

The Effect of Isotonic Beverages on Changes in Maximum Oxygen Volume in Soccer Athletes

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ABSTRACT

Maximum oxygen volume (VO₂ max) is the maximum amount of individual oxygen that can be used during exercise and is a measure of cardiorespiratory freshness. Isotonic drink is one of the drinks that supply energy and fluid balance during exercise. The purpose of this study was to determine the effect of isotonic drink on changes in maximum oxygen volume. The type of research conducted was Quasi Experimental with a Pretest-Posttest with Control Group design. The technique of taking research subjects by purposive sampling method. The population in this study were all members of the Youth Star football. This study use 40 subjects 14-19 years and divided into 2 groups namely, the control and treatment groups. The control group was given 240cc of water while the treatment group was given 240cc isotonic drink. Statistical analysis of this study using *SPSS 16.0 for Windows* with a different Wilcoxon and Mann Whitney test. The result of study showed the average volume of maximum oxygen at the pretest of the control group namely 33,357ml/kgBB/menit, in the treatment group namely 36,453ml/kgBB/menit. Average maximum oxygen volume at the posttest of the control group namely 34,388ml/kgBB/menit, in the treatment group namely 54,684ml/kgBB/menit. The result of statistical tests show a significant difference between the control and treatment groups with a value of $p = 0,000$ and there was a significant difference between pretest and posttest with a value of $p = 0,000$ and there is a difference between the mean of the control group and the treatment with value of $p = 0,000$. The conclusion of this study is isotonic drinks can increase the maximum volume of oxygen.

Keywords: Isotonic, VO₂ max, Football.