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Variation of the omega-3 content of Australian food products

YC Probst, R Thorne, J O'Shea, H Jones, R Karkkainen, S Guenon, L Tapsell
Smart Foods Centre, University of Wollongong, Wollongong NSW

Background – Omega-3 fatty acids, in particular long chain, are an essential nutrient in the diet though primarily obtained from marine sources. Omega-3 fatty acids have been linked to many diet-disease relationships and resultant products containing these fatty acids are often recommended in dietary counselling. With the present ecological debate about sustainability of the seafood market, many food manufacturers have added omega-3 fatty acids to products which do not naturally contain them.

Objective – To determine the amount of omega-3 fatty acid in commercially available Australian food products.

Design – Manufactured non-marine products containing omega-3 were identified in three leading supermarkets. Products were only included if they did not naturally contain the fatty acid. Products were identified from nutrient content claims on the label referring to omega-3. The nutrition information panel was recorded for each product. Information was enhanced by review of manufacturer websites. Data on marine products were sourced from nutrient databases for comparison.

Outcomes – Fourteen products were identified in the supermarkets for which the reported omega-3 content varied from 5mg/100g (Margarine) to 1070mg/100g (Eggs). Canned Salmon, Mackerel and Green muscles contained the greatest amounts of natural omega-3. Variations in the weight measure used to report the fatty acid on the label were also identified (e.g. milligrams rather than grams).

Conclusion – There was large variation in the reported omega-3 content with many canned fish products (excl salmon) containing less than the fortified dairy and grain products. This provides challenges for consumers in selecting products with desirable levels. The reliability of this data would need to be confirmed with further chemical analyses.

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Modification of the USDA's Healthy Eating Index for the Australian nutrition guidelines

GA Hendrie¹, DN Cox¹, J Coveney²

¹CSIRO Human Nutrition, ²Department of Public Health, Flinders University

Background – The lack of a common dietary “quality” marker in food intake research is an issue that needs attention. Well designed measures of diet quality have the potential to capture the whole diet rather than focus on selected foods, food groups or single nutrients. The United States Department of Agriculture (USDA) has developed the Healthy Eating Index (HEI) which is a diet quality measure assessing compliance with USA nutrition recommendations. The index is used on a regular basis in population surveys. However Australia does not have an equivalent comprehensive measure of diet quality.

Objective – This paper describes how the HEI was modified to be consistent with the Australian public health nutrition guidelines and applied to Australian food intake data.

Design – The HEI comprises 10 dietary components including food groups, nutrients and diet variety. The index's scoring criteria and serve sizes were altered to be consistent with Australia's nutrition guidelines and Nutrient Reference Values. Food intake data was collected from a sample of 89 volunteer adults using a comprehensive food frequency questionnaire. The modified index was applied to the intake data and diet quality analysed using descriptive statistics.

Outcomes – The mean HEI score was 70.61 (SD=12.63) out of a possible 100, compared to 63.80 for an US sample in 1999-2000. Most of the Australian diets could be classified as “need improvement”. The highest proportion of people met the recommendations for the meat (75.3%) dairy food groups (52.8%) and cholesterol intake (64%). Only 8% of the sample consumed saturated fat at the recommended level and less than half met the recommendations for fruit and vegetable intakes

Conclusion – Overall about one in four people report diets consistent with the Australian public health nutrition guidelines. The HEI has the potential to be a useful tool in nutrition research in countries outside the United States. Integrating a comprehensive measure of diet quality into future dietary guidelines and future national food intake surveys could be a valuable and informative way of providing practical feedback to consumers and a useful way of measuring diet at a population level in Australian.