

What proportion of the population have inadequate intakes?

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Background – National dietary survey data are widely used to estimate dietary inadequacy/excess without due regard to the concepts underlying the reference values with which they are compared. Previously they were compared with values (generally called recommended dietary intakes/allowances, RDI) set well above the estimated average requirements (EAR) to allow for individual variation. To correct for the overestimation of low intakes that would result from comparison with the RDI, 70% of the RDI was often used. Recently another method – the EAR cut-off method - has been shown to yield the correct population prevalence of inadequate intakes under certain assumptions although it does not identify which individuals have low intakes. The UK and US dietary reference values, which have been revised since the current Australian RDIs were set, include EARs for nutrients.

Objectives – We calculated the proportion falling below the UK and US EARs and below 70% of the Australian RDI for six nutrients– protein, iron, zinc, calcium, folate and vitamin A.

Design – The unit record file data from the 1995 NNS provided by the ABS were adjusted for within-person variation using Stata (version 6). Those with implausible energy intakes were excluded.

Outcomes – There was no consistent relationship between 70% RDI and either the UK or the US EAR. For iron and zinc, 70% of the Australian RDI yielded a much higher proportion with low intakes for most age groups than did comparison with either the UK or US EAR. The proportion with low folate intakes was much higher using the US criteria than those of the other two countries. US recommendations for calcium are not EARs and therefore could not be used to estimate low intakes.

Conclusions- 70% RDI seems to be an inconsistent criterion and may not identify the correct target groups. Current Australian reference values for iron and zinc are substantially higher than both US and UK criteria.