

Brief Report

Improvement in decreased nutritional and physical status of high school baseball players during a hot summer season by nutritional intervention

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ABSTRACT

【Objectives】

Proper nutrition is important not only for improving competitiveness but also for continuing health and development in young athletes. In this study we investigated the effect of nutritional education and guidance to improve decreased nutritional status and physique during a hot summer season.

【Methods】

Fourteen males in a high school baseball team participated in the study. A survey of energy and nutrient intake, physical measurements including body weight (BW), mid-arm circumference (MAC) and calf circumference (CC), and blood tests including red blood cell count (RBCC), hemoglobin (HGB), hematocrit (HCT), and ferritin (FRN) were carried out before (July 2011) and after (December 2011 and May and July 2012) nutritional intervention. Nutritional education and guidance was used so that the players could achieve the goal of an appropriate body mass index (BMI) and to gain BW in the off-season so that it was maintained during the hot summer season.

【Results】

The energy and nutrient intakes were increased significantly by nutritional intervention and as a result the physique of the players improved. The BW, BMI, and MAC of the players did not decrease but rather increased even during the hot summer following nutritional intervention. Of the players, 98% had a normal RBC, HGB, and HCT, but a low ferritin, while 50% had a low FRN level that was improved by nutritional intervention. However, the intervention did not cause improvement in cases with abnormally low FRN levels.

【Conclusion】

Successive nutritional intervention resulted in a significant increase in energy and nutrient intake even in the hot summer season. The physique of the players was improved significantly by the intervention that was also expected to lead to prevention of anemia.

Keyword: high school baseball players, nutritional intervention, summer season, BMI, ferritin