DIETARY MINERAL INTAKES IN FEMALE PREMENARCHEAL AESTHETIC SPORTS ATHLETES
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Because of the special attention that is paid to weight control, young female aesthetic sports athletes often adhere to diets that can result in lower than recommended energy and nutrient intakes. As a part of holistic nutritional research, the aim of this study was to assess mineral intakes of premenarcheal girls competing in aesthetic sports. The sample consisted of 40 female aesthetic sports athletes (10 artistic gymnasts, 13 rhythmic gymnasts and 17 ballet dancers) who have been actively engaged in sport for at least 4 to 5 yr. The median age of study participants was 10.5 yr; range 8-13 yr. Dietary intake was assessed by a food frequency questionnaire. Differences in mean intakes of groups were tested using the univariate analysis of variance (ANOVA), followed by Newman-Keuls post-hoc test.

Although energy intake of young athletes appears to be adequate (54.5 ± 24.3 kcal/kg/day) and average daily intakes of most minerals were above Dietary Reference Intakes, intake of some minerals remains to be lower than recommended. The group-mean intake of potassium (3327 ± 1587 mg) was under 75% of the RDA. Consequently, about 80% of the subjects are at risk of an inadequate intake of potassium. The significant proportion of subjects with inadequate intake of phosphorus, zinc and magnesium was revealed (32.5%, 15%, 12.5%, respectively). The mean calcium intake of 1087 ± 469 mg, with no significant differences between groups (p=0.31), was lower than adequate intake (AI) for this age group of girls (1300 mg/day) (1). The proportion of subjects whose intake of calcium was below the AI was 70 %, with the highest proportion in artistic gymnasts.

Mineral intakes reported in this study were considerably higher than those reported in pubescent female athletes (2). They were, also, slightly higher than those reported in prepubescent female athletes (3). However, the proportion of subjects with inadequate intakes of some minerals was high. All these minerals have significant roles in energy metabolism. Adequate consumption of calcium is crucial for these groups of young athletes because of the potential risk of stress fractures and the later risk of developing osteoporosis. This study provides evidence for the need to increase efforts of parents and health professionals in educating children engaged in aesthetic sports on the necessity of healthy nutritional practices. In addition, special attention should be paid to the consumption of calcium even in otherwise adequate diets.


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