

RELATIONSHIP BETWEEN NUTRITION KNOWLEDGE AND AEROBIC FITNESS IN YOUNG GYMNASTS

Nazhif Gifari, Rachmanida Nuzrina, Mury Kuswari, Nabila Tri Hutami, Ayu Ghalda

Nutrition Department, Universitas Esa Unggul, Indonesia

Original article

Abstract

This study aimed to analyze the nutrition knowledge, nutritional status, body composition, nutrient intake and physical fitness of young gymnasts. The study used a cross-sectional design with 20 subjects comprising rhythmic and artistic gymnasts in Raden Inten, Jakarta. Nutritional status and body composition were measured using anthropometric measurements, macronutrient and micronutrient intakes were measured with 3x24-h food recall, physical fitness was measured using the bleep test (20m shuttle run), and nutrition knowledge was assessed using questionnaires consisting of 30 questions on macronutrients, micronutrients and water. The results indicated that the gymnasts (n=20, 13.7±2.1 y.o, 37.8±8.2 kg and 147.3±10 cm) generally had a fairly good nutrition knowledge score (73.2%); i.e. 10 people in the good nutrition-knowledge group and 10 people in the poor nutrition-knowledge group. The majority of the macronutrient and micronutrient intakes were below the nutritional requirements, in both the good and poor nutrition-knowledge groups. The nutrition knowledge scores were low for hydration-related knowledge (66%), while the scores for macronutrient and micronutrient knowledge were 73.8% and 84.2%, respectively. This study found that nutrition knowledge had a positive correlation with physical fitness ($p<0.05$). A sports nutrition-related education intervention is needed for those gymnasts that still have poor nutrition knowledge. Sports nutrition knowledge needs to be provided for athletes and coaches so that athletes' intakes meet their nutritional requirements in order to maximise their performance.

Keywords: *nutrition knowledge, nutrient intake, physical fitness, young gymnasts.*

INTRODUCTION

Gymnastics is a type of sport characterised by unique movement skills. It is a form of physical exercise involving the systematic arrangement of selected and planned movements to achieve certain goals. As a sport, it relates to motor components such as strength, speed, balance, flexibility and accuracy (Douda, Toubekis, Avloniti & Tokmakidis, 2008; Suchomel, Nimphius & Stone, 2016). A nutrient intake that meets the nutritional requirement is needed in order to

maximise the motor components and improve performance. Sleep quality, body composition and food intake are all factors that affect fitness (Silva & Paiva, 2016).

The nutrient intakes of gymnasts often do not meet their nutritional requirements, and this will have a negative impact on their body condition. Calcium and vitamin D deficiencies will also lead to bone health problems among athletes (Lovell, 2008). Athletes' nutritional requirements are influenced by many factors, such as their nutrition knowledge. Adequate nutrition