

A Study of Haemodynamic and Aerobic Fitness Profile of Football Players

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Abstract

The purpose of this study was to observe haemodynamic and aerobic fitness profile of football players. Thirty (N=30) male college football players between the age of 17 and 28 years volunteered for this study. The mean age, height and weight of football players was 21±3years, 172.63±8.64cm and 71.56±10.75Kg respectively. The mean resting pulse rate, systolic blood pressure, diastolic blood pressure, pulse pressure, mean arterial pressure, rate pressure product, stroke volume, cardiac output and VO₂ max was 69±4beats/minute, 120±3mmHg, 78±3mmHg, 42.07±4.71mmHg, 91.67±2.94 mmHg, 83.06±5.05beats.min⁻¹.mmHg, 57.38±5.65ml/beat, 3.97±0.28 L/minute and 42.60±2.26 ml.kg⁻¹.min⁻¹ respectively. It was concluded from the results of this study that college level football players have less values of haemodynamic and aerobic fitness variables than elite level football players and athletes of other countries. Thus, they may need to focus on improving haemodynamic and aerobic fitness variables and this could be a focus of their training programme.

Key Words: Mean Arterial Pressure, Stroke Volume, Cardiac Output, VO₂max

Introduction

The performance of the football players depend on different kinds of physiological characteristics. Exceptional endurance performance capacity has long been known as important prerequisite for on-field performance of football players (Ekblom, 1986; Reilly, 1997; Bangsbo et al., 2006). For instance, a player's aerobic endurance capacity facilitates performance continuity, which is limited by endurance, throughout a 90-120 minute game. In addition, it influences the recuperation capabilities following high-intensity games and training units and the recovery following concise high-intensity exercise spurts throughout the games or training units (Ekblom, 1986; Reilly, 1997; Reilly et al., 2008). There is significant agreement that the maximum value for uptake, transport, and use of

oxygen is a good sign of the working of the respiratory, cardiovascular and musculoskeletal systems. This is one of the reasons why research has shown great interest in the determination of haemodynamic and aerobic fitness variables, in a direct or indirect way, facilitating the understanding of physiological aspects related to performance of football players during matches and training programme. Therefore, the purpose of this study was to observe selected haemodynamic and aerobic fitness variables of college football players so that players and coaches could know the status of the physiological adaptations of football training programme.

Materials & Methods