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factors were collected by standardized numerical questionnaire. The accepted level of significance was set at $p \leq 0.05$.

**Results:** In total sample correlation analyses have indicated significant association between low BMD and: increased caffeine intake ($p \leq 0.01$), low calcium intake ($p \leq 0.05$), inadequate physical activity ($p \leq 0.01$). In comparison between G1 and G3 groups, the significant association was found with the same risk factors, but at the greater significance.

**Conclusions:** The results show the specifics of our population regarding the life style factors causing the changes in BMD. Low BMD was not significantly associated with smoking and alcohol consumption (only 6 women in the G3 group consumed alcohol regularly).

**Disclosure of Interest:** None declared.

**P295**

**BMD IN POSTMENOPAUSAL WOMEN WITH NEPHROLITHIASIS: 5-10 YEAR OBSERVATIONS**

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**Objectives:** The aim of the study was to evaluate BMD in spine and femur in postmenopausal women suffering from nephrolithiasis during 5–10 year observations. Additionally, it was attempted to assess the frequency of low-energy fractures in women with nephrolithiasis because we believe that nephrolithiasis can be a risk factor of osteoporosis.

**Materials/Methods:** Patients qualified to the study were randomly selected, postmenopausal women aged 50–70 suffering from nephrolithiasis who made an appointment in Krakow Medical Centre to perform a densitometric examination (DXA). The inclusion in the study was performed by means of a telephone survey in which a patient had to give at least one objective evidence of nephrolithiasis: incorrect USG results of abdomen, reviewed X-ray of abdomen or other clinical symptoms of nephrolithiasis. The control group were women at the same age with osteoporosis but no history of nephrolithiasis.

**Results:** Among 2000 randomly selected surveys 500, with 41 cases of diagnosed nephrolithiasis, were analysed. In the group of patients with nephrolithiasis (spine 0.916 g/cm² and neck 0.809 g/cm²) lower BMD in spine and femoral neck was observed than in the control group (spine 0.928 g/cm² and neck 0.825 g/cm). Higher frequency of low-energy fractures was noted (32% vs. 29% in the control group). It was also observed that the incidence of another risk factor of osteoporosis—smoking cigarettes—increases the frequency of fractures (33% of fractures in patients with nephrolithiasis, 26% in the control group). Also fracture risk evaluated with FRAX® was higher in the group with nephrolithiasis (major fracture with BMD 13.55% vs. 11% and hip fracture with BMD 3.7% vs. 2%).

**Conclusions:** Results of our study suggest that nephrolithiasis may be conducive to the occurrence of osteoporosis, and have some common pathogenic mechanisms. In the observed group the lower values of BMD in women with nephrolithiasis resulted in prolonged treatment. Higher values of FRAX® for women with nephrolithiasis, independent or dependent on BMD suggest that nephrolithiasis may be an independent fracture risk factor and its diagnosis requires attention.

**Disclosure of Interest:** None declared.

**P296**

**EFFECT OF ONE YEAR TREATMENT WITH HIGH DOSE VITAMIN D₃ ON BONE MINERAL DENSITY AND BONE TURNOVER IN POSTMENOPAUSAL WOMEN WITH LOW BONE MASS—RESULTS FROM A RANDOMIZED CONTROLLED TRIAL**

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**Objectives:** To study whether a high dose of vitamin D₃ was better than standard dose in improving BMD and reducing bone turnover in postmenopausal women with reduced bone mass.

**Materials/Methods:** The study was a one-year randomized double-blind controlled trial comparing high dose vitamin D₃ with standard dose. Postmenopausal women with a BMD T-score ≤ −2.0 in either lumbar spine (L2–4) or total hip were included, and randomized to 6,500 IU vitamin D₃/d (20 000 IU twice per week +800 IU/day (d)) or 800 IU/d (placebo twice per week +800 IU/d), both doses were given with 1,000 mg elemental calcium/d. The primary endpoint was change in BMD in total hip and lumbar spine (L2–4).

**Results:** From 149 in the high dose and 148 in the standard dose group, 135 and 140 participants completed the study. After 1 year, serum 25-hydroxyvitamin D (25(OH)D) increased from 70.7±23.0 to 185±34 nmol/l and 71.2± 22.3 to 89±17 nmol/l in the high and standard dose vitamin D group, respectively ($p<0.01$). Intention-to-treat analyses showed that BMD was slightly increased in the total hip in both the high and standard dose group (+0.31±1.59 and 0.56±1.70%, respectively, $p=0.20$ for difference between the groups), while BMD was unchanged in L2-4. Bone turnover markers were reduced in both groups, but serum PINP more efficiently in the standard dose group (−14.3±15.4 vs. −10.7±14.2 (µg/l), $p<0.05$). In addition, prespe-