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# **Cultural Competency for Nutrition Professionals**

Academy of Nutrition and Dietetics

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## Preface

Immigrants to the United States weave more than recipes into our national food tapestry. With them, they bring food-related customs, beliefs, and traditions, all of which influence the health of individuals and groups. This brings a continually changing food landscape that makes the study of culture a necessity in modern nutrition and dietetics care and counseling, providing important foundational knowledge for the practitioner seeking cultural competency.

The Academy of Nutrition and Dietetics has embraced a global perspective on nutrition with a commitment to ensuring that nutrition and dietetics practitioners are prepared for the challenges of a multicultural marketplace. This includes publishing research and resources that address global food practices and cultural competency for dietetics students, practitioners, and professionals. The Academy recognizes that cultural competence is not a specialty or skill one acquires but an element of practice where the role of culture is considered and infused throughout all interactions with patients, clients, students, and coworkers. In fact, cultural competency must be ongoing and continuous—cultural competency involves lifelong learning that shapes a practitioner's approach, understanding, and interventions while overcoming potential bias, discrimination, and ignorance.

This book is intended to provide insight into the background for common geographic and religious cultures in the United States, along with a look into native foods for different cultures across the world. In addition to providing background knowledge, this book strives to discuss the way people from these cultures interact with American eating traditions and offers practical tips for meal planning and counseling.

More than 25 authors contributed, each bringing their own expertise, perspective, and insights. It is very much a "salad bowl" of information, symbolizing how individuals in the United States can retain their cultural identity while coming together as a whole. Though the authors each speak with a different voice, their message is unified: continuous exploration of those different from ourselves is essential in understanding the interaction of culture and the practice of nutrition and dietetics. This collection is a starting point, particularly useful for practitioners and students looking to expand their worldview and build a knowledge base of other cultures upon which to practice in culturally competent ways.

## Chapter 4 Asian Indian Culture

## Karmeen Kulkarni, MS, BCADM, CDE

### Background

Asian Indians constitute the third largest minority group in the Asian and Pacific Islander category in the United States—2.7 million according to the latest census (1). The community is relatively young and includes academic and technical professionals, students going to college, individuals who work in the service industry (gas stations, restaurants, motels), and dependents (spouses, children, elderly parents who are either visiting or living with their families) (2). States with a high concentration of Asian Indians include New York, New Jersey, Maryland, Illinois, Texas, California, and Florida.

Linguistic, regional, and religious diversity exists within the Asian Indian community in the United States. Immigrants from India come from 26 different states and 7 union territories. Each state has its own distinctive language, dialect, customs, and food practices.

Hinduism is the predominant religion practiced by more than 80% of Asian Indians, followed by Islam, Christianity, Sikhism, Buddhism, Jainism, Zorastrianism, and Judaism (3). The followers of these different religions observe dietary laws and codes for fasting and feasting, thereby influencing their overall eating patterns. An awareness of this diversity by local registered dietitians (RDNs) will be helpful in working with the growing number of clients of Asian Indian origin.

## **Traditional Food Practices**

The traditional Asian-Indian menu emphasizes the use of a variety of indigenous plant-based products such as cereals, legumes, beans, roots and tubers, green leafy vegetables, tropical fruits and vegetables, dairy products, and small to moderate quantities of meat, eggs, and seafood. Rice and wheat are used widely; use of barley, maize, corn, and millet varies by region and local traditions. Rice is steamed or boiled and may be eaten plain or mixed with spices and vegetables or meat as *pulao* (a rice dish containing vegetables, meat, and seasoning) and biryani (fried rice with pieces of mutton and vegetables). Different types of shallow-fried, deep-fried, and grilled breads such as *roti*, *rotlis*, *chapattis*, *parathas*, *puris*, *kachoris*, *luchis*, *naan*, *lachchas*, and *bhaturas* are prepared using whole wheat flour and refined flour.

Legumes, beans (*channa*, *rajmah*), and peas have a prominent place in the menu, by themselves as dal (consisting of beans such as *mung*, *toor*, *bengal gram/chana dal*, *masur*, *urad*, and black-eyed peas), or combined with cereal grains or vegetables.

Vegetables are consumed in different forms: stir-fried, sautéed, pureed, minced, or prepared as a sabji/bhaji, plain, with spices, or with a paste of ginger, garlic, and onion, to which different combinations of spices are added. Fresh vegetables are served as a raw salad or combined with yogurt. Nuts such as peanuts, almonds, walnuts, and cashew nuts are used to enhance flavors and taste. Herbs such as mint, dill, cilantro (coriander leaf), and basil, and spices such as chili, turmeric, cumin, mustard, and tamarind are commonly used in food preparation. Spices and herbs are often roasted and blended either dry or moist and called masalas. Regional variations exist with regard to the spice combinations. Examples include garam masala (a popular spice mixture consisting of spices such as asafetida, cumin, coriander, turmeric, chili peppers, and amchur) in the north and west; *panchphoran* powder (a mix of five spices, typically fenugreek seed, nigella seed, cumin seed, black mustard seed, and fennel seed) in the east; sambar powder (coarse powder made of roasted lentils, dried whole red chilies, fenugreek seeds, coriander seeds, asafetida, curry leaves, and other spices, depending on the region), rasam powder (consisting of cumin seeds, black pepper, coriander, split pigeon peas, fenugreek seeds, dry red chili, and asafetida), and chutney powders (a coarse mixture of roasted lentils/dal, with chilies and other seasonings) in the south. These spice combinations are added to curry dishes, which can be stir-fried vegetables, or gravy with meat, vegetables, or lentils. Chutneys (a condiment similar to a relish) and pickles (achar) are made from vegetable and fruit combinations; they may contain generous amounts of oil, salt, and spices and are accompaniments to the main meal.

For people who are nonvegetarian, chicken is popular; small amounts of goat or lamb, poultry, and eggs are also eaten. Although beef and pork are generally avoided for religious reasons, some people eat those meats routinely or at special occasions. Seafood dishes are popular in coastal cuisines. Roasting, marinating, deep-frying, and baking in a tandoor, a cylindrical clay or metal oven, are popular cooking techniques. Meats and seafood are cooked in curry sauces in dishes known as *macher jhol* (seafood curry stew), *kurma* (curry dish consisting of different vegetables, sometimes a meat, and gravy of yogurt and nuts), and *kheema* (minced meat dish).

Tropical fruits are consumed as a snack or dessert. Fresh fruits and dried fruits such as figs and raisins are popular as snacks and are used in desserts.

Milk is a popular beverage added generously to coffee and regular or spiced tea. *Dahi (curdurd* in South India) is a yogurt used as a side dish. *Dahi* may be sweetened with sugar, salt, and spices, mixed with water as a beverage (*lassi* in North India or *majjiga* in South India), or eaten in a salad with raw vegetables. *Dahi* is prepared on a daily basis, especially in the south, and usually is quite high in fat as it is prepared with whole milk. With the prevalence of low-fat milk, and due to increasing health awareness, low fat curd/yogurt is also consumed. Southern meals rarely end without a nice serving of yogurt mixed with rice, generally consumed with a side dish of pickle. Paneer/*chenna*, or homemade cottage cheese, is a popular cheese product used in snack preparations as well as cooked with vegetables. Desserts (*mithai*) such as *barfis*, *peda*, *doodhpak*, and *rasgulla* are prepared from concentrated milk (*khoa*) or coagulated milk (*chenna*) with sugar or molasses (*jaggery*). Grains, lentils, and nuts may also be present in *laddoos* (ball-shaped desserts made of dough). Desserts such as *gulab jamuns* and *jalebis/imarti* are deep-fried and preserved in sugar syrup. *Kulfi*, or ice cream, may be prepared using mango or pistachio or other dried fruits.

Deep-fried snacks such as *pakodas, samosas,* and *chakli* are prepared from cereal flours, semolina, refined white flour, whole wheat flour, and legume flours, either individually or in combinations. Snacks

such as *upma*, *usal*, and *sundal* are not deep-fried; others, such as *bhel-puri* and *pani-puri*, contain a combination of deep-fried and raw ingredients. Nonvegetarian snacks such as *kababs* and chicken or fish *tikkas* may be baked, grilled, or broiled. Roasted or deep-fried *papads*, *appalams*, and *vadagums*, made from seasonal vegetables, rice, or lentil flour, are popular as appetizers or snacks and meal accompaniment. Snacks, also known as *tiffin* in southern India, may be served in the afternoon with tea or coffee or as appetizers during weekend parties.

Betel leaves and fennel seeds are used as mouth fresheners at the end of the meal. Cooking oils include seed oils such as peanut, mustard, sesame; hydrogenated vegetable oils; and clarified butter (*ghee*).

Common food preparation techniques include:

Grinding	Dry grinding of spices, wet grinding of spices and herbs, and grinding of batters containing cereals or cereal-lentil combinations are done with a heavy stone slab with a round stone for grinding. In modern times, electric blenders, mixers, and spice grinders are used by wealthier households.
Soaking	Lentils are soaked before preparing.
Fermentation	Fermentation plays a role in the preparation of natural yeast-leavened breads such as naan in the north and idlis and dosas in the south; it also is part of the preparation of dahi.
Marinating	Meats and sometimes vegetables are marinated using lemon juice, vinegar, yogurt, and raw papaya. Achar are also prepared by marinating fruits and vegetables in salt and oil.
Frying	Includes techniques such as shallow frying on a tawa, a flat, round griddle or deep frying in a wok or kadai, made from cast iron, stainless steel, or anodized aluminum.
Roasting	Spices, cereals, lentils, or flours without oil are roasted to remove the raw smell or roasted in small quantities of oil for flavor. Roasting may also be used as a first step in the preparation of dry or wet masalas.
Baking or grilling	Baking occurs in a tandoor oven for items like tandoori chicken, fish, meat, and flat bread, such as naan.
Steaming	Natural pressure cooking and boiling are also used. Pressure cookers are commonly used in Indian cooking.
Seasoning	Oil is heated in a flat pan and a chosen spice or spices are quickly tempered at high heat and then added as a first step in preparation of some mixed dishes or as a final step in the cooking of lentil, gravy, and vegetable/meat dishes.

Serving dishes Meals are eaten in a round or an oval stainless steel, brass, or silver thali (plate) with contemporary utensils and separate bowls (katoris) in which vegetables, lentil, dahi, and other accompaniments are served. Banana leaves are used in the south during religious occasions and other traditional ceremonies. Food is eaten using the right hand as well as with traditional flatware.

## **Immigrants or Ancestors**

Asian Indians in the United States socialize on weekends in an effort to relax, maintain their ethnic identity, connect with family and friends, and celebrate religious festivities together. Traditional dishes as well as high-calorie snacks and desserts are prepared and served along with mainstream foods such as pizzas, brownies, and cakes to satisfy the younger generation's palate.

Research indicates that the incidence of cardiovascular disease and type 2 diabetes is escalating among Asian Indians both in the United States and elsewhere (4). Genetic differences in lipid metabolism, insulin resistance, impaired glucose tolerance, obesity, and lifestyle changes including meal-planning changes, lowered physical activity, and increased stress are thought to exacerbate risks. Food changes resulting in substitutions, rejection of traditional foods, and inclusion of other ethnic and US fast foods and convenience foods can precipitate nutritional changes that can have an impact on chronic disease risk.

## **Regional Food Practices**

Distinctive climatic conditions and seasonal cycles influence agricultural production in India. This results in a diversity of food practices among Asian Indians. Generally speaking, regional food practices can be categorized as northern, eastern, western, or southern food practices. Inter-regional variations exist with regard to the use of spices and preparation methods (5).

#### **Northern Food Practices**

Wheat, the staple crop in the north, is made into a variety of broiled, unleavened, and leavened breads such as rotis, *phulkas*, or *chappati*; shallow-fried breads such as plain and stuffed *parathas*; and deep-fried breads such as *puris* and *bhaturas*. *Chappatis* made from corn (*mukki ki roti*) and wheat with *chana* or gram flour (*missi roti*) are popular in northwestern states. Accompaniments include plain or spiced basmati rice as *pulao* and biryani, sautéed or stir-fried vegetables, plain yogurt (raita), raw salads, and *achar*. *Garam masala* along with onion, garlic, and ginger are used to marinate vegetables and meat in the preparation of gravy dishes such as *kofta* (deep-fried fritters made of cheese or vegetables and gram flour, soaked in gravy), *kheema*, and *kurmas*, as well as lentil dishes. Spinach and mustard greens (*sarson ka saag*) are prepared as gravy dishes. Roasting and frying are popular preparation techniques. Concentrated milk-based desserts such as *pedas*, *kheer*, *kulfi*, *halwas*, *burfis*, *rasgulla*, and *gulab jamun* are popular. Plain or spiced tea, lemonade (*nimbu pani*), *jeera pani*, milk shakes, *thandai*, and *lassi* are choice beverages.

#### **Eastern Food Practices**

Meals in this region include white parboiled or steamed rice as a staple along with fish. The meal begins with a stew containing bitter vegetables, called *shukto*, followed by dals, a fried green vegetable or *saag*, fish curry, and sweet chutneys made from tart fruits and vegetables. Shrimp, lobster, and crabs are cooked in various ways with mustard and garlic. Mutton, chicken, and eggs are common, although lamb and pork are not popular. Lightly seasoned vegetables and meat and vegetable combinations using *panchphoran* are also featured in the menus. The easy accessibility of coconut permits its use in a variety of curries and chutneys. As in the north, tea, lemonade, coconut milk, and *lassi* are popular beverages. Coagulated milk desserts made from *chenna* or paneer such as *rasagolla, mishti doi*, and *sandesh* are an integral feature of this region's cuisine.

#### Western Food Practices

Rice is a staple consumed with dal along with breads made from whole wheat, millet, and maize. Specialty breads such as *thepla* and millet breads are popular. Sprouted lentils, coconuts, peanuts, and sesame seeds are used in a variety of preparations. In the absence of dal, mung, black-eyed peas, or moth beans may be used. Vegetable dishes such as *undhiyu*, lentil flour-based *dhoklas* and *khandvi*, yogurt-based sauces known as *kadhi*, and sprouted beans are popular. Typical meals consist of cooked rice with dal, meat, poultry, or fish; a salad with yogurt; one or two vegetable dishes; and *rotlis* or deep-fried *puris*. Meals may be accompanied by *dahi* or *chaas* (buttermilk), *chundo*, *gol keri*, *athanu*, and *kachumbar*. Desserts such as *halwas*, *shakarpaali*, and *puranpolis* are popular. While fish is popular in coastal cuisines, lamb and chicken are consumed in other areas.

#### **Southern Food Practices**

Common features of south Indian food practices include the use of rice, the staple grain served in three courses with sambar, rasam, and yogurt accompanied by a vegetable or pickle. White, parboiled rice, puffed rice, beaten rice, and spiced rice are different preparations of this region. Dal is served plain or in the form of gravy dishes such as sambar and rasam or may be combined with cereals, ground, fermented, and used to prepare breakfast and snack items such as idlis, appams, crepes, or dosas (plain and vegetablefilled *masala dosa*). Vegetables are sautéed and served as *poriyals* or prepared with coconut and spices as kootus and avial. Raw vegetables may be prepared as pachadis or kosumbari in which soaked/sprouted lentils are added to vegetables. Fish, chicken, lamb, mutton, and eggs are common in nonvegetarian meals. Fruits are eaten as snack or dessert items. Desserts include reduced-milk preparations with *jaggery* (molasses) such as *payasam* (sweet dish made with milk, ghee, and sugar) rice, or rice-lentil combinations with *jaggery* such as *pongals* and *appams* in addition to desserts using ghee, nuts, and spices like cardamom. Beverages include coffee grown in this region, sweetened with sugar to which milk may be added. Commonly used spices include coriander, asafetida, cumin, fenugreek, red chili peppers, ginger, pepper, turmeric, nutmeg, and saffron. Various spice powder combinations are prepared in different regions. These powders are added to vegetable and lentil dishes or may be mixed with cooked rice and ghee. Coconut, grated fresh or dried, is used in many preparations; pickles and appalams, vadagums, or *papad* are meal accompaniments. Food may be served on banana leaves for special occasions.

## **Religious Food Practices**

Religion is a way of life and an integral part of Indian traditions and food-related beliefs (6). Among the Indian population, 80% practice Hinduism, 15% are Muslims, 2% practice Sikhism, and the remaining

practice Buddhism, Christianity, Jainism, Zorastrianism, or Judaism. Religious following dictates prohibitions and proscription of foods as well as feasting and fasting regimens.

#### Feasting

Each religion has festivals in which food plays an important role. Festivals such as Deepavali, also called Diwali or the Festival of Lights, are celebrated in winter to welcome light as a symbol of hope. Traditions include fireworks and exchange of sweets. Additional feasting days include celebrations and rituals surrounding births, weddings, deaths, and many milestones during the lifecycle, and the harvest season. Generous quantities of regular foods and sweets are prepared and offered to the gods before distribution for human consumption. Specific foods such as ghee, rice, wheat and wheat flours, grits, *urad dal*, indigenous vegetables, *jaggery*, spices, bananas, and coconut are frequently used and have symbolic value. For example, bananas and rice symbolize fertility, coconuts represent sacredness, and betel leaves are considered auspicious.

#### Fasting

Fasting is common among all religious sects in India. For example, Muslims fast during the month of Ramadan while Orthodox Hindus fast on religious festivals as well as certain days in the lunar months. Fasting for Muslims during Ramadan, the ninth month of the Muslim Lunar year, entails a meal before sunrise and one after sunset and usually begins by eating dates. The duration and frequency of fasting in all religious sects is highly variable and individualistic. Fasting may involve abstinence from one food or an entire food category or consumption of fruits or raw foods only. For instance, Gujaratis may eat tapiocabased *sabudana khichidi*, or broken or puffed rice, during a fast. Milk and fruits may be allowed during fasting. Desserts such as *laddoos* and *jalebis* may also be consumed during a fast. Mourning periods may be characterized by restrictions on the frying of spices.

#### Hinduism

Religious scriptures, in essence, describe food as life and therefore have an impact on physical health, mental health, and well-being. The cow is considered sacred and therefore consumption of beef is prohibited; other meats such as mutton, lamb, fish, chicken, and other poultry are permitted. Moderation dictates that solid food should fill half the stomach, liquid one fourth, and the remainder should be left empty for proper digestion. Foods are categorized into *kacha* and *pukka* categories. *Kacha* foods, like cereals and lentils, are cooked in water, whereas *pukka* foods are cooked in ghee and milk both are considered ritualistically pure. *Kacha* foods traditionally are to be consumed in the kitchen or house while *pukka* foods may be taken out of the house. In addition to these categorizations, there is also thought to be a relationship between food, mood, fitness, and longevity. Foods can be designated as *Sattvic* foods, *Rajasic* foods, and *Tamasic* foods. *Sattvic* foods, such as dairy products, cereals, ghee, legumes, and certain vegetables are believed to invoke more humane and pure thoughts and contribute to health and well-being. *Rajasic* foods, which include meats and eggs as well as astringent and highly spiced foods, are believed to contribute to feelings of aggression and desire for power. *Tamas* means darkness. Therefore, consumption of *Tamasic* foods, like garlic, pickled foods, rotten foods, and so forth, is believed to lead to darkness of mind, feelings of dullness and sluggishness, and possibly physical illness.

#### Islam

Dietary practices of Muslims are derived from the holy Quran. For more information on Islamic dietary practices, see the Islamic food section.

#### Christianity

Syrian Christians are followers of a form of Christianity that emerged from Syria. Marinated beef, duck, and wild boar cooked with strong masalas and coconut are popular in this religious segment. Goan Christians belong to a community that developed in the former Portuguese colony of Goa. Pork curry (*sorpotel*) with blood, meat, liver, and fat in vinegar and tamarind juice; liquid *vindaloos*; pork with beans (*feijoda*); and salted and pickled pork are some specialties. Seafood dishes contain kingfish or prawns. There are also other denominations of Christians in India.

#### Sikhism

According to the Holy Granth Sahib (the religious teachings of Sikhs), there are few dietary restrictions. In practice, tobacco, alcohol, and beef are forbidden, but not pork. Religious offerings include *kara prashad* made from cream of wheat, water, ghee, and sugar. Sikh temples have community kitchens that serve meals (called *langar*) consisting of black lentils, *rotis*, a vegetable dish, and the *kara prashad*.

#### Jainism and Buddhism

These two religions have followers that make up less than 1% of religious Asian Indians; they share many similarities with Hinduism yet are distinct. Jainism, based on the tenet of nonviolence or *ahimsa*, strictly prohibits all food that has the potential for life, which includes rancid or putrid food, roots and tubers, honey, fruit with small seeds, and tender greens. Traditional followers of Jainism may not eat any foods after sunset and may also have strict dietary restrictions during fasts.

Strict followers of Buddhism are monks who lead a life of simplicity and piety. There are two sects, Theravada (Hinayana), which is followed in India and Southeast Asia, and Mahayana Buddhism, which is practiced in China, Japan, Korea, Tibet, and Mongolia. Buddhist monks give up the materialistic aspects of life and live on alms. Their ultimate goal is to achieve the spiritual state of nirvana. Nonmonastic followers of Buddhism are lacto-ovo vegetarians, with some followers abstaining from beef, others from all meat (7).

#### Zorastrianism

Followers of this religion are of Iranian ancestry, worship the sacred fire, and preach the virtues of good thought, word, and deed (6). Settled in the western coast of India, their food customs reflect practices of the area and that of their ancestry. Nuts, raisins, *falooda*, *sev*, *dhansak*, eggs, baked fish, and lamb or goat meat are some specialties.

#### Judaism

Small Jewish communities exist in the metropolitan cities in India. See the Jewish food section for more information on Jewish dietary practices.

#### Vegetarianism

Vegetarianism became popular in India following the introduction of Buddhism and Jainism; both religions emphasize the concept of nonviolence or *ahimsa*. Furthermore, the generalized availability of indigenous grains, legumes, fruits, and vegetables facilitated the spread of vegetarianism (6). Certain castes and communities strictly follow vegetarian practices. Regional differences exist; for example, Brahmins in the state of Kashmir eat lamb and coastal Brahmins eat fish. Most vegetarians in India consume dairy products, and some even eat eggs. Consumption of milk varies with socioeconomic status

and is preferred by males, pregnant and lactating women, and children. Veganism is rarely practiced. Nonvegetarians may or may not include animal products on religious occasions.

#### Ayurveda

Ayurveda, or the classical system of Indian medicine, includes the categorization of foods based on their ability to create balance in the body as well as the use of food as a healing agent. Some of these concepts led to the prescription and use of foods according to season as well as humoral qualities (humoral systems are ones that connect certain foods to temperament and health).

- Foods such as white sugar, millet, buttermilk, milk, and bananas are thought to be *kapha*, or mucus-producing foods, which can aggravate respiratory ailments.
- *Vayu*(wind)-producing foods such as legumes are thought to be responsible for flatulence; fatty foods are thought to cause *pitha*, or excessive bile, which changes metabolism and produces heat.
- *Ushna/ushma* or hot foods such as garlic, cloves, lentil beans, papaya, pineapple, and mango are believed to produce heat.
- *Sheeta* or cold foods such as cereals, legumes, fruits, and vegetables are believed to contribute to cooling of the body.

The addition of spice or cooking can change the hot or cold status of a food. Also, regional variations based on food availability and usage exist regarding what constitutes a hot or cold food. For instance, wheat is a "hot" food in the South; lentils, except for *masur dal*, are cold in the West but "hot" in the North. In keeping with this belief system, heavy and cold foods are avoided in spring, cold and sweet foods such as yogurt and green mango are eaten in summer, whereas hot foods are eaten during the monsoon or rainy season. Winter foods include deep-fried foods, dried fruits, nuts, and products made from these ingredients.

Food taboos during pregnancy and lactation, in infants, and in young children may also be practiced. For example, during pregnancy, heat-producing fruits such as mango and papaya, and flatulent vegetables such as cabbage and cold foods are to be avoided. The birth of a child means the household is considered impure for 12 days. The lactating mother is given herbal preparations and foods prepared with ghee for revitalization. Other therapeutic uses of food still in use today include the following (8,9):

- Coconut water for treating excessive *pitha* or bile
- Boiled rice and lightly seasoned meat for convalescing periods
- Fruits, cooked roots, and special beverages for dyspepsia
- Honey and ghee as throat soothers and turmeric as an antiseptic
- Fenugreek seeds to promote digestion of food
- Buttermilk as an antidote to diarrhea
- Ginger and turmeric to treat respiratory ailments

## **Adaptation to American Culture**

Asian Indian immigrants in the United States exhibit bicultural food acculturative patterns in which many traditional food practices are retained but complemented with US dietary practices. The extent to which food patterns are altered in Asian Indian immigrants is influenced by their length of residence in the United

States, current lifestyle patterns, ability to cook, socialization patterns with the members of the dominant US culture, family dynamics, and economics.

Present-day immigrants to the United States from India are familiar with American and European foods, which are available in many supermarkets in India. Ready access and widespread availability of familiar nontraditional foods can accelerate the dietary acculturation process. Currently, ethnic grocery stores carrying Asian Indian foods are widespread in the United States. Stores in large metropolitan cities carry a wide selection of spices, convenience products, frozen dinners, and frozen and canned ethnic vegetables. Since availability of fresh ethnic vegetables and fruits are limited to larger cities, Asian Indian immigrants in smaller cities may substitute locally available vegetables, rely more on roots and tubers, and decrease consumption of vegetables and fruits.

The indigenous Asian Indian menu relies heavily on plant-based products, which are good sources of complex carbohydrates; the frequent use of yogurt; the use of many fruits and vegetables; and small quantities of animal products. Of particular significance is the use of a variety of spices such as turmeric, curry powders, and herbs (fresh and dried). Recent studies demonstrate the antioxidant and anti-inflammatory potential of dietary curcumin, a primary ingredient in turmeric and curry powders (10). The traditional mixed dish combinations of cereals and lentils offer nutritional advantages by providing proteins in a predominantly vegetarian meal plan. Acculturative patterns can result in lower fiber and higher fat intakes with detrimental effects, particularly in a population that has a genetic predisposition to diabetes and cardiovascular disease (11) as well as an increasing incidence of obesity (4) and metabolic syndrome (12,13). This underscores the need for awareness among dietitians about traditional foods and cultural heritage as well as the need to educate Asian Indian immigrants about locally available foods to assist them in making healthier choices.

Research examining Asian Indian dietary and nutrient intake patterns in the United States and abroad indicates that consumption of traditional mixed dishes and ghee decreases with residence in the United States while consumption of fruit juice, chips, fruits, margarine, cola, cheese, coffee, and alcoholic beverages increases (14). However, consumption of roots and tubers, vegetable oils, legumes, white bread, and tea does not appear to change with length of residence. Many also give up previous vegetarian practices, with men acculturating faster than women (15). American-style breads may be substituted for traditional Indian breads; local vegetables may be substituted for ethnic vegetables, which may not be readily available. For instance, zucchini may be substituted for ethnic gourds; ricotta cheese may be substituted for paneer.

Meal patterns become irregular with breakfast skipped most often; lunch may consist of a combination of traditional and American foods, such as traditionally cooked dry vegetables and white bread in the form of a sandwich. Women snack more frequently than men (16). Evening meals are large; they consist of traditional foods and are high in energy and carbohydrates (56% of energy intake) (17). This is of concern since this population has a high susceptibility to diabetes. There continues to be a preference for mostly Indian foods, especially at dinner and on weekends (16).

Fat intake, though less than 30% of energy with a higher ratio of polyunsaturated to saturated fat, may exceed needs of this group and needs to be addressed given that this population has a high risk for cardiovascular disease (CVD). Asian Indian immigrants have a significantly higher risk of CVD, with heart disease rates estimated to be one-and-one-half to four times greater than Caucasians. In addition to the high risk of CVD and type 2 diabetes, risk factors such as elevated lipid profiles, an increase in abdominal obesity, a food intake high in saturated fats, and consumption of prepared foods all contribute to the high incidence of chronic disease (18). The use of "invisible fat," especially in seasonings and mixed dish preparation, may be high and warrants attention (5).

Vegetarian diets, particularly the lacto and lacto-ovo patterns, tend to have intakes of saturated fat and total fat very similar to that of nonvegetarians (5). Age onset conditions such as lactose intolerance can contribute to lowered intake of micronutrients such as calcium and vitamin D; there is also an increased risk for anemia in women and higher homocysteine levels arising from low iron, folic acid, and vitamin B-12 intakes (19,20,21,22).

## **Meal Planning**

Examples of typical and modified menus for a north Indian client, an Oriya/Bengali client, a south Indian client, and a Maharashtrian client are provided in the Indian Foods, AAPI's Guide to Nutrition, Health and Diabetes, 2011. Resources such as the Dietary Guidelines for Americans and the Indian Foods document published by the American Association of Physicians from India (23) are useful resources that can assist in this process. Efforts should be directed toward the following (19,24):

- Encouraging consumption of unrefined carbohydrates such as brown rice instead of white rice and traditional mixed dishes containing cereal-lentil combinations
  - Because of the limited choice of well-liked protein sources in vegetarian cuisine, individuals tend to fill up on carbohydrates, which constitute the majority of the plate at any meal. Recommendations may include soy products such as soy granules, soy milk, or combinations of wheat flour and gram flour in broiled traditional breads and other mixed dish preparations
- Exercising portion control, reading and understanding labels
- Decreasing or moderating use of alcohol at home or social occasions, based on religious practices
- Selecting food alternatives while dining out and emphasizing moderation with regard to fats, desserts, and portion size (24)

The following tips may be helpful:

- Bake, boil, broil, or steam foods instead of shallow and deep-frying in a kadai
- Use nonstick pans or coat pans with vegetable-based cooking sprays to reduce the generous amounts of oil that are typically used in seasoning traditional dishes
- Use monounsaturated oils such as canola and olive oil; limit consumption of fried snacks and appetizers; use sprouted mung for snacks instead of traditional deep and shallow fried snacks
- Sauté vegetables in water or vegetable juice rather than oil or ghee; reduce the intake of Indian savory snacks, which are almost always deep-fried, and Indian sweets (*mithai*) loaded with ghee and sugar
- Trim visible fats from poultry, beef, and pork, and remove skin from chicken
- Switch to low-fat or nonfat instead of whole or reduced-fat milk, which are popularly consumed by Asian Indians
- Use egg whites more often than whole eggs; limit whole egg use to no more than three times a week
- Suggest spices and lemon juice as alternatives to traditional condiments, seasonings, and pickles can be high in sodium and oil ;limit or moderate the use of nuts, coconut, and heavy cream in gravies and other dishes
- Encourage fresh fruit and vegetable juice consumption

#### Health Promotion for Asian Indians

Health promotion activities with a nutrition and physical activity component must take into consideration the social, economic, educational, and cultural environment in which the Asian Indian client resides. Assessment should include questions on food intake patterns (weekdays versus weekends), the use of fats and oils, use of nuts such as almonds for health purposes, and use of multivitamins and single supplements. It is also important to ask about religious practices and any food prohibitions, fasting, and feasting patterns that might be followed.

In some families, children may be allowed to try new/nonvegetarian foods while elderly parents may follow traditional meal patterns and practices. Other practices to be aware of are the use of Ayurvedic/homeopathic medicine concepts and other traditional remedies. Despite the familiarity of Asian Indians with Western medicine practices, cultural and traditional belief systems based on the Ayurveda concept often prevail and coexist with modern treatments. The classification of hot and cold foods and food taboos may lead to avoidance of certain foods. Spices and herbs may also be used as home therapeutic remedies. Herbal supplements may be used for illnesses and may need to be asked about when planning for medical/nutrition issues.

Nutrition advice, when given, should include the woman of the household since women are involved in procurement, preparation, and distribution of food. Asian Indians may require information on how to read and interpret food labels. Some foods available in ethnic grocery stores may not have adequate label information. Clients may also need to be made aware of appropriate portion sizes and exchange lists (23).

#### Communication

Asian Indian immigrants may not be willing to discuss their medical, social, and financial issues with an unfamiliar professional person. It will be beneficial if registered dietitian nutritionists (RDNs) and nutrition and dietetics technicians, registered (NDTR) under the supervision of an RDN recognize the close-knit family ties that are characteristic of this community, the hierarchical roles of men and women, as well as the desire of family members to participate in the caring process. Elderly relatives may provide care during pregnancy and postdelivery, often reinforcing traditional foods, beliefs, customs, and rituals. It may be necessary to assess individual attitudes and comfort levels (25). Interpreters well-versed in native Asian Indian languages may be of assistance while dealing with elderly clients. Asian Indian clients may prefer a leisurely personal communication with the RDN and NDTR.

Expectation of privileges, such as getting an immediate appointment, may not be unusual (7). Health care expectations can differ between individuals and will ultimately influence compliance. Finally, individuals need to be encouraged to follow up with the physician or a RDN and NDTR.

#### Foods to Limit or Use Moderately

- Parathas, puris, kachoris, lachchas, naan, bhaturas
- *Pulao*, fried rice, and biriyani
- Idlis, dosa, and semolina upma prepared using large amounts of oil
- Creamed dal
- Fried chicken, fish, or calorie-rich meat dishes
- Regular paneer/ricotta cheese
- 2% or whole milk, whole cream and half and half, butter and ghee, coconut milk and oil
- Fruits in creamed desserts, custards

## **Asian Indian Food Dictionary**

Aamras	Mango juice or pulp
Achar	Vegetable- or fruit-based pickles prepared with spices and marinated in oil and salt; dried varieties may also be eaten
Ajwan or Ajwain	Oregano seeds, also known as <i>omum</i> in south India
Amaranth	An annual plant high in protein whose leaves and seeds can be consumed
Amchur or Aamchoor	Dried raw mango powder
Appam	Rice/wheat-based preparation. Batter is fermented and baked in clay or cast iron pan to yield a spongy, thick, soft product with a lacy, crisp, brown edge; both salted and sweet varieties are prepared
Appalam	Wafers made from lentil and rice flour that can be broiled or fried
Asafetida	A resin with a sharp smell, used in small quantities as a flavoring agent
Ash Gourd	Gourd available in Asian grocery stores
Athanu	Spicy mango pickle
Aviyal	South Indian dish with vegetables in gravy, with added coconut and buttermilk
Badaam	Almonds
Baghar or Chonk or Tarka	Indian garnish consisting of frying spices such as mustard, cumin, asafetida, and red chilies in hot oil
Barfi	Sweets made from thickened/condensed milk or <i>khoa,</i> flavored with coconut, rose water, cocoa, fruit, or nuts
Basmati Rice	Narrow, long-grained rice, usually white, with special flavor and smell

Basundi	Thickened sweet milk flavored with cardamom and saffron
Bathura	Mildly leavened, deep-fried bread, made with added fat
Bay Leaves	Aromatic herb used fresh or dried, also known as <i>Tez (j) pata</i>
Bengal Gram Dal or Chana Dal	Yellow split peas
Besan	Chickpea or gram flour made from chickpea only
Betel Leaf or Pan	Sharp-tasting leaf used as a base for a variety of mouth fresheners, betel nuts are added as filling; often stains the mouth red as a result of the lime paste used on the leaf
Bhaji	Generic term for cooked vegetables; other names for vegetable dishes include curry, <i>bharta, sabzi</i> , and <i>sag</i>
Bharta	Cooked vegetable (eggplant, potatoes) mashed or cooked to a pureed consistency
Bhel Puri	Raw, puffed rice together with gram flour deep-fried noodles and raw vegetables, cilantro chutney, and sweet and sour tamarind sauce
Biryani	Fried rice with pieces of mutton and vegetables
Bitter Gourd	Bitter melon; looks like a cucumber with a rough ribbed skin; popular, consumed by people with diabetes
Black Gram Dal or Urad Dal	Pale white lentil; may be used with or without black skin; popular in south Indian cuisine; combined with rice, ground, and fermented to make <i>idlis</i> and <i>dosas</i>
Bonda	Small balls made with potato filling dipped in gram flour batter and deep-fried
Brinjal	Eggplant
Cardamom	Flavorful spice seed within a green pod, ground; grown in India
Chaas	Buttermilk

**Chaas** Buttermilk

Chai	Tea made with milk
Chai Masala	Spiced tea with added milk and sugar; can be high in calories
Chakli	Fritters made from spiced and fried wheat flour
Channa	Chickpeas or garbanzo beans, either whole or hulled and split (when it is known as <i>channa dhal</i> )
Chapatti	Pan-roasted bread; homemade often just before the meal
Chenna or Paneer	Homemade cottage cheese prepared by boiling milk and curdling it with lemon juice and/or yogurt; hung in a muslin cloth, drained whey is consumed separately
Chevdo	Spiced and roasted flattened rice mixed with deep fried nuts and whole pulses
Chicken Curry	Chicken in spicy sauce
Chicken Tikka	Pieces of boneless, skinless, broiled chicken marinated with spices
Chilies	Chili peppers, available in fresh green variety or dried red variety
Chole	Dish made with chickpeas, onion, tomatoes, and spices
Choli	Black-eyed peas
Choko	Chayote squash
Chundo	Sweet mango pickle
Chutney	Sweet or salty dip or relish eaten with a variety of dishes
Cinnamon	Flavorful spice used as stick or powder
Cloves	Spice used to season curry and rice and used as a component of the spice mix <i>garam masala</i>

Colocasia	White starch vegetable; similar to yam
Copra	Dried coconut
Coriander or Dhania	Spice seeds, can be used dried; popular in south Indian cuisine; coriander leaves or cilantro used as an herb
Cumin or Jeera	May be used as a powder or lightly roasted in oil; used as a seasoning
Curry	A term for various dry vegetable or gravy dishes eaten with the main starch of the meal; also name for a spice made from curry leaves
Dahi	Curds; homemade yogurt
Dal	A generic term for hulled, split pulses of legumes, like mung beans; main varieties are <i>toor</i> (red gram), <i>mung</i> (green gram), <i>urad</i> (black gram), <i>channa</i> (split pea) and <i>urad dal</i> (black lentil)
Dhansak	Vegetable-lentil dish of semisolid consistency
Dhokla	Steamed dish of western India made from lentils or a combination of lentils and rice
Dosa	A south Indian pan-fried crepe made from a soaked and fermented rice <i>urad</i> (split black lentil without skin) <i>dal</i> batter, semolina, or whole wheat flour
Drumstick	Indian vegetable resembling long thin sticks with a fleshy interior; the fleshy portions are cooked and consumed
Falooda	Drink made from tapioca granules
Fenugreek leaves	Used as green leafy vegetables in cooking
Fried Gram Dal	Roasted and puffed Bengal gram dal
Garam masala	<i>Garam</i> means hot and <i>masala</i> means spices; blend of spices (coriander, cumin, cardamom, cinnamon, cloves, pepper, nutmeg, black cumin powder, and mace) with regional variations

Ghee	Butter that has been clarified or gently warmed over low heat until it browns lightly, giving a distinct aroma. It is used as a flavoring or as a topping for rice and breads.
Ghoogra	Savory snacks made with whole wheat flour stuffed with crushed peas and deep fried
Ginger	Root whose skin is removed; may be chopped, grated, or sliced; used as an anti-flatulent agent, considered a preventative for throat ailments
Gol Papdi	Wheat flour fried with clarified butter and sweetened with <i>jaggery</i>
Gram Flour	Usually refers to the flour made from ground chickpeas
Green Gram Dal	Split mung beans
Gulab Jamun	Deep-fried balls made from milk solids and soaked in sugar syrup
Halal	Food from animals slaughtered in accordance with the Islamic food code
Haldi	Turmeric powder, a commonly used spice believed to have antiseptic properties
Halwa	A generic term for a common dessert made from wheat, nuts, sugar, and often vegetables
Handva	Rice-based and <i>mung dal</i> -based bread with a combination of vegetables
Haram	Food that observers of the Islamic religion regard as forbidden
Idli	A popular south Indian steamed dish made from fermented cereal-lentil batter
Jaggery	Unrefined brown sugar; also known as <i>gur</i>
Jheera Pani	A watery drink made mainly from <i>jheera</i> (cumin seed)
Jilebi, or Jalebi	Fried dish made with chickpea flour and dipped in sugar syrup

**Kababs** Rolls made of uncooked minced meat and spices, put on skewers, and broiled (shish kabab); patties made from cooked minced meat, lentils, and spices and shallow fried (*shami kabab*); pieces of seasoned meat or fish skewered and broiled over a fire

Kacha	Raw
Kachori	A stuffed <i>puri</i> using <i>urad dal</i> or vegetables mixed with spices
Kachumbar	Raw salad
Kadai	A metal skillet or wok (usually made of iron) used for roasting, broiling, and frying
Kadhi	Dish made from yogurt, spices, vegetables, and lentil flour as thickening agent
Kalonji: Niger Seeds or Nigella	Also known as onion seeds; used to flavor many dishes
Karela	A bitter gourd; believed to have medicinal value
Kathod	Whole pulses (lentils)
Katoris	Small metal bowl used to hold a side dish (holds about three to four ounces)
Khandvi	Rolled pancakes made from gram flour and sprinkled with mustard and coriander
Kheema	A minced meat dish
Kheer	A milk-based liquid dessert with many additions, such as cereal, lentils, nuts, and fruits
Khichri or Khichuri	Dish containing lightly spiced, cooked rice, and 4 varieties of lentils/tapioca; featured during special festivities in the eastern region of India
Khoa	Reduced-milk dessert
Khus-Khus	Poppy seeds; used to flavor drinks and also in curried dishes such as kurmas
Kofta	Round, deep-fried fritters made of cheese or vegetables and gram flour, soaked in gravy

Kootu	Mixed dish with vegetables and dal, served as a side dish or with rice
Kosumalli	Raw vegetables to which soaked lentils (mung lentils) are added
Kulfi	Ice cream made from reduced milk, often with other ingredients like nuts and mangoes
Kurma or Korma	Curry dish consisting of different vegetables, sometimes a meat, and a gravy of yogurt and nuts
Laddoo or Laddu	Round, sweet ball of lentil flour, semolina, or puffed rice, roasted with butter, sugar, and seasoning; nuts added to taste
Lassi	Buttermilk or yogurt drink, often diluted, to which salt or sugar is added for flavoring
Maccher Jhol	Fish curry
Масе	Spice used in Asian Indian cooking
Malai Kofta	Cheese and vegetable deep-fried fritters in a cream sauce
Masur or Masoor Dal	Bright orange in color; made with red lentils. Popular in north and east India
Mattar	Green peas
Methi	Fenugreek seeds, common spice used in cooking
Mishti Doi	A sweetened, yogurt-based dish
Mithai	A wide range of sweet snacks or desserts
Mustard Seeds	Small, black seeds tempered in oil and used as seasoning; mustard oil used as cooking oil in east and northeast regions of India
Naan	North Indian fermented bread made from flour, yogurt, and egg, baked and broiled in a clay oven (tandoor)

Nimbu Paani	Drink similar to lemonade
Nutmeg	Spice used in Asian Indian cooking
Oothapppam	Thick pancake made from batter consisting of fermented rice and black gram dal batter to which vegetables may be added as topping
Pakoda	Generic term for deep-fried fritters made with vegetables, nuts, or plain gram flour
Panch Phoron	Seasoning in West Bengal state; ixture of equal parts mustard seeds, fenugreek seeds, fennel seeds, and cumin seeds, roasted or fried and added to many dishes
Paneer	See Chenna
Pani-Puri	Deep-fried cereal flour <i>puris</i> combined with spiced tamarind sauce
Pappad	A dehydrated wafer made from cereal or a cereal and legume mixture; can be eaten fried or stove-top puffed
Paratha	A shallow, fried wheat bread that may be stuffed with vegetables (eg, potatoes) or meat
Patra	Paste of gram flour applied to colocasia leaves and steamed
Payasam	A sweet dish made with milk, ghee, and sugar
Peda	A dessert of reduced milk
Phulka, Sookhi Roti, or Sookhi Chappathi	Dry, boiled, unleavened wheat flatbread with no added fat
Plantain	Green banana
Pongal	Cooked rice and mung lentils to which salt, ginger, and black pepper are added. Sweet version is made using <i>jaggery</i>
Poppy Seeds	See Khus-khus

Poriyal	South Indian term for cooked or stir-fried vegetables
Pudla	Thin, fried pancakes made with a combination of flours and vegetables
Pulao	A rice dish containing vegetables, meat, and seasoning
Puranpoli	Bread stuffed with gram lentil and <i>jaggery</i>
Puri	A deep-fried bread
Raita	A light yogurt dish that often includes a vegetable such as cucumber
Rajmah	Kidney beans
Rasam	A spicy, watery soup made from tomatoes or lemon juice and red gram <i>dal</i> ; served with cooked rice in the South
Rasmalai	A dessert of soft balls of curdled milk cheese soaked in sweetened milk
Red Gram Dal	Also known as pigeon peas
Rice Flour	Made from rice and used as a thickening agent and in snack preparations
Roti or Rotlis	A generic term for bread, a staple for most people in northern India
Saag	Made from mixed greens such as spinach or mustard greens
Sabji	Vegetable that is stir-fried or cooked
Sabudana	Таріоса
Saffron	Small, red threads used for flavor and color
Sambar	A spicy <i>toor dal</i> gravy from southern India, often made with tamarind juice and vegetables, and eaten with rice, <i>idlis</i> , or <i>dosas</i>
Samosa	Deep-fried pastry with vegetables or meat filling

Sandesh	Coagulated milk-based dessert
Sesame or Gingelly Seeds or Til	Small, white seeds with a nutty flavor used in masalas; oil used in mixed rice dishes for flavor
Sev	Product shaped like vermicelli, usually made from rice or lentil flour; also known as <i>seviyan</i>
Shakarpali	Diamond-shaped pieces made from fried wheat flour, either sweetened or salted
Sharbat	Essence of flower, bark, herbs, fruits, or nuts made into syrup from which a cool, refreshing drink is prepared
Shrikhand	Yogurt-based dessert
Shukto	Bitter melon or vegetable stir-fry used to start the meal in west Bengal
Somph or Sonf	Fennel seeds used in cooking or at the end of a meal as a mouth freshener
Sooji	Semolina made from wheat or as rice <i>sooji</i> made from rice
Spice Box	Essential part of the Asian Indian kitchen; carries a variety of spices used in everyday food preparation
Spice Box Tamarind	
	preparation
Tamarind	preparation Fruit of the tamarind tree, very tart; paste is used to flavor many dishes
Tamarind Tandoor	preparation Fruit of the tamarind tree, very tart; paste is used to flavor many dishes A clay, charcoal-heated oven for baking and broiling
Tamarind Tandoor Tarka	preparation         Fruit of the tamarind tree, very tart; paste is used to flavor many dishes         A clay, charcoal-heated oven for baking and broiling         Term for garnish or seasoning in some parts of India
Tamarind Tandoor Tarka Tel	preparation Fruit of the tamarind tree, very tart; paste is used to flavor many dishes A clay, charcoal-heated oven for baking and broiling Term for garnish or seasoning in some parts of India Oil

Til	Sesame
Turmeric or Haldi	Spice that looks like ginger root; gives yellow color; thought to be an antiseptic and may be applied to small wounds or mixed in warm milk
Upma	A cereal dish made from semolina or beaten rice and vegetables and seasoned with fat and spices
Undhiyu	Vegetable dish made with potato, eggplant, and green beans
Vada or vadai	Battered and fried vegetables served as an appetizer
Vadams	Seasonal vegetables spiced, boiled, sun-dried, and stored. Deep-fried and served as snacks or a meal accompaniment

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