



Allergy presence and bone mineral density in young adult women

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Abstract

Statement of the Problem: Allergies and low bone mineral density which is related to osteoporosis are diseases with a high prevalence in the general population and they both represent a major problem of public health. The close interaction of the two systems have the consequence that the disease of one affects the other. This possible interactions of immune and bone systems in the allergic-mediated diseases is currently an intriguing area of research.

Objective: The level of bone mineral density (BMD) was evaluated in relation to allergy presence in young adult women living in Slovakia.

Methodology: A study cohort consisted of 140 women with allergy and 92 women without allergy (19-30 years; mean age = 22.14±2.28). All women were educated about the research and their written consent was obtained before enrolling into the study. Data were collected by interviewing women individually using a validated questionnaire (WHO step wise approach to chronic disease risk factor surveillance 2014). They were examined for the life-style and chronic diseases, including allergy. The bone ultrasound mini-omni (sunlight, Israel) was used to assess BMD at one-third distal radius of the nondominant hand. The parameters of speed of sound (SOS) (m/s), T-score and Z-score were used for the analysis. Linear regression models were used to determine differences in BMD between women with and without allergy controlling for age, calcium and vitamin D intake.

Findings: In the adjusted models, women with allergy had significantly lower SOS (mean ± SD, 4088±102 vs. 4121 ± 104; P=0.009), lower T-score (-0.83 ± 1.04 vs. -0.50 ± 1.07; P = 0.012) and lower Z-score (-0.19±1.03 vs. 0.13 ± 1.06; P = 0.014), when compared with healthy women. Linear regression analysis also revealed that calcium and vitamin D intake were not associated with BMD in our sample (P > 0.05).

Conclusion: Women with allergy have a significant risk of reduced BMD.

Biography:

Lenka Vorobelova scientific experience is closely related to finding answers to questions about the health and wellbeing. My research is primary focused on monitoring the interactions between various biological risk factors of women's cardiovascular and bone health. To determine the nutritional status, hydration status and body composition (fat mass, muscle mass, lean body mass etc.) in Slovak women using the segmental bioelectric impedance analysis. To reveal endogenous and exogenous risk factors which are responsible for the strong variability in body composition and bone mineral density.

Publications:

1. Differences in body composition between metabolically healthy and unhealthy midlife women with respect to obesity status
2. Association of the ESR1 polymorphism with menopause and MLXIPL genetic variant influence serum uric acid levels in Slovak midlife women



4th World Congress on Womens Health and Midwifery, April 23, 2021

Citation: Lenka Vorobelova, *Allergy presence and bone mineral density in young adult women*, Womens Health 2021, 4th World Congress on Womens Health and Midwifery, April 23, 2021