show that dietary calcium intake has influence on bone mineral density in postmenopausal women with estrogen deficiency in menstrual history.