

Joint meeting of the Société Française de Nutrition and The Nutrition Society, 6–7 December 2007

What is the impact of fulfilling food-based dietary guidelines on the nutritional quality and cost of diets?

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The aim was to assess the impact of food-based dietary guidelines (FBDG)⁽¹⁾ on the nutritional quality and cost of diets, taking the French FBDG as an example.

Each guideline from the French FBDG was interpreted, quantified and expressed as frequencies and/or quantities of foods (or food groups) consumed. Adults participating (*n* 1201) in the national food consumption survey INCA (1999) were classified according to the fulfilment of these guidelines (each guideline taken separately or by combination, according to an increasing number of guidelines fulfilled). The nutritional quality of diets was estimated on the basis of three indicators: the mean adequacy ratio (MAR), the excess in nutrients to be limited (LIM); the energy density (kJ/100 g). Diet cost was estimated by the cost of dietary energy (€/8368 kJ (2000 kcal)). The food and nutrient intakes of individuals fulfilling at least four guidelines (4G sample) were compared with that of individuals selected for the high nutritional quality of their diets (NQ sample), based on an MAR higher than the median value observed in the total sample and an LIM and energy density lower than their respective median values.

None of the participants fulfilled all the guidelines and only 12% of the total population (*n* 149) fulfilled four or more guidelines. An increased number of fulfilled guidelines was associated with a better nutritional quality (higher MAR, lower LIM, lower energy density) and a moderately (but significantly; $P < 0.001$) higher cost of dietary energy. Individuals from the NQ sample accounted for 14% (*n* 172) of the total population, but only 30% (*n* 52) fulfilled at least four guidelines (i.e. also belonged to the 4G sample). Compared with individuals from the 4G sample, NQ (non-4G) individuals consumed more energy from the meat, fish and egg category (particularly fish) and less energy from starches and grains; their diets had a higher MAR, a lower LIM and a lower energy density, but also a higher cost of dietary energy.

These results suggest that fulfilling the French FBDG is a good way to increase nutritional quality, without inducing an important increase in diet cost. However, they show that it is not necessary to fulfil these guidelines to increase the nutritional quality of diets. In fact, a higher nutritional quality could even be achieved without strictly fulfilling those FBDG, but would be associated with a higher cost of dietary energy.

1. Ministère de la Santé et des Solidarités (2006) Deuxième Programme national nutrition santé 2006–2010. http://www.sante.gouv.fr/htm/actu/pnns_060906/plan.pdf