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Dietary Factors Contributing to Osteoporosis among Postmenopausal Women in Riyadh Armed Forces Hospital

Authors : Rabab Makki

Abstract : Bone mineral density and bone metabolism are affected by various factors such as genetic, endocrine, mechanical and nutritional. Our understanding of nutritional influences on bone health is limited because most studies have focused on calcium. This study investigated the dietary factors which are likely t contribute to Osteoporosis in Saudi post-menopausal women, and correlated it with BMD. This is a case controlled study involved 36 postmenopausal Saudi females selected from the Orthopedics and osteoporosis outpatient clinics, and 25 postmenopausal Saudi females as controls from the primary clinic of Military Hospital in Riyadh. The women were diagnosed as osteoporotic based on the BMD measurement at any site (left femur neck, right femur neck, left total hip or right total hip or spine). Both the controls and the Osteoporotics were over 50 years of age and BMI between 31-34 kg/m2 had 2nd degree obesity, and were not free from other problems such as diabetes, hypertension, etc. Subjects (osteoporotics and controls) were interviewed to called data on demographic characterstics, medical history, dietary intake anthropometry (height and weight) bone mineral density. Blood samples were collected from subjects (Osteoporotics and controls). Analysis of serum calcium, vitamin D, phosphate were done at the main laboratory at Military Hospital Riyadh, by the laboratory technician while BMD was determined at the department of Nuclear Medicine by an expert technician and results were interpreted by radiologist.Data on frequency of consumption of animal food (meat, eggs, poultry and fish) and diary foods (milk, yogurt, cheese) of osteoporotic was less than control. In spite of the low intake there was no association with BMD.In general, the vegetables and fruits were consumed less by the osteoporotics than control. The only fruit which had shown a significant positive correlation is banana with right and left hip BMD total probably due to high potassium and minerals content which likely to prevent bone resorption. Mataziz vegetables combination of wheat showed a significant positive correlation with the same site (total right and left hip). Both osteoporotics abd controls were consuming table sugar. (But the sweet intake showed a significant negative correlation with left neck femur BMD, suggesting sucrose increase urinary calcium loss. Both osteoporotic and controls were consuming Arabic coffee. A negative significant correlation between intake of Arabic coffee and BMD of right neck femur of osteoporosis patient was observed. It could be suggested that increased intake of fruits and vegetables, might promote bone density while high intake of coffee and sugars might affect bone density, no significant correlation was observed between BMD at any site and diary product. We can say the major risk factors are inadequate nutrition. Further studies are needed among Saudi population to confirm these results.

Keywords : osteoporosi, Saudia Arabia, Riyadh Armed Forces, postmenopausal women
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