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Dietary Guidelines in Three Regions of the World

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Introduction and Overview

Dietary guidelines are “recommendations for achieving appropriate diets, and healthy lifestyles.”¹ This section examines the similarities and differences, strengths and weaknesses of dietary guidelines from three regions of the world, concluding with some recommendations for crafting future guidelines.

Effective guidelines have several elements in common. They are designed to address and mitigate the major diet-related nutrition problems of the population. As these problems change over time, the focus of dietary guidance must also shift. Effective guidelines are evidence based, and the strength of supportive evidence is strong. Eating habits, cultural beliefs, and food supplies available are considered. The messages conveyed are tested prior to their finalization to ensure that the guidelines can be communicated effectively. Successful guidelines are integrated with other nutritional guidance of a public health nature. They are recognized as only one of a group of essential components of effective food and nutrition policies. Other factors include access to a variety of safe and affordable foods from available resources. Ideally, successful guidelines are promulgated simultaneously with ways to measure their effectiveness.

In this section we examine guidelines from regions representing different culinary approaches, food customs, and economies. English-speaking North America and Oceania are highly industrialized, affluent countries. Several Asian and Latin American countries that vary in degree of urbanization and standards of living are also examined.

The United States, Canada, Australia, and New Zealand

In English-speaking North America and Oceania, diseases of affluence (i.e., obesity, heart disease, and certain cancers) are common and therefore these issues are given attention.

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All of these affluent countries share similar dietary patterns and nutrition-related problems, including a diet excessive in calories, fat, salt, sugars, and alcohol, and too low in fruits, vegetables, and whole grains. Their guidelines have addressed excessive as well as inadequate food consumption, weight, and physical activity since they were first formulated in the late 1970s and early 1980s.

Each of these countries has an ethnically diverse population. In the U.S., according to 1990 census data, 12% of the population was African American and 9% were of Hispanic origin.² The Aboriginal and Torres Strait Islander people comprise only about 2% of the Australian population, but they often live under impoverished, overcrowded conditions that put them at nutritional risk,³ and they have a high prevalence of android pattern obesity, which is associated with many health problems.⁴ In New Zealand, 13% of the population belong to the rapidly growing Maori minority, and another 5% are Pacific Islanders.⁵ Some of these minority groups have increased risks of chronic degenerative diseases as they move away from traditional customs to modern diets and lifestyles. The information accompanying the Australian and New Zealand dietary guidelines refers to these special problems, although the dietary guidelines are targeted to the general population.

Formulation of Dietary Guidelines for the United States, Canada, Australia, and New Zealand

Table 12.1 shows the approaches used in the development of the dietary guidelines in these countries. All used experts and scientists, and each of the guidelines was endorsed by a relevant government agency. In the U.S., the National Nutrition Monitoring and Related Research Act required that the Dietary Guidelines for Americans be updated every five years and be reviewed by the Departments of Health and Human Services and Agriculture. The law has expired but revisions continue on the same timetable, led by relevant government agencies. Other U.S. federal food guidance for the general public is required to be consistent with these guidelines.

All four countries address their guidelines to both the general population and health professionals or other policy makers. New guidelines usually follow the precedents established in earlier versions (see Table 12.1). Some changes simply involve different wording. For example, the American guideline regarding sugar has evolved from “Avoid too much sugar” in 1980⁶ to “Use sugars only in moderation” in 1990⁷ and “Choose a diet moderate in sugars” in 1995,⁸ to the current “Choose beverages and foods that limit your intake of sugars.”⁹ Other changes are more innovative. In 1992 Australia added guidelines for two specific nutrients: calcium and iron. The U.S. added a new guideline on food safety in 2000.

Australia and New Zealand have specific guidelines for infants, toddlers, school-age children, adolescents, and the elderly that also address other health recommendations. New Zealand also has dietary guidelines for pregnant or breastfeeding women.

As described in Table 12.1, the U.S., Canada, and Australia all have pictorial representations or graphics for their dietary recommendations. The U.S. has a food guide pyramid graphic that incorporates some of its guidelines.¹⁰ Canada uses a rainbow graphic to depict the components of a healthy diet. Australia has two graphics — a pyramid and a plate.

Similarities and Differences among Dietary Guidelines in the United States, Canada, Australia, and New Zealand

Table 12.2 shows that all of these countries have recommendations for certain nutrients and also for groups of foods, such as fruits/vegetables, grains, dairy, and meats. Food

TABLE 12.1

Development of Dietary Guidelines in the United States, Canada, Australia, and New Zealand

	United States	Canada	Australia	New Zealand
Title of guideline	Dietary Guidelines for Americans	Canada's Guidelines for Healthy Eating	Australian Dietary Guidelines	Food and Nutrition Guidelines
Year	1995, 2000	1991	1992	1991
Endorsing unit	Departments of Agriculture, Health, and Human Services	Department of National Health and Welfare	National Health and Medical Research Council	Nutrition Task Force at the Ministry of Health
Approaches*	1-5, 7	1-5, 7	1-5	1-5
Target audiences**	G, H, P, N	G, H, P, N	G, H, P	G, H, P
Graphic representation	Pyramid	Rainbow	Pyramid	None

* 1 = Experts, scientists views; 2 = Review of former guidelines; 3 = From food groups; 4 = From consumption/nutrition survey; 5 = Definition of nutritional objectives; 6 = Economic data; 7 = Consumer focus groups.

** G = General population; H = Health professionals; P = Policy makers; N = Nutrition education of schoolchildren.

TABLE 12.2

Dietary Guidelines of the United States, Canada, Australia and New Zealand

United States 2000	Canada	Australia	New Zealand
1. Aim for a healthy weight	1. Enjoy a variety of foods	1. Enjoy a wide variety of nutritious foods	1. Eat a variety of foods from each of the four major food groups each day
2. Be physically active each day	2. Emphasize cereals, breads, other grain products, vegetables and fruits	2. Eat plenty of bread and cereals (preferably whole grain), vegetables (including legumes), and fruits	2. Prepare meals with minimal added fat (especially saturated fat), salt, and sugar
3. Let the pyramid guide your food choices	3. Choose lower-fat dairy products, leaner meats, and foods prepared with little or no fat	3. Eat a diet that is low in fat, and in particular, low in saturated fat	3. Choose prepared foods, drinks and snacks that are low in fat (especially saturated fat), salt, and sugar
4. Build a healthy base	4. Achieve and maintain a healthy body weight by enjoying regular physical activity and healthy eating	4. Maintain a healthy body weight by balancing physical activity and food intake	4. Maintain a healthy body weight by regular physical activity and by healthy eating
5. Choose a variety of grains daily, especially whole grains	5. Limit salt, alcohol, and caffeine	5. If you drink alcohol, limit your intake	5. Drink plenty of liquids each day
6. Choose a variety of fruits and vegetables daily		6. Eat only moderate amounts of sugars and foods containing added sugars	6. If drinking alcohol, do so in moderation
7. Keep food safe to eat		7. Choose low salt foods and use salt sparingly	
8. Choose a diet that is low in saturated fat and cholesterol and moderate in total fat		8. Encourage and support breast-feeding	
9. Choose sensibly		9. Eat foods containing calcium; this is particularly important for girls and women	
10. Choose beverages and foods that limit your intake of sugars		10. Eat foods containing iron; this is particularly important for girls and women, vegetarians and athletes	
11. Choose and prepare foods with less salt			
12. If you drink alcoholic beverages, do so in moderation			

based guidelines are easier than nutrient based guidelines for the consumer to implement, since human beings eat foods, not specific nutrients.

In all of these countries, heart disease, hypertension, diabetes with its complications, and cancer are the leading causes of death.^{4,9,11-13} Obesity is prevalent and increases the severity of many of these diseases.^{13,14}

The core messages in all of these dietary guidelines are similar: eat a variety of foods and include physical activity to achieve/maintain a healthy weight (Table 12.2). All of these countries have recommendations on limiting fat, salt, and alcohol and increasing fruits, vegetables, and whole grains. The U.S., Canada, and New Zealand all suggest limiting alcoholic beverages to less than two drinks per day for men and one for women. Australia has a higher limit — less than four drinks for men and two for women per day.

The background and supporting information accompanying the Dietary Guidelines provides the rationale for quantitative suggestions for intakes of specific nutrients.^{4,9,15,16} All of these countries suggest that 50 to 55% of total calories should come from carbohydrates. The U.S., Canada, and Australia recommend less than 30% of total calories from fat and less than 10% from saturated fat. New Zealand is more liberal, suggesting no more than 30 to 35% of kcalories from fat and 12% from saturated fat.

There are some differences in the guidelines. In the most recent U.S. guidelines (2000), food safety is addressed. Australia includes a guideline specifically to encourage and support breastfeeding, and it also has two other nutrient-specific guidelines, “eat foods containing calcium” and “eat foods containing iron.”⁴ The calcium and iron guidelines are emphasized for both girls and women, and iron is also stressed for vegetarians and athletes.

Most of the guidelines other than alcohol for the U.S. and Canada are for all healthy individuals over age two years. The fat guideline in Canada is not applicable until a child reaches age five.

Other health recommendations included in New Zealand’s guidelines are non-smoking related, especially for adolescents, and pregnant and breastfeeding women. The elderly, who may suffer from isolation and therefore poor nutrition, are encouraged to “make mealtime a social time.” Australia encourages its elderly to eat at least three meals per day. Elderly people and pregnant women are especially vulnerable to risks associated with foodborne illnesses. Australia’s food safety guidelines address food safety in the elderly (care for your food: prepare and store it correctly), and the New Zealand guidelines discuss *Listeria* in the information specifically directed to pregnant women.

Latin America

Dietary guidelines were first formulated in Latin America in the late 1980s.¹⁷ Guidelines from Chile, Guatemala, Mexico, Panama, and Venezuela are provided as examples of dietary guidelines in the region.

Latin America is a region with great inequalities in the distribution of welfare, and also large variations in the nutritional health of its population groups. There has been a shift from dietary deficiency disease to problems of dietary excess in many countries of the region over the past two decades. In Chile, the prevalence of protein–calorie malnutrition in children is declining rapidly. However, the prevalence of chronic degenerative diseases associated with imbalances in food intake and sedentary lifestyles is rising.¹⁸ In contrast, in Guatemala, Mexico, and Panama, poverty-related undernutrition and dietary deficiency diseases are still prevalent, especially among children and women of reproductive age in

rural areas. At the same time, the prevalence of diet-related chronic diseases is rising. Venezuela is an oil-exporting country, but it still has large economic inequalities and grapples with poverty-related malnutrition as well as dietary excess.

In most Latin American countries, food consumption patterns are influenced by those of the U.S. Changing cultural and economic influences, rural–urban migration, greater availability of processed foods, and advertising also affect food consumption.¹⁹ Both over- and undernutrition result.²⁰ The development of poor ghettos in metropolitan areas, short lactation periods, low wages, and low maternal educational levels is associated with undernutrition in young children. The interactions of urbanization, sedentary lifestyles, lack of nutrition education, and excessive consumption of cheap foods low in nutritional value lead to diseases of overconsumption such as obesity, diabetes, and cardiovascular disease.²⁰

Formulation of the Dietary Guidelines in Latin America

Most of the Latin American countries are in the implementation stage in formulating dietary guidelines.²¹ The dietary guidelines for the Mexican population were issued by the Mexican Institute of Nutrition.²² Venezuela issued dietary guidelines in the late 1980s that were later revised and updated.²³ The dietary guidelines have been implemented in many ways. For example, they have been incorporated into Venezuelan kindergarten, elementary, and secondary school curricula.²³⁻²⁵

Table 12.3 contains details about the dietary guidelines development process. Four of the countries have dietary guidelines for the general population. Some also have guidelines for specific population groups (Chile, Panama, and Venezuela) or target certain groups on specific concerns (Guatemala for food safety among the poor). Governmental or quasi-governmental organizations develop and promulgate the guidelines based on the views and opinions of experts and scientists. Some also use background data on food consumption surveys (Chile, Mexico, Panama) and economic data (Venezuela, Mexico). Most of the countries also refer to food groups in their dietary guidelines.^{18,22,23,26,27}

Four of the countries also use graphic representations of food groups and supporting messages (see Table 12.3). Chile, Mexico, and Panama adapted the food guide pyramid used in the U.S. Guatemala summarized its food groups and dietary guidelines in a family pot, or “crockpot” graphic. Venezuela has no graphic but the government has produced an extensive set of educational materials directed at different target groups.^{24,25}

Similarities and Differences among Latin American Dietary Guidelines

Table 12.4 summarizes the dietary guidelines for the Latin America. The number of guidelines range from 6 in Panama to 12 in Venezuela; Venezuela also has issued 40 educational messages to facilitate implementation of the guidelines. Mexico has ten dietary guidelines — each one contains several additional messages.

In general, the guidelines are focused on foods, and provide general guidance. Variety is mentioned in all guidelines. Guatemala, Mexico, and Venezuela discuss economic disparities in supporting documents. For example, Guatemala recommends that those with limited resources eat meats, eggs, and dairy products at least once or twice a week, while Venezuela urges prudence in the management of financial resources (see Table 12.4).

TABLE 12.3

Development of Dietary Guidelines in Latin American Countries

	Chile	Guatemala	Mexico	Panama	Venezuela
Title of guideline	Food Guidelines for Chile	Food Guidelines for Guatemala	Food Guidelines — Mexico	Food Guidelines for Panama	Food Guidelines for Venezuela
Year	1997	1998	1993	1995	1991
Endorsing unit	Ministry of Health, the Food Technology and Nutrition Institute, and the Nutrition Center at the University of Chile	Food Guidelines National Committee (inter-institutional)	National Nutrition Institute	Ministry of Health	CAVENDES Foundation, National Institute of Nutrition, several universities
Approaches*	1, 3, 4	1, 3, 6	1, 3, 4, 5, 6	1, 3, 4, 5	1, 2, 5, 6
Target audiences**	G, P, N	G	G	G, P	G, P, N
Graphic representation	Pyramid	Family pot	Pyramid	Pyramid	None
Other guidelines	For school age children and the elderly	Food safety	None	For the first year of age	For the preschooler, school age children, and the elderly

* 1 = Experts, scientists views; 2 = Review of former guidelines; 3 = From food groups; 4 = From consumption/nutrition survey; 5 = Definition of nutritional objectives; 6 = Economic data

** G = General population; H = Health professionals; P = Policy makers; N = Nutrition education of schoolchildren.

TABLE 12.4

Dietary Guidelines of Selected Latin American Countries

Chile	Guatemala	Mexico	Panama	Venezuela
<ol style="list-style-type: none"> 1. Eat different types of foods throughout the day 2. Increase consumption of fruits, vegetables, and green vegetables 3. Prefer vegetable oil and limit animal fats 4. For meat, prefer fish and poultry 5. Increase consumption of low fat milk 6. Reduce salt intake 7. Moderate sugar consumption 	<ol style="list-style-type: none"> 1. Include grains, cereals, or potatoes at each meal because they are nutritious, tasty, and have low cost 2. Eat vegetables and greens every day to benefit your body 3. Every day, eat any type of fruit, because they are healthy, easy to digest, and nutritious 4. If you eat tortilla and beans every day, eat one spoonful of beans with each tortilla to make it more nutritious 5. At least twice a week eat one egg or one piece of cheese, or drink one glass of milk, to complement your diet 6. At least once per week, eat a serving of liver (beef) or meat to strengthen your body 7. To stay healthy, eat a variety of foods as indicated in the household pot 	<ol style="list-style-type: none"> 1. Avoid monotony by consuming a wide variety of foods; select different foods each day and at each meal, choosing among those available at the market and following the proportions recommended by the food guide pyramid 2. Include at least two servings of fruits and vegetables at every meal 3. Eat variety of grains and grain products, preferably whole grains, at every meal, mixing cereals and legumes 4. Include a moderate serving of animal products at every meal, choosing those with the least fat 5. Limit consumption of fats, including cooking oils and fatty foods, to less than 30% of daily energy intake; limit saturated fats, of animal origin, to less than 10% of total energy; reduce cholesterol intake to less than 300 mg per day 	<ol style="list-style-type: none"> 1. Eat a variety of foods 2. Eat sufficient grains, roots, vegetables, and fruits 3. Select a diet low in saturated fat, cholesterol, and oil 4. Eat sugar and sweets in moderation 5. Eat sat and sodium in moderation 6. Maintain a healthy weight 	<ol style="list-style-type: none"> 1. Eat a variety of foods every day 2. Eat just enough to maintain a proper weight 3. Eat preferably with your family 4. Practice good hygiene when handling food 5. Manage your money well when selecting and purchasing food 6. Breast milk is the best food for children under 6 months of age 7. Eat only moderate quantities of food of animal origin 8. Use vegetable oils in preparing meals and avoid excess animal fat 9. Get the fiber your body needs from the vegetable products you eat daily 10. Consume salt in moderation 11. Water is essential for life, and drinking water helps to preserve your health 12. Alcoholic beverages are not part of a healthy diet

6. Reduce consumption of salt and sugar, starting by not using salt at the table and reducing sugars in liquids (coffee, tea, or juices)
 7. Restrict consumption of products with excess of additives (colorants, flavorings, etc.); avoid alcohol and do not smoke
 8. Breastfeed children from birth and start complementary food at the fourth month of age
 9. Avoid obesity by monitoring weight according to the suggested weight for stature
 10. Increase physical activity, walk briskly or practice any other type of aerobic exercise for about 20-30 minutes, 4 or 5 times a week
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Some countries incorporate specific concerns about food consumption (Table 12.4). Guatemala emphasizes the importance of hand washing, and keeping food and water well covered. Venezuela has a guideline emphasizing good hygiene in handling food.

Guidelines directed to over-consumption are included by all the countries. These include specific recommendations to increase physical activity (Mexico), maintain a healthy weight (Mexico, Panama), or to moderate or reduce the use of fats and sugars (Chile, Mexico, Panama, and Venezuela). Chronic disease risks are also addressed. These include recommendations for moderate use of salt (Chile and Venezuela) or sodium (Panama), limiting consumption of fats and sugars (Chile, Mexico, Panama, Venezuela), saturated fats (Mexico, Panama), and cholesterol (Mexico, Panama). Other guidelines are directed to limiting specific foods or nutrients, or to increase other more nutrient-rich foods (fruits, vegetables, whole grains) (See Table 12.4).

The Latin American guidelines focus mostly on foods, not specific nutrients (Table 12.4). However, Panama recommends moderation in the use of sodium along with salt. Guatemala, a country with low literacy rates, also emphasizes nutrients but in simple, short messages; it singles out energy, protein (both animal and vegetable), vitamins A and C, calcium, iron, and zinc, as well as fiber. This emphasis reflects Guatemala's goals of preventing both dietary deficiencies and excesses. Venezuela's guidelines have little emphasis on specific foods (Table 12.4).

All of the Latin American countries include advice on consuming fruits, vegetables, and grains daily. Guatemala specifically mentions beans and tortillas. Other countries (Chile, Mexico, and Venezuela) mention the need for limiting fat. Salt restriction is mentioned in Mexico, Venezuela, and Panama. Both Mexico and Venezuela have a guideline limiting alcohol. Chile and Guatemala include a guideline on use of dairy products; Chile focuses on low-fat milk products; Guatemala urges at least one to two servings of whole fat milk products, since much of the population is poor and does not consume milk. Mexico and Venezuela have specific guidelines stressing the importance of breastfeeding. Panama has special dietary guidelines for infants, recommending exclusive breastfeeding during the first six months of life, and complementary feeding thereafter.²⁷

Conclusions about Dietary Guidelines in Latin America

Dietary guidelines for Latin American countries reflect the diversity in socioeconomic situations and nutritional problems in the region, and each country's unique perspectives. They offer the general public, service providers, and policy makers actionable recommendations for improving nutrition and health status. Some of these countries have already identified barriers that limit the use of the dietary guidelines (Chile, Venezuela). Others, such as Mexico, still need to evaluate the applicability of their guidelines to the eating practices of the diverse Mexican population. Dietary guidelines in Guatemala were directed to the poor; problems associated with over-consumption of foods and sedentary lifestyles still need to be addressed.

Asian Countries

Introduction

Asia's diversity is reflected in the many nutritional problems that were evident in the ten countries we reviewed. Until the mid 1950s, poverty-related malnutrition was the major

problem. The primary concern was to ensure adequate energy intakes and prevention or control of dietary deficiency diseases.^{28,29} Today, nutrition problems in Asia cover the entire spectrum from deficiency disease to excess.

Asian dietary guidelines focus on reducing or preventing both chronic deficiency and chronic degenerative diseases, since both problems are often prevalent.^{1,30,31} Presently, India still has high rates of protein–energy malnutrition among some groups. In countries such as Korea, Japan, Taiwan, and Singapore, protein–energy malnutrition has declined dramatically in the past three decades.^{29,31,32} Countries such as Thailand and China have low rates of protein–energy malnutrition, but micronutrient deficiencies (iron, iodine, vitamin A, and riboflavin) are still common.^{33–36} Indonesia and the Philippines face persistent problems of undernutrition and deficiency disease among the poor coupled with emerging problems of overnutrition and increased chronic degenerative disease, particularly among the affluent.^{28,35,37} Filipino guidelines for more affluent populations focus on chronic degenerative diseases and avoiding excess,³⁸ whereas their guidelines for the relatively less affluent population emphasize achieving sufficiency of nutrient intakes.³⁷

Formulation of the Dietary Guidelines in Asia

Table 12.5 shows the various approaches used in developing dietary guidelines in Asia. The guidelines are all intended to provide nutrition education and dietary guidance to the general public in terms that are understandable to most consumers. They are also often used to help officials in the health, agricultural, and education sectors in program planning. All of the countries surveyed rely on government agencies and/or professional societies to develop and endorse their official guidelines.³⁷ Some countries (the Philippines, Korea, and Japan) formulate guidelines based on findings from national nutrition or food consumption surveys. Others develop their dietary guidelines based on what experts deem appropriate.

Graphics have been adopted by many Asian countries to help the public visualize these dietary guidelines and food guides. These include pyramids (India, Malaysia, Singapore), pagodas (Korea and China), a plum flower (Taiwan), the “Big 6” for the six food groups (Japan), and a six-sided star (Philippines). Another pyramid is also available for the more affluent Filipinos.³⁸

Similarities and Differences among Asian Dietary Guidelines

Table 12.6 presents information on representative dietary guidelines from the Asian region. Most of the guidelines are general, and are food- rather than nutrient-based. The exception is Singapore, which has guidelines that are quantitative and nutrient-specific.³⁹ There are common core food-based messages in all the guidelines; these include: choose a diet composed of a wide variety of foods, eat enough food to meet bodily needs and maintain or improve body weight, select foods that are safe to eat, and enjoy your food.

The guidelines also vary with respect to number and relative emphasis on balance, adequacy, moderation, and restriction. Although all the Asian dietary guidelines recommend eating a variety of foods, they differ on how they suggest achieving a varied pattern (see Table 12.6). Some include recommendations for frequency of consumption. Eating breakfast daily is recommended in the Indonesian guidelines, and having regular meals is recommended in the Korean guidelines.^{35,40} Other guidelines recommend specific

TABLE 12.5

Development of Dietary Guidelines in Asian Countries

	India	Indonesia	Philippines	Malaysia	Thailand
Title of guideline	Dietary Guideline for affluent Indians; Dietary Guideline for relatively poor Indians	13 Core Messages for a Balanced Diet	Nutritional Guidelines for Filipinos	Proposed Dietary Guidelines for Malaysia	The Thai Dietary Guidelines for Better Health
Year	1988	1995	1990	1996	1995
Endorsing unit	Indian Council of Medical Research (Expert Committee)	National Development and Planning Coordinating Board	Dept. of Science and Technology (National Guidelines Committee)	Ministry of Health	The Division of Nutrition, Department of Health, Ministry of Public Health
Approaches*	1-6	1	1-5	1, 2, 3	1
Target audiences**	N	G	G, H	G, H	G
Graphic representation	Pyramid	None	Pyramid, 6-sided star	Pyramid	None
	Korea	Japan	Taiwan	China	Singapore
Title of guideline	National Dietary Guidelines	Guidelines for Health Promotion: Dietary Guidelines	Dietary Guidelines for the Population	Chinese Dietary Guidelines for Chinese Residents	Guidelines for a Healthy Diet
Year	1990	1985	1995	1997	1993
Endorsing unit	Korean Nutrition Society/ Ministry of Health and Welfare	Ministry of Health and Welfare	Department of Health	Chinese Nutrition Society	National Advisory Committee on Food & Nutrition, Ministry of Health
Approaches*	1, 2, 4	1, 2, 3, 5	1	1	1
Target audiences**	G	G, H	G	G	G
Graphic representation	Pagoda	Numeral 6	Plum flower	Pagoda	Pyramid

* 1 = Experts, scientists views; 2 = Review of former guidelines; 3 = From food groups; 4 = From consumption/nutrition survey; 5 = Definition of nutritional objectives; 6 = Economic data.

** G = General population; H = Health professionals; P = Policy makers; N = Nutrition education of school children.

TABLE 12.6

Dietary Guidelines of Selected Asian Countries

India Affluent	India Relatively Poor	Indonesia	Philippines	Malaysia
<ol style="list-style-type: none"> Overall energy should be restricted to levels commensurate with sedentary occupations so that obesity is avoided Give preference to undermilled over highly refined and polished cereals Include green leafy vegetables in the diet Restrict daily edible fat intake to less than 40g, total fat intake to less than 20% of total calories, and intake of ghee (clarified butter) to special occasions only Restrict intake of sugar and sweets Avoid high-salt intake, especially for those prone to hypertension 	<ol style="list-style-type: none"> Diet should be the least expensive and conform to traditional and cultural practices as closely as possible Energy derived from cereals should not exceed 75% of the total energy requirement Some pulses should be eaten along with the high-cereal diet, with at least 150 ml of milk and 150 g of vegetables per day Energy from fat and oil should not exceed 10%, and that from refined carbohydrate (sugar or jaggery) should not exceed 5% of total calories 	<ol style="list-style-type: none"> Eat a wide variety of foods Consume foods that provide sufficient energy Obtain about half of total energy requirements from complex CHO-rich foods Obtain not more than a quarter of total energy intake from fats or oils Use only iodized salt Consume iron-rich foods Breastfeed your baby exclusively for four months Have breakfast every day Drink adequate quantities of fluids that are free of contaminants Take adequate exercise Avoid drinking alcoholic drinks Consume foods prepared hygienically Read the labels of packaged foods 	<ol style="list-style-type: none"> Eat a variety of foods Keep ideal body weight Consume enough protein Keep fat consumption at 20% of energy intake Drink milk every day Reduce salt intake Keep in good dental health Moderate alcohol and caffeine consumption Keep harmony between diet and daily life Enjoy meals 	<ol style="list-style-type: none"> Enjoy a variety of foods Maintain healthy body weight by balancing food intake with regular physical activity Eat plenty of rice and other cereal products, fruits, and vegetables Minimize fat in food preparation and choose foods low in fat and cholesterol Choose foods low in salt and sugar Drink plenty of water daily Practice breastfeeding
Thailand	Korea	Japan	China	Singapore
<ol style="list-style-type: none"> Eat sufficient and appropriate cereals or whole grain cereal products Eat fish, lean meat, legumes, and their products 	<ol style="list-style-type: none"> Eat a variety of foods Keep ideal body weight Consume enough protein Keep fat consumption at 20% of energy intake Drink milk every day 	<ol style="list-style-type: none"> Obtain well-balanced nutrition with a variety of foods (30 foods a day); take staple food, main dish, and side dishes together 	<ol style="list-style-type: none"> Eat a variety of foods Eat appropriate quantity of foods Moderate oil and fat Eat moderately polished cereals 	<ol style="list-style-type: none"> Eat a variety of foods Maintain desirable body weight Restrict total fat intake to 20-30% of total energy intake

TABLE 12.6 (Continued)

Dietary Guidelines of Selected Asian Countries

Thailand	Korea	Japan	China	Singapore
<ol style="list-style-type: none"> 3. Be mindful of fat intake of below 30% of total energy intake and make sure that low cholesterol foods are chosen 4. Eat a variety of fruits and vegetables to ensure adequate vitamins and fiber supplies 5. Eat sweets and sugars only in moderation 6. Restrict salt intake 7. Recognize and eat well prepared food which is free of microorganisms and food contaminants 8. Avoid or restrict alcohol consumption 	<ol style="list-style-type: none"> 6. Reduce salt intake 7. Keep in good dental health 8. Moderate alcohol and caffeine consumption 9. Keep harmony between diet and daily life 10. Enjoy meals 	<ol style="list-style-type: none"> 2. Take energy corresponding to daily activity 3. Consider the amount and quality of fats and oils consumed: avoid too much; eat more vegetable oils than animal fat 4. Avoid too much salt — not more than 10 g a day 5. Happy eating makes for happy family life; sit down and eat together and talk; treasure family taste and home cooking 	<ol style="list-style-type: none"> 5. Limit salt intake 6. Eat fewer sweets 7. Limit alcohol balance food distribution through three meals 	<ol style="list-style-type: none"> 4. Modify composition of fat in the diet to 1/3 polyunsaturated, 1/3 monounsaturated, and 1/3 saturated 5. Reduce cholesterol intake to less than 300 mg/day 6. Maintain intake of complex carbohydrates at about 50% total energy intake 7. Reduce salt intake to less than 4.5 g a day (1800 mg Na) 8. Reduce intake of salt-cured, preserved, and smoked foods 9. Reduce intake of refined and processed sugar to less than 10% of energy 10. Increase intake of fruit and vegetables and whole-grain cereal products 11. For those who drink alcohol, have no more than 2-3 standard drinks (about 40 g alcohol) per day 12. Encourage breastfeeding in infants until at least 6 months of age

amounts of different kinds of foods. For example, to assure a well-balanced diet, the Japanese guidelines recommend eating thirty or more different kinds of foods daily.⁴¹ Japanese guidelines also suggest balancing main and side dishes around staple foods. Malaysia recommends choosing foods from each of the food groups daily.⁴² The Filipino and Chinese guidelines also focus on achieving dietary adequacy, emphasizing food rather than nutrient-based interventions.

Table 12.6 describes the guidelines with respect to nutrients. Virtually all emphasize ensuring adequacy of energy/calorie intake. Korea mentions achieving and maintaining energy balance by balancing intake and expenditure.³⁵ Most guidelines stress increased intakes of fruits, vegetables, cereal, and dairy food to promote fiber, vitamin, and mineral intakes and getting enough food. Some also indicate the proportion of foods that should be consumed in relation to total energy intake. For example, the Indian guidelines for the low-income population recommend that less than 75% of kcalories should come from cereals.⁴³ In countries where deficiencies of vitamins and minerals have been identified as public health problems, the guidelines reflect this and emphasize food sources rich in those nutrients. For example, calcium is mentioned specifically in some guidelines; a specific calcium-rich food (milk) is mentioned in the Taiwanese, Chinese, and Korean guidelines, and fish and seaweed in the Japanese guidelines. In Indonesia, people are advised to “consume iron-rich foods, and use only iodized salt.”⁴⁰ The Filipino guidelines recommend choosing “foods fortified with nutrients.”³⁷ The guidelines for less affluent Indians and Indonesians recommend eating enough food.^{40,43}

The guidelines for more affluent countries such as Taiwan, Singapore, Korea, Japan (and also for the more affluent members of the populations in Indonesia and India) emphasize moderation in fat, saturated fat, and/or simple sugars. The major difference between the various guidelines in Asia is in the amounts and the relative balance suggested between dietary constituents. The Asian guidelines on moderation in fat and salt intake vary greatly. Some simply say to avoid excess, or to limit/restrict the use of fat (see guidelines for India, Malaysia, Taiwan, China), while others specify the type of fat to be consumed. For example, the Japanese guidelines recommend use of vegetable oil instead of animal fat, and in the Indian guidelines, ghee (clarified fat, very high in saturated fat) is recommended but only for special occasions for affluent Indians. China, Taiwan, and Singapore are three countries with similar ethnic origins and dietary patterns that share similar dietary guidelines recommending reducing intake of salt and salt-cured foods. Singapore is the most specific, recommending eating less than 5 grams of salt or 2000 mg of sodium per day.³⁹ General recommendations on limiting salt intake are present in other guidelines throughout the region. The Japanese guidelines recommend eating less than 10 grams of salt per day. Neither Malaysia nor the Philippines mention salt.³⁹

The majority of the guidelines stress common nonfood-related healthy behaviors such as not smoking, dental hygiene, stress management, weight control, and physical activity. Asian dietary guidelines also specify the settings (places or environments) or other circumstances surrounding food and eating (Table 12.6). Most countries in this region also acknowledge the impacts of lifestyle changes on health, and emphasize attaining a healthy body weight to prevent diet-related disease. The Indonesian guideline recommends consuming “foods to provide sufficient energy.”⁴⁰ Some of these differences in emphasis reflect the vastly different levels of affluence within and between countries in Asia. For example, India has two sets of guidelines. One is for the poor and emphasizes nutrient adequacy and avoiding dietary deficiency diseases. The other Indian guideline is for affluent individuals and emphasizes energy balance, restricting energy intakes to levels

“commensurate with sedentary occupation, so that obesity is avoided,” coupled with moderation and restriction of fat, saturated fat, and sugar to reduce chronic degenerative disease.⁴³

Asian guidelines also recognize that eating is more than just “refueling” or nourishment from the physiological standpoint. They recognize that food provides pleasure and has strong links to family, tradition, and culture. Enjoyment of meals is therefore a concern in all countries, but is especially evident in the Japanese and Korean guidelines. In Japan, dietary guidelines that promote family values are included; citizens are advised to “make all activities pertaining to food pleasurable ones.” Another Japanese guideline states “enjoy cooking and use mealtimes as occasions for family communication.”^{44,45} In Korea, eating is viewed as a way of keeping harmony between diet and other aspects of daily life, and this is stated in the guidelines (see [Table 12.6](#)).³⁵

Conclusions about Dietary Guidelines in Asian Countries

Dietary guidelines for the Asian countries are all directed at the general population. Many countries, including Malaysia, Indonesia, China, and Japan, also have specific guidelines focusing on different ages, sexes, and conditions, such as infants, and pregnant and lactating women.^{33,39,44,45} Specific foods are recommended for these population groups. For example, breastfeeding in early infancy is a common recommendation in the dietary guidelines of many Asian countries. Human breast milk is recognized as the best food for infants. Encouragement of breastfeeding and recognition of breast milk’s unique properties are included in the guidelines.^{41,58} The duration of exclusive breastfeeding ranges from four months (Indonesia) to four to six months (Philippines), and six months in Singapore. Another difference is age of weaning, with introduction of other foods in addition to breast milk. For example, it is recommended at four to six months in the Philippines, but the Malaysian guidelines recommend weaning at no earlier than five to six months, with breastfeeding continuing for up to two years.

Some dietary guidelines are common to all Asian countries. One is to eat clean and safe foods; such recommendations are especially important in areas where the climate is very hot and foods are easily spoiled. The hygienic messages range from “consume food that is hygienically prepared” in Malaysia to “eat clean and safe food to prevent foodborne disease in the family” in the Philippines. Similar guidelines are provided in both the Taiwan and the People’s Republic of China’s guidelines. “Drink more boiled water” is mentioned in Taiwan, and the guideline for Mainland China is “avoiding unsanitary and spoiled foods.”^{30,44,46}

Conclusions

Dietary guidelines in the future must continue to take into account local dietary patterns, cultural traditions, and food availability. Guidelines are most effective when they indicate what aspects of diet need to be addressed to promote nutritional health in both the poor and rich. In some countries where disparities in incomes are very large, two sets of guidelines may be necessary.

Dietary guidelines should be flexible so that they can be used by people with different lifestyles as well as by people of different ages, and with different population groups (pregnant, lactating, infants, children, and elderly persons). Different guidelines may be

needed for urban and rural populations or for other special groups such as ethnic minorities in some countries.

Messages delivered to the public in dietary guidelines should provide advice on the selection of a nutritionally balanced diet and encourage other suitable lifestyle behaviors to promote health in target groups. It is difficult to include all without making the guidelines so long that their communicability is compromised. Therefore, other ancillary forms of nutrition education are also needed. Graphics allow people to put dietary guidelines and other recommendations about food consumption into action.

Nutrition education using dietary guidelines is only one ingredient for ensuring sufficient knowledge to choose a healthful diet. Motivation and opportunities to change nutrition and health behaviors in favorable directions are also necessary. Knowledge, science, technology, culture, and food sources all change with the times, and so do foodways. Therefore, it is necessary to review guidelines periodically and make appropriate modifications, i.e., every five or ten years.

In conclusion, dietary guidelines can serve multiple purposes. These include providing useful information to the public policy maker; serving as communication tools to nutrition and health professionals, as guides to the food industry in product formulation, and as instructional objectives for those involved in the provision of food, nutrition, and health education. Food is not the only factor that can influence health. Most health problems in modern society are multifactorial in origin. However, people can help themselves by establishing healthy dietary habits and paying attention to other factors (such as physical activity, not smoking, decreasing stress, and improving work environments). Such measures increase the chances for a long and active life. What individuals and families understand, accept, and do in their day-to-day lives matters the most in implementing healthy lifestyles. The Dietary Guidelines help people to ensure their nutritional health.

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