



Investigation of the relationship between ACE gene genotype distribution and endurance function of chest and triceps muscles of novice adolescent wrestlers

Oral Presentation

1Nasrin Seyedkhandani * ; 2Mahrokh Dehghani; 3Ameneh Pourrahim; 4Marefat Siahkouhian

¹MSc Student of Sport Physiology, Mohaghegh Ardabili University, Ardabil. Iran (sydkhndanynsryn@gmail.com)

²Associate Professor of Motor Behavior, Mohaghegh Ardabili University, Ardabil. Iran

³Assistant Professor of Sport Physiology, Mohaghegh Ardabili University, Ardabil. Iran

⁴Professor of Sport Physiology, Mohaghegh Ardabili University, Ardabil. Iran

Abstract

Introduction: It is useful for coaches to identify success factors (physical, physiological, and psychological factors) as well as to determine their hierarchy, along with ship-specific physical fitness and other elements that affect ship performance. The aim of this study was to investigate the correlation between angiotensin gene polymorphism (ACE) and endurance performance of pectoral muscles and triceps of beginner adolescent wrestlers.

Methods: First, according to the protocol inside the SINACLON kit, DNA extraction was performed, and after DNA extraction, its quality and quantity were evaluated by spectrophotometry (nanodrop) and electrophoresis in 15% agarose gel. Chest press was used to assess muscle endurance. The maximum weight that the athlete was able to perform once was calculated and recorded as the athlete's score using a maximum repetition. ANOVA analysis was used for quantitative analysis to compare and correlate and CHI-SQUARE analysis to determine the frequency distribution of genotype.

Results: The results of the present study showed that among novice wrestlers who have strong endurance performance, 70% have ACE DD gene, 10% ACE ID gene and 20% ACE II gene.

Conclusion: Given the importance of genes in the talent identification process, educators and related professionals should consider this important factor in all talent identification matters. Sports performance and sports-related injuries are multifactorial events that result from external environmental factors and intrinsic factors such as genetic predisposition. Sports organizations can invest significant resources in the search for players who have the ability to excel by examining the factors and aspects influencing the talent process.

Keywords

Gene; ACE; endurance function; wrestler

Reference:

1. Cieśliński I, Gierczuk D, Sadowski J (2021) Identification of success factors in elite wrestlers—An exploratory study. PLoS ONE 16(3): e0247565.
2. North K. Why is alpha-actinin-3 deficiency so common in the general population? The evolution of athletic performance. Twin Res Hum Genet. 2008;11(4):384-94.

