

BODY COMPOSITION, DISORDERED EATING AND MENSTRUAL REGULARITY IN A GROUP OF SOUTH AFRICAN ENDURANCE ATHLETES

Tershia Botha, Hattie H. Wright,
J. Hans De Ridder, Dawie D.J. Malan
and Suria M. Ellis

ABSTRACT

This study investigated menstrual regularity, disordered eating, body composition in a group of female athletes, as well as the difference between body composition and disordered eating in irregular vs normal menstruating athletes. Participants were Caucasian female athletes ($n=46$), 14 – 25 years, 53.75 ± 8.55 kg and 164.85 ± 7.93 cm were recruited and subdivided into three groups based on level of performance (i.e. Beginners, Intermediate and Advanced). They completed self-administered questionnaires on menstrual history, eating attitude (EAT-26) and disordered eating behaviour (EDI). Body composition was measured by air displacement plethysmography. Results indicated that beginner athletes had a younger menarcheal age than both intermediate (12.95 vs. 14.00 and 14.33 yr, $d = 0.8$, respectively) and advanced athletes, and a higher body fat percentage than intermediate athletes (20.44 ± 4.18 vs. $16.29 \pm 4.57\%$, $d = 0.8$, respectively). Of the total group 2.17% had primary amenorrhea, 21.74% secondary amenorrhoea and 8.70% oligomenorrhoea. Of all the athletes, 10.7% used oral contraceptives to regulate their menstrual cycles. There was a low risk for disordered eating amongst all the athletes even though 28% reported a history of eating binges, 9% reported to have vomited before to control weights, and 31% used diet pills and laxatives for weight control. No differences were found between body composition and disordered eating in irregular and normal menstruating athletes. It was concluded that menstrual irregularities are present in this group of athletes and some showed signs of extreme weight-control behaviour. This places them at a high risk of developing two components of the female athlete triad namely functional hypothalamic amenorrhea and low energy-availability with or without an eating disorder.

Key words: Female athlete triad, menstrual, disordered eating, body composition, BOD POD.

Received: 20 October 2008 Accepted: 17 December 2008

Tershia Botha
J. Hans De Ridder, *PhD (Human Movement Science)*
Dawie D.J. Malan, *PhD (Human Movement Science)*
School of Biokinetics, Recreation and Sport Sciences, Faculty of Health Sciences, North-West University, Potchefstroom Campus

Hattie H. Wright, *PhD (Nutrition; Regd. Dietician)*
Centre of Excellence in Nutrition, Faculty of Health Sciences, North-West University, Potchefstroom Campus

E-mail: Hattie.Wright@nwu.ac.za

Suria M. Ellis, *PhD (Statistics)*
Statistical Consultation Service, North-West University, Potchefstroom Campus, Potchefstroom, South Africa.

INTRODUCTION

Moderate exercise is known to have numerous health-related benefits such as weight management, but in the sporting world exercise can also be linked to dysfunctional attitudes and behaviour towards food and body composition (Lane, Lane & Matheson, 2004). Young female athletes appear to be most at risk for developing disordered eating patterns than their non-athletic peers, since they are often driven to maintain a lean athletic image in order to excel in their chosen sport (Hobart & Smucker, 2000; Sundgot-Borgen & Torstveit, 2004).