

[*Jpn J School Health*, 41,429-437(1999)]

[Lab. of Health and Physical Education]

The Differences of Radius Bone Mineral Density among College Female Athletes and Their Life-Style.

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The radius bone mineral density (radius-BMD) of college female athletes of different sports (i.e. volleyball, badminton, soft-tennis, softball and ground-hockey) was evaluated in comparison with that of non-athletes. Then the effects upon radius-BMD of different sports was investigated. The relationship between the radius-BMD and different life style was also examined.

The result showed the volleyball player had the highest radius-BMD of all subjects both in the case of dominant arm and non-dominant arm. There was a significant difference in the radius-BMD between the playing arm and non-playing arm of the athletes whose physical motion of exercise are a symmetry, e.g. badminton and soft-tennis. No significant increase was observed in the radius-BMD for non-dominant arm of all college female subjects. The relevant factors for radius-BMD were as follows: body weight, grip strength, unbalanced diet, technical levels for exercise and the amount of knowledge osteoporosis.

[*Carcinogenesis*, 20, 1471-1476 (1999)]

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Immunomodulatory Action of Citrus Auraptene on Macrophage Functions and Cytokine Production of Lymphocytes in Female BALB/c Mice.

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The modifying effects of auraptene isolated from the peel of citrus fruit (*Citrus natsudaidai* Hayata) on macrophage and lymphocyte functions were investigated in mice. Female BALB/c mice were gavaged with auraptene at a dose of 100, 200 or 400 mg/kg once a day for 10 consecutive days. Glucose consumption, β -glucuronidase activity and IL-1 β production of peritoneal macrophages in the auraptene-treated mice at all doses were significantly higher than that in the control group. IL-2 and IFN- γ production of splenic lymphocytes stimulated by Con A were significantly increased in mice gavaged with auraptene at dose levels of 100 and 200 mg/kg. There was no significant difference in IL-4 production of splenic lymphocytes stimulated by Con A in all groups. These findings might suggest that oral administration of citrus auraptene effectively enhanced macrophage and lymphocyte functions in mice.