Title:
The effects of two type ergogenic beverages (Zamzam and Isostar) on metabolic responses to short and long high-intensity intermittent exercise in soccer players

Abstract:
The purpose of this study was to determine the effects of two energy drinks on changes of metabolic indices of soccer players. 48 club soccer (24 women and 24 men) with mean age of 7.4 ± 7.18 years, height 1.7 ± 5.159 cm, weight 8.6 ± 66.53 kg, BMI (kg/m²) 68.1 ± 77.20, and (Ml.Kg-1.min) Vo 2 max 63.4 ± 37.59 were selected as two groups and in two groups of long-term intermittent exercise (Ekblom endurance test) and short-term intermittent exercise (RAST anaerobic test) were divided; each group of three groups randomly drink Zamzam (SD), Isostar (ID) placebo (P) beverages. long-term intermittent exercise include 6 stages of exercise (every stage includes 4 repeated endurance test of Ekblom) as two half (like soccer) that in each half time, there was 3 stages of exercise and 10 minutes of rest between two half. Fifteen minutes after eating standard breakfast (23 grams of carbohydrates, 4 grams of fat and 3 grams of protein), 6 ml / kg of beverage and at the end of stages 4, 2, 1 and 5, 1 ml / kg of beverage have been drunk by players. Also they drank 4 ml / kg of beverage at the end of the 3rd stage (first half). Before exercise and immediately after long-term intermittent exercise, venous blood samples were made and Glucose, insulin and triglyceride were measured. Blood lactate at rest, 3 minutes after the first half and second half of the fingertips were measured. Short-term intermittent exercise, including three complete stages of RAST test (peak anaerobic power, mean power and fatigue index) with 10 minutes rest. Fifteen minutes after eating standard breakfast 2 ml / kg of beverage and at the end of each stage 2 ml / kg beverage were drunk. Glucose and blood lactate at rest and immediately after each stage of RAST test were measured through blood fingertips. Result Results showed a significant increase in the rate of insulin and blood glucose levels after long-term activity in SD and ID groups compared to P group. Also there was a significant increase in the rate of blood glucose levels in 3 minutes immediately after every stage of the RAST test in SD and ID groups compared to P group. While in the other variables, any significant difference wasn't observed in group ID compared to SD. The consumption of beverages made by company of Zamzam and Swedish Isostar relatively cause to increase level of blood glucose and insulin after long-term high-intensity intermittent exercise.

Keywords:
Energy beverage, periodic implementation, Zamzam, Isostar, Ekblom test, RAST test