

# Have dietary recommendations really changed in the 21st century? Are there any new challenges?

## ¿Han cambiado realmente las recomendaciones dietéticas en el siglo XXI? ¿Tenemos nuevos retos?

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The evolution of standardised food models manifests from the classic concept of clinical symptom prevention in its earliest stages (1802 Smith, 1919 Royal Society London, 1933 British Medical Association, 1941 National Research Council United States, 1945 FAO)<sup>1</sup> to the current concept in the prevention and risk reduction of chronic illnesses, improvement and maintenance of an optimum state of health.

The first recommended energy and nutrient intakes for the Spanish populations date back to 1994, with the proposal of the Nutrition Department of the Complutense University of Madrid (Varela G). That very same year, unified recommendations were edited in Europe<sup>2</sup>, and in the USA the first publication is from 1989 (Recommended Dietary Allowances - RDA)<sup>3</sup>.

Since the start of 2000, changes in lifestyle, with increased physical inactivity, chronic illnesses and life expectancy, along with trends of consuming enriched or fortified, functional and diet foods, that may positively or negatively influence the daily intake of nutrients, and the rapid advance of scientific knowledge in the fields of nutrition and health, have forced each country to regularly review and update the standards for their populations. In Europe, the European Food Safety Authority (EFSA) is the body that edits the unified recommendations via regular communications<sup>4-7</sup>.

Therefore, currently the terminology has been consolidated internationally to distinguish the different concepts used. The Estimated Average Requirement (EAR), the Low Threshold Intake (LTI), the Tolerable Upper Intake Levels (UL)<sup>8-10</sup> and the Dietary Reference Intakes (DRIs) in the USA or Dietary Reference Values (DRVs) in Europe<sup>4,5</sup>.

Dietary Reference Values are recommendations for the daily intake of energy and the most important nutrients for healthy populations by age, sex and physiological situation, which cover the requirements of 97%-98% of the population. They are developed from clinical, epidemiological and experimental data, with the aim of responding to physiological needs and of reducing the risk of chronic and/or degenerative illnesses (cardiovascular illnesses, diabetes, osteoporosis, cancer

and others). They are adapted to both sexes with age ranges spanning from the first months of life to over 60 years of age, through situations of pregnancy, breastfeeding and regular physical efforts of light and high intensity. They can also be used as a reference in individual NV adjustments.

It is intended for the average population to cover the established reference intakes - DRIs-DVRs - with as few people as possible below the nutritional requirements and with no one falling below or above the two extremes (LTI) and the safety limit (UL).

The recommended energy and nutrient intakes for the Spanish population comprise: energy (light - 10%, high +20%), proteins, minerals (calcium, iron, iodine, zinc, potassium, selenium), vitamins (Group B, C, A, D, K). They also include reference values for carbohydrates, fats (linoleic acid, linolenic acid), fibre and water, just as in the EFSA and the US equivalent<sup>4-7,11</sup>.

The interpretation and use of the DRIs-DVRs requires intervention from qualified professionals from the health field, both on an individual and collective level (preventive, clinical, research), education (training and dissemination programmes), health authorities and particularly in public health (dietary and eating guides), the agro-food and hospitality industry (labelling and nutritional information)<sup>3,8</sup>. From the perspective of health professionals, they can be used as reference values, not only to plan diets for specific groups or communities (diabetics, athletes, etc.) and to identify populations at risk, but also to create individual diets after performing a nutritional assessment.

The practical way of transmitting scientific recommendations in healthy eating habits to the general public, including athletes, are eating and/or dietetic guides edited by national entities, scientific societies, the World Health Organisation (WHO), and the United Nations Food and Agriculture Organisation (FAO)<sup>11-19</sup>.

From what we have been able to establish up to now, in the 21st century we have established guidelines for keeping the reference intake values actively updated in a more agile and quicker way, with scientific

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knowledge, clinical, epidemiological and experimental data, for sharing healthy dietary habits and for reaching a stable level of maintaining an optimal state of health in the population.

Do we not have any new challenges? Of course we do, mainly aimed at obtaining more assessment data regarding individual needs to adjust the dietary reference values, reaching the average citizen and establishing correct eating habits to have a positive repercussion on the state of health:

To obtain the largest possible amount of epidemiological data from individual needs, achieved through nutritional assessments considering metabolic and physiological adaptation, food availability and the customised dietary adjustments that should be used to correct errors and to introduce healthy habits and to prevent doping<sup>3,20</sup>.

For those responsible for health policies to promote the study of food consumption models, to design campaigns and food and dietary guides, as well as assessing and following them up<sup>5</sup>.

To get citizens used to keeping good eating habits, facilitating research and the harmonisation between the different professionals in the field of nutrition, dietetics and food.

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