

152 **EFFECT OF COCOA SUPPLEMENTATION ON ATHLETE'S BLOOD COAGULATION FACTORS AFTER AN INCREMENTAL EXHAUSTIVE EXERCISE**

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Cardiovascular disease (CVD) is the main indicator of cardiac arrests and mortality (Willoughby and Holmes 2002).

Disruption of the normal rheological properties of blood is considered an independent risk factor for CVD (Douglas and Hein 1998). Platelets play an important role in the pathophysiology of CVD and its associated risk factors (El-sayed 2005). In addition, current evidence implicates fibrinogen (Fib) in the pathogenesis of atherosclerotic vascular diseases and as an independent cardiovascular risk factor (Lars 2003). Also, haemoglobin (Hb) and haematocrit (Htc) factors have the key and important role in whole blood viscosity (El-sayed 2005). Habitual, regular physical activity has been postulated to reduce the incidence of CVD (Johansson and Sundquist 1999). However, high intensity exercise may precipitate acute cardiac events and sudden cardiac death through an occlusive platelet-rich thrombus (Bartsch 1999). However, it has been shown that flavanol-rich foods, such as cocoa promote health and attenuate, or delay the onset of CVD (Murphy 2003). The present study designed to evaluate if cocoa attenuate the effect of an incremental exhaustive exercise on platelet count (Plt), Fib, Hb and Htc. Twenty athlete (football player) male (mean age: 22 ± 1.3 years; body mass: 71.1 ± 4.5 kg; BF%: 22.5 ± 1.2 ; VO_2 max: 54.6 ± 2.4 ml/kg/min) provided written informed consent. Bruce exercise test was performed as an incremental exhaustive protocol on two occasions, 1 week apart. In a double-blind design, each participant received either a volume of cocoa solution or flavoured solution based on his body mass before exercise trial. Venous blood samples were collected 2-h prior to exercise (baseline), pre-, post- and 1-h after completion of each trial. Differences were examined using a two-factor analysis of variance with repeated measures as appropriate. Platelet counts, Fib, Hb and Htc decreased significantly ($p < 0.001$) after exercise compared with before exercise in cocoa trials (Plt: from 280.30 ± 31.20 to 206.00 ± 21.13 ; Fib: from 231 ± 2.20 to 200 ± 1.13 ; Hb: from 16.80 ± 0.58 to 14.36 ± 1.22 ; Htc: from 49.60 ± 1.97 to 44.36 ± 2.42). Fib were unaffected by condition and did not differ at any time after exercise protocol ($p > 0.05$). This study showed that increased platelet activity in response to an incremental exercise could be decreased with oral supplementation of cocoa that is line with Murphy *et al* (2003) and Rein *et al* (2000). In addition, very little is known about cocoa and it's effecting on Fib, Hb and Htc levels. However, the findings showed that cocoa supplementation decreased Fib, Hb and Htc levels. In conclusion, short-term cocoa supplementation decreased blood coagulation in response to an incremental exhaustive exercise.

Corrections

Effect of cocoa supplementation on athlete's blood coagulation factors after an incremental exhaustive exercise (*Br J Sports Med* 2010;**44**:i45–i46). The correct author names are as follows: Vahid Sari-Sarraf, Saeed Nikookheslat, Ramin Amir Sasan, Mehdi Soleimani, they are all affiliated to the Faculty of Physical Education and Sport Sciences, Tabriz University, Tabriz/Iran. Corresponding author is Dr Vahid Sari-Sarraf, Faculty of Physical Education and Sport Sciences, Tabriz University, Tabriz/Iran; sarraf@tabrizu.ac.ir

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