

NUTRITIONAL ADEQUACY OF DIABETIC  
DIETS IN THE LOW-CARBOHYDRATE ERA

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The emphasis of dietary treatment for diabetics has changed from carbohydrate restriction to a recommendation for a high intake of complex carbohydrate (natural and unrefined sources, i.e. vegetables, fruit and cereal foods) together with a reduction in dietary fat. A number of studies have shown that increased dietary carbohydrate improves both glucose tolerance and diabetic control.

Prior to 1978 the dietary policy for diabetic patients attending Prince Henry's Hospital was to restrict carbohydrate to no more than 40% of daily energy intake. This was a policy common to most diabetic services in Victoria. However, after this period the policy changed and carbohydrate intakes of at least 50% were encouraged. Along with the change in dietary policy, a system of dietary and medical reviews was instituted. This report deals with an initial dietary assessment of diabetic patients, including both insulin-dependent (IDD) and non-insulin-dependent (NIDD). The assessment covers patients counselled prior to the institution of the new dietary policy in the period 1978-1980.

Patients were interviewed to obtain information regarding usual weekly dietary patterns. Dietary data were analysed by computer using food tables (Paul and Southgate 1978).

	IDD (n=22)		NIDD (n=24)	
	Mean	SEM	Mean	SEM
Age	25	8	54	8
Energy (kJ/d)	8619	774	6769	506
% Energy from :				
protein	19.7	0.7	21.1	1.1
fat	43.9	1.3	43.3	1.8
carbohydrate	34.9	1.2	33.2	1.2
alcohol	1.1	0.3	2.4	1.0
Fibre (g/d)	25.5	2.25	18.5	1.31
Biotin (µg/d)	26.1	2.1	22.0	2.2
Vitamin B <sub>6</sub> (mg/d)	1.4	0.1	1.2	0.7

Mean carbohydrate intakes were below 40% of energy for 82% of IDD and 83% of NIDD patients. Carbohydrate intakes of less than 30% of energy were found in 23% of IDD and 22% of NIDD.

Vitamin B<sub>6</sub> and biotin play a poorly defined role in blood glucose regulation. For vitamin B<sub>6</sub> 91% of IDD and 59% of NIDD were below 2/3 of the US RDA (2.2 mg/d males; 2.0 mg/d females). Biotin intakes of all the IDD and NIDD were found to fall below 2/3 of the lower limit of the US safe and adequate intake range (100 µg/d-200 µg/d). Intestinal microflora, however, make a significant contribution to the pool of available biotin.

NATIONAL RESEARCH COUNCIL (1980). 'Recommended Dietary Allowances' 9th edn (National Academy of Sciences : Washington DC).

PAUL, A.A. and SOUTHGATE, D.A.T. (1978). 'McCance and Widdowson's The Composition of Foods' 4th edn (HMSO : London).

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