

Activity Report

Sports Nutrition Management for the Baseball Team Competing in All-Japan Senior High School Baseball Championship Tournaments

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ABSTRACT

【Aim】

The aim of this study was to develop a practical procedure for the most appropriate body composition to be secured for enhancing muscle strength and physical power, by sports nutrition management. The study was implemented on the players of a baseball team who competed in an All-Japan Senior High School Baseball Championship Tournament, in the off-season.

【Methods】

The 71 participants of the study were all members of the team, and the period of study was four months. We set the target amount of energy intake, listed the foods that consisted mainly of carbohydrates, and established a “carbohydrate points system,” in which 200 kcal corresponded to 1 point towards achievement of the target. This “carbohydrate points system” was uniquely configured by our authors’ group to implement nutrition education and observe the process effectively. We carried out measurements of the physical power, body weight, lean body mass, body fat percentage and body circumference, working closely together with the staff members.

【Results】

The body weight and lean body mass, and the circumferences of the chest, thigh and upper arm of the participants were significantly increased, while the body fat percentage throughout the body decreased significantly. The results of most of the tests of muscle strength and physical power improved significantly, including squats and vertical jumps, excluding run through to first base.

【Conclusion】

Sport nutrition management, which secures the carbohydrate-based energy intake according to the strength of training, could be an effective intervention to secure the most appropriate body composition for enhancing the muscle strength and physical power in baseball players. However, success could not be achieved in some participants, because of the occurrence of colds or the flu. Therefore, we should consider a further study with setting of the target amounts of vitamins or micronutrients, and evaluating the shifts in the required amounts of nutrients.

Keywords: baseball, high school student, sport nutrition management, strength and conditioning