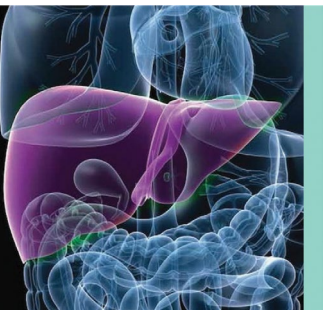

Cultural Awareness of Eating Patterns in the Health Care Setting

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Culture influences what and when individuals eat. Awareness and understanding of cultural beliefs and practices as it relates to nutrition, such as eating patterns and sources of nutrition, is important for appropriately educating and building rapport with patients in the health care setting. More specifically, an understanding of frequently consumed protein sources among various cultures is essential because high-protein foods are a common component of nutrition education for various diseases and conditions, such as liver disease. To promote cultural awareness, clinicians, registered dietitians, and physicians must learn about patient-specific cultures and how they pertain to nutrition and eating to provide nutrition education specific to the patient's culture in a culturally sensitive manner.[1] Cultural awareness of commonly consumed protein sources is necessary for properly educating and treating patients from various cultures. This review will examine the cultural eating patterns, with a focus on protein foods, of the Mexican, Chinese, Japanese, Indian, and Middle Eastern cultures.

MEXICAN

Cooking and eating homemade traditional foods together as a family is important in the Hispanic culture. A few staples in Mexican cuisine include beans, rice, and corn. Commonly consumed protein sources include pozole (hominy pork stew), ceviche (marinated fish or shrimp), grilled steak, carnitas (roasted pork), and meats prepared with specialty sauces (Table 1). Ceviche, however, is contraindicated in the liver transplant population because the fish or shrimp is not cooked. These protein sources are incorporated into meals, such as tacos and enchiladas. Even though many of these foods are rich protein sources, they can be high in sodium and fat.[2]

CHINESE

In traditional Chinese medicine, foods are grouped as hot or cold, applying the yin/yang balance principle where yin foods are cold and yang foods are warm and often prioritized when one is feeling ill.[3] The protein sources frequently seen in Chinese cuisine consist of beef, lamb, tofu, and roasted or stir-fried chicken, which are commonly incorporated into stews (Table 2). China is a large country; thus, food behaviors differ across the country. There are many staple foods in Chinese cuisine, with rice being a staple for people living in southern China and bread, steamed bread, and buns a staple among those living in northern China.

From the UChicago Medicine Transplantation Institute, Chicago, IL.
Potential conflict of interest: Nothing to report.
Received February 7, 2020; accepted July 23, 2020.

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The steamed buns and dumplings are often filled with meat, making these rich protein sources. Many dishes in Chinese cuisine contain soy sauce, which is high in sodium. Although Chinese cuisine contains a variety of high-protein foods, some of these staple foods, such as rice, buns, and dumplings, can also be high in carbohydrates, specifically refined carbohydrates.[4-7]

JAPANESE

In the Japanese culture, *Washoku* is a social practice associated with food embodying the Japanese people's spirit. Commonly consumed protein sources in Japanese cuisine are fish and seafood, which are typically served grilled or raw (Table 2). Surimi is a popular processed fish product in Japan that is commonly used to imitate the texture and color of lobster, crab, grilled eel, and other shellfish. Sashimi is thinly sliced raw fish, meat, or tofu skin that is often eaten with soy sauce. Rice, miso soup, and pickled vegetables are other commonly consumed foods in the Japanese culture. Miso soup, soy sauce, and tofu are common staples in Japanese cuisine that are made from soybeans. Although Japanese cuisine contains high-protein foods, such as fish and seafood, these foods are also rich sources of the polyunsaturated fatty acid, omega-3.[8]

INDIAN

In the Indian culture, a vegetarian diet, more specifically a lacto-vegetarian diet (allows dairy and excludes meat, eggs, and fish) is commonly followed by the Hindu population.[9] Grains are a primary staple in India and are typically fermented as beans, and lentils are a major source of protein in the Indian diet. An example of a fermented grain is Idli, which is a product of rice and black gram batter by steam cooking (Table 3). Another commonly consumed grain is Hawaijar, which is an alkaline-fermented soybean product consumed in northeastern India and a rich source of protein. Hawaijar and Idli are also both rich sources of fiber. Dairy, fruits, and vegetables are also largely consumed in the Indian cuisine. Dahi, also known as yogurt or the middle eastern dish, Labneh, is a naturally fermented milk product from pasteurized cow and buffalo milk, fermented by using mixed lactic cultures, and is a good source of calcium.[10] Although some of the foods consumed when following a lacto-vegetarian diet are high in protein, calcium, and

TABLE 1. CALORIE AND PROTEIN CONTENT IN COMMONLY CONSUMED FOODS IN THE MEXICAN CULTURE

Food Item	Serving Size (grams)	Calories	Protein (grams)
Enchiladas	198	390	20
Pozole	245	331	15
Ceviche	226	120	6
Grilled steak	255	250	15
Carnitas	113	180	16
Black beans	130	120	8

TABLE 2. CALORIE AND PROTEIN CONTENT IN COMMONLY CONSUMED FOODS IN THE CHINESE AND JAPANESE CULTURES

Food Item	Serving Size (grams)	Calories	Protein (grams)
Rice	90	320	6
Salmon	113	130	22
Tuna	113	120	28
Yellowtail	100	250	20
Dumpling filled with meat or seafood	100	128	6

TABLE 3. CALORIE AND PROTEIN CONTENT IN COMMONLY CONSUMED FOODS IN THE INDIAN CULTURE

Food Item	Serving Size (grams)	Calories	Protein (grams)
Idli	50	180	6
Dahi	227	109	8
Mutton curry	236	222	11
Baked goat	134	190	36
Chicken curry	236	194	15

TABLE 4. CALORIE AND PROTEIN CONTENT IN COMMONLY CONSUMED FOODS IN THE MIDDLE EASTERN CULTURE

Food Item	Serving Size (grams)	Calories	Protein (grams)
Chickpeas	125	160	10
Lentils	70	160	20
Almonds	28	160	6
Walnuts	28	190	4
Chicken thigh	112	270	18

TABLE 5. CULTURAL GROUP BY EATING PATTERNS AND PROTEIN SOURCES

Culture	Overall Eating Patterns/Trends	Protein Sources	Nutrient Characteristics
Mexican culture	Cooking and eating homemade traditional foods together as a family	Black beans, pozole, enchiladas, ceviche, grilled steak, carnitas	Can be high in sodium and fat
Chinese culture	Food to establish and express relationships between others and can also be used to express social status	Rice, dumplings filled with meat or seafood, beef or lamb, and roasted or stir-fried chicken	Can be high in carbohydrates and sodium
Japanese culture	Adheres to the term *Washoku*, which is a social practice associated with food embodying the people's spirit	Fish, surimi, rice	Can be rich in polyunsaturated fatty acid, omega-3
Indian culture	Lacto-vegetarian diet followed among those of Hindu religion	Plant-based protein sources: Idli, Dahi, Hawaijar Animal proteins (consumed by those who do not follow lacto-vegetarian): chicken or mutton curry and baked goat	Can be rich in calcium, high in carbohydrates, and low in vitamin B_{12}
Middle Eastern culture	Consumes wide variety of plant and animal protein sources	Chickpeas, lentils, almonds, walnuts	Can be high in fiber, iron, and polyunsaturated and monounsaturated fatty acids

fiber, they are also high in carbohydrates and lacking in vitamin B_{12}, which is primarily found in meat and eggs.

Even though a large sect of Indian culture avoids meat, there are some in India who do consume meat. The meat dishes are usually paired with a grain, such as rice and roti. Rice is eaten mostly in the southern part of India, and roti, a flat unleavened bread made with whole wheat flour, is mostly eaten in the northern part of India. The commonly consumed meat sources include chicken, mutton (lamb), and goat and are typically served in a curry seasoned with spices, such as coriander, cumin, turmeric, and ginger. The meat dishes are usually paired with a grain, such as rice.[9]

MIDDLE EASTERN

The Middle Eastern diet consists of a variety of both plant and animal protein sources. Popular animal protein sources include lamb, goat, fish, and chicken. Commonly consumed plant-based protein sources include fermented dairy products, such as labneh, chickpeas, lentils, and seeds and nuts (Table 4). Almonds, pine nuts, walnuts, pistachios, sesame, fennel, and caraway are among commonly consumed nuts and seeds. Although these foods are rich protein sources, they are also high in fiber, iron, and monounsaturated and polyunsaturated fats. The plant and animal protein sources in the Middle Eastern cuisine are commonly prepared with olive oil, rice, eggplant, dates, olives, figs, tomatoes, and various herbs and spices, such as cumin, coriander, cinnamon, ginger, dill, garlic, saffron, paprika, cayenne, and thyme.[11]

Food choices and eating patterns across differing culture groups result in varying protein sources consumed (Table 5). It is essential that medical providers understand cultural food practices. Once medical providers more fully understand their patient's respective diet patterns, they can refer patients to a registered dietitian to continue more thorough and individualized nutrition education. It is important that medical providers and registered dietitians collaborate and support each other's recommendations as research has shown that physician reinforcement improves patient adherence.[12] Overall, the awareness and understanding of cultural beliefs and practices as it relates to nutrition is important for appropriately educating and building rapport with patients in the health care setting.

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