AN ANALYSIS OF DIETARY, BODY COMPOSITION AND ACTIVITY PATTERNS OF ADOLESCENT SPORT COMPETITORS AND NON-COMPETITORS

J.E. PRITCHARD, D.A. BAILEY, B.A. BLANKSBY AND J. BLOOMFIELD

To identify any differences that might exist in the dietary patterns and body composition of competitors and non-competitors, a study was made of the energy balance, dietary quality, nutritional awareness and body composition of two groups of adolescents.

Male and female non-competitors in swimming and tennis, who had reached stage 4 of Tanner's pubescent development were examined at the Department of Human Movement Studies, University of Western Australia.

The table summarises the descriptive statistics (means plus one standard deviation) of the competitor and the non competitor adolescents.

Parameter	Competitors		Non-Competitors	
	Girls	Boys	Girls	Boys
Number	35	20	18	18
Age (months)	175.8 ± 15.1	188.1 ± 14	176.8 ± 13.1	186.2 ± 8.1
Body mass (kg)	54.5 ± 5.8	66.0 ± 11.6	56.4 ± 8.3	62.4 ± 7.4
Height (cm)	163.6 ± 6.2	176.2 ± 7.9	163.3 ± 7.4	171.8 ± 5.6
B.M.I. (m/h^2)	20.3 ± 1.7	21.1 ± 2.1	21.3 ± 2.1	21.2 ± 2.9
Sum 5 skinfolds (mm)	74.6 ± 27.4	42.8 ± 11.0	96.8 ± 27.4	60.5 ± 31.5
Energy intake (kJ)	7,998 ± 2951	14098 ± 3769	7113 ± 1911	9,788 ± 2110
Energy balance (%RDI)	66 ± 27	93 ± 21	72 ± 16	78 ± 15

Male competitors were taller and heavier than non-competitors. Compared with Western Australian adolescents (Blanksby et al. 1986) the mean values for all age groups for the male competitors lay between the 70th and 80th percentiles for height by age, and between the 80th and 90th percentiles for weight by age. The male non-competitors showed mean values for all age groups close to the 50th percentile for height by age. The female competitors were only marginally taller than their non-competitor peers and had slightly lower body mass than the non-competitor girls.

The dietary energy intake more closely met the high energy requirements of the male competitors than of the female competitors, although there was a wide range of intakes. Twice daily training sessions for the swimmers lifted energy needs up to 13,800 kJ for girls and up to 16,400 kJ for boys. Only 3% of girls and 16% of boys consumed more than 100% of their RDI for energy.

Although most diets of the non-competitors did not meet the RDIs for energy, dietary quality (as reflected by percentage of energy from each of the energy nutrients) was not significantly different between the two groups.

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Department of Human Movement Studies, University of Western Australia, Nedlands, 6009, Western Australia.