ABSTRACT

Bone formation and resorption are generally in balance with each other during the young to mid-adult years. After age 40–50, bone loss may progress slowly in both sexes, with a period of more rapid loss in women surrounding the menopausal transition. Studies on calcium intake, bone mineral density (BMD) and bone mineral content (BMC) of postmenopausal women are lacking in Sri Lanka. Therefore, this study was carried out with the objectives of determining the relationship between calcium intake and BMD, BMC of postmenopausal women and osteoporosis prevalence of postmenopausal women, identifying behavioral and socio-economic factors affecting calcium intake and determining the relationship between lifestyle, reproductive factors and BMD, BMC. A total of 140 postmenopausal women, aged 50-80 years who were residing within the eight gramasewa divisions in Pannala area located around the Makandura premises of Wayamba University in Sri Lanka. Height, Weight, hip and waist circumferences were measured. BMD and BMC were measured using Dual Energy X-ray Absorptiometer. A food frequency questionnaire and a 3 day 24 hr dietary recalls were used to determine food and nutrient intakes. A 3 day physical activity recalls were used to assess physical activity. The mean daily calcium, protein and energy intakes of the population were 306.9 ± 133 mg, 31.8 ± 9.9 g and 1224.1 ± 281.4 kcal respectively. Calcium intake of all the subjects was significantly lower than the respective RDA (1300mg/d) and all of them did not meet the RDA for calcium. Energy intake and protein intake had a significant ($P<0.05$) and positive relationship with calcium intake while family income and education level of the subjects had no association. BMD was positively associated with body mass index ($r = 0.324$, $P < 0.0001$) and negatively associated with years since menopause ($r = -0.285$, $P = 0.001$) but not with the calcium intake ($r = -0.029$, $P = 0.735$) and physical activity levels ($r = 0.065$, $P = 0.442$). In conclusion, postmenopausal women aged 50-80 years in Pannala area as a group did not achieve the RDA of calcium. Relationship between calcium intake and BMC was not statistically significant. Osteoporosis prevalence of postmenopausal women in Pannala area is 32.14%.