

Bone mineral density and its relations in adult women

Hwang Kyu-Yoon, Ahn Hyun-Cheol, Yoo Mu-Hyun, Park Jong-Ahn*

*Department of Preventive Medicine, School of Medicine, Department of Environmental Health, College of Natural Sciences, Soonchunhyang University**

Aging and nutritional imbalance cause loss of mineral density from bone and result in osteoporosis. Especially, women have great risks of loss of bone mineral density due to various environmental, health, and behavioral conditions. This study was designed to determine relations of osteoporosis with personal background, physical activity, reproductive conditions, and dietary habits in adult women. A two-year survey was conducted in Kyung-ki province and 9704 subjects were measured for bone mineral density (BMD) in calcaneus. Among them, 390 subjects were diagnosed osteoporosis according to WHO criteria (< -2.5 BMD). 370 controls (> -1.0 BMD) were selected and compared. The study subjects were interviewed for further information on loss of BMD. Means (SD) of age, height, and weight were 45.6 (10.3) year-old, 157.3 (6.0) cm, and 56.8 (12.7) kg, respectively. BMD decreased with age after late thirties, showing non-linear curve. Height and weight were positively related with BMD. Multiparity and menopause were significant predictors of BMD ($P < 0.05$). In comparisons of potential risks between osteoporosis cases and controls, the subjects with osteoporosis were low education levels, low income, low employment, early menarche, family tendency, low dairy, meat and fish intake, imbalanced diet, and poor health conditions. Income, employment, and dried anchovy were significant predictors of osteoporosis in multiple logistics regression. Our data suggested that socioeconomic status and dietary habits are more likely important to prevent osteoporosis than reproductive life styles.

Keywords : osteoporosis, bone, case-control