WEIGHED INTAKE : A MEASURE OF CONCERN

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The difficulties in obtaining accurate measurements of habitual food intake are well known. Despite their limitations, weighed food records have generally been accepted as the 'gold standard' by which other methods of dietary assessment are validated. More recently it has been recognised that weighed records themselves require independent validation. Comparison of energy intake with energy expenditure is one method of validating food intake data and the doubly labelled water technique for measuring total energy expenditure has been used for this purpose (Schoeller, 1990). This technique, however, is currently too expensive for widespread use and comparison with estimated minimum energy requirements for a sedentary lifestyle provides a practical alternative.

We have applied this approach to three four-day weighed food records which were collected from 93 men and 122 women living in areas of high and low socio-economic status (SES) in Geelong. The ratio of energy intake to basal metabolic rate (EI/BMR) was calculated for each individual from measured energy intake and BMR predicted from age, sex, and weight (Schofield, 1985). The percentage of individuals with values of EI/BMR at or above 1.20 and 1.30 (levels consistent with maintenance energy requirements) are shown in the table for males and females from both SES areas.

EI/BMR RATIO	% IN HIGH SES		% IN LOW SES	
	MALES (n=50)	FEMALES (n=62)	MALES (n=43)	FEMALES (n=60)
$\geq$ 1.20	82	61	72	40
$\geq$ 1.30	72	42	58	28

In both SES areas significantly more men than women recorded energy intakes above the specified levels ($P<0.02$ for the high SES group with intakes at or above 1.20 and $P<0.01$ for the other groups). There was no significant difference by SES area in the proportion of men or women with intakes at or above 1.30 BMR but a significantly higher proportion of women from the high SES area reported intakes at or above 1.20 BMR. In all four groups those with EI/BMR ratios below the specified levels had on average a higher body mass index (BMI). The difference, however, was statistically significant ($P<0.05$) only for the low SES women at both levels and the high SES men at the 1.30 level.

These findings have important implications for the interpretation of dietary data from different socio-economic groups and different levels of BMI.

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