

Re-estimate of trans fat intake in adults using current industry data

Summary

As part of the review of trans fats, a new estimate of trans fat intake was made in November 2007 using information provided by the food industry on current trans fat levels in processed food categories.

Background

Estimates of trans fat (and other nutrients) intakes are made by combining food consumption information collected in national dietary surveys such as the National Diet and Nutrition Surveys (NDNS) and the Low Income Diet and Nutrition Survey (LIDNS) with data on the levels of nutrients in foods. The earlier estimates of trans fat intakes reported in these surveys were based mainly on food composition analysis carried out in the 1990s. Analyses of fat and other nutrients are carried out on composite samples, each made up of a number of brands of similar foods. Data on biscuits, buns, cakes and pastries were based on analysis carried out mainly in 1992, milk was analysed in 1995, dairy products and cheese in the late 1990s and meat and meat products in the mid 1990s. For those products for which no analytical data were available, the fatty acid profile was estimated using manufacturer/retailer data for total fat and saturated fat (usually from the product label) and the fatty acid profile of similar foods. Any claims on the label about trans or hydrogenated fat levels were taken into account when estimating the fatty acid profile. Data on margarines and reduced and low fat spreads were based on label data collected prior to the 2000/01 NDNS.

Recognising that the NDNS and LIDNS intake estimates did not fully take account of all the significant reformulation work by the food industry in recent years to reduce trans fat content, the Agency decided to seek data from the industry in order to prepare a more up to date estimate.

Food Industry data

In October of this year, the Agency approached various key food sector trade associations to request data about the reformulation of foodstuffs produced by their members to remove or reduce the levels of trans fats. The information received was used, where appropriate, to re-evaluate the population average intake of trans fats in the British diet to provide a more accurate picture of intakes in light of the industry initiatives.

The following information was provided by industry:

Margarine and fat spreads - the Margarine and Spreads Association reported that, as a result of reformulation, all brands of spread that are available in the UK now contain less than 1g trans fat/100g.

Biscuits, cakes and pastries - the Biscuit Cake Chocolate & Confectionery Association reported that that its members' products had been reformulated to eliminate hydrogenated vegetable oil and the majority now contained less than 1g trans fat/100g. It noted that only a handful of products contained slightly higher levels due to the presence of butter.

Ice cream: the Food and Drink Federation reported that the average trans fat level in ice cream across a representative range of one its members' products was 0.2 g/100g.

Crisps and savoury snacks: The Snacks, Nuts and Crisps Manufacturers Association (SNACMA) reported that as a result of work to reduce trans fat levels in the oils used, the vast majority of their members' products would contain less than 0.35g trans fat/100g in the finished product.

Chips and processed potatoes: The Potato Processors Association reported that trans fat levels in its members products were less than 2%.

Confectionery: Manufacturers of chocolate confectionery advise that the vast majority of their products contain no more than 1g trans fat/100 g. One manufacturer reported that the maximum level for its products was 0.5g trans fat/100g.

In addition some data for specific products were supplied.

Methodology

Trans fat intake for adults aged 19-64 years was re-estimated using consumption data from the NDNS 2000/01 survey and the new trans fat values provided by industry.

This new estimate of trans fat intake was made as before by combining data on the consumption of foods with data on the levels of trans fats in those foods. This would normally be based on around 8000 foods which are aggregated into around 55 broad food groups for analysis. Due to the time constraints for this re-evaluation exercise the analysis was carried out at the broad food group level rather than at the individual food level.

The majority of data provided by industry were maximum levels of trans fat in broad food categories. In some cases an average trans fat level was provided for a category. In each case the value provided by the industry was compared with the range of values for foods in that category in our food composition databank.

- Where a new **average** trans fat level was provided, the previous trans fat data for foods in that food group were replaced with the new average value. This was applied to ice-cream.
- Where a **maximum** trans fat level was provided that was lower than the majority of the existing values, the existing values were replaced with this maximum. The true average level for such a product group cannot be identified, but will be no higher than this, so the contribution of this group to trans fat intake will be over-estimated. This was applied to margarine, fat spreads, biscuits, and buns, cakes, pastries and fruit pies.
- Where a **maximum** trans fat level was provided that was higher than the previously used range of values the existing values were retained. The rationale for this approach (rather than replacing the existing

values with the new maximum value) is that the existing values were generally based on analysis and it is consistent with specific information provided by industry that trans fat levels have been reduced in products over time. This approach was applied to confectionery, savoury snacks and processed potato products.

- Data for some individual products were also supplied, but these could not be applied to entire food groups and so no changes were made.

Results

Using consumption data from the NDNS adults 2000/01 a new value for mean trans fat intake for all adults aged 19-64 years was estimated at 1.0% of food energy. This is lower than the original NDNS estimate of mean trans fat intake in this age group - 1.2% food energy. It was not possible to take account of all the reductions in trans fat levels as described above so this figure is an overestimate of actual intake.

Limitations

It is important to recognise that the methodology used to produce this estimate has some limitations. In general the methodology tends towards an overestimate of current trans fat intakes rather than an underestimate.

- The estimate is based on food consumption data collected in 2000/01, the most recent data available for adults in the general population. This may not reflect current consumption of trans fat containing foods.
- The methodology used of substituting a range of values for individual foods in an NDNS food group with a single value for that group means that all foods in the group are assumed to have the same trans fat level. However it is known that this is not the case. Each NDNS food group includes foods with a range of trans fat levels, many well below the maximum level used in the estimates. For example:
 - The NDNS biscuits and buns, cakes and pastries groups include homemade items. Homemade biscuits and cakes may have lower trans fat levels than manufactured products (or higher levels if they are made with butter)
 - The NDNS icecream group includes fruit based products such as sorbets and lollies which have much lower levels of trans fat.
- The new maximum level for margarines and fat spreads has been applied to products used for spreading but has not been applied to the same products when they are used in baking, frying etc as fats used for cooking are reported in the food group appropriate for the food being cooked.