

Labelling reference intake values for n-3 and n-6 polyunsaturated fatty acids

Scientific Opinion of the Panel on Dietetic Products, Nutrition and Allergies on a request from the Commission related to labelling reference intake values for n-3 and n-6 polyunsaturated fatty acids

(Question No EFSA-Q-2009-00548)

Adopted on 30 June 2009

SUMMARY

Following a request from the European Commission, the Panel on Dietetic Products, Nutrition and Allergies was asked to review and provide advice on labelling reference intake values for n-3 and n-6 polyunsaturated fatty acids (PUFA).

The proposed labelling reference intake values for n-3 and n-6 PUFA provided by the Commission in the terms of reference are intended to represent typical recommended daily intakes (adults). These values can be used in food labelling to facilitate comparison of the PUFA content of food products and to help convey the relative significance of the food as a source of PUFA in the context of a total daily diet, and can also be used to set appropriate conditions of use for health claims on PUFA. For practical application, a single reference intake value is proposed for each nutrient using rounded values for ease of calculation.

The PUFA for which advice on labelling reference intakes is requested are the n-3 PUFA α -linolenic acid (ALA), the long chain n-3 PUFA (mainly eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA)), and the n-6 PUFA (mainly linoleic acid (LA)).

Labelling reference intake values for PUFA may be derived from science-based intake recommendations for the general population established by national and international authorities taking into account observed intakes in the population. For these PUFA, intake recommendations for the general population are sometimes aimed at the avoidance of deficiency symptoms but more usually are based on evidence of relationships between intake and neurodevelopment and/or cardiovascular health. PUFA intake recommendations for the general population established by national authorities in different EU countries are not uniform and reflect the different criteria on which they are based.

n-3 polyunsaturated fatty acids

The n-3 fatty acid most abundant in food is ALA. The proposed labelling reference intake value for ALA (2g) is towards the upper end of the range of average intakes observed in adults in some European countries (0.7 - 2.3 g/d or ~0.4-0.8 E%). Intake recommendations for ALA based on considerations of cardiovascular health and neurodevelopment are about 1 E%, corresponding to 2 - 3 g ALA/day for energy intakes 1800-2700 kcal/day. The Panel considers that the proposed labelling reference intake value for the n-3 PUFA ALA (2g) is consistent with recommended intakes for individuals in the general population in some European countries based on considerations of cardiovascular health.

Long-chain n-3 polyunsaturated fatty acids

The quantitatively most important long-chain n-3 PUFA in the diet are EPA and DHA.

Most recent evidence shows that the intake of EPA plus DHA is negatively related to cardiovascular risk in a dose-dependent way up to about 250mg/d (1–2 servings of oily fish per week) in healthy populations. The proposed labelling reference intake value for long chain n-3 PUFA (200 mg) is lower than this value, as are observed average intakes of EPA plus DHA in adults in some European countries, which vary between 80mg/d and 420 mg/d.

The Panel proposes 250mg/d as the labelling reference intake value for the long-chain n-3 PUFAs EPA plus DHA, which is in agreement with most recent evidence on the relationship between the intake of these fatty acids and cardiovascular health in healthy populations.

n-6 polyunsaturated fatty acids

n-6 PUFA mainly include LA, and to a lesser extent arachidonic acid (ARA).

The proposed labelling reference intake value of 6g of n-6 PUFA is lower than mean intakes observed in Europe (between 7 and 19 g/d). It is also lower than the lower bound of intake recommended for individuals in the general population by some national and international authorities based on considerations of cardiovascular health (4 E%, equivalent to 8-12 g/d for adults).

The Panel proposes 10g as labelling reference intake value for the n-6 PUFA LA, which is consistent with recommended intakes for adult individuals in the general population in European countries based on considerations of cardiovascular health.

Key words: labelling reference intake values, n-3 polyunsaturated fatty acids, n-6 polyunsaturated fatty acids, essential fatty acids, alpha-linolenic acid, linoleic acid, long-chain polyunsaturated fatty acids, eicosapentaenoic acid, docosahexaenoic acid, dietary reference values, dietary recommendations.
