Criteria of exercise and sports for improvement of physical fitness and motor ability in youth (15-18 year olds)

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Abstract

The purpose of this study was to examine criteria of exercise and sports for improving physical fitness and motor ability in youth. The samples were 1626 male and 1230 female high school students (15-18 yr). Eight items of the Japan Fitness Test (physical fitness), 61 items concerning fundamental movement-control skills and gymnastic skills (motor ability), participation and time spent in exercise and sports (present exercise habit), number of sports events, and participation in exercise and sports (past sports experiences) were measured. Results of this study were as follows: 1) the proportion of fitness test score A or B and motor ability score in a group of exercise for 3 days or more in a week or 2 hours or more in a day are significantly higher than the scores of the other groups; 2) the proportion of fitness test score D or E in a group of sports experiences of 2 or more events is significantly lower than the scores of the other groups, and motor ability score is higher; 3) motor ability score in a group which began sports since junior high school (13-15 yr) is significantly lower than the score of the other groups, and the proportion of fitness test score A or B in a female group which began sports before the third or forth grade at elementary school (8-10 yr) is higher than the scores of the other groups. Therefore, It was concluded that requirements for improving physical fitness and motor ability in youth were as follows: 1) an exercise for 3 days or more in a week and 2 hours or more in a day, 2) sports experiences of 2 events or more before entrance to high school (15-18 yr), and 3) commencement of sports before graduation of elementary school (11-12 yr).

Key words: high school students, commencing time of sports, number of sports types

1. Introduction

Physical fitness and motor ability are essential for individuals to grow and engage in creative activity, and can be an important element in one’s zest for life (IKIRUCHIKARA) (Ministry of Education, Culture, Sports, Science and Technology: MEXT, 2002a). A physical fitness and motor ability survey (MEXT 2002b) has been conducted in Japan annually since 1964. The physical fitness and motor ability of the youth are measured by performance test and evaluated statistically. Nishijima et al. (2001) and Noi and Masaki (2002) showed statistically that the physical fitness and motor ability of Japanese children increased significantly between 1964 and 1975 and decreased between 1985 and the present. These studies also revealed a significant difference between the high and low physical fitness groups, in other words, that the gap in physical fitness has become larger (Nishijima et al., 2003). The MEXT Central Education Council submitted its guidelines entitled Integrated Measures for Physical Fitness Improvement of Children and Youth on September 30th, 2002 in order to stop and reverse the decline in the physical fitness of children and youth (Central Education Council, 2002). The guidelines set as goals both an increase in the overall average physical fitness and motor ability survey scores (improvement of physical fitness for exercise) and a decrease in the scores of factors leading to lifestyle-related diseases (improvement of physical fitness for healthy living). Based on these guidelines, improvement in the environment regarding exercise and sports are employed as comprehensive strategies to improve the physical fitness of children and youth. These approaches aim not only for short-term results but for long-term and continuing results that contribute to the improvement of physical fitness in children, the group

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