ABSTRACT

Effect of Combination of Glucose: Fructose 30%: 70% Compared With Combination Glucose: Fructose 50%: 50% of Blood Glucose and Blood Lactic Acid Before and After Sub-maximal Physical Activity

The purpose of this study was to determine the effect of different combinations of solutions of glucose: fructose 30%: 70% with a combination solution of glucose: fructose 50%: 50% of blood glucose and blood lactic acid levels before and after sub-maximal physical activity.

Research to be done was quasi-experimental using the randomized pre-test and post-test design. Research subjects, amounting to 8 people aged 21-24 years were given two different treatments, namely K_1 solution that will consume the combination of glucose: fructose 30%: 70% and K_2 solution that will consume the combination of glucose: fructose 50%: 50%. Exercise in this study was sub-maximal ergocycle by pedaling a bicycle using 80% HR-max for 6 minutes. Measurement of lactic acid levels was done by means of artificial Lactate Accurated Roche-Germany with units of mMol/l, while blood glucose measurements were performed by means of artificial Blood Glucose Meter with San Diego-American units of mg/dL. The data obtained was analyzed by descriptive statistics, normality test, paired samples test and independent samples test with a significance level of 0.05.

Thus we can conclude that: (1) Increased blood glucose levels prior to the activity of the combination of glucose: fructose 30%:70% was not lower than the combination of glucose: fructose 50%:50%. (2). Decrease in blood glucose levels after activity on providing a combination of glucose: fructose 30%: 70% was not lower than the combination of glucose: fructose 50%:50%. (3). Increased blood lactic acid levels before the activity on providing a combination of glucose: fructose 30%:70% was not higher compared to the combination of glucose: fructose 50%:50%. (4). Elevated levels of blood lactic acid after activity on providing a combination of glucose: fructose 30%:70% was not higher compared to the combination of glucose: fructose 50%:50%.

Key word: combination glucose: fructose, glucose blood, blood lactic acid, sub-maximal physical activity.