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## New analytical data on the total fat, fatty acid and cholesterol content of UK eggs

P. M. Finglas<sup>1</sup>, M. Roe<sup>1</sup>, H. Pinchen<sup>1</sup>, S. Church<sup>2</sup>, B. Benelam<sup>3</sup>, E. B. Williams<sup>3</sup> and J. L. Buttriss<sup>3</sup>  
<sup>1</sup>Institute of Food Research, Norwich, NR4 7UA, <sup>2</sup>Independent Public Health Nutritionist and <sup>3</sup>British Nutrition Foundation, London, WC1V 6RQ, UK

Accurate composition data on commonly consumed foods are vital for nutrition and public health, in particular in the UK for the National Diet and Nutrition Survey (NDNS). The last full analytical survey of the composition of eggs was in the late 1980s, with the results published in the *Milk products and eggs* supplement to *McCance and Widdowson's The Composition of Foods*<sup>(1)</sup> and some updates to the fat and energy values, based on limited analyses undertaken in 1993, were included in the 6<sup>th</sup> edition<sup>(2)</sup>. Since then, the composition of chicken feed has changed, as have production methods, both of which may have affected the nutrient composition of eggs. The aim of this analytical survey was to provide updated data on eggs to reflect changes in egg production in the UK and this abstract describes the changes in the fatty acid content of UK eggs. The work was undertaken by the UK Foodcomp project consortium, funded by the Department of Health.

Eight composite samples were identified following consultation with the Department of Health, the project's Expert User Group and relevant industry groups. These were: whole egg, raw; egg white, raw; egg yolk, raw; whole egg, boiled; egg white, boiled; egg yolk, boiled; whole egg, poached and whole egg, fried in sunflower oil. Composite samples comprising eggs from each of the main production methods (enriched cage/barn, free-range, organic) in proportions that reflected market share as far as possible were collected from 3 regional egg packing centres in the UK. The eggs were then prepared for analysis using standardised procedures. For the cooked egg samples, a range of cooking times was used in preparing the composite sample to reflect variations in consumer practice.

According to data from the NDNS, 39% of boys, 37% of girls, 49% of men and 45% of women consumed eggs during the 4-day recording period<sup>(3)</sup>; a higher proportion would have consumed eggs in composite foods. For those who consume eggs frequently, changes in the nutrient composition of eggs could potentially impact on nutrient intakes. Changes to data on the fatty acid composition of raw whole eggs are shown in table 1.

**Table 1.**

Raw whole eggs	1993 <sup>a</sup>	2011
Energy (KJ/100 g(kcal/100 g))	627 (151)	547 (131)
Total fat (g/100 g)	11.2	9.0
Saturated fatty acids (g/100 g)	3.2	2.5
Monounsaturated fatty acids (g/100 g)	4.4	3.5
Polyunsaturated fatty acids (g/100 g)	1.7	1.4
Cholesterol (mg/100 g)	391	350

<sup>a</sup>Food Standards Agency (2002). Note that original data from 1989 on fatty acid content of eggs was updated in the 6<sup>th</sup> Summary Edition of *McCance and Widdowson's The Composition of Foods*, following a subsequent survey on the fatty acid content of foods in 1993.

The lower energy, fat, saturated fatty acid and cholesterol content observed in the new survey are consistent with known changes in animal feed and egg production. The decrease in SFA is of particular public health relevance as UK population average intakes of SFA remain above the recommended 11% of energy in all age groups<sup>(3)</sup>. According to current data<sup>(3)</sup>, eggs and egg-based dishes contribute 2% of the average daily SFA intake in children and 3% and 4% in men and women respectively. However, this underestimates the total contribution from eggs somewhat they are used as an ingredient in many other foods. These new results will ensure that policy recommendations and nutrient intake estimates are based on the latest information.

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