E31103 An Investigation of Body Components and Physical Functions of Young Females

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Purpose: The purpose of this study was to investigate the characteristics of body components and physical functions of young-aged females, and to observe the effects of habitual exercise on them.
Methods: BMI, %fat, leg extension power(LP), $PWC_{75\%HRmax}$, and calcaneus stiffness(CS) were measured for newly enrolled female students at the nursing college in 1997(N=94, 18-20yrs; 97G) and 1998(N=97, 18-20yrs; 98G). 98G students participated in a weekly exercise class and 97G students performed self-imposed regular exercise training once or twice a week for 12 weeks. After training, re-measurement was done. 97G had blood tests and several of them were measured for subcutaneous fat and muscle thickness.
Results: It was found that there were a number of female students who had poor body composition, inferior LP, and low CS. Significant correlation relationships were recognized among LBM, CS, and LP. 98G, who participated in a weekly exercise class, showed significant increases of physical strength but their body composition was unchanged. 97G, who performed self-imposed training more frequently, indicated significant decrease in %fat, increase in LP, and improvement of serum cholesterol.
Conclusion: The results of this study suggest the effectiveness of a habitual (more than once a week) exercise on the improvement of body components and physical functions of young females.
Key Words: Young Female, Body Composition, Leg Power, Calcaneus Stiffness, Training

E31104 Physical Activities and Nutritional Intakes in Urban Fourth Graders

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Purpose: The activity level and nutritional intakes of contemporary elementary school pupils were studied, and their relations with the body build and factors in their daily living were evaluated.
Methods: The daily activity level (pedometer), diet, time spent on various activities, and body build were investigated in 36 male and 40 female fourth graders in Kyoto City.
Results: The daily number of steps and energy consumption showed sex differences. The males spent more time on sports and TV games, and the females spent more time on private cultural lessons, bath, and telephone calls. Pupils who walked more spent more time in commuting to school and playing outdoors and had smaller body weight and BMI. The carbohydrate, Ca, and Fe intakes did not meet their requirements.
Discussion and Conclusions: The activity level in contemporary fourth graders was 2,000-4,000 steps less than that 15-20 years ago with associated dietary changes. However, as marked individual variation was observed in the activity level and nutritional intakes, individual guidance is considered to be needed.
Key Words Fourth graders, activity level, nutritional intake