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Uses and applications of the results from food surveys, physical activity estimates and other lifestyle related surveys at a population level

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Abstract

The results and conclusions of well design nutrition studies, using the appropriate methods to achieve the intended aims with the best validity and precision possible are of great value for nutritional, food and toxicological surveillance systems; also in the planning, follow-up and evaluation of nutrition and health policies and providing high value information for the formulation of recommended reference intakes, nutritional objectives and food-based dietary guidelines.

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Key words: Dietary assessment. Health plans. Nutrition policies. Recommendations.

Surveys on Nutrition, health and quality of life

Dietary surveys and nutritional studies conducted with varying complexity are always demanding projects that require the involvement of a large number and diversity of professionals and resources. The analysis of derived findings and availability of the database will always be very useful for subsequent actions, especially if the quality of the data is a consistent reality.

At a clinical level the results obtained are specifically oriented to therapeutic intervention. At a community or population level, a descriptive display or a more complex analysis of the results will be helpful for a better understanding of the reality and for decision making process that will contribute to the improvement of the nutritional and health status of a particular community. In this regard, the active collaboration of people who can benefit from the proposed improvements will always be needed, especially considering the possible application of those improvements comfortably to the objectified reality (figure 1).

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Fig. 1.—Uses and applications of results of Food and Nutrition studies.
Here are presented the different levels of practicality distributed in strategic areas:

1. National Surveys such as Food Balance Sheets, Household Budget Surveys (INE), studies of the food shopping basket and consumption at home or away (MAGRAMA), or the annual data on sales obtained from the Central Markets of different Spanish cities (MERCASA).

2. Health Surveys at a National or Country level that embody data on food intake, anthropometric measurements, characterization of physical activity, alcohol and tobacco consumption and other matters related with health.

3. Representative surveys of different groups (children, school age youth, elderly or general population) driven by the Public Institutions such as PERSEO, ENALIA and ALADINO among others, or by Scientific Societies in collaboration with private industries such as ANIBES (Assessment of Energy Balance, Anthropometry and Food Intake of the Spanish population) or the ENPE study (Nutritional study of the Spanish population).

4. Total Diet Studies that estimate the average intake of potential contaminants according to the average values of the Spanish diet or across the different countries that compared with the values of the Acceptable Daily Intake (ADI) allow stable control policies and recommendations from AE-COSAN and other scientific organizations for the general and most vulnerable population groups.

5. Food Policy. Food and nutrition policies are drawn from the information provided by various kinds of dietary surveys along with other social and health indicators. Production strategies, food imports, food regulation and fortification programs would be included under this heading.

6. Nutrition Education Programs. Educational plans included in the education system and in the community environment to facilitate changes towards a more balanced, varied and healthy diet. The data obtained by identification of nutritional risks will help to formulate specific contents for future projects.

7. Environmental Policy. Environmental improvement and an appropriate legislative framework can redirect to better food profiles and lifestyles. The health system, education system and environments are the key for the improvement and maintenance of healthy behaviours, promoting the availability and accessibility of those foods whose consumption should be enhanced as well as the ability to implement a more active lifestyle.

8. Surveillance systems for agricultural production and plant environment. The Normalized Difference Vegetation Index (NDVI). Also the environmental impact and sustainability of food production, food safety and consumption should be prioritized.

**Contribution to Community Nutrition**

In addition to the analysis of food and beverage consumption habits, physical activity and maybe other related factors are assessed in order to evaluate the situation and/or the effectiveness of interventions aimed at modifying behavioral characteristics for a better food profile, a more active life style and reduce sedentarism. Tools are also used to measure the intake of specific nutrients, specific aspects of the diet or even the general profile in longitudinal epidemiological studies, case-control studies or randomized trials contexts to investigate the association between exposure to nutritional or dietary factors and health outcomes.

In food surveys and cross-sectional studies, the assessment of the current intake can detect deficiencies, groups at risk and determinant risk factors, leading to evidence based scientific documents or nutritional standards that can be used by professionals from both health and education fields. They provide high value and interesting information for the formulation of nutritional policies and health policies and for other relevant areas.

1. Current food intake description, food models and determinant factors.
3. Food Transitions, of great interest for the immigrant population.
4. Nutritional surveillance programs.
5. Food security programs.
6. Food hygiene programs.

We have mentioned the application of nutritional studies for the development or review of nutritional standards as well as to support or confirm the evidence, if the conditions for applying the scientific method were met. Undoubtedly, well-designed nutritional studies with large enough subjects and long enough periods of observation that include dietary exposure indicators, biomarkers of nutritional status and adequate health outcomes measured using the appropriate methodology, as well as the relevant procedures for data analysis, are essential to arise the scientific evidence that supports the development of some key documents:

1. Nutritional standards, of weight characterization or of reference values for biochemical, haematological or immunological indicators.
2. Development or update of Nutritional Objectives as a technical document for the prevention of chronic diseases and health promotion.
3. Development or revision of Dietary Guidelines for the population as instructive document that eases up the compliance of nutritional goals; from science to the plate.
4. Development of community level guidelines for physical activity by age and gender, for the wor-
kplace or the health-institution settings. Moreover, soon enough, personalized physical activity prescriptions may become a reality in all health care settings19.

5. Collaboration with the food industry to achieve improved formulation of the processed products and the launch of new products of interest for health.

6. Use of specialized media to inform and create awareness of the available evidence, the detected reality and the actions for improvement considered the most appropriate each time for the general population or specific groups.

In conclusion, nutritional studies are an indispensable tool for health promotion. They should be coordinated from public institutions to prevent the proliferation of studies of limited nature that just means a financial expense and a major effort that do not provide the objective of a sustainable common interest. The implementation of a periodic nutritional survey in Spain, similar to the NHANES projects, is a pending issue in our country that will hopefully be solved shortly, taking into account in its foundation the major studies that have been conducted in recent years by various institutions and research groups.

References