

## **The Differences in Peak Anaerobic Muscular Power and Risk Factors Related to Cardiovascular Diseases between Athletes and Physical Active Subjects**

Taylor Kennedy, Mychaela Antill, Christopher Griffith, Julia M. dos Santos

<sup>1</sup>College of Education Health and Human Performance, Fairmont State University

<sup>2</sup>Athletics Department, Fairmont State University

Physical exercise is considered an asset to inhibit the development of metabolic diseases such as type 2 diabetes and cardiovascular diseases. Physical exercise can be performed in different intensities, and athletes usually execute a high-intensity exercise more regularly when compared to athletes. The aim of the study is to compare the impact of regular exercise on risk factors to develop cardiovascular disease and peak anaerobic muscular power in athletes versus physically active subjects. Twenty-two athletes and eleven non-athletes (18-26 years old) were randomly selected from a group of students attending Fairmont State University in Fairmont. Fasting blood glucose, high and low-density lipoprotein (HDL and LDL, respectively), triglyceride and total cholesterol were assessed by finger prick. Percentage of muscle and fat and fat distribution were assessed using an InBody 570 Body Composition Analyzer. Peak anaerobic muscular power was quantified using a vertical jump test using a Just Jump System mat. Athletes' percentage of fat, truncal fat, lower limbs fat, upper limbs fat, systolic blood pressure, and blood glucose were lower and percentage of muscle higher when compared to non-athletes ( $p < 0.05$ ). There was no difference in lipid profile, diastolic blood pressure, and peak anaerobic muscular power between the two groups. The program of exercise with the inclusion of high-intensity exercise done regularly by athletes seems to better positively impact the risk factors related to cardiovascular diseases and type 2 diabetes development. Inclusion of high-intensity exercise in an exercise prescription could be an significant asset to inhibit the development of metabolic diseases.