



ADVOCACY NOTE

Improving Nutrition through the Development of Food-Based Dietary Guidelines: The Need for Country-Specific Quantitative 24-Hour Dietary Recall Data

The diet patterns of populations in low- and middle-income countries (LMICs) are changing rapidly. Trends include a decrease in the consumption of whole grains and pulses, and an increase in the consumption of highly processed, nutrient-poor foods high in sugar, salt, fat, and oil. Whereas undernutrition (i.e., micronutrient deficiencies, underweight, and childhood stunting and wasting) were previously the key nutritional problems of concern, overnutrition (overweight and obesity) and associated diet-related non-communicable diseases (NCDs) are now also increasingly prevalent. This complex and shifting nutrition situation demands an increased focus on promoting healthy dietary patterns in LMICs.

Poor diets are the common denominator across all forms of malnutrition. Appropriate nutrition education and consumer guidance that consider the local context are essential for changing diet patterns in the long term. Food-based dietary guidelines (FBDGs) are a useful tool for providing practical, feasible, and culturally appropriate evidence-based nutrition education and guidance on a large scale. FBDGs translate the best available evidence related to diets and health into a set of context-specific, culturally appropriate, feasible, and actionable food consumption recommendations. Typically, FBDGs

propose a set of dietary recommendations by describing the foods and food groups that should be consumed, as well as their quantities and frequency of consumption, laying out an overall dietary pattern that should be followed to promote health and reduce the risk for malnutrition and diet-related NCDs.

Food guides—the graphic representation of FBDGs—typically use colorful, vibrant, and culturally rich pictorial images in the form of food pyramids and food plates to convey concepts of variety, proportionality, adequacy, and moderation. Food guides provide relatable and easy-to-understand dietary guidance to increase awareness among consumers and influence food consumption.

The Food and Agriculture Organization of the United Nations (FAO) and the Pan American Health Organization (PAHO) recommend that each country develops its own set of FBDGs. As of 2020, almost 100 countries worldwide and some regions (e.g., Latin America and the Caribbean and Western Pacific) have developed FBDGs adapted to the context-specific food and nutrition environment. Of the 138 countries currently classified as a low- or middle-income country by the World Bank,¹ only 49 (36%) have developed country-specific FBDGs.² The

¹ World Bank, “The World Bank Open Data,” accessed 11 January 2020, <https://data.worldbank.org>.

² FAO, “Food-based dietary guidelines,” accessed 11 January 2020, <http://www.fao.org/nutrition/education/food-dietary-guidelines/home/en/>.

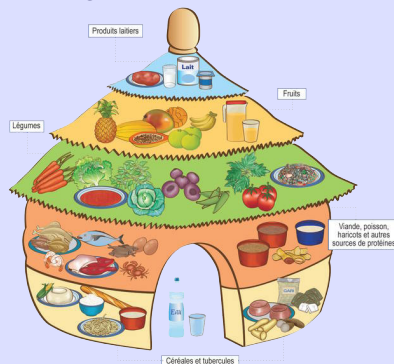
Intake is a Center for Dietary Assessment that aims to strengthen policies and programs to improve nutritional status by increasing the availability, quality, comparability, and use of reliable dietary data and metrics in low- and middle-income countries (LMICs). We hope that the availability of valid, concise, effective diet-related metrics, along with *Intake* technical assistance for the planning, design, collection, analysis, and use of dietary data, can play an important role in helping actors in LMICs to develop evidence-based nutrition and agriculture policies and programs to ensure high-quality diets for all. To date, *Intake* has provided technical assistance to support the planning, design, implementation and/or analysis of government-led quantitative 24-hour dietary recall surveys in Jordan, Kenya, Niger, Nigeria, Viet Nam, and Zambia.

Pictorial Images Used in National Food Guides

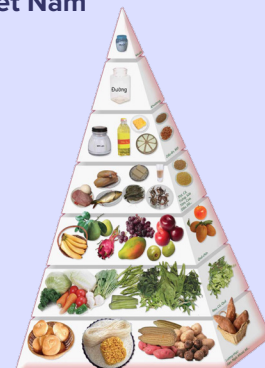
Guatemala



Benin



Viet Nam



Guatemala's Ministry of Public Health and Social Assistance (2012), *Dietary Guidelines for Guatemala. Recommendations for Healthy Eating* (Guías alimentarias para Guatemala. Recomendaciones para una alimentación saludable).

Benin's Regional Institute of Public Health in Ouidah (2015), *Benin's Dietary Guidelines* (Guide alimentaire du Bénin).

Viet Nam's National Institute on Nutrition (2013), *10 Tips on Proper Nutrition for Period 2013–2020* (10 Lời khuyên dinh dưỡng hợp lý đến năm 2020).

lack of available data on diets is a key obstacle to the development of FBDGs.

To be effective, FBDGs must be evidence-based; they must respond to a country's specific public health and nutrition priorities; food production, supply, and consumption patterns; and they must consider any context-specific food availability and accessibility issues, as well as any sociocultural factors that may influence food consumption. FBDGs must also be culturally acceptable, easy to adopt, and practical.

The development of national FBDGs requires a multi-stakeholder systematic approach informed by:

- dietary data for the population by demographic group;
- the prevalence and public health importance of diet-related health and nutrition outcomes;
- data on food production and distribution, food cost, and food access;
- information on food preferences, culinary practices, and food beliefs among the population; and
- the national policy and program environment.

The dietary data required for the development of evidence-based FBDGs are ideally obtained by carrying out a population-based quantitative 24-hour dietary recall survey that collects information from the target population about all of the foods and beverages

consumed during the previous day and night, as well as the amount of each item consumed. These data are linked with food composition data, so that energy, macronutrient, and micronutrient intakes can be estimated for the population.

If the objective of a dietary survey is to inform the development of FBDGs, the survey should typically be designed to collect information for multiple demographic groups, since dietary patterns and nutrient requirements differ by age, sex, and physiological status (e.g., menstruating, pregnant, lactating women). Collecting 24-hour dietary recall data for a second, non-consecutive 24-hour recall period for a sufficiently large random sub-sample of respondents is standard best practice for a dietary survey. When this is done, it is possible to estimate the distribution of usual intake of foods, food groups, and nutrients for the population, and the prevalence and extent of inadequate micronutrient intakes.

In the context of FBDGs, dietary data collected from a population-based quantitative 24-hour dietary recall survey are needed to: (i) inform an analysis of the food and nutrition situation of a country to identify context-specific needs and priorities to guide the development of dietary recommendations; (ii) develop context-specific food groups—and recommended portion sizes for these food groups—to represent in

national dietary recommendations; (iii) model diets (diet optimization) and translate these into food-based recommendations; and (iv) monitor and evaluate adherence to existing FBDGs.

Each of these uses of dietary data is described in more detail below.

Analysis of the food and nutrition situation of a country

National FBDGs should address existing nutrient deficiencies and other diet-related behaviors that are prevalent in the country and present a risk for health (e.g., low intakes of fruits and vegetables, excessive intakes of “unhealthy” foods). Quantitative dietary data are needed to estimate the prevalence of inadequacy of micronutrient intake in the diet to identify key micronutrients of concern in the diets of different demographic groups. Quantitative dietary data are also needed to estimate the distribution of usual intake of foods and food groups, which can provide information on the usual (or excessive) intake of foods, particularly “unhealthy” foods. For example, quantitative dietary data can be used to estimate amounts of saturated fats or added sugars consumed by different demographic groups or to estimate the intake of ultra-processed or “junk” foods, which may help to inform FBDGs related to avoidance or moderation of specific “unhealthy” foods or food groups.

Establish food groups to use in FBDGs

For FBDGs to be readily understood and actionable, individual food items should be categorized into food groups and food sub-groups based on their nutrient content, how they are used in meals, and how they are perceived by the target population. Dietary data collected from a population-based quantitative 24-hour dietary recall survey can be an important source of information to guide the development of context-specific food groups. Quantitative dietary data provide information on the usual intake of nutrient-dense foods and food groups, which is essential information to guide which specific food groups and sub-groups should be promoted in the FBDGs (e.g., fruits and vegetables, animal-source foods, legumes).

Diet modeling

Dietary data from a population-based quantitative 24-hour dietary recall survey are also needed to identify culturally specific diet patterns that meet

dietary recommendations for nutritional health. When quantitative dietary data are available, diet modeling can be used to identify different combinations of local foods that best meet nutrient needs within the set of dietary patterns observed for the population. The aim of diet modeling is to establish the number of servings (or amounts) of each food or food group necessary to meet the specified nutrient requirements, acceptability constraints, and cost constraints (if set). The modeled diet should be as similar as possible to current dietary practices to encourage adherence by the target population. When food price data are available, modeling can also be used to estimate the cost and affordability of meeting nutrient requirements. Using quantitative dietary data along with cost data to model an optimized diet helps to ensure that the FBDGs developed are not only contextually and culturally appropriate, but also practical, feasible, and affordable.

Monitoring and evaluation of adherence to FBDGs

Dietary data from a population-based quantitative 24-hour dietary recall survey also serve the fundamental purpose of establishing a representative baseline of current diets among different demographic groups in a country. Once FBDGs are developed, follow-up quantitative 24-hour dietary recall surveys can be conducted to assess adherence to the FBDGs developed and to monitor how consumption of different foods, food groups, and nutrients has changed over time.

Conclusion

Evidence-based FBDGs are a critical investment for LMICs committed to the goal of achieving healthy diets for all. When developed to respond to a country’s specific public health and nutrition priorities based on known dietary practices, FBDGs are an essential tool not only for providing consumer guidance, but for informing a range of policies and programs related to food and nutrition, public health, economics, agriculture, and nutrition education in a country. As such, FBDGs provide a unique opportunity to favorably impact diets and the broader food system. But to be effective, FBDGs must be evidence-based and this requires high-quality, country-specific quantitative 24-hour dietary recall data.

Recommended Citation

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