EFFICACY OF THE LOW FAT AD LIBITUM DIET IN OBESITY MANAGEMENT

C.A. MONK, K.M. BURNS*, M. BERMINGHAM* and I.D. CATERSON*

Obesity is a major public health problem which exacerbates numerous serious and potentially fatal diseases. Abdominal obesity increases the risk of cardiovascular disease via the advent of hyperinsulinaemia, hyperlipidaemia and hypertension, collectively known as Syndrome X (Reaven 1988). Dietary therapy is a cornerstone in obesity management and the low fat ad libitum diet is now used extensively in obesity treatment. To date, studies of efficacy of the low fat ad libitum diet have not examined all end points, with most only concernede with weight loss. The current study was undertaken to examine the efficacy of the diet with respect to body composition and anthropometry as well as metabolic control, incorporating biochemical and endocrine parameters.

Eight females, age 20-40 years, body mass index 30-45, non-diabetic, non-smokers were put on a low fat ad libitum diet for six weeks. The study was cohort in design with pre-testing done in week 0 and post-testing in week six. Diet intake was assessed by diet history and food diaries. The prescribed fat intake was restricted to 30 g daily. Anthropometric measurements of weight, height, blood pressure, fat free mass, supine sagittal depth, waist and hip circumference were taken. Metabolic and endocrine parameters of cholesterol, low density lipoprotein (LDL), high density lipoprotein (HDL), triglycerides, apolipoprotein A1, apolipoprotein B, insulin and testosterone were also carried out.

There was a significant decrease ($P<0.001$) from week 0 to week six in energy intake (9908.2 ± 267.8 kJ, 8798.3 ± 383.5 kJ respectively) and % energy from fat (41.3 ± 2.2, 24.2 ± 2.3; $P<0.001$). Energy % from carbohydrate (41.3 ± 2.2, 54.8 ± 2.7; $P<0.001$) and protein (15.5 ± 1.1, 19.1 ± 1.1; $P<0.001$) both increased. Weight loss was significant (97.3 ± 5.6, 95.3 ± 5.4; $P<0.001$) as were the decreases in fat free mass, hip circumference and supine sagittal depth. Weight loss was found to be associated with the dietary fat decrease ($r = 0.802$, $P = 0.016$) rather than the dietary energy decrease ($r = 0.454$, $P = 0.259$). Biochemical changes included a slight but significant decrease in HDL and total testosterone.

The low fat ad libitum diet appears to induce weight loss by decreasing dietary fat. There were no clinically important changes in either biochemical or endocrine parameters.

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Human Nutrition Unit, Department of Biochemistry, University of Sydney, New South Wales 2006 *Metabolism and Obesity Service, Royal Prince Alfred Hospital, Camperdown, New South Wales 2050