

Paper Category:	7. Prevention and Public Health
Paper Title: (Arial Font; 14 Pt Size)	Association between Equol Production, Lifestyle Habits, and Bone Mass in Young Women
Abstract Body: (Arial Font; 12Pt Size)	<ul style="list-style-type: none"> • Background • Objectives • Method • Results • Discussions and Conclusions
<ul style="list-style-type: none"> • Background Osteoporosis significantly increases the risk of developing sarcopenia frailty. Primary osteoporosis prevention requires raising bone mass (BM) at a young age, if peak BM is reached. Additionally, the estrogen-like effect of equol in postmenopausal women has been reported to suppress bone loss. • Objective This study aimed to investigate the relationship between equol production, lifestyle habits, and BM in young individuals based on primary osteoporosis prevention. • Method Of the 395 female university students, 277 (mean age: 20.1 ± 1.1 years) who were not taking any hormonal medication and had no deficiencies in any measurement item were included in the analysis. BM was measured in the right calcaneus using an ultrasonic bone densitometer. Body composition was measured by the bioelectrical impedance method using a multi-frequency body composition analyzer. Hormone medication, menstrual cycle, current exercise habits, and daily soy intake were determined using a self-administered questionnaire. Equol production (creatinine-corrected value) was measured using Soy Check (Healthcare Systems, Inc., Aichi, Japan). • Results Multiple regression analysis using the forced entry method was performed with BM as the objective variable and current exercise habits, menstrual status, soy intake, body weight, skeletal muscle mass index (SMI), and equol production as explanatory variables. Results showed significant positive standardized regression coefficients for current exercise habit ($\beta = 0.32$, $p < 0.01$), body weight ($\beta = 0.13$, $p < 0.05$), SMI ($\beta = 0.23$, $p < 0.01$), and equol production ($\beta = 0.11$, $p < 0.05$). • Discussions and Conclusion There was an association between current exercise habits, body weight, SMI, equol production, and BM. BM may be increased by the interconnection between skeletal muscle and bone, daily exercise, and mechanical stress due to body weight. Additionally, since the amount of equol production in youth affects BM, the ability to produce equol may influence the future development of osteoporosis. 	

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