Development of updated nutrient composition data for red meat

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Since current Australian nutrient composition data for lamb and beef were collected in the early 80s and 90s respectively, production and butchering practices have changed in response to consumer demand for lean meat. Beef and lamb nutrient composition data are required for different levels of fat trim since there is a wide variation in the amount of separable fat in retail beef and lamb cuts (1)(2). External fat width (mm) can provide a visual guide for use in food composition tables (2).

To obtain updated nutrient data on Australian red meat for the Australian Food Composition database, 15 beef, 11 lamb, four veal and two mutton cuts, representing the most popular red meat cuts, were sampled and analysed in July and August 2002. Two purchases (approximately 500g) of each of the cuts were purchased at 10 different retail outlets, including supermarkets and butchers, in different socioeconomic areas of Sydney and Melbourne. One representative portion from the first purchase was selected for external fat measurement (mm). The whole purchase was designated for gross composition and chemical analysis of the raw sample. The second purchase was cooked and then used for gross composition and chemical analyses. All meat cuts were cooked as purchased, with separable fat intact, using low fat cooking methods (without addition of fat or oil). The table below summarises key features of the new data, compared to previous published Australian data.

Regression models[a]	Regression coefficient	Standard error	Standardized coefficient	P value	Partial R^2
TBBMC					
Weight	19.361	1.531	0.564	<0.001	0.591
TBBA	0.620	0.055	0.501	<0.001	0.196
OC	–1.367	0.315	–0.211	<0.001	0.067
Bone ALP	–0.556	0.195	–0.133	0.006	0.013
Constant	–326.002	140.805		0.023	
TBBMD					
Weight	0.0072	0.001	0.691	<0.001	0.625
OC	–0.0006	0.000	–0.302	<0.001	0.130
Bone ALP	–0.0002	0.000	–0.166	0.007	0.020
Constant	0.513	0.032		<0.001	

[a]Stepwise method, entry criteria: $P < 0.05$.

Preliminary analysis of the results shows that mutton has a similar nutritional profile to lamb and that the fatty acid composition of internal and external beef fat is similar. Iron and zinc levels for beef and lamb appear to be comparable to those reported in previous nutrient composition data. Accurate nutrient composition data are essential for assessing dietary intakes, determining the relationship between dietary intake and disease outcomes and for communicating nutrition information to consumers, particularly on food labels. The new descriptors and the more extensive range of nutrients reported will make it easier to select the most appropriate Australian data for nutrition analyses.

References

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