

Practical Activity Report

Changes in body composition and nutritional management in a Japanese national badminton team player: case of a player who advanced to the final round in an international tournament

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ABSTRACT

【Aim】

Achieving and maintaining a steady fat-free-mass is important for elite badminton players. However, it is difficult for the players to ensure sufficient dietary intake to maintain their fat-free-mass during tournaments held in different countries throughout the year. We analyzed the relationship between dietary intake and the body composition during an international tournament. Herein, we introduce the case of a Japanese national badminton team player who advanced to the final round by competing in five matches on five consecutive days.

【Methods】

The parameters measured were the body composition, dietary intake, match duration, and subjective fatigue. We established targeted amounts of dietary intake per day for nutritional assessment.

【Results】

Concerning the body composition, the body weight and the fat-free-mass decreased by 1.7% and 1.9%, respectively, from the first round to the final round during the tournament. The daily energy intake throughout the tournament was $2,006 \pm 406$ kcal, which corresponded to $78.9\% \pm 15.9\%$ of the daily target. The daily intake of protein and carbohydrate were below the target amounts throughout the tournament.

【Conclusion】

These outcomes suggest that insufficient dietary intake may lead to a decrease of the body weight and fat-free-mass during a tournament. Currently, based on the objective data obtained from the study, we promote self-catering in hotel rooms, and provide an action plan concerning the type, amount, and timing of supplementary foods for the whole Japanese national badminton team. In addition, we need to continuously implement body composition measurement in further international tournaments.

Keywords: Japanese national badminton team player, competition period, international tournament, fat-free-mass, dietary intake