The relationships of dietary intake of microminerals with serum lipids in college women living Choong-Nam area

Kim Ae-Jung*, Kim Hye-Kyung[1], Kim Soon-Kyung[2], Sung Chung-Ja[3]. Department of Food & Nutrition, Hyejeon College, 350-800, Korea, Department of Food & Biotechnology, Hanseo University, 352-820, Korea[1], Department of Food Science and Nutrition, Soonchunghyang University, 336-745, Korea[2], Department of Food & Nutrition, Sookmyung Women's University, Korea[3]

The purpose of this study was to investigate the intake of micromonerals which play an importment role in lipid metabolism and the realtionships of micromine-rals with serum lipids in college women living Choong-Nam area. The nutritional status of subjects was evaluated based on anthropometric mea-surements, 24-hr dietary recall(collected for microminerals intakes analyses), and blood analyses. The results were as follows: The mean age, height, weight, and BMI were 20years, 158cm, 55kg and 22.42 kg/m², respectively. The mean daily energy intakes was 85.85% of RDA for Koreans. The ratio of energy from carbohydrate, fat, and protein was 60 : 16 : 24. The mean daily intake of microminerals(Al, As, Pb, Cr, Co, Fe, Cu, Zn, and Mn)were 49.49μg/day, 27.66μg/day, 75.21μg/day, 60.07μg/day, 21.12μg/day, 15.20mg/day, 2.64mg/day, 11.35mg/day, and 6.23mg/day, respectively. The mean serum microminerals(Al, As, Pb, Cr, Co, Fe, Cu, Zn, and Mn) were 57.60μg/dℓ, 36.14μg/dℓ, 4.32μg/dℓ, 4.23μg/dℓ, 0.02μg/dℓ, 116.24μg/dℓ, 81.34μg/dℓ, 101.54μg/dℓ, 44.00μg/dℓ, 39.80%, and 34.64%, respectively. The mean serum lipids{total cholesterol, triglycerides, HDL-cholesterol, LDL-cholesterol, LDL-cholesterol/HDL-cholesterol ratio(LPH), total cholesterol/HDL-cholesterol ratio(TPH), Atherogenic Index(AI), and HDL-cholesterol/cholesterolratio} were 158.56mg/dℓ, 29.27mg/dℓ, 56.00mg/dℓ, 6.12mg/dℓ, 1.41, 2.88, 1.87, and 0.36, respectively. The dietary As showed a significantly positive correlations with TPH(p<0.05), AI(p<0.05) but negative correlations with HDL-cholesterol and HDL-cholesterol/cholesterol ratio(p<0.05). The dietary Cr showed a significantly positive correlations with LPH(P<0.05), TPH(p<0.01), AI(p<0.01), but negative correlations with HDL-cholesterol/cholesterol ratio(p<0.05). The dietary Fe showed a significantly positive correlations with LPH(p<0.05), TPH(p<0.05), but negative correlations with HDL-cholesterol/cholesterol ratio(p<0.05).