青少年體操選手營養、生理及生化狀況之探討

Surveillance of dietary, physiological and biochemical status in adolescent gymnastics

中文摘要

本研究主要目的在探討青少年體操選手之生長發育、體組成、營養及抗氧化力等生理狀況是否與一般青少年有所差異。實驗對象爲大台北地區年齡介於 12 至 19 歲之國中及高中之男、女體操選手各 21 及 23 名 (平均年齡分別爲 16.1 及 15.5 歲)，並以性別及年齡配對之非運動員爲對照組，男、女各 22 及 25 名。男性及女性體操選手平均接受體操的訓練分別爲 8.2 及 7.4 年 (範圍 3~11 年)。調查女性受試者之月經狀況，發現所有的女性對照組皆已經月經來潮，但是有 30.4 % 之體操選手月經尚未來潮，而 16 名月經來潮之體操選手其中有 50 %表示月經有不規則的情形，顯示女性體操選手初經延遲及月經不規則之發生率較高。體操選手爲維持身材及運動表現，其飲食攝取狀況略有不同，例如女性體操選手飲食中之脂肪攝取量顯著較低，醣類及維生素 C 攝取量較高。體位測量結果方面，發現體操選手之身材較爲瘦小，體脂肪較少。血液生化值方面，體操選手之鐵營養狀況比對照組差。體操選手血液中維生素 C、GSH 濃度及總抗氧化力 (total antioxidant status, TAS) 低於對照組。綜合本研究結果，發現女性體操選手有較高比例之初經延遲及月經不規則現象，並且發現所有體操選手之身材較瘦小，飲食狀況略有不同，以及血液中鐵狀況與抗氧化狀態較差。

英文摘要

The aim of this present study is to investigate the difference in pubertal development, body composition, nutritional and antioxidative status in gymnasts and non-athletes. Twenty-one male (16.1 years) and 23 female (15.5 years) gymnasts were enrolled in this study, and 22 male and 25 female non-athletes were used as control groups. Male and female gymnasts experienced intensive training for 8.2 and 7.4 years, respectively. Pubertal development was delayed in the female gymnasts group. There were 30.4 % delayed menarche of all female gymnasts, and 50 % menstrual irregularities of pubertal gymnasts. Female gymnasts had different dietary intake pattern compared to control group. Gymnasts were significant shorter and leaner than controls. Besides, gymnasts had significantly lower plasma vitamin C, glutathione and total antioxidant status (TAS) level than controls. In conclusion, female gymnasts had higher incidence of menstrual disorder. All gymnasts were shorter and leaner than controls, and they also with different dietary status, lower iron and antioxidant status than controls.