

DIET AND DIABETES PREVALENCE IN A MICRONESIAN POPULATION:  
A RURAL AND URBAN COMPARISON

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Increased prevalence of non-insulin dependent diabetes has previously been observed within the Pacific region in populations who, with urbanisation, have undergone changes in diet and lifestyle (Zimmet et al. 1977; Taylor and Zimmet 1981). To examine the role of diet in this respect, a dietary survey was conducted in Kiribati, Central Pacific, during April and May 1981, in conjunction with a diabetes and cardiovascular disease prevalence survey. Twenty-four hour dietary recall data were obtained from 1062 randomly selected adults, aged 20 years and over. The dietary subsamples were drawn from both rural and urban groups and were representative of these respective target populations.

Mean daily nutrient intakes\* ( $\pm$  SEM)

	Males		Females	
	Rural (n=182)	Urban (n=313)	Rural (n=216)	Urban (n=351)
Energy (MJ)	8.7 $\pm$ 0.3	7.9 $\pm$ 0.2	6.8 $\pm$ 0.2	6.3 $\pm$ 0.1
Imported energy (%)	38 $\pm$ 2	69 $\pm$ 1	33 $\pm$ 2	64 $\pm$ 1
Protein (g)	90 $\pm$ 4	79 $\pm$ 2	70 $\pm$ 3	68 $\pm$ 2
Fat (g)	64 $\pm$ 3	54 $\pm$ 2	55 $\pm$ 3	49 $\pm$ 2
CHO (g)	298 $\pm$ 12	262 $\pm$ 6	232 $\pm$ 9	209 $\pm$ 4
Thiamin ( $\mu$ g)	860 $\pm$ 37	886 $\pm$ 25	639 $\pm$ 27	753 $\pm$ 23
Riboflavin (mg)	0.82 $\pm$ 0.05	0.95 $\pm$ 0.04	0.67 $\pm$ 0.03	0.71 $\pm$ 0.03

\*Age-standardised to the combined urban and rural survey population.

The percentage contributions of protein, fat and carbohydrate to the total energy intake differ little between rural and urban Kiribati, although urbanisation resulted in an increased contribution of imported foods to the total energy intake. Urban dwellers consumed more rice, sugar, dripping, canned meats and fish, condensed milk and bread and less coconut, coconut sap, taro and pandanus than their rural counterparts. Energy intakes of rural males were significantly higher ( $P < 0.01$ ) than those calculated for urban males. There was no statistical difference between the energy intakes of rural and urban females.

Age-standardised diabetes prevalence was 9.1% and 8.7% for urban males and females respectively and 3.0% and 3.3% for rural males and females. Urban adults of both sexes were observed to have significantly higher ( $P < 0.01$ ) mean body-mass index and triceps skinfold thickness than rural adults.

Urbanisation in Kiribati is accompanied by a marked change in food habits, a decreased level of physical activity, obesity and an increased prevalence of non-insulin dependent diabetes.

ZIMMET, P., TAFT, P., GUINEA, A., GUTHRIE, W. and THOMA, K. (1977).

*Diabetologia* 13: 111.

TAYLOR, R.J. and ZIMMET, P.Z. (1981). *Int. J. Obesity* 5: 367.

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