

TAKE-AWAY FOOD HABITS AND DIABETES IN ABORIGINES AND EUROPIDS  
IN TWO VICTORIAN COUNTRY TOWNS

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Australian Aborigines develop diabetes and heart disease as they become urbanized (O'Dea et al. 1982). The high prevalence of diabetes in Aborigines who are in contact with Europids may be caused not only by genetic, but also by environmental, differences. By interview with semi-quantitative frequency methods (Willett et al.1987), we studied food, alcohol and tobacco habits as environmental measures which are associated with diabetes or heart disease. The protocol also included an oral glucose tolerance test and the measurement of plasma insulin, body mass index (BMI), waist-hips ratio (WHR) and blood pressure.

In two Victorian country towns, 306 Aborigines and 553 Europids consented to the study, a participation rate of 90% in each community. The crude prevalence of diabetes in Aborigines was 24/306 (7.8%), compared with 19/553 (3.4%) in Europids. Controlling for differences of age and sex composition of the groups, fasting insulin was higher among Aborigines ( $P<0.001$ ), but fasting glucose was not significantly different.

Logistic regression by Generalized Linear Interactive Modelling (GLIM) (Baker and Nelder 1978) showed higher BMI in Aborigines independent of differences of age, sex, insulin and smoking habit between groups (chi-square=5.8,  $P<0.05$ ). By comparison of the means for males, however, the mean BMI in Aborigines was 25.5 kg/m<sup>2</sup>, compared with 26.6 in Europids ( $P<0.05$ ). In the table, the crude comparison of WHR (lower in Aborigines) also differs from the step-wise logistic regression (where WHR was higher in Aborigines). Thus, confounding by age and sex is important, so only the multivariate comparisons of food, alcohol and tobacco habits are given.

GLIM parameter <u>Higher in Aborigines</u>	Mean values (males only)		T test for comparison of means
	<u>Aborigines</u>	<u>Europids</u>	
2 hour glucose (mmol/l)*	6.1	5.4	*
2 hour insulin (mU/l)**	38	28	*
Waist-hips ratio ***	0.91	0.93	**
Smoking ***			
Frequency of eating take-away food as a meal **			
Blood pressure (diastolic)(mmHg)***	83.2	79.2	**
<u>Higher in Europids</u>			
Frequency of drinking alcohol ***			

\*0.01<P<0.05

\*\*0.001<P<0.01

\*\*\*P<0.001

The frequency of eating take-away food was found to be an independent predictor of fasting insulin, with age and sex effects controlled (0.001<P<0.01). Together with the strong interaction of age and the frequency of eating take-away food (more frequent at younger ages,  $P<0.001$ ), these findings suggest that the aim to reduce the intake of these foods could limit the development of diabetes. In Aborigines particularly, the interaction between smoking and diet requires further study.

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