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## **Nutrition Care and Cultural Humility for Healthcare Professionals**

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### **Recommended Citation**

Tep-Rutkowski, Poutheavy; Miller, Dominique; and Patino, Mayra, "Nutrition Care and Cultural Humility for Healthcare Professionals." , Georgia State University, 2022.

doi: <https://doi.org/10.57709/32978047>

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# **African American and African Immigrant Cultural Foods Module for Healthcare Professionals**

## **Origins and Purpose of Cultural Food Module**

People from Africa are a significant cultural group in the United States, with 1.5 million now residing making up 3.9% of the country's population.<sup>1</sup> Not to be confused with African Americans, an ethnic group brought to the Americas by force during the transatlantic slave trade, African immigrants voluntarily immigrated in the 1980's from Nigeria, Egypt, Ethiopia, Ghana, and South Africa.<sup>1</sup> For the purpose of differentiation, the writer will henceforth use in this review the terms African Americans and African Immigrants, so as not to confuse the reader.

African Americans are the only cultural group that came to the U.S. by force and had to live with this division because of the history of segregation and persecution, while contributing heavily to the development of American culture. As a result, their ancestry has been assimilated by living in the U.S. for generations, and unfortunately, over centuries, many of their food-related customs have been lost and replaced by Westernized dietary practices. This adaptation has resulted in health consequences such as diabetes, obesity, and heart disease.<sup>3</sup>

Reconnecting with some of the lost food traditions, particularly as wholesome based versus highly refined food traditions, may be beneficial in curbing these common diet-related illnesses. A 2022 study examined the changes in cooking, dietary behaviors and health outcomes following an African heritage culinary cooking course among 586 adults.<sup>4</sup> The African Heritage Diet is a nonprofit organization located in Boston, MA and focused on improving health through adopting traditional cultural tradition. A program entitled A Taste of African Heritage (ATOAH), program is a 6-week cooking and nutrition curriculum for adults. The program teaches culinary history, nutrition, and cooking techniques based off the African Heritage Diet.<sup>4</sup> Some traditional ingredients included in the study were leafy greens, yams and sweet potatoes, beans, flatbreads, and rice. The results showed positive changes in behavior such as reading food labels when grocery shopping and trying new foods like quinoa. Upon program completion, improvement in systolic blood pressure, weight, and waist circumference were documented. The study reported an association may exist between the increased consumption of fruits and vegetables in the participants' diets and improved health outcomes. A survey conducted at the end of the study showed participants are likely to eat 5-6 vegetables per week compared to 1-2 vegetable servings per week before the program started. Participants had more confidence in eating traditional African foods after this program and learned how to properly prepare food, especially greens.<sup>4</sup> Integrating African traditions and attitudes about cuisine in their daily life allowed the participants to connect to their heritage and improve their overall health.<sup>4</sup> Similar to the dietary behaviors of African Americans, African immigrants, such as Ghanaians living in the U.S., have replaced healthy food items in their traditional diet with convenience processed foods found in the U.S.<sup>5</sup> Having a better understanding of the dietary practices of these groups may be helpful to the healthcare professionals providing medical and nutritional therapies. This literature review

will aim to define the importance of connecting Africans to their traditional foods with a goal of assisting them in selecting lower risk food choices, thus having a positive impact on overall health. To meet the needs of this population, it is essential health care providers are educated on African Americans and African immigrants' heritage and how to incorporate cultural foods to support a healthy lifestyle.

## **Cultural Foods**

### *Most Consumed Foods: African Americans and African Immigrants*

Overall, the African American diet focuses on protein such as pork, beef, fish, chicken, turkey, and various beans. Dairy is less common due to the high incidence of lactose intolerance in African Americans.<sup>2</sup> African Americans have a 75-95% lactose intolerance rate while northern Europeans have a 18-26% rate of lactose intolerance.<sup>6</sup> Dairy is often consumed in desserts such as pudding and ice cream. Corn is the prominent grain eaten, and rice is usually eaten in stews.<sup>2</sup> The traditional southern African American diet consists of low fruit and vegetable intake, but green leafy vegetables are the most eaten out of all vegetables. Green leafy vegetables include cabbage, broccoli, and collard greens.<sup>2</sup>

In comparison, here is a brief look at the diets of African immigrants, especially those from Nigeria, Egypt, Ethiopia, Ghana, and South Africa. Ethiopians commonly consume cereals such as tef and place considerable importance on legumes in their diets like chickpeas, field peas, lentils, and broad beans. Fruit is not grown in large quantities in Ethiopia, so it is consumed less.<sup>7</sup> Nigeria is a diverse country, and people in different regions value different food groups. People in the northern region have diets based on beans, sorghum, and brown rice. Other northerners emphasize meat in the form of *tserere* or *suya*. *Tserere* and *suya* are pieces of roasted and skewered meat called kebabs.<sup>8</sup> People from the eastern part of Nigeria eat *gari* (cassava powder), dumplings, pumpkins, and yams. Yams are usually eaten in place of potatoes in the Nigerian diet.<sup>8</sup> Ghanaians enjoy a simple cuisine consisting of stews with rice or boiled yams. Stews are prepared with various ingredients, including okra, fish, bean leaf, spinach, or peanuts.<sup>2</sup> South Africans primarily enjoy seafood for protein and *sosaties* (beef or pork sausages). Potatoes are a common grain (root veggie) accompanied by corn, peppers, and green beans.<sup>2</sup> In Egypt, rice and bread, green leafy vegetables and bean dishes are considered their main staples.<sup>2</sup>

### *Common Ingredients Used*

African Americans' cuisine today often includes food items influenced by their African heritage. Overall common seasonings include file (sassafras powder), garlic, green peppers, hot-pepper sauces, ham hocks, salt pork or bacon, lemon juice, onions, salt, and pepper. Honey is a popular sweetener used in savory dishes like *alechas* (stew) and desserts such as pudding.<sup>2</sup> In Nigeria, common ingredients include cassava, cocoyam (taro), potatoes, corn, okra, beans, peanuts, and pumpkins.<sup>9</sup> A Nigerian meal often consists of starch in the form of dough made from corn or mashed vegetables that are served with stew. The stew is prepared with palm oil, meat, chicken,

vegetables and flavored with spices and onions.<sup>2</sup> In Nigeria, a popular dish is curry served with coconut, raisins, chopped dates, peanuts, dried shrimp, and diced fruit for garnishes.<sup>9</sup> The Egyptian diet differs with a focus on dishes that include *mulkhia*, a thick soup made from chicken or meat broth. Most people in Egypt do not eat pork as they practice Islam.<sup>10</sup> Next, in Ethiopia, flavor staple foods include lentils, potatoes, green beans with pepper spices. *Berberie* is a popular red spice blend full of flavor and made from coriander seeds, cumin seeds, green cardamom seeds, dried red chili peppers, whole allspice berries, whole cloves, fenugreek seeds, and black peppercorns.<sup>2</sup> In addition, Ethiopian staple foods include millet, sorghum, and plantains such as *Enset*.<sup>11</sup> In Ghana, the cuisine also includes staple foods such as plantain, cassava, cocoyam, tropical yams, corn, and rice.<sup>12</sup> The main dish is *fufu*, pounded plantains, sweet potatoes, or yams with cassava. Red palm oil is standard, giving food a red hue as the predominant fat in cooking. Fish is favored, and legumes such as cowpeas are common in main dishes.<sup>12</sup> It is common to find *Pili-pili* sauce at the dinner table to spice up the dish, consisting of Chile peppers, tomatoes, onion, garlic, and horseradish.<sup>2</sup> On the other hand, South African cuisine is heavily influenced by European settlers, including the Dutch, British, and French.<sup>2</sup> South Africans favor meat and potato dishes that often include cornmeal and yams. There are a wide variety of meat dishes such as *sosaties*, a skewered or curried mutton, *bredie*, a mutton stew that contains onions, chiles, tomatoes, potatoes or pumpkin, and meatloaf flavored with curry are popular. Chutney is often served with dishes and is a spicy fruit or vegetable relish.<sup>13</sup> Other condiments that accompany many South African dishes include unripe fruit or vegetable preserved in fish or vegetable oil with spices like turmeric and dried chiles; and fresh grass fruits or vegetable salads flavored with lemon juice or vinegar and chiles.<sup>13</sup>

African American southern staples include cuisine that evolved from West Africa, the slave period, and post abolition. This cuisine focused on texture before flavor by preferring that sticky consistency to foods. Pork, pork products, corn, and greens are the foundation of this diet.<sup>2</sup>

### *Cooking Practices*

In the southern region of the U.S., cooking practices often represent the heritage by how foods are prepared, and which ingredients are used for cooking. Most often, dishes are fried, boiled, or stewed. This is common for immigrants from Egypt, Nigeria and South Africa with a focus on legumes, meats and grains. Nuts and seeds are used to thicken and flavor sauces.<sup>2</sup> In Ethiopia, most dishes are eaten without utensils. *Injera* is used in place of a fork; this is a piece of bread used by their hands to eat popular dishes like *Fifit*, *Kitfo*, and *Gored*. *Injera* is like a Greek pita or tortilla and is made from sourdough and soda water. They place a small portion of the entree on a torn piece of injera and roll it up like a finger-sized tortilla.<sup>12</sup> In addition, Ghanaians also use their hands to eat and dip small chunks of bread into a sauce.<sup>2</sup>

## **Food Beliefs and Traditions**

### *Eating Practices, Behaviors and Attitudes*

Food plays an essential role in the lives of Africans. Eating practices and behaviors are quite similar between people from African countries such as Egypt, Nigeria, Ethiopia, Ghana and South Africa. Food is typically eaten in family-style and snacking is common.<sup>2</sup> In contrast, Ethiopian and Ghanaian immigrants typically eat one or two meals a day and snack in between.<sup>2,5</sup> South Africans place higher importance on including meat or starch in their meal than vegetables. They center lunch and dinner around a starch food item. On the other hand, most African Americans have adopted Western dining styles, including eating three times a day. Dinner is the largest meal.<sup>2</sup> Sunday dinner had become a large family meal during the slave period, and it continued to be the main meal of the week after emancipation. Many African Americans still enjoy a large Sunday dinner usually prepared by the mother of the house. The menu includes fried chicken, spareribs, chitterlings, pig's feet, ears or tail, black-eyed peas or okra, corn, cornbread, greens, potato salad, rice, and sweet potato pie. Homemade fruit wine like strawberry wine may be served.<sup>2</sup>

### *Therapeutic Uses of Food*

Food and health beliefs have varied throughout history, and some dietary concepts have been brought to the U.S., such as the condition known as "high blood" and "low blood."<sup>2</sup> This condition was used before migration and can still show up in patient's beliefs today. "High blood" is often confused with high blood pressure, but it references the blood being migrated to one part of the body, usually the head. If someone consumes high amounts of rich foods, sweet foods, or red-colored foods such as beets, carrots, red wine, or red meat, this will cause them to have "high blood". On the other hand, "low blood" is correlated with anemia by overeating astringent and acidic food like vinegar, lemon juice, garlic, and pickled food. Someone who has "low blood" is believed to not consume enough red meat. In addition, other blood illnesses include "thin blood" that causes a person to feel chilly because they are not nourished; "bad blood" due to heredity, or contamination by natural or supernatural ways; "unclean blood" when impurities gather in one area causing the blood to clot.<sup>2</sup> If someone is perceived to have one of these blood conditions, they will eat specific foods such as red meat if they have low blood to stabilize the condition.

African Americans who have experienced discrimination in the medical care system or don't have access to it have often turned to home remedies. A study conducted in 2015, with 62 older adults discussed how the majority of the African Americans used vinegar as a home remedy for high blood pressure.<sup>14</sup> They take a spoonful of vinegar to counteract eating large amounts of salt.<sup>14</sup> People draw upon home remedies they have gathered throughout their lives and it makes sense to them to continue do these practices.

The African American elders utilize scientific and folk medical systems. They use tea made from yellowroot shrub (*Xanthorhiza simplicissima*) to minimize stomachaches, fever, and symptoms related to diabetes.<sup>2</sup> In Nigeria, unripe plantains and dried soursop are used to treat diabetes as well.<sup>9</sup> It is believed that *soursop* has many health benefits from the fruit being high in fiber and vitamin C. Traditional medicine practitioners believe that unripe plantains can lower an individual's blood sugar and help with diabetes intervention.<sup>2</sup> They believe that diabetes patients are at a higher risk of developing ulcers, and the plantain helps decrease acidity and reduce irritation.<sup>2</sup> Different African countries such as Nigeria, Ethiopia and Ghana consume a variety of tea to relieve cold symptoms, such as sassafras tea or lemon-flavored water with honey.<sup>2</sup> A mixture cures stomach infection of goat's milk and cabbage juice. Africans also retain eggs and milk for sick children to improve their recovery time. Pica is commonly found in the African American population, especially in pregnant or postpartum women.<sup>15</sup> Clay and laundry detergent are commonly consumed. Reasons for Pica are mixed. Some reasons include: the women like the flavor, it acts as anxiety relief, they believe clay prevents stretch marks or starch makes the skin of the baby lighter, and help the ease of delivering the baby.<sup>2</sup> In 2000, a study with a sample of 2,107 African American adults was conducted on therapeutic uses of food found that decreased educational level of the parents, the increased importance of religion, rural residency, a child less than 16 years old living with a grandparent, and the large family size was associated with an increase of home remedy use.<sup>15</sup> Some Africans view self-care or home remedies as a viable option, if not the only option for care.<sup>2</sup>

### *Religious Practices that Affect Food Consumption*

Holiday meals, like Christmas, are like Sunday dinner meals but with added dishes.<sup>2</sup> Kwanzaa is an African American holiday that celebrates the unity of African heritage. A feast will feature dishes from Africa, the Caribbean, and southern regions of the U.S., where Africans were transported to. African Americans often eat symbolic foods such as black-eyed peas for good luck, rice for prosperity, fish for motivation, and greens for money on New Year's Eve.<sup>9</sup> African immigrants may celebrate religious holidays associated with the Eastern Orthodox faith or Islamic faiths.<sup>2</sup> The Ethiopian Eastern Orthodox religion helped develop the popularity of vegetarian food. Some Egyptians do not eat meat or dairy products during lent and advent and have heavily influenced nondairy and meatless grain-based meals for vegetarians or health-conscious populations.<sup>2</sup> In Nigeria, it is common for a child naming ceremony to occur where the grandmother offers symbolic food to the infant.<sup>2</sup> Water (purity), oil (power and wealth), alcohol (wealth and prosperity), honey (happiness), kola nuts (good fortune), and salt (intelligence and wisdom) are offered to the infant. The name is chosen and announced to the family, and a feast is enjoyed afterward.<sup>9</sup> Many Nigerian Americans continue to practice this tradition in the U.S.

## **Nutrition and Health Status**

### *Prevalent Disease States*

The nutritional status of Africans is challenging to explain due to the limited number of studies and conflicting data regarding this cultural group. Medical professionals should consider the impact of the birthplace, socioeconomic status, healthcare access, and cultural differences on preventing and managing prevalent disease states. To better understand and reduce health disparities among Africans, ethnicity and country of origin should be taken into context.<sup>16</sup>

African Americans in the U.S. have a higher prevalence of cardiovascular disease (CVD) than whites. The prevalence of CVD among African immigrants is not as well-known as the prevalence in African Americans. In 2020, a study compared the prevalence of CVD risk factors such as hypertension, diabetes, overweight/obesity, high cholesterol, physical inactivity, and smoking among African Americans in the U.S. to African immigrants.<sup>16</sup> The results concluded that CVD risk factors such as hypertension, diabetes, overweight/obesity and hypercholesterolemia was lower in African immigrants than African Americans.<sup>16</sup> For example, the prevalence of hypertension in African immigrants were 22% compared to 32% in African Americans. The lower diabetes diagnosis in African immigrants than among the African Americans could be due to decreased use of healthcare.<sup>16</sup> Historically, African Americans with diabetes have received lower quality care, have less control over their diagnosis, and have an increased rate of diabetes related complications such as kidney damage, eye damage and decreased heart health.<sup>17</sup>

Overall, African American's fruit, vegetable, and whole-grain intake are low, resulting in diets high in fat, increased meat intake, and fast-food consumption.<sup>2</sup> Fruits are eaten according to availability and preference, while green leafy vegetables are popular, but intake remains low.<sup>2</sup>

## **Communication**

### *Healthcare Related Communication*

Although healthcare for African Americans and has improved since 2009, African Americans and still suffer significantly from multiple health conditions like hypertension, diabetes, and CVD. Despite advancements for interventions and prevention treatments for hypertension, African Americans continually experience high rates of hypertension.<sup>18</sup> There is a need to eliminate health disparities in this cultural group to prevent complications such as heart attack, stroke, and CKD. Some African Americans would rather not see a doctor because they don't want to be patronized or feel humiliated by non-Black doctors.<sup>2</sup> Others do not consider themselves active participants in their interaction with their doctor; therefore, they will not communicate their needs or concerns.<sup>2</sup> Often, this approach is made to test the provider's competency, who is expected to diagnose without the help of the patient.<sup>2</sup> It reflects the belief that health is out of their control and up to fate. Self-reliance is a massive factor in only going to the doctor to treat symptoms after trying home remedies. It is not common to seek medical help for prevention or health maintenance.<sup>16</sup>

Communication between the patient and provider is essential. African Americans' conversational style is engaging and expressive. A firm handshake and welcoming body language is important to the counseling session.<sup>2</sup> When counseling African Americans, it's essential to be respectful, yet direct with the use of eye contact. The provider needs to be an active listener. For example, when women who have pica are directly asked about the habit, they willingly provide details. This information may be missed in an interview if not directly asked.

Nutrition counseling may be complicated if traditional health beliefs are prevalent, such as high and low blood.<sup>2</sup> Patients who have hypertension often confuse it with "high blood" and increase consumption of high sodium foods to counteract the "high blood." This is not beneficial in treating their hypertension. In addition, patients who practice folk medicine beliefs are reluctant to share their practices with practitioners because they fear being belittled, misunderstood, and ignorant.<sup>16</sup>

Additionally, African immigrants feel that medical providers are not interested in a patient's culture. A study in 2016 to 2017, was conducted with long-stay immigrants who were from Spain, Africa and Latin America about how they perceive intercultural communication in encounters with primary care nurses.<sup>19</sup> In general, patients expressed that some medical providers adopted an authoritative attitude and have indifference or little interest in their medical needs.<sup>18</sup> Immigrant patients prefer the conversational style, but there are several barriers to achieving this including language, lack of communication skills of the professionals such as not being an active listener, not relaying medical terminology in an understandable way, not building trust and the medical professional acting dominant over the patient.<sup>19</sup>

Knowledge of African immigrants' experience in a healthcare setting is limited due to the absence of funding and research for this population group.<sup>20</sup> African immigrants and African Americans are rarely separated when research is conducted. The main barrier between an African immigrant and a healthcare provider is the language. Translators are often provided for African immigrants however this does not prevent the communication barrier.<sup>20</sup>

### *Benefits of Applying Cultural Humility into Healthcare Practice*

Cultural humility is essential to healthcare practice because it keeps the nutrition counseling client centered. It involves understanding the depth of an individual's identity by having a genuine conversation about their experiences.<sup>2</sup> Several studies have suggested that African immigrants benefit from family-oriented programs and group classes.<sup>4</sup> The group classes and community resources such as churches, which can provide support for nutritional change may be more successful than individual counseling.<sup>21</sup> Culturally relevant education may include elements of spirituality, ethnic pride, group planning, and the use of peer counselors.<sup>21</sup> Clients often resist diets that limit traditional African foods that African immigrants eat due to preference, expense, family desire, and ethnic identity.<sup>22</sup> One study found that African immigrants felt socially isolated when restricted to nontraditional foods.<sup>4</sup>



## **Conclusion**

In conclusion, African Americans and Africans from Egypt, Nigeria, Ethiopia, Ghana, and South Africa are prominent cultural groups in the U.S. Health care providers are valuable in assisting African Americans and African immigrants to reach their health goals and need to become educated on incorporating cultural foods into their healthy lifestyle. Health care providers must understand African Americans and Africans immigrants' relationship to traditional foods to bridge the gap between food and medical practice.

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## **Asian Cultural Foods Module for Healthcare Professionals**

### **Introduction**

The United States is home to a population diverse in origin. There is a large Asian population, in race and origin, that continues to expand rapidly. Out of 44.9 million immigrants residing in the U.S. as of 2019, about 31% originate from Asia.<sup>1</sup> Asian immigration has increased 29-fold since 1960 and is projected to continue to exponentially grow. By the middle of the 21<sup>st</sup> century, it is predicted that people of Asian origin will be the largest foreign-born group in the U.S.<sup>1,2</sup> Fifty-seven percent of Asian Americans were born in another country, and 17% identify as multiracial (non-Hispanic) and multiracial (Hispanic).<sup>2</sup> Although Asian Americans account for 5.7% of the U.S. population,<sup>3</sup> this group consists of over 22 million diverse people.

The most prominent countries of Asian origin in the U.S. are India, the Philippines, Vietnam, South Korea, and China.<sup>1,2</sup> This review will focus on these groups. For reference, East Asia includes China and South Korea, and Southeast Asia refers to Vietnam and the Philippines.

### *Barriers to Healthcare*

Asian Americans are generally successful in the U.S. Both native- and foreign-born Asian Americans have higher educational attainment, higher employment rates in business, science, and arts occupations, and higher incomes than the total foreign- and U.S.-born populations.<sup>1</sup> However, these trends vary heavily based on country of origin,<sup>2</sup> age, reason for immigration, environment of residence, and more. According to the Pew Research Center in 2019, Asian Americans (10%) are less likely to live in poverty than Americans (13%).<sup>2</sup>

Regardless of the perceived success of this population, it is important to avoid imposing biases in healthcare settings. All patients have unique healthcare needs, and culture is one of the main influences. To homogenize this population will require ignoring their beliefs, preferences, and culture.<sup>4</sup> In order to improve patient-provider relationships and the health status among Asian Americans, it is important that healthcare providers are culturally competent concerning Asian foods, beliefs, and traditions.

The aim of the Asian Cultural Foods Module for Healthcare Professionals is to teach participants how to offer appropriate health and nutrition care to patients and clients that identify as Asian or Asian-American. This literature review aims to summarize the traditional and contemporary culture of Asian food and diet to create an educational module for healthcare professionals. The topics covered under this review include cultural foods; beliefs, traditions, and therapeutic uses of food; health and nutrition status; and intercultural communication.

## Cultural Foods

### *Commonly Consumed Foods in Each Food Group*

Food choices are heavily dependent on religious beliefs and regional accessibility. Fruits and vegetables are widely consumed in Asia. If consumed whole, fruits are typically eaten as snacks or desserts.<sup>5-7</sup> Asians usually accept a wide variety of fruits that may not originate from Asia, like apples, papaya, and watermelon if available.<sup>5-7</sup> Vegetables are consumed in different ways among the five countries of focus. Across Asia, vegetables are often consumed cooked or pickled.<sup>5-7</sup> People from China tend to consume more raw vegetables in comparison to other Asian countries.<sup>5</sup> In Southeast Asia and India, hearty vegetables like bamboo shoots, lotus, peas, and tubers (like taro or sweet potatoes) are consumed as entrees.<sup>6,7</sup> It is common in India to mix fruits and vegetables into fresh or preserved condiments, called *rayta* (northern India), *pachadi* (southern India), or *chutney*.<sup>7</sup> In the U.S., fruit and vegetable consumption is contradictory. Consumption is heavily based on price and availability in the U.S. since supply is often imported. People from China and the Philippines have a higher intake of raw vegetables in the U.S. than people living in their country of origin.<sup>5</sup> People from South Korea have a higher intake of fruits and vegetables in the U.S. overall.<sup>5</sup> Consumption of fruits and vegetables among people from India has declined in the U.S., however, salads, canned and frozen produce, and fruit juices are more consumed than in Asia.<sup>7</sup> Fruit and vegetable consumption is still high among Asian Americans, but the difference in price and availability play a large role in how much is consumed.<sup>5-7</sup>

In each of the five most prominent countries of origin for Asian Americans, grains are the foundation of the diet.<sup>5-7</sup> The most consumed grains are several varieties of rice.<sup>5-7</sup> Different regions of China prefer different types of rice.<sup>5</sup> In the Philippines, rice is eaten with almost every meal.<sup>6</sup> In India, there are over 1,000 varieties of rice that are cultivated.<sup>7</sup> Other forms of grains are also commonly eaten. East and Southeast Asian countries consume noodles made of wheat, buckwheat, or rice for different occasions.<sup>5,6</sup> Because French influences on food remain present in Vietnam from colonization, French bread is consumed when available in the form of sandwiches or as a snack.<sup>6</sup> *Pandesal* is a bread roll enjoyed in the Philippines, originating from the Spanish colonial era.<sup>6</sup> People from India also consume a type of bread called roti made from wheat flour.<sup>7</sup> Grains are consumed in larger portions due to their abundance and availability. Grains are often cheap and can be produced in large quantities. In the U.S., there is more accessibility to different kinds of cereals and grains, such as oats, commercial cereals, and other types of bread.<sup>5-7</sup> Although grain consumption is still more abundant than in other populations, it has declined among Asian Americans over the past two decades.<sup>5-7, 11</sup> Asian Americans tend to consume less grains when in the U.S. because there is access to other grains and other food groups, such as different protein sources.

Protein consumption among Asians, both living in the U.S. and in Asia, is highly dependent on availability and affordability. Meat consumption among Asians is higher in the

U.S. than in Asia.<sup>5-7</sup> This pattern can be attributed to the process of acculturation, ease of accessibility, and affordability of more types of meat in the U.S. than in Asia.<sup>5-7</sup> Fish is a common source of protein among East and Southeast Asians and is still consumed at least twice each week.<sup>5,6,8</sup> However, people from the Philippines and Vietnam consume less fish than in Asia due to higher prices of seafood in the U.S.<sup>6</sup> Traditional vegetarian Indian dishes, curries and biryani, sometimes have meat added more commonly in the U.S. than in India.<sup>7</sup> Non-meat forms of protein, such as tofu and legumes, are still widely popular among Asian Americans.<sup>5-7</sup> Dairy consumption is not common in East and Southeast Asia, but cheeses, yogurt, and ice creams are common in Indian cuisine.<sup>5-7</sup>

### *Common Ingredients*

Seasonings vary among all regions of each of the five countries of focus. In China, combinations of different herbs and spices are used to flavor most dishes.<sup>5</sup> The flavors of South Korean cuisine consist of sweet, sour, bitter, hot, and salty.<sup>5</sup> In the Philippines, spicy, sour, and sweet are the pillars of flavor.<sup>6</sup> Vietnamese cuisine almost always garnishes food with fresh herbs, like basil, cilantro, and green onions.<sup>6</sup> Soy sauce is a common condiment in east Asia, while fermented fish sauce is used more in Southeast Asia.<sup>6</sup> In northern India, aromatic spices are common, while southern India uses hot spices.<sup>7</sup> Spice usage depends on availability, especially in the U.S., with common varieties being cardamom, chiles, cinnamon, coriander (fresh and seeds), and more.<sup>7</sup>

### **Food Beliefs and Traditions**

#### *Attitudes Towards Food*

Eating behaviors vary greatly in each country and further differ based on socioeconomic status. In China, South Korea, and the Philippines, three meals with frequent snacking is the typical meal pattern.<sup>5,6</sup> In Vietnam, two to three meals per day is the typical meal pattern depending on income status and job type.<sup>6</sup> In India, the typical meal pattern consists of two full meals during the day with snacks.<sup>7</sup> All of the countries of focus consume breakfast as one of their meals in the morning. Breakfast in east Asia often consists of soup or porridge with a light meat, like fish.<sup>5</sup> Although there are commonly consumed foods for each meal in Southeast Asia, most families do not associate a certain type of food with a time of day.<sup>6</sup> Meals are considered a full meal if they contain rice, which is a common trait among all the countries. Asian Americans may experience dietary acculturation, so their meal patterns may be similar, but not the same as those in Asia. This means that food patterns, like having certain foods for specific meals or meal frequency, may be different in the U.S. than in Asia. For example, a literature review on the dietary acculturation of Asian Americans of seven quantitative studies conducted in 2014 found that dietary acculturation occurs, but not to a high degree.<sup>11</sup> This review found that although food choices and meal frequency are similar to diets of the general U.S. population, Asian Americans still retain traditional meal patterns.<sup>11</sup> Therefore, it is important to account for these dietary practices when making client-centered nutrition recommendations.

## *Religion and Beliefs*

Religion can influence eating patterns and food choices. It varies heavily among Asians, but these beliefs are also vastly different among Asian Americans and their children. Chinese Americans commonly do not identify with a specific church, but often pass down spiritual beliefs and practices to their children.<sup>5</sup> Most Korean Americans identify with Christianity; 6% identify with Buddhism.<sup>5</sup> Filipino religion is heavily dependent on a person's family history. Most Filipino Americans are Roman Catholic, while some are Muslim if they are from the Mindanao region.<sup>6</sup> Indigenous spirituality and beliefs are practiced sparsely across the mountainous regions.<sup>6</sup> Vietnamese Americans identify as either Buddhist or Roman Catholic.<sup>6</sup> Indian Americans most commonly practice Hinduism, but there are some that practice other religions such as Islam, Buddhism, Christianity, Animism, Jainism, and more.<sup>7</sup>

The religious diversity impacts different dietary choices among Asian Americans. Some may choose to limit meat intake based on ethical considerations of religion. Most people in India follow a vegetarian diet or have restrictions on meat consumption in general.<sup>9</sup> Many practicing Buddhists also practice meat consumption restrictions and intermittent fasting.<sup>10</sup> Periodic fasting is a practice that is not widely practiced among Asians living in the U.S. but is often observed for holidays and occasions. Although religion is not as strictly practiced among Asians living in the U.S., traditional religious beliefs sometimes manifest in dietary practices.<sup>5-7</sup>

## *Traditions*

Family values are often the center of many behaviors surrounding tradition and food. Influences from the Confucius philosophy on China and South Korea enforced the importance of family and generational ties.<sup>5</sup> In Filipino, Vietnamese, and Indian cultures, the families are large and tight-knit, usually including extended relatives.<sup>6-7</sup> These values remain highly regarded among Asian families in the U.S., regardless of religion,<sup>5-7</sup> because these teachings were passed down each generation. Extended relatives often work together to prepare meals for their large families. However, they play a smaller role in daily life in the U.S. due to geographic location; extended relatives tend to live farther from each other in the U.S. than in Asia.<sup>6,7</sup>

With changes in culture in the U.S., Asian families must often adjust their food behaviors to fit the different lifestyles.<sup>5-7</sup> Socializing is an important component of mealtime. In the U.S., friends and extended family don't typically live as close or have similar meal schedules to gather for each meal. Elders are highly respected across Asian cultures.<sup>5-7</sup> During meals, it is common for elder relatives to be served before younger relatives. Elders often face isolation from their peers due to language and mobility barriers, which affects the ability to have social mealtimes in the U.S.<sup>6</sup> The shifting societal norms between age and sex groups in the U.S. also alter the traditions of everyday meals. For instance, the eldest male of the family must begin eating before the rest of the table can in traditional Filipino families.<sup>6</sup> Many Asian families have shifted such roles and behaviors during mealtime to adjust to their differing lifestyles in the U.S.

During holidays, specific types of foods are eaten to symbolize a wish for the occasion. One important holiday is the Lunar New Year. Celebrated in several countries including China, South Korea, and Vietnam, this holiday begins the first full moon of the lunar year.<sup>12</sup> Each country recognizes this holiday differently, but there are many similarities in food traditions. Fish is commonly eaten across these countries because it means surplus in Chinese.<sup>5,6,12</sup> Various sticky rice dishes—*tteokgul* in Korea, *bánh chưng* in Vietnam, and *nian gao* in China—is eaten because it symbolizes togetherness.<sup>12</sup> Many families lay fresh fruit on altars to offer their ancestors during this event.<sup>12</sup> The Philippines celebrates Catholic holidays and combine their superstitions with food as well.<sup>6</sup> For good luck, they will consume at least 12 round fruits, like pomelo and grapes, on New Year's Eve to welcome good luck for the new year.<sup>6</sup> Indian holidays also share symbolic foods during periods of feasting. For example, rice and bananas represent fertility, mango for auspiciousness, and coconuts for hospitality.<sup>7</sup> On some occasions, certain groups practice fasting or avoiding certain food products, like meat, and eating more spiritually purifying foods, like vegetables.<sup>7</sup> These symbolic food choices are not used for daily meal composition but convey important meanings during holidays and occasions.

### *Therapeutic Uses of Food*

Food is also used as a symbol of balance of health within one's body. These beliefs have carried into the Asian American uses of food, either as a philosophy or a general guideline to eating patterns.

In Chinese philosophy, the balance of yin and yang in food represents harmony between physical and emotional health.<sup>5</sup> Practicing this principle of food choices aids in overall health, preventing disease, and slowing the aging process.<sup>5</sup> Yin represents cold foods, which are usually green or white in color.<sup>5,13</sup> Some examples of cold foods are pears, mung bean, tomato, eggplant, tofu, lotus root, chrysanthemum, and spinach in most regions of China.<sup>5,13</sup> Other regions consider crab, honey, snake, and duck cold foods.<sup>5,13</sup> Hot foods symbolize yang and include foods like chili peppers, most meat, eggs, persimmons, onions, garlic, ginger, coffee, cinnamon, and alcohol.<sup>5,13</sup> Traditional food therapy aims to harmonize yin and yang.<sup>5,13</sup> Some foods may be labeled as neutral, like soy sauce or tea.<sup>5</sup> An excessive intake of any of the three mentioned can cause disease. An excess of yin can cause illnesses like anemia, nausea, colds, and flu and can be resolved with increasing yang foods in the diet.<sup>5,13</sup> Eating more yin foods can counteract excessive yang conditions, like constipation, fever, hypertension, and diarrhea.<sup>5,13</sup> Balancing these energies dictate food choices and taste preferences to nourish the body and prevent illnesses.

Vietnam, the Philippines, and South Korea also have a hot-cold balance belief system of food.<sup>5,6</sup> “Yin and yang” translates to “*um* and *yang*” in Korean and “*âm* and *đương*” in Vietnam.<sup>5,6</sup> There are few reports of what specific foods fall into these categories in Korean food, but Korean cuisine often balances *um* and *yang* to create a balance within the body.<sup>5</sup> In Vietnamese and Filipino cultures, foods are labeled as either ‘hot’ or ‘cold’ based on how they



make the body feel. Vietnamese foods are categorized based on intrinsic factors or how the food makes the body feel. For example, ginger is considered a hot food and is used to treat the flu, which is a “cold” illness. Hot foods include red meat, unripe fruit, aromatic root vegetables, coffee, and alcoholic beverages; cold foods are gelatin, noodles, oranges, and ice cream; and neutral foods include rice, pork, eggs, and broth.<sup>6,14</sup> Spain, one of the main colonizing countries of the Philippines, brought this philosophy of diet and health from Mexico.<sup>6</sup> Filipino food categories are similar to other cultures that practice this philosophy of food. Hot foods include spices, chili peppers, fatty meats, and alcohol, while cold foods include milk and dairy foods, tropical fruits and vegetables, fish, and lean meats.<sup>6</sup> These belief structures, similar to the Chinese yin and yang, also believe in certain illnesses being associated with an imbalance of hot and cold foods. Therefore, meal composition balances these categories to fight off illnesses and support good health.

Many people from India use food based upon the principles of Ayurvedic medicine, which views the human as its own universe.<sup>7</sup> The body experiences three laws of nature: creation (*sattwa*), maintenance (*rajus*), and dissolution (*tamas*).<sup>7</sup> Food is classified based on these laws, representing how they affect the body. The fundamental elements of fire, water, and air have human body counterparts or *doshas*: bile or *pitta* (metabolic activities resulting in heat), phlegm or *kapha* (bone and flesh health; water), and wind or *vata* (muscle movement and semen; air).<sup>7,15,16</sup> These elements must be in balance for the body to have optimal functionality in all aspects of health. Meal compositions can also be based on the hot-cold system that other Asian cultures follow.<sup>5,6,13,14</sup> For example, cold food can be balanced with hot by using hot spices, like black pepper.<sup>7</sup> Similarly, hot food can be made cold by blending it with yogurt.<sup>7</sup> Ayurvedic principles are also used to determine what types of foods are eaten during different seasons. In summer during the monsoon (or *pitta*) season, digestion is thought to be weak, so *pitta* foods should be avoided.<sup>7,15</sup> In winter (or *kapha* season) when digestion is the strongest, more *pitta* foods are eaten.<sup>7,15</sup> Each person also has a predominant *dosha* that affects their personality and physiology.<sup>15,16</sup> It is believed that a person should consume foods of the opposite nature to their *dosha* to create balance. For example, the nature of the *vata dosha* is cool and dry. To balance this energy, heavier and more spicy foods should be eaten.<sup>16</sup> All the forces of the body must be in balance because harmony within the body manifests with enhanced physical and emotional health.

Many Asian countries use specific herbal treatments for various conditions. Ginseng, an herb found in Asia and the Americas, is used in China and Korea as a tea or broth to aid in issues and diseases like cancer, rheumatism, diabetes, aging, sexual dysfunctions, and fatigue.<sup>5</sup> Taro root is popular in Chinese therapeutic practices for bringing good luck, improving eyesight, and reducing weakness.<sup>5</sup> Other popular ingredients in Chinese therapeutic practices are bitter orange for bloating and constipation, guava for lowering blood sugar, walnuts for curing headaches, and red jujubes for strength.<sup>5</sup> In South Korea, popular food therapy uses include bean sprout soup, lemon with honey tea, and ginger tea for restorative purposes.<sup>5</sup> In Vietnam, some foods with

therapeutic values include chili peppers for ridding the body of parasites and salty foods for aiding women during pregnancy.<sup>6</sup> Filipino medicinal beliefs of foods are influenced by religion, colonization, and indigenous beliefs. The Department of Health endorses some of these foods as safe and effective, including garlic to lower blood cholesterol and pressure, guava for antiinflammation, and *sambong* (an indigenous herb) as an antidiuretic.<sup>6,17</sup> Several Ayurvedic herbals from India treat various aspects of health. For example, barley tea is used for fevers, milk is used for vomiting, fenugreek is used for hypoglycemic properties, and ashwagandha is used for relieving anxiety and depression.<sup>7,15</sup> There are many remedies that these countries share. Bittermelon, prepared as a soup or stir-fry, is used in India, the Philippines, and Vietnam to treat diabetes and fevers.<sup>6,7</sup> Garlic and ginger are used across Asia to treat inflammation, lower blood cholesterol and pressure, and indigestion.<sup>5-7,15,17</sup> Bone broth aids in strengthening the physical integrity of the skin and body.<sup>5-7</sup> These herbal ingredients are still therapeutically used among Asian Americans as a means of holistic health and to promote balance within the body.<sup>5-7</sup>

## **Health Status of Asian Americans**

### *Nutrition Status*

Asian diets consist of a balance between protein, grains, and fruits and vegetables.<sup>5-8</sup> However, the diets of Asian Americans has become more acculturated to the western diet (higher fat, protein, and sugar intake and lower complex carbohydrate intake) with a longer length of stay and generations living in the U.S.<sup>5-7</sup> Although lactose intolerance is prevalent among Asian Americans, calcium deficiency cannot be assumed because dairy consumption is higher in the U.S. among this group than in Asia.<sup>5-7</sup> There are also alternative calcium sources, such as soy products and bone broth, that are popular for regular consumption.<sup>5,6</sup> Because of common iron cookware, iron deficiency is not especially prevalent among people from China.<sup>5</sup> When traditional diets are preferred, sodium intake is typically higher than the diets of other ethnic groups in the U.S.<sup>5-7</sup> Traditional Filipino diets are high in saturated fat and sodium but is even higher with dietary acculturation.<sup>6</sup> Across each of these groups, fruit and vegetable intake is considered high in the U.S. but lower than a traditional diet in Asia.<sup>5-8</sup>

### *Prevalent Disease States*

Statistics on the health status of Asian Americans typically aggregate all the diverse people into one homogenous research population. According to the Centers for Disease Control and Prevention (CDC), 8.4% of Asian Americans 18 and over and 2.5% of Asian Americans under 18 years report fair or poor health.<sup>18</sup> Obesity affects 14.2% of men and 16% of women aged 20.<sup>18</sup> Hypertension impacts 49.4% of men and 43.6% of women.<sup>18</sup> The 2020 projected life expectancies at birth based on the Census Bureau were slightly higher in Asian Americans (80.7 years) than in non-Hispanic white Americans (80.6 years).<sup>3,18</sup> Asian Americans have less prevalence of obesity and overweight (BMI of 25 and over), with 14.2% of men aged 20 and over and 16% of women aged 20 and over having obesity in 2019.<sup>5-7, 18</sup> For the general U.S. population in the same year, 76.4% of the male population aged 20 and over and 68.8% of the

female population aged 20 and over are categorized with obesity or overweight.<sup>18</sup> However, these conditions are more prevalent among more acculturated diets and people who lived in the U.S. longer than foreign-born Asians.<sup>5-7</sup> Hypertension (47.2% vs. 45.6%), type 2 diabetes mellitus (11.4% vs 8%), chronic hepatitis B (30.1% vs 13.5%), and certain cancers are more prevalent among Asian Americans than non-Hispanic white Americans, respectively, in 2018-2019.<sup>3,18</sup>

It is important to note that the BMI categories for the Asian-Pacific population are lower than the WHO categories. A review published in 2008 defined obesity for this population because the ideal measures of weight correlated to decreased metabolic risk and mortality was different compared to Caucasians.<sup>19</sup> Although BMI is not the sole indicator of health status, it is a tool used in the assessment for disease risk. The cutoff for overweight is 23 and for obesity is 25 in Asians, while it is 25 for overweight and 30 for obesity based on WHO.<sup>19</sup>

The homogenization of Asian Americans can mask the prevalent health statuses of specific groups of origin. A 2019 study on a cohort of 1.4 million adults aged 45-84 years, 274,910 (19.6%) of which were Asian American using the Kaiser Permanente Northern California database evaluated the prevalence of diabetes mellitus, hypertension, coronary artery disease, obesity, and smoking status.<sup>20</sup> The results revealed that each group of Asians had different prevalent conditions compared to Asian Americans as a whole and from other ethnic groups in the U.S. For the All-Asian group aged 45-84, the prevalence of diabetes was 23.1%, with a range of 15.6% for Chinese and 31.9% for Filipinos.<sup>20</sup> In the same age group, the prevalence of hypertension for the All-Asian group was 42.8%, with a range of 33.8% for Chinese, 56.1% for Filipinos.<sup>20</sup> South Asians had a similar prevalence to the All-Asian group.<sup>20</sup> This study represents the importance of identifying the difference in the health status of individual Asian groups rather than focusing research on Asian Americans as a whole. Furthermore, gestational diabetes, metabolic syndrome, and insulin resistance are common among people from the Philippines and India.<sup>6,7</sup> Korean Americans have a higher incidence of stomach, liver, and esophageal cancers as compared to white Americans.<sup>5</sup> Filipino Americans have a high risk of diabetes and hypertension at a younger age and lower BMI than other groups.<sup>6,21</sup> For Vietnamese Americans, there is a high risk of cancer, heart disease, stroke, and type 2 diabetes at a lower BMI.<sup>6</sup> Indian Americans have higher rates of obesity, dyslipidemia, total blood triglycerides, and birth complications.<sup>7</sup> Many factors, like health literacy, socioeconomic status, duration of residence in the U.S., etc., can influence the prevalence of disease states among Asian Americans. Future research and health services provided to individuals of this population can be improved by avoiding a uniform identity for a diverse group.

## **Intercultural Communication**

Among Asian Americans common barriers pertaining to accessing and utilizing health care in the U.S include language, health literacy, socioeconomic status, insurance membership, and general mistrust in healthcare.<sup>2-7</sup> In each of the Asians groups in this review, confrontation is not the preferred way of communication.<sup>5-7</sup> If the treatment plan or provider is seen as unsatisfactory, people may choose to switch providers or turn to home remedies for treatment.<sup>5-7</sup> Many Southeast Asians believe that their health is at the mercy of fate, while East Asians view health as a personal responsibility.<sup>5-7</sup> Because of the high regard for family values, family members are often involved in the healthcare process.<sup>5-7</sup>

Providers must understand their patients entirely. As such, it should be the responsibility of the healthcare provider to build rapport and provide culturally appropriate care to clients of different backgrounds. The provider should support equitable treatment of their patients, meaning they provide not only equal care to each of their patients but also resources to allow their health to thrive to an achievable extent. Intercultural counseling can encourage patients of different backgrounds to trust their healthcare providers and adhere to medical advice without the fear of possible harm.<sup>22</sup> The provider can use an interpreter to overcome language barriers that affect many Asian Americans. Before entering the session, the provider could do a thorough preparation prior to counseling including writing questions to more efficiently understanding the patient's background. However, studying the cultural background is not enough. Extensive interviews are important when feasible to allow the provider to uncover the specific situation and beliefs of their patient. For example, a literature review of culturally respectful care to ill Vietnamese Americans found that "empathetic and culturally effective care depends on recognizing...the lived experiences" of each complex case.<sup>23</sup> The various real cases highlighted in the article emphasized the importance of collaboration between the provider, the patient, and the patient's support system (usually their family or community).<sup>23</sup>

Healthcare is a mutual effort between the provider and the patient, so trust and respect must be established. One way for healthcare providers to gain trust and respect of Asian American patients is the use of cultural humility and competence. Cultural competence, the mastery of cultures other than one's own, cannot be the only skill healthcare providers hone for their patients and clients.<sup>24</sup> It must be combined with cultural humility, the openness and appreciation for the experiences and knowledge of their patients and clients.<sup>24</sup> Training healthcare providers on these skills can encourage them to learn about other cultures, reflect on how their own cultures affect their patient care, and address the health disparities present in the Asian American population. Educating healthcare providers on cultural humility may motivate self-efficacy in managing health and build a trusting relationship between patients and providers.

## **Conclusion**

Professionals providing healthcare to Asian Americans should be aware of how culture and lived experiences play a role in dietary choices. Raising awareness and culturally appropriate solutions for the health issues and disparities of this population can improve the health status and patient-provider relationships. Healthcare professionals should allow themselves space to reflect on how their beliefs, mindsets, and biases affect their services, so they can create and implement measures for improved care.

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## **Hispanic Cultural Foods Module for Healthcare Professionals**

### **Introduction**

Hispanics are the second largest ethnic minority group in the U.S, with Mexico, Puerto Rico, El Salvador, Cuba, and the Dominican Republic being the most prominent Hispanic subcultures.<sup>1</sup> The Hispanic population has grown from 16% in 2010 to 18.7% in 2020, accounting for about half of the United States population growth solely from Hispanics.<sup>1</sup> The expansion of these Hispanic subcultures has impacted how they live and interact with each other marking significant changes in diet and lifestyle. The interconnection between Hispanic and American cultures has influenced dietary patterns and behaviors throughout generations. Studies have shown changes in food intake by food groups compared to exposure time in the United States, influencing individuals' perception of food and their connection to diet and culture.<sup>2,3</sup> Such influences have also left a significant mark on health status among Hispanics. The changes in dietary patterns and behaviors have impacted the health of Hispanics by increasing rates of diet-related diseases such as cardiovascular disease and obesity.<sup>2</sup>

Learning effective methods of communication by increasing understanding of Hispanic culture and diet can help reduce health disparities among this population group. Exploring the cultural foods, traditions, beliefs of food, therapeutic use of food, and nutrition and health status can help improve communication during patient-provider interaction. This literature review aims to enlighten and orient students and healthcare professionals on the basis of Hispanic culture and diet by educating professionals on how Hispanics perceive food and its effect on their health. Understanding Hispanic's background and perceptions will help healthcare professionals tailor care provided, helping increase patient satisfaction and interaction. This literature review covers topics related to commonly consumed foods and ingredients, cooking practices, attitudes towards food, eating practices and behaviors, therapeutic uses of food, prevalent disease states, patient-provider interactions, intercultural communication, and benefits of applying cultural humility to healthcare practice.

### **Cultural Foods**

#### *Commonly Consumed Foods in Each Food Group*

Puerto Ricans, Mexicans, Salvadorans, Dominicans, and Cubans share many similarities yet have different dietary preferences. Common staple foods among these subcultures are rice, corn, and beans. Hispanics consume less fruit and vegetables than the recommended amount; however, fruit intake is higher than vegetable intake.<sup>4</sup> Fruit often eaten by all subcultures are pineapple, mangos, papaya, and avocados.<sup>5,6,7,8</sup> Puerto Ricans, Cubans, and Dominicans include plantains in most dishes and are often eaten as a sweet treat.<sup>5,6,7,8</sup> Potatoes, tomatoes, onions, chiles, squash, and sweet potatoes are the common vegetables consumed by all.<sup>5,6,7,8</sup> The Cuban



diet is influenced by historical and environmental factors leading to high consumption of root crops, including yucca, yams, malanga, and boniato.<sup>5</sup> Dairy products most consumed by all subcultures are aged cheese and milk (evaporated and whole) and are often found in many dishes, desserts, and beverages such as cafe con leche (coffee with milk)<sup>5,6,7</sup> Grains regularly consumed are rice and bread within these subcultures. Mexican and Salvadoran diets include maize products such as tortillas, usually offered at each meal.<sup>5,6</sup> Common protein sources eaten by these subcultures are pork, beef, goat, turkey, black beans, chickpeas, chicken, and eggs.<sup>5,6,7,8</sup> Shared beverages are coffee, beer, hot chocolate, fruit juices, and soft drinks.<sup>5,6,7</sup>

### *Common Ingredients*

Spices and herbs make Hispanic cuisines distinct from other cultures. The use of fresh ingredients adds unique flavors to meals and popular dishes. Puerto Ricans, Cubans, Dominicans, Mexicans, and Salvadorians' common spices and herbs include cilantro, garlic, cumin, onion, oregano, bay leaf, cinnamon, and epazote or a leafy aromatic herb.<sup>6,7,8</sup> Achiote is mainly used to add color to dishes for a more appealing look.<sup>6</sup> Tomatillos and chile peppers such as jalapeno, serrano, guajillo, and poblano are used in many dishes such as sauces or salsas.<sup>6,7,9,10</sup> In Mexican culture, mole is a traditional sauce usually accompanied over chicken or pork and a side of rice. Mole can be prepared in many ways and usually include over 20 ingredients, including a variety of seasonings and chiles such as poblano and guajillo depending on the type of mole.<sup>11</sup> Puerto Ricans, Cubans, and Dominicans use sofrito, a puree or sauce made from vegetables and herbs such as tomatoes, peppers, onions, garlic, and cilantro, as a base in many soups and stews. Puerto Rican dishes include a variety of ingredients, but incorporate fewer chiles making them less spicy compared to other cultural cuisines.<sup>8,10</sup>

### *Cooking Practices*

The determining factors in food preparation are taste, affordability, and convenience.<sup>12</sup> In Hispanic culture and cuisines, foods are often cooked in lard, butter, vegetable, corn, or olive oil. Meat and vegetables are commonly part of any dish. Stewing and braising are frequently used to allow meats to tenderize.<sup>6,7</sup> Mexicans typically cook meats at high temperatures, either grilling or frying.<sup>6,7</sup> Frying foods is commonly practiced by all subcultures, as it is the least time-consuming and most favorable cooking method.<sup>5,12</sup> Many Puerto Rican and Cuban dishes, such as tostones or fried plantains, are often fried.<sup>5,8</sup> Seafood often consumed by these subcultures includes fried fish or shrimp.<sup>5,8</sup> Preparation of convenience foods is growing in Hispanic households by working parents to minimize cooking time.<sup>12</sup> Families tend to opt for food items with longer shelf lives to prepare quick meals and are less often preparing home-cooked meals from scratch.<sup>12</sup>

## Food Beliefs and Traditions

### *Attitudes Towards Food*

Attitudes towards food can vary by acculturation, income, and food security. The prominent Hispanic subcultures are impacted by acculturation, the process of individuals or groups adopting cultural and social beliefs, behaviors, and values from a different culture, influencing food-related attitudes.<sup>13</sup> American adaptation has increased overweight and obesity rates among Hispanics, with 44.8% of the Hispanic population being obese and 78.8% of Hispanic women being overweight or obese.<sup>14</sup> Studies reflect that Hispanics adapt more to the American diet as generations advance.<sup>15</sup> Increased consumption of processed foods and sugary beverages is seen more in US-born Hispanics than native-born Hispanics.<sup>15</sup> Intake of traditional quality foods such as fruit, vegetables, and whole grains has decreased, and the amount of energy-dense foods, including saturated fat, sodium, and sugar, has increased.<sup>15</sup> Increased exposure and overindulgence in low-quality foods have affected the Hispanic population's weight status and attitudes about weight.<sup>15</sup> Weight-related issues and social pressure are commonly associated with body image issues and unhealthy weight control behaviors,<sup>16</sup> especially when acculturated individuals remain connected to Hispanic ideals and familial connections. A thinner body is idealized in American culture, while in Hispanic culture, individuals with heavier bodies symbolize a healthy individual.<sup>16</sup> A significant contributor to obesity in Hispanics is the lack of access to affordable quality foods and unlimited access to highly processed foods such as packaged and canned goods. A relatively higher percentage (17.2%) of Hispanic families in the U.S. experience food insecurity than the average population (13.5%).<sup>17</sup> Food insecurity makes it difficult for families or individuals to have enough access to healthful foods.<sup>17</sup> The USDA measures food security using a questionnaire that ranges from high, marginal, low, and very low food security.<sup>18</sup> High food security is defined as having no issues with access to adequate food.<sup>18</sup> In contrast, low to very low is defined as food insecurity.<sup>18</sup>

### *Eating Practices and Behaviors*

Family values significantly influence dietary behaviors.<sup>16, 19, 20</sup> *Familismo*, or devotion to family, is heavily practiced in Hispanic culture.<sup>16, 19, 20</sup> Women traditionally plan and prepare meals, while men are the breadwinners and protectors.<sup>16, 19, 20</sup> Mothers are often the primary decision-makers for the family when it relates to health.<sup>16, 19, 21</sup> Hispanic families are accustomed to eating meals together; therefore, they share similar diets. *Simpatia*, or consideration for others, can influence portion size.<sup>16, 19, 20</sup> During mealtime, eating seconds and leaving an empty plate are associated with positive eating behaviors, and rejecting food when offered can be read as impolite.<sup>16, 19, 20</sup> Religion also accounts for how food is perceived.<sup>13</sup> Hispanics believe that illness is unavoidable and inevitable (or *Fatalismo*) and is part of God's plan, influencing existing poor eating habits.<sup>16, 19, 20</sup> Hispanics often take alternative approaches and seek community healers before seeing a physician.<sup>16</sup> Community healers, also known as curanderos, use folk remedies

that include specific herbs and foods as part of their healing process.<sup>5,6</sup> Healers specialize in different areas of health; some examples are sobadores (massage therapists), hueseros (bone adjustors), yerberos (herbalists), and patera (midwives).<sup>5,6</sup>

### *Therapeutic Uses of Food*

Alternative approaches to health and balance are customs among Hispanics as part of their cultural practice.<sup>19, 21</sup> Mexicans, Puerto Ricans Salvadorans, and Dominicans believe in the hot and cold theory of health and food.<sup>5, 6, 19</sup> According to the hot and cold theory, an imbalance of too many cold or hot foods causes illness, and restoring health includes consuming foods of the opposite condition.<sup>5, 6, 21</sup> For instance, it is believed that hot conditions are cured with cold foods such as most fruits and vegetables, cold sugary beverages, beans, and dairy products.<sup>5, 6, 19, 21</sup> In contrast, cold conditions are cured with hot foods such as pork, beef, chiles, rice, aromatic beverages, and alcohol.<sup>5, 6, 19, 21</sup> Pregnancy, fever, hypertension, diabetes, susto (fear), mal de ojo (evil eye), and bilis (rage or anger) are considered hot conditions.<sup>5, 6, 19, 21</sup> Empacho (indigestion), colic, asthma, cough, menstrual cramps, and fibroids are cold conditions.<sup>5, 6, 19, 21</sup> Puerto Ricans also include cool foods and light and heavy foods.<sup>5,6</sup> Lighter foods such as soups are eaten at dinner, and heavy foods such as starchy foods during the day to maintain balance.<sup>5, 6</sup> Cubans are not firm believers of the hot and cold theory, rely on home remedies such as teas for conditions like diabetes and hypertension.<sup>5, 6</sup>

Puerto Ricans, Cubans, Mexicans, Salvadorans, and Dominicans also use home remedies as a first course of treatment for specific conditions.<sup>5,6</sup> A few common folk conditions are typically related to stress, diet, or malicious intent.<sup>19, 21</sup> Nervios, bilis, and susto are conditions associated with feelings of rage (bilis), susto (fear), or nervios (nervous) caused by intense moments of extreme emotions and stress caused by unexpected or traumatic events in life.<sup>5, 6, 19, 21</sup> Common symptoms are headaches, stomach aches, difficulty sleeping, and tiredness.<sup>19, 21</sup> Susto and nervios are also believed to cause weight loss and sadness.<sup>19, 20</sup> Treatment is usually herbal remedies and rest.<sup>5, 6</sup> Empacho or indigestion is another common condition that causes a person to experience cramps, constipation, and nausea.<sup>5, 6, 19, 21</sup> Sobadores, also known as massage therapists, believe food sticks to the abdominal region, and treatment includes massaging the affected area and prescribing herbal remedies to alleviate discomfort.<sup>5, 6</sup> For Salvadorans, teas are used to treat menstrual cramps, diabetes, and hypertension.<sup>5</sup> Cubans use oregano, identified as mejorana, to treat colds, coughs, and asthma. Stomach, fevers, colic, and cramp ailments are treated by chamomile, also known as manzanilla.<sup>6</sup> Mexicans typically use garlic with passion flower and linden flower for hypertension. In contrast, Cubans use garlic and grapefruit.<sup>5, 6, 19</sup> Similar herbs are used in remedies yet are complemented and prepared differently by each subculture. A considerable similarity is the use of prayer to restore illness in addition to herbal remedies.<sup>5, 6, 21</sup>

## Nutrition and Health Status

### *Prevalent Disease State*

Besides similarities in diet, these prominent subcultures share similarities in diet-related diseases influenced by genetic, environmental, and lifestyle factors<sup>19</sup>. The prevalence, however, varies across subcultures. With cancer and cardiovascular disease being the leading causes of death, other diseases such as obesity, diabetes, and hypertension. Alcohol, and tobacco use also significantly contribute to mortality rates<sup>22</sup>.

Cancer is one of the leading causes of death among Hispanics<sup>23</sup>. In 2015 alone, around 125,900 new cancer cases were diagnosed among Hispanics, with a 30% case fatality rate<sup>20</sup>. The most common cancers are lung, colorectal, prostate, and breast<sup>20, 23, 24</sup>. Hispanics also have increased rates of liver, stomach, and cervical cancer.<sup>24</sup> Lung cancer at 17% is reported to be the leading cause of death in Hispanic males, then liver cancer at 12% and colorectal cancer at 11%<sup>1, 3</sup>. On the other hand, breast cancer leads in the causes of cancer deaths in Hispanic women at 16%, lung cancer at 13%, and colorectal cancer at 9%<sup>20, 23</sup>.

Cardiovascular disease (CVD) is a concerning issue among Hispanics. Studies show that duration of living in the US and level of acculturation influence the risk for CVD. From 2015 to 2018, 52.3% of men and 42.7% of women aged 20 and older were diagnosed with CVD<sup>25</sup>. Risk factors for CVD are hyperlipidemia, hypertension, hyperglycemia, cigarette smoking, and obesity. Among subcultures, Puerto Ricans have the highest age- and sex-adjusted prevalence of CVD risk factors compared to Mexicans, Dominicans, Salvadorans, and Cubans<sup>26</sup>.

Diabetes disproportionately affects the Hispanic population, with prevalence varying per Hispanic subcultures. The rates of those with diabetes among Puerto Ricans was 14.8%, Mexicans 13.9%, Cubans 9.3%, and Dominicans 8.3%.<sup>20, 27</sup> Among these subcultures, Mexican Americans at 23.9% and Puerto Ricans at 26.1%, are more likely to suffer from type 2 diabetes than Cubans at 15.8% because genetic composition makes them more susceptible to insulin resistance.<sup>20, 27</sup> Similarly, Hispanics bear a disproportionate share of the burden of diabetes mortality in the United States. In 2019, diabetes was the seventh leading cause of death, with 87,647 deaths claiming diabetes as the underlying cause and 282,801 certificates indicating diabetes as a contributor to death.<sup>27</sup>

Obesity is heavily seen in the Hispanic community, with 44.8 % of Hispanics in the US categorized as obese and 78.8% of Hispanic women classified as obese or overweight.<sup>22, 28</sup> The prevalence is higher in females than males across all categories. Higher levels of acculturation are associated with larger BMIs in all Hispanic groups. Comorbidities such as diabetes and hypertension have developed persistently in Hispanics across all age groups with a gradually increasing obesity rate.<sup>28</sup>

Among Hispanics, rates of tobacco use are lower than the national rate, with 1 out of 10 being cigarette smokers. The high rate of lung cancer among Hispanic men may be attributed to the rate of tobacco smoking.<sup>20</sup> Tobacco smoking is highest among Puerto Ricans, with 34.7% of men and 31.7% of women smoking.<sup>20</sup> Dominican males at 11.1% and Cuban women at 8.7% are the least likely to smoke.<sup>20</sup> In the United States, second-generation Hispanics have a comparatively high cigarette smoking rate, associated with a higher risk of CVD, cancer, and diabetes.<sup>20</sup> Alcohol consumption is also a high risk factor for cancer, CVD, and diabetes.<sup>20</sup> Alcohol intake among Hispanics is generally low; however, those who drink are likely to over consume the recommended amount.<sup>30</sup> Based on 2010 data, 9.5 % of Hispanics are likely to be alcohol dependent at least once during their lifetime, and of those dependent, 33% experience reoccurring alcohol problems.<sup>30</sup> Rates of alcohol dependence among these countries are similar to the prevalences of diet-related diseases, with Puerto Rico leading at 5.5%, Mexico at 4.7%, El Salvador and The Dominican Republic at 3.1%, and Cuba at 2.4%.<sup>30</sup>

## **Communication**

### *Patient-Provider Interaction*

With Spanish being the dominant language spoken in most Hispanic homes and English being second, limited English proficient patients fear that language and cultural barriers can affect healthcare provider services.<sup>13</sup> Limited access to healthcare due to immigration status, income, and insurance coverage are associated with Hispanics' overall health and nutrition issues.<sup>13, 22</sup> Income and immigration status contribute to high levels of uninsured patients.<sup>13, 22</sup> The belief systems of God and fate hinder healthcare visits, including preventative measures. Establishing rapport and being culturally aware is essential to gaining trust in Hispanic patients. *Personalismo* is the expectation that a Hispanic/Latino individual will develop a personal relationship with their healthcare provider.<sup>ff</sup> Thus, some Hispanic/Latino patients may prefer a healthcare provider who engages in close physical contact (e.g., handshakes and hugging) and shows a genuine interest in their life.<sup>16, 19</sup> A perceived lack of *personalismo* on the part of the healthcare provider could lead to the patient being dissatisfied with their care and, therefore, not returning for subsequent visits.<sup>16</sup>

### *Intercultural communication*

Understanding how Hispanics typically interact within their culture can help medical professionals tailor their vocabulary and social approach to maximize mutual understanding. Touch is a standard method of communication. In many Hispanic homes, family greetings, especially in groups, include individually greeting each member, possibly by a cheek kiss, hug, or handshake, depending on whether they are male or female..<sup>5, 6</sup> Most men wait for women to extend their hands during handshake greetings.<sup>5, 6</sup> During patient-provider interaction, it is imperative to acknowledge that Cubans believe that looking away is a sign of dishonesty, while

the situation determines Dominican's decision for eye contact.<sup>5, 6</sup> Salvadorans use hand motions expressively yet prefer a soft handshake during provider interactions. They react best with subtle communication and a calm, collective approach.<sup>5, 6</sup> Mexicans value non-confrontational and warm approaches under challenging situations.<sup>5, 6</sup> Puerto Ricans and Cubans respond politely to a respectful medical provider.<sup>5, 6</sup>

### *Benefits of Applying Cultural Humility into Healthcare Practice*

Cross-cultural care remains valuable in medical education as it ensures increased access to care among diverse populations.<sup>19</sup> Ensuring the Hispanic patient feels heard and understood will lead to better patient compliance, curiosity, and a higher chance of continuing to seek healthcare. A mutual feeling of cultural acceptance can improve Hispanic patients' care and interactions in healthcare settings.<sup>19</sup> By considering genetics, social, and cultural factors, diet-related illnesses can be managed or prevented in Hispanic patients.<sup>13</sup>

### **Conclusion**

In summary, Hispanics make up the second largest ethnic minority group in the United States. The most significant Hispanic subcultures are Mexico, Puerto Rico, El Salvador, The Dominican Republic, and Cuba. Throughout decades, the interconnectedness of Hispanic and American cultures has affected food and nutrition habits, depending on exposure time in the United States. These influences have also had a substantial impact on Hispanic health status. Notably, there is variation in nutrient and food intake across Hispanic subcultures. These variations translate to the varied prevalence of cancer, CDV, obesity, and diabetes, among other nutrition-related diseases. The risk factors of these chronic diseases are deeply rooted in the social-economic determinants of health. Therefore, it is necessary to address the factors associated with the social and physical conditions of the Hispanic community. In particular, learning effective communication skills and enhancing patient-provider interactions by educating professionals on Hispanic culture and health disparities within this community can help eliminate health inequalities and improve the quality of care.

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## **Curriculum Guide**

**Class time:** 2.5 hours

**Suggested Class size:** 18 students, comprised of 6 groups of 3 students.

### **Required readings:**

1. Lekas HM, Pahl K, Fuller Lewis C. Rethinking Cultural Competence: Shifting to Cultural Humility. *Health Serv Insights*. 2020;13:1178632920970580. Published 2020 Dec 20. doi:10.1177/1178632920970580
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### **Optional readings:**

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### **Objectives:**

1. Report the research-based findings of the impact of cultural humility in healthcare.
2. Understand and practice effective patient-provider communication practices in healthcare.
3. Describe common foods and ingredients found in African America, African, Asian, and Hispanic cuisines.
4. Identify food preferences, beliefs, and cultural significance of African American, African, Asian, and Hispanic populations.

### **Student Expectations Pre-Class (60-90 minutes):**

1. Read required reading materials.
2. Read/watch lecture presentation.
3. Read assigned case study and answer questions. Prepare for class discussion of the answers.
4. Complete pre-quiz. Prepare for class discussion of the answers.
5. Review kitchen safety and knife skills prior to starting exercise

### **In class:**

#### **1. Review Pre-class materials (20-40 minutes)**

- Review lesson content, quiz, and case study questions.
- Read assigned recipes per group adhering to food safety and sanitation principles. Divide tasks between members of the group.

#### **2. Exercise: Cooking Recipes (60 minutes)**

- **Recipes:**

- o Instructors can choose from the list of recipes below to include in the cooking exercise.
- o Note: Pick at least one recipe from each cultural group (African American, African immigrant, Asian, and Hispanic)

- Health Meets Food Recipes:
  - o Simple Savory Greens (African American)
  - o Spicy Smothered Cabbage (African American)
  - o Cauliflower Mac & Cheese (African American)
  - o Chicken and Sweet Potato Stew (African immigrants)
  - o Vietnamese Chicken, Cabbage, and Mint Salad (Asian)
  - o Roti/Chapati (Asian)
  - o Chana Masala (Asian)
  - o Cuban Style Black Beans (Hispanic)
  - o Steamed Brown Rice (Hispanic, Asian)
  
- Module Recipes:
  - o East African Bowls (African immigrants)
  - o Plantain Pancakes (African immigrants)
  - o Pancit Bihon (Asian)
  - o Soondubu Stew (Asian)
  - o Mexican Style Lentils (Hispanic)
  - o Red Chicken Stew (Hispanic)
  
- **During Preparation:**
  - o Assist students with proper food safety, knife skills, and cooking techniques.
  - o Have students clean as they work through the recipes.
  - o Encourage students to taste food throughout the cooking process to understand the taste and texture of foods.
  - o Incorporate culinary nutrition lessons when possible.

- **Post-cooking:**

- Each group of students will plate one serving of their prepared dish as indicated by the nutrition label.
- The plated single serving should be displayed next to the correlating dish.
- Students should be encouraged to serve themselves a tasting portion of each dish.

### **3. Tasting and discussion (20-30 minutes)**

- The instructor should prompt each group to:
  - Describe their dish, focusing on how the dishes differ from the others. Encourage students to discuss how the preparation or ingredients are different or similar to what they typically eat.
  - Outline the calorie, fiber, protein, and sodium content of their dish.
  - Describe the flavors and visual appeal of the dish.

### **4. Clean-up (20 minutes)**

- Wash dishes
- Sweep
- Takeout trash
- Disinfect surfaces
- Properly store and label leftover ingredients



## Cultural Foods Module

By: Theavy Tep-Rutkowski, Mayra Patino, and Dominique Miller

1. Introduction
2. Health Status
3. Cultural Foods
4. Food Beliefs & Traditions
5. Intercultural Communication
6. Conclusion

# Introduction



- Purpose

Educate healthcare practitioners on the importance of cultural humility, the traditional foods, and health beliefs of African Americans, African immigrants, Asians, and Hispanics with the goal of improving patient health outcomes and the effectiveness of medical care.

- Objectives

1. Describe common foods and ingredients found in Asian, Hispanic and African cuisines.
2. Identify food preferences, beliefs, and cultural significance of Asian, African and Hispanic populations.
3. Understand and practice effective patient-provider communication practices in healthcare.
4. Understand the importance of cultural humility in healthcare.
5. Identify food preferences, beliefs, and cultural significance of Asian, African and Hispanic populations.

# The Most Abundant Groups in Each Population

## African

- Nigeria
- Egypt
- Ethiopia
- Ghana
- South Africa

## Asian

- India
- Philippines
- Vietnam
- South Korea
- China

## Hispanic

- Mexico
- Puerto Rico
- El Salvador
- The Dominican Republic
- Cuba

- Language & Health Literacy<sup>1, 2</sup>
  - Mistranslations
  - Lack of understanding
  - Communication of medical terminology
- Immigration Status & Health Insurance<sup>2</sup>
  - High rates of uninsured individuals
  - Avoids hospitals due to fear of deportation
- Beliefs<sup>1</sup>
  - Self-reliance before seeking professional attention
  - Diseases are inevitable
  - Fear of the healthcare field

1. Turkson-Ocran RAN, Nmezi NA, Botchway MO, et al. Comparison of cardiovascular disease risk factors among African immigrants and African Americans: An analysis of the 2010 to 2016 national health interview surveys. *Journal of the American Heart Association*. 2020;9(5). doi:10.1161/jaha.119.013220.

2. W Kim, Keefe RH. Barriers to healthcare among Asian Americans. *Soc Work Public Health*. 2010;25(3-4): 286-295. DOI: 10.1080/19371910903240704

# Health Status

The nutritional status of African Americans, African immigrants, Asians, and Hispanics is challenging to explain due to the limited number of studies and conflicting data regarding these cultural groups.

- Socioeconomic determinants of health

- Lifestyle<sup>1-3</sup>

- Social groups
- Economic status

- Environment<sup>1-3</sup>

- Access to food & healthcare
- Public safety

- Acculturation<sup>1-3, 4</sup>

- Immigration status
- Length of stay in U.S.
- Foreign- vs. Native-born

- Genetics

- More susceptible to certain conditions than others<sup>1-3, 4</sup>

- E.g. African Americans have a predisposition for lactose intolerance<sup>5</sup>

### Assessing the individual patient's socioeconomic factors:

- Interviews
- Questionnaires
- Build rapport

1. Kittler PG, Nahikian-Nelms M, Sucher KP. East Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 322-361.

2. Kittler PG, Nahikian-Nelms M, Sucher KP. Southeast Asians and Pacific Islanders. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 370-399.

3. Kittler PG, Nahikian-Nelms M, Sucher KP. South Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 450-477.

4. Ayala GX, Baquero B, Klinger S. A systematic review of the relationship between acculturation and diet among Latinos in the United States: implications for future research. *J Am Diet Assoc*. 2008 Aug;108(8):1330-44.

5. Neville D. Lactose intolerance: Millions of Americans don't know they have it. [intermountainhealthcare.org. https://intermountainhealthcare.org/blogs/topics/live-well/2017/07/lactose-intolerance/](https://intermountainhealthcare.org/blogs/topics/live-well/2017/07/lactose-intolerance/). Published July 31, 2017. Accessed April 17, 2022.

- African Americans vs African Immigrants
  - Diabetes is prevalent in both groups.<sup>1, 2</sup>
  - Lower number of diagnoses in African immigrants due to lower use of healthcare and documentation.<sup>1, 2</sup>
- Asians
  - Type 2 diabetes is higher in Asians with more acculturated diets.<sup>3</sup>
  - Especially higher in specific subgroups, like in Filipinos and Indians.<sup>4-5</sup>
- Hispanics
  - Higher likelihood of developing type 2 diabetes<sup>6</sup>
  - Prevalence differs based on subculture<sup>6</sup>
    - Puerto Ricans are more susceptible than other subcultures.<sup>6</sup>

1. Marshall MC. Diabetes in African Americans. *Postgraduate Medical Journal*. 2005;81(962):734-740. doi:10.1136/pgmj.2004.028274.

2. Turkson-Ocran RAN, Nmezi NA, Botchway MO, et al. Comparison of cardiovascular disease risk factors among African immigrants and African Americans: An analysis of the 2010 to 2016 national health interview surveys. *Journal of the American Heart Association*. 2020;9(5). doi:10.1161/jaha.119.013220.

3. Center for Disease Control and Prevention. Health of Asian or Pacific Islander population. <https://www.cdc.gov/nchs/fastats/asian-health.htm>. Updated 2020.

4. Kittler PG, Nahikian-Nelms M, Sucher KP. Southeast Asians and Pacific Islanders. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 370-399.

5. Kittler PG, Nahikian-Nelms M, Sucher KP. South Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 450-477.

6. Aguayo-Mazzucato C, Diaque P, Hernandez S, Rosas S, Kostic A, Caballero AE. (2019) Understanding the growing epidemic of type 2 diabetes in the Hispanic population living in the United States. *Diabetes Metab Res Rev*. 35(2):e3097. doi:10.1002/dmrr.3097

- African Americans
  - High prevalence<sup>1</sup>
  - Various risk factors: hypertension, diabetes, obesity, and hypercholesterolemia<sup>2</sup>
- African Immigrants
  - Undocumented<sup>1</sup>
  - Lower use of health care compared to African Americans<sup>1</sup>
- Asians
  - High prevalence<sup>3</sup>
  - Higher prevalence at a lower BMI than the general U.S. population.<sup>4, 5</sup>
- Hispanics
  - Length of stay in the U.S. and level of acculturation influence the risk for CVD among Hispanic Americans.<sup>6, 7</sup>
  - Risk factors: hypertension, hyperlipidemia, diabetes, tobacco<sup>6, 7</sup>

1. Musemwa N, Gadegbeku CA. Hypertension in African Americans. *Current Cardiology Reports*. 2017;19(12). doi:10.1007/s11886-017-0933-z.
2. Turkson-Ocran RAN, Nmezi NA, Botchway MO, et al. Comparison of cardiovascular disease risk factors among African immigrants and African Americans: An analysis of the 2010 to 2016 national health interview surveys. *Journal of the American Heart Association*. 2020;9(5). doi:10.1161/jaha.119.013220.
3. Gordon NP, Lin TY, Rau J, et al. Aggregation of Asian-American subgroups masks meaningful differences in health and health risks among Asian ethnicities: an electronic health record based cohort study. *BMC Public Health*. 2019;19(1):1551. Published 2019 Nov 25. doi:10.1186/s12889-019-7683-3
4. Kittler PG, Nahikian-Nelms M, Sucher KP. Southeast Asians and Pacific Islanders. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 370-399.
5. Kittler PG, Nahikian-Nelms M, Sucher KP. East Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 322-361.
6. Velasco-Mondragon E, Jimenez A, Palladino-Davis AG, Davis D, Escamilla-Cejudo JA. (2016) Hispanic Health in the USA: A scoping review of the literature. *Public Health Reviews*. 37(1). doi:10.1186/s40985-016-0043-2
7. Daviglius, M. L., Talavera, G. A., Avilés-Santa, M. L., Allison, M., Cai, J., Criqui, M. H., Gellman, M., Giachello, A. L., Gouskova, N., Kaplan, R. C., LaVange, L., Penedo, F., Perreira, K., Pirzada, A., Schneiderman, N., Wassertheil-Smoller, S., Sorlie, P. D., & Stamler, J. (2012). Prevalence of major cardiovascular risk factors and cardiovascular diseases among Hispanic/Latino individuals of diverse backgrounds in the United States. *JAMA*, 308(17), 1775–1784. <https://doi.org/10.1001/jama.2012.14517>



# Cultural Foods

- Protein
  - Pork, beef, fish, chicken, turkey and various beans
- Dairy
  - Less common due to lactose intolerance
  - Consumed in dessert
- Grains
  - Corn and rice
- Fruits & Vegetables
  - Green leafy vegetables
  - Low fruit intake



## Part 3: Cultural Foods - Most Consumed Foods of African Immigrants

- Ethiopia
  - Tef
  - Legumes
- Nigeria
  - Gari, yams, sorghum, beans
- Ghana
  - Stews with okra, fish, bean leaf, spinach, or peanuts
- Egypt
  - Rice, bread, green leafy vegetables, beans

- Protein
  - Pork, eggs, chicken, seafood, soy products, beans and legumes<sup>1-3</sup>
- Dairy
  - Consumed in higher amounts in the U.S. than in Asia<sup>1-3</sup>
  - Cheese and ice cream common in Indian cuisine<sup>3</sup>
- Grains
  - Rice, noodles, bread<sup>1-3</sup>
- Fruits
  - Higher than vegetable intake<sup>1-3</sup>
  - Usually fresh or in desserts<sup>1-3</sup>
- Vegetables
  - Usually cooked or pickled<sup>1-3</sup>
  - Condiments and toppings<sup>2, 3</sup>
  - Heavy usage of herbs<sup>2</sup>

1. Kittler PG, Nahikian-Nelms M, Sucher KP. East Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 322-361.  
2. Kittler PG, Nahikian-Nelms M, Sucher KP. Southeast Asians and Pacific Islanders. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 370-399.  
3. Kittler PG, Nahikian-Nelms M, Sucher KP. South Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 450-477.

- Spices & condiments
  - Varies among regions<sup>1-3</sup>
    - Northern India: aromatic spices vs. Southern India: hot spices<sup>3</sup>
    - Soy sauce in East Asia vs. Fish Sauce in Southeast Asia<sup>1, 2</sup>
- Flavor profile examples
  - Philippines: spicy, sour, sweet<sup>2</sup>
  - South Korea: sweet, sour, bitter, hot, salty<sup>1</sup>



1. Kittler PG, Nahikian-Nelms M, Sucher KP. East Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 322-361.  
2. Kittler PG, Nahikian-Nelms M, Sucher KP. Southeast Asians and Pacific Islanders. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 370-399.  
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- Protein
  - Pork, chicken, eggs, beef, goat, turkey, and various beans
- Dairy
  - Aged cheese and milk
  - Desserts
  - Beverages
- Grains
  - Rice, bread and maize products
- Fruits & Vegetables
  - Fruit intake is higher than vegetable intake
  - Vegetables: cooked

# Food Beliefs & Traditions

### High vs. Low Blood System

- High Blood
  - Someone consumes large amounts of
    - Rich foods
    - Sweet foods
    - Red-colored foods – beets, carrots, red wine or red meat
- Low Blood
  - Correlated with anemia
  - Overeating astringent and acidic food
    - Vinegar, lemon juice, garlic, pickled food



## Ayurvedic Medicine

- The body represents the universe, and food is classified on how it affects the body:
  - bile or *pitta* – metabolic activities (fire)<sup>1, 2</sup>
  - phlegm or *kapha* – bone and flesh (water)<sup>1, 2</sup>
  - wind or *vata* – muscle movement and semen (air)<sup>1, 2</sup>



1. Kittler PG, Nahikian-Nelms M, Sucher KP. South Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 450-477.  
2. Chowdhury, RR. Ayurveda 101: vata, pitta, and kapha foods. <https://artoflivingretreatcenter.org/blog/ayurveda-101-vata-pitta-and-kapha-foods/>. August 9, 2021.

## Hot vs Cold System

- Slight differences in different countries
  - China: yin and yang<sup>1</sup>
  - Korea: um and yang<sup>1</sup>
  - Vietnam: âm and dương<sup>2</sup>
  - Puerto Rico: light and heavy<sup>3</sup>
- Other countries that use this system
  - Philippines<sup>2</sup>
  - Mexico<sup>3</sup>
  - El Salvador<sup>3</sup>
  - Dominican Republic<sup>4</sup>



1. Kittler PG, Nahikian-Nelms M, Sucher KP. East Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 322-361.  
2. Kittler PG, Nahikian-Nelms M, Sucher KP. Southeast Asians and Pacific Islanders. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 370-399.  
3. Kittler PG, Nahikian-Nelms M, Sucher KP. Chapter 9: Mexicans and Central Americans. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2017: 237-268  
4. Kittler PG, Nahikian-Nelms M, Sucher KP. Chapter 10: Caribbeans Islanders and South Americans. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2017: 278-312

- Food is eaten family-style.
  - Many Africans still enjoy a larger Sunday dinner<sup>1</sup>
- Ethiopian and Ghanaian immigrants typically eat one or two meals a day and snack in between.<sup>2</sup>
- Most Africans have adopted Western dining styles.<sup>1, 3</sup>
  - Eating three times a day
  - Dinner is the largest meal
    - Sunday dinner during the slave period and after emancipation
- South Africans place higher importance of including meat or starch over vegetables in their meal.<sup>3</sup>

1. Kittler PG, Nahikian-Nelms M, Sucher KP. Africans. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 209-230.

2. UNE Applied Nutrition Program. Food and Culture in Ghana. UNE Library Services. [https://dune.une.edu/cgi/viewcontent.cgi?article=1129&context=an\\_studedres](https://dune.une.edu/cgi/viewcontent.cgi?article=1129&context=an_studedres). Accessed March 11, 2022.

3. Knight, J., & Mabunda, L. 2000. South African Americans. In R.V. Dassanowsky & J. Lehman (Eds.), *Gale encyclopedia of multicultural America*. Farmington Hills, MI: Gale Group.



- Family is often at the center of mealtimes.<sup>1-3</sup>
- Factors that cause differences in eating practices:
  - Level of acculturation<sup>4</sup>
  - Socioeconomic class<sup>4</sup>
- Food symbolism is important on special occasions.
  - Sticky rice = togetherness (Lunar New Year)<sup>1, 2</sup>
  - Twelve round fruits = good luck (New Year in the Philippines)<sup>2</sup>
  - Fasting or avoiding certain food products = spiritual purification (various Indian holidays)<sup>3</sup>



Mooncake

1. Kittler PG, Nahikian-Nelms M, Sucher KP. East Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 322-361.  
2. Kittler PG, Nahikian-Nelms M, Sucher KP. Southeast Asians and Pacific Islanders. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 370-399.  
3. Kittler PG, Nahikian-Nelms M, Sucher KP. South Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 450-477.  
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- Hispanics are accustomed to eating with family
  - Family members share similar diets
  - Women more often prepare meals
- *Simpatia* or consideration can often influence portion size. Denying food offerings is often considered impolite.
- Factors affecting food choices
  - Acculturation
  - Income

# Intercultural Communication

- African Americans & Immigrants
  - Feel patronized or feel humiliated by non-Black doctors<sup>1</sup>
  - Don't feel active participants in their interaction with their doctor<sup>1</sup>
- Asian Americans
  - Southeast Asians: health is at the mercy of fate<sup>2</sup>
  - East Asians: health is a personal responsibility<sup>3</sup>
  - Family members and/or support network are usually involved in the healthcare process.<sup>2-4</sup>
- Hispanic Americans
  - Self-diagnose or get treated by members of their community<sup>5</sup>
  - Health is often seen as God's plan<sup>5</sup>

1. Kittler PG, Nahikian-Nelms M, Sucher KP. Africans. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 209-230.

2. Kittler PG, Nahikian-Nelms M, Sucher KP. Southeast Asians and Pacific Islanders. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 370-399.

3. Kittler PG, Nahikian-Nelms M, Sucher KP. East Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 322-361.

4. Kittler PG, Nahikian-Nelms M, Sucher KP. South Asians. *Food and Culture*. 7th ed. Cengage Learning, Inc; 2012: 450-477.

5. Medina C. Beliefs and Traditions that Impact the Latino Healthcare. LSU Health New Orleans. <https://www.medschool.lsuhsoc.edu/physiology/docs/Sample%20Schedule.pdf>. Accessed March 10, 2022.

- Barriers to communication:
  - Language and interpretation
  - No active listening
  - Not relaying medical terminology in an understandable way
  - Failing to build trust
  - Medical professionals acting dominant over the patient



- Cultural Humility
  - Lifelong process
  - Focuses on self-reflection and awareness
  - Acknowledge your own biases
  - Understanding complexity of identities



- Cultural humility in healthcare will
  - Improve health outcomes
    - Provider will understand the beliefs and preferences of the patient
    - Patient will understand the purpose and methods of nutrition care from the provider
  - Minimize disparities
    - Providers will provide effective nutrition care and eliminate implicit biases on ethnicity
- Cultural humility in practice
  - Asking open-ended questions
  - Be an active listener
  - Learn about cultural food traditions, recipes and cooking techniques
  - Understand the history behind food and the medical field

- Development of family- or group-oriented classes
- Connecting the patient's support system to their interventions
- Culturally relevant education
- Provide patients with nutrition interventions that include traditional foods
- Help providers build self-awareness of how they affect their patient's health views and outcomes

# Summary

- Described common foods and ingredients from the target subpopulations
  - Food groups, flavors, and ingredients of African American, African immigrant, Asian, and Hispanic cuisines (slide 12-17)
- Identified food preferences, beliefs, and cultural significance
  - Therapeutic uses, beliefs, and traditions of food of African American, African immigrant, Asian, and Hispanic cultures (slide 18-24)
- Understand and practice patient-provider communication practices in healthcare
  - Communication styles and barriers in African American, African immigrant, Asian, and Hispanic cultures (slide 25-27)
- Understand the importance of cultural humility
  - Benefits and application of cultural humility in healthcare practice (slide 28-30)

## Quiz

1. Why is there a lower prevalence of diabetes in African immigrants compared to African Americans?
  - a. Increased physical activity
  - b. Decreased use of healthcare
  - c. Live with more family members
  - d. Use insulin more often
  
2. What are some risk factors for cardiovascular disease?
  - a. Hypertension
  - b. Hypercholesteremia
  - c. Diabetes
  - d. All of the above
  
3. What food item is commonly consumed by Ghanians?
  - a. Noodles
  - b. Kale
  - c. Stews
  - d. Vinegar
  
4. What term means consideration for others and is heavily practiced in the Hispanic culture?
  - a. *Familismo*
  - b. *Simpatía* (sympathy)
  - c. Acculturation
  - d. Cultural humility
  
5. Which subculture deeply relies on community healers as a primary source of treatment?
  - a. Asian American
  - b. African Americans
  - c. Hispanics Americans
  - d. All of the above
  
6. Which diet-related diseases are most common among Asian, Hispanic, and African American communities?
  - a. Diabetes and cancer
  - b. Cancer and cardiovascular disease
  - c. Obesity and alcoholism
  - d. Diabetes and cardiovascular disease
  
7. What factors affect quality, access, and availability to prepare traditional meals and practice cultural food behaviors?

- a. Income
  - b. Immigration status
  - c. Level of acculturation
  - d. All of the above
8. How can healthcare professionals practice cultural humility in their practice?
- a. Suggesting foods that a patient should incorporate into their meals based on their ethnicity. E.g. Rice noodles as a grain for someone from Vietnam and roti for someone from India.
  - b. Reflecting on how the difference in beliefs and customs can affect patient-provider communication in order to provide appropriate care
  - c. Greeting the client in the official language of their country of origin
  - d. Hiring employees of various cultural backgrounds to promote diversity in the healthcare team
9. What are the pillars of flavor of the Philippines?
- a. Sweet, salty, spicy
  - b. Bitter, salty, sour
  - c. Sweet, spicy, sour
  - d. Umami, sour, spicy
10. True or false: Asian Americans are highly independent and prefer to keep to themselves when it comes to healthcare decisions and interventions.
- a. True; Most Asian Americans prefer to bear their health conditions and treatments on their own because health is a personal responsibility.
  - b. False; Many Asians have a support network, consisting of family or community members, that are often including in medical decisions and interventions.
11. What is the classification system of food used in Indian Ayurvedic medicine?
- a. *Pitta, kapha, vata*
  - b. Hot vs. cold foods
  - c. High- vs. low-blood foods
12. True or False: In addition to lifestyle and environmental factors, genetics play a role in predisposing certain populations to diet-related conditions such as lactose intolerance.
- a. True; Genetics make certain groups more vulnerable to diet-related conditions
  - b. False: Genetics does not influence diet-related conditions, rather lifestyle and environmental factors are solely responsible for health outcomes
13. What is an example of food symbolism in Asian special occasions?
- a. Sticky rice dishes during Filipino funerals for mourning
  - b. Fasting during Indian religious holidays for spiritual purification
  - c. Round fruits for wealth during Lunar New Year

- d. All of the above.
14. What is the difference in types of spices used in Northern vs. Southern India?
- a. Northern India uses fresh herbs, while Southern India uses dried spices.
  - b. Northern India uses dried spices, while Southern India uses fresh herbs.
  - c. Northern India uses hot spices, while Southern India uses aromatic spices.
  - d. Northern India uses aromatic spices, while Southern India uses hot spices.
15. The hot and cold system is a common classification of food in Hispanic and Asian groups. The foods in each category are used to treat a condition of the opposite category. What food is considered hot and likely to cure a cold condition?
- a. Fruit and fever
  - b. Dairy and constipation
  - c. Chile peppers and nausea
  - d. None of the above



## **Quiz Answer Key**

1. Why is there a lower prevalence of diabetes in African immigrants compared to African Americans?
  - a. Increased physical activity
  - b. Decreased use of healthcare
  - c. Live with more family members
  - d. Use insulin more often

**SLIDE 10, ANSWER: B**

2. What are some risk factors for cardiovascular disease?
  - a. Hypertension
  - b. Hypercholesteremia
  - c. Diabetes
  - d. All of the above

**SLIDE 11, ANSWER: D**

3. What food item is commonly consumed by Ghanians?
  - a. Noodles
  - b. Kale
  - c. Stews
  - d. Vinegar

**SLIDE 14, ANSWER: C**

4. What term means consideration for others and is heavily practiced in the Hispanic culture?
  - a. *Familismo*
  - b. *Simpatia* (sympathy)
  - c. Acculturation
  - d. Cultural humility

**SLIDE 24, ANSWER: B**

5. Which subculture deeply relies on community healers as a primary source of treatment
  - a. Asian American
  - b. African Americans
  - c. Hispanics Americans
  - d. All of the above

**SLIDE 26, ANSWER: C**

6. Which diet-related diseases are most common among Asian, Hispanic, and African American communities?
  - a. Diabetes and cancer

- b. Cancer and cardiovascular disease
- c. Obesity and alcoholism
- d. Diabetes and cardiovascular disease

**SLIDE 10 &11, ANSWER: D**

7. What factors affect quality, access, and availability to prepare traditional meals and practice cultural food behaviors?
- a. Income
  - b. Immigration status
  - c. Level of acculturation
  - d. All of the above

**SLIDE 6, ANSWER: D**

8. How can healthcare professionals practice cultural humility in their practice?
- a. Suggesting foods that a patient should incorporate into their meals based on their ethnicity. E.g. Rice noodles as a grain for someone from Vietnam and roti for someone from India.
  - b. Reflecting on how the difference in beliefs and customs can affect patient-provider communication in order to provide appropriate care
  - c. Greeting the client in the official language of their country of origin
  - d. Hiring employees of various cultural backgrounds to promote diversity in the healthcare team

**SLIDE 28, ANSWER: B**

9. What are the pillars of flavor of the Philippines?
- a. Sweet, salty, spicy
  - b. Bitter, salty, sour
  - c. Sweet, spicy, sour
  - d. Umami, sour, spicy

**SLIDE 16, ANSWER: C**

10. True or false: Asian Americans are highly independent and prefer to keep to themselves when it comes to healthcare decisions and interventions.
- a. True; Most Asian Americans prefer to bear their health conditions and treatments on their own because health is a personal responsibility.
  - b. False; Many Asians have a support network, consisting of family or community members, that are often including in medical decisions and interventions.

**SLIDE 26, ANSWER: B**

11. What is the classification system of food used in Indian Ayurvedic medicine?
- a. *Pitta, kapha, vata*
  - b. Hot vs. cold foods

- c. High- vs. low-blood foods

**SLIDE 20, ANSWER: A**

12. True or False: In addition to lifestyle and environmental factors, genetics play a role in predisposing certain populations to diet-related conditions such as lactose intolerance.
- a. True; Genetics make certain groups more vulnerable to diet-related conditions
  - b. False: Genetics does not influence diet-related conditions, rather lifestyle and environmental factors are solely responsible for health outcomes

**SLIDE 9, ANSWER: A**

13. What is an example of food symbolism in Asian special occasions?
- a. Sticky rice dishes during Filipino funerals for mourning
  - b. Fasting during Indian religious holidays for spiritual purification
  - c. Round fruits for wealth during Lunar New Year
  - d. All of the above.

**SLIDE 23, ANSWER: B**

14. What is the difference in types of spices used in Northern vs. Southern India?
- a. Northern India uses fresh herbs, while Southern India uses dried spices.
  - b. Northern India uses dried spices, while Southern India uses fresh herbs.
  - c. Northern India uses hot spices, while Southern India uses aromatic spices.
  - d. Northern India uses aromatic spices, while Southern India uses hot spices.

**SLIDE 16, ANSWER: D**

15. The hot and cold system is a common classification of food in Hispanic and Asian groups. The foods in each category are used to treat a condition of the opposite category. What food is considered hot and likely to cure a cold condition?
- a. Fruit and fever
  - b. Dairy and constipation
  - c. Chile peppers and nausea
  - d. None of the above

**SLIDE 21, ANSWER C**

## **African-Focused Case Study**

Mr. M is 65-year-old male from Ethiopia who comes into your office for a dietitian consult. He has recently been diagnosed with type 2 diabetes. Today, he is curious about modifying his diet to help manage his diabetes.

### **Past Medical History**

Hypertension

Type II diabetes

### **Social History**

Mr. M is married with 5 children. Mr. M has a high stress job as a banker and works remotely. He struggles to balance his work and family time. He tries his best to go on one walk per week to get some fresh air. He has a family history of diabetes on both sides of his family. He is worried about his children getting diagnosed with diabetes.

### **Medications**

Lisinopril

### **Anthropometrics**

Height: 6'1"

Weight: 250 lbs

BMI: 33 kg/m<sup>2</sup>

BP: 170/90

### **Significant Labs**

A1C: 10.9%

Fasting blood sugar test: 140 mg/dL

### **24-Hour Dietary Recall**

Breakfast: Chick-Fil-A chicken biscuit, 2 orders of hashbrowns with a large sweet tea

Lunch: usually skips lunch- too busy with work

Snack: fried plantains

Dinner: 2 cups of *Doro wat* (chicken stew), 4 *injera* (bread), 8 oz water

**Questions:**

1. What are the diagnostic criteria for type II diabetes? What other risk factors contribute to the development of type II diabetes?
2. What dietary recommendations would you suggest to Mr. M to help manage his diabetes? What changes would you make to his breakfast and dinner recall to align with his needs?
3. How would you educate Mr. M on his new diagnosis?
4. How would you address Mr. M's problem with skipping lunch?

## **African-Focused Case Study Answers**

Mr. M is 65-year-old male from Ethiopia who comes into your office for a dietitian consult. He has recently been diagnosed with type 2 diabetes. Today, he is curious about modifying his diet to help manage his diabetes.

### **Past Medical History**

Hypertension

Type II diabetes

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## Questions:

1. What are the diagnostic criteria for type II diabetes? What other risk factors contribute to the development of type II diabetes?

### Criteria:

- A1C lab value is above 6.5%
- Fasting blood sugar test is above 126 mg/dL

### Risk factors:

- Obesity (BMI  $\leq 30$ )
  - Weight
  - Family history
  - Age (above 65)
  - Low physical activity
  - Dietary habits: fast food, skipping meals, high fat intake
2. What dietary recommendations would you suggest to Mr. M to help manage his diabetes? What changes would you make to his breakfast and dinner recall to align with his needs?

### Understand what foods contain sugars that will spike your blood sugar levels

- Complex carbohydrates throughout the day will support regular rises in blood sugars and reduce spikes.
  - Example: Injera is made of a whole grain, teff.
- Simple carbohydrates are appropriate for when you are experiencing hypoglycemia or low blood sugars. It quickly enters the bloodstream and can

### Make half your plate non-starchy vegetables.

- Emphasize the importance of fiber.
- Collaborate with client. With each follow-up, how does it feel adding more non-starchy vegetables to meals? If it's hard, what can I (healthcare provider) do to help you, Mr. M?
- Try adding your favorite spices to non-starchy vegetables you may avoid due to taste. Berbere spice pairs well with many non-starchy vegetables!

### Watch your carbohydrate intake-try making breakfast at home to limit fast food.

- Provide examples of quick and easy recipes to make at home.

- Provide examples of recipes that taste similar to fast food favorites but also lower sugar and sodium intake.
- Include spouse in education of these recipes and goal setting around lowering fast food intake.

#### Eat three meals a day

- Avoid skipping meals because it can affect metabolism and insulin activity. Your hunger and fullness hormones will not work as well, which can negatively impact weight.
- Eating more frequent meals (3 meals with snacks) can help stabilize your blood sugar levels and help lower your A1C.
- Would your spouse or kids be willing to try cooking enough food for you to bring to lunch at work? Cooking meals from home can make food more appealing.
- Would your spouse and kids be willing to attend your diabetes appointments and learn ways to manage your diabetes? They can help you with managing your diabetes. This also sets a positive example for the kids and preventing them from developing diabetes as well.

#### Increase your water intake, limit sugary beverages

- Provide examples of low-sugar beverage examples.
  - Example: herbal iced tea (unsweetened), fruit-infused water.

#### Increase movement such as walking, cycling, hiking, body weight movements, or weight-lifting, swimming, or sports.

- Assist with SMART goal setting. Help find solutions to possible barriers.
- Think of ways to include kids in physical exercise.
- Collaborate on finding a time in Mr. M's schedule to add physical activity to his routine.

#### Limit fast foods or try to choose healthier options.

- One fruit cup instead of an extra hashbrown
- Unsweet tea or diet soda instead of sweet tea and soda
- Create a handout on improving meal choices at fast food restaurants.

#### Dietary recommendations should consider his cultural food preferences while maintaining a balanced carb:protein:fat ratio.

- Use MyPlate as a tool to show how to balance macronutrient groups.



- Use the carb counting method to help Mr. M monitor his carbohydrate intake.
- Use food models to educate Mr. M on the portion sizes of food.
- Use culturally specific foods that fit into each category:
  - Grains: injera, barley, sorghum, corn, etc.
  - Non-starchy vegetables: collard greens, green beans, carrots, tomatoes, etc.
  - Protein: chickpeas and lentils (make sure to mention these contain starch), leaner cuts of meat like chicken breast and sirloin

### 3. How would you educate Mr. M on his new diagnosis?

Define what diabetes is:

- Type 2 diabetes is a chronic condition that affects how your body regulates and uses glucose (sugar). Type 2 diabetes leads to too much glucose in your bloodstream. This causes your blood sugar to rise and can lead to damaging consequences such as nerve damage, kidney disease, eye damage, and heart disease. In type 2 diabetes, an individual's pancreas produces too little insulin to control blood sugar levels. In addition, the cells in the body become resistant to insulin. These patients have insulin resistance, which means their body's cells are unable to use insulin correctly. Type 2 diabetes is usually diagnosed in patients over 40 years old and have a family history of it. Treatment for type 2 diabetes include weight loss, individualized meal plan, self-monitoring of blood sugar levels, regular exercise and/or medication.

Set SMART goals.

- Collaborate with the patient. Help him understand what his barriers to achieving his goals are. Help find ways to cope or overcome these barriers.
- Help Mr. M understand that diabetes maintenance is a process, and he will not cure himself completely overnight. SMART goals will allow him to make reasonable and attainable strides towards achieving a long-term health goal.

Define diabetes terms:

- Insulin is a hormone that signals for your cells to take in sugar from the blood for energy.
- Diabetes is a condition where those insulin hormones don't work as well or you may not have enough of them, causing high amounts of sugar in your blood. This can lead to complications like high blood pressure, nerve damage, infections, etc.
- Carbohydrates are groups of sugar molecules. Our body uses this as its main source of energy.

- Identify any gaps in knowledge for Mr. M. Reinforce education if he is still not understanding. Ask about family/friend experiences with diabetes. What are his thoughts? What are his fears/hopes with his diagnosis? What else would he like to know?

4. How would you address Mr. M's problem with skipping lunch?

The problem with skipping lunch causes your blood sugar to be inconsistent.

- It's important to keep your blood sugar stable to manage diabetes.
- Mr. M regulate blood sugar levels by eating 3 meals per day plus snacks.

Help write a food schedule with Mr. M. Identify times when he knows he would want to eat. Think of ideas of how to sneak in a snack even when he is busy at work.

- Provide snack ideas that Mr. M would enjoy that are easy to eat whenever he is busy.
  - Snack bars, smaller portions of a lunch, Dabo Kolo (Ethiopian pretzel bites) paired with a protein/fat like nuts

Share the diabetes MyPlate as a guide for balancing his food groups. Help him think of ideas of foods that fit into each group.

- Choose one of the meals from his food recall and help Mr. M think of ways to add balance to them.
  - Ex: adding a fruit cup instead of hashbrowns to breakfast.

## **Asian-Focused Case Study**

Mr. C is a 54-year-old male with uncontrolled hypertension. He presents for his annual visit with poorly controlled hypertension. He only recently started visiting his primary care physician three years ago, when he began experiencing chest pain. This was when he was first diagnosed with hypertension and hyperlipidemia. At the time of diagnosis, he was advised to lose weight, which has fluctuated since then.

Since he last attempted weight loss, no further action has been taken for lifestyle changes. Referred to you by his PCP, Mr. C presents with recent weight gain, nocturia 4x per week, and anxiety. He tells you that he is embarrassed by his difficulty losing weight. When asked about his thoughts on managing his high blood pressure, he expresses that he would rather focus on weight loss, so the “other health conditions can resolve on their own.” He says that his weight is the primary factor contributing to his hypertension.

Two years before his diagnosis, Mr. C’s mother passed away from congestive heart failure, and he began craving traditional comfort foods (“party foods”). Examples include deep-fried fish, pork belly, *tocino*, and chicken thighs with the skin. His wife explains that after his initial diagnosis, he was able to lose weight by going on 30-minute walks per day with his teenaged kids after school. He also copied meals that he saw on Facebook from wellness pages that were completely different from the Filipino foods they typically ate as a family. She and their kids were exhausted from their food choices completely changing, so they decided to go back to their usual meal intake.

Mr. C tells you that he felt burnt out from eating healthy foods all the time, so he chose to eat with his family again. He currently adds extra condiments to most of his meals because he thinks most foods are bland now. He also expresses feeling uncomfortably full after each meal. His children have recently moved out to college, so he now goes on one walk per week if he feels up to it. Mr. C expresses motivation to lose weight while still eating Filipino foods, but he is hesitant because he is embarrassed about how long it is taking to improve his health.

### **Social History**

Mr. C has a stressful job as an accountant. He is married and has two children that moved away to college. His children moving has caused him extra anxiety because he was not prepared for them to leave. He does not smoke and drinks socially, about 2 beers/week. His wife is the main person who cooks and purchases groceries, but he requests what foods she makes. He does not usually eat out

### **Medications**

Hydrochlorothiazide

Lisinopril

### **Anthropometrics**

Height: 5'6"

Weight: 185 lbs

BP: 160/96

### **Significant Labs**

Total cholesterol: 190 mg/dL (normal: <200 mg/dL)

HDL cholesterol: 38 mg/dL (normal: ≥40 mg/dL)

LDL cholesterol (calculated): 112 mg/dL (normal: <100 mg/dL)

TG: 180 mg/dL (normal: <150 mg/dL)

Sodium: 145 mg/dL (normal: 135-146 mg/dL)

Potassium: 4.2 mg/dL (normal: 3.5-5.3 mg/dL)

BUN: 20 mg/dL (normal: 7-30 mg/dL)

### **24-Hour Dietary Recall**

Breakfast: 2 eggs (fried in butter), 2 links of *longanisa* (sweet pork sausage), ½ teaspoon soy sauce, 1 ½ cups of white rice, 3 cups of black coffee

Lunch: chicken *adobo* (2 legs and 1 thigh, not trimmed, braised in soy sauce and vinegar), 2 cups of white rice, extra ½ teaspoon of soy sauce added, grande iced mocha with whipped cream from Starbucks

Dinner: large bowl of *sinigang* (soup made from tamarind seasoning packet, pork belly, okra, green beans, and eggplant), extra ½ teaspoon of fish sauce added, 1 cup of rice

Dessert: 1 large mango with 2 tablespoons *bagoong* (fermented shrimp paste)

**Questions:**

1. How will you educate Mr. C about his health conditions?
2. What recommendations will you discuss with Mr. C about diet to improve his health conditions?
3. What other lifestyle changes would you address with Mr. C to improve his health conditions?
4. Calculate Mr. C's BMI and energy needs. What would you recommend his body weight be?
5. How would you approach Mr. C regarding his views on weight and health?
6. For each of the meals in the dietary recall, how would you suggest ways to lower sodium and fat intake? Should overall carbohydrates be reduced? Explain.

## **Asian-Focused Case Study Answers**

Mr. C is a 54-year-old male with uncontrolled hypertension. He presents for his annual visit with poorly controlled hypertension. He only recently started visiting his primary care physician three years ago, when he began experiencing chest pain. This was when he was first diagnosed with hypertension and hyperlipidemia. At the time of diagnosis, he was advised to lose weight, which has fluctuated since then.

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Dessert: 1 large mango with 2 tablespoons *bagoong* (fermented shrimp paste)

## Questions:

1. How will you educate Mr. C about his health conditions?

Identify what Mr. C already knows about hypertension and hyperlipidemia from seeing his PCP. Fill in the gaps where needed.

- Hypertension is high blood pressure, meaning one's blood pressure is consistently above 140/90 mm Hg. The goal for a healthy BP is 120/80. Hyperlipidemia is diagnosed through testing the amount of cholesterol, low-density lipoprotein cholesterol, low-density lipoprotein cholesterol, and triglycerides.
- HDL is considered healthy cholesterol because it helps remove excess cholesterol. LDL is considered bad cholesterol because it can build up in the arteries.
- Excess LDL, TG, and low HDL raises blood pressure because extra cholesterol builds up in your arteries. Your heart then needs to pump harder to move blood through your body.
- Water follows sodium in the body. When sodium in the blood is too high, excess water also causes extra stress on the arteries.
- Diets high in fat and sodium are typically high in calories. All these factors, plus lack of exercise, can contribute to weight gain. Being overweight increases the complications with hypertension because it causes extra stress on the cardiovascular system.
- Genetics can also play a role in hypertension, especially since his mom passed away from CHF.

Connect these contributors to hypertension with Mr. C's personal lifestyle habits:

- Low physical activity
- Excessive calorie, sodium, and saturated fat intake
- Stressful job
- Anxiety with kids moving away
- High caffeine intake
- Low fiber intake

Include Mr. C's wife and/or kids in the education process. They may be able to help with interventions towards improving his health conditions.



2. What recommendations will you discuss with Mr. C about diet to improve his health conditions?

He expressed that he feels painfully full after each meal. This should be addressed to help decrease caloric intake.

- Teach him mindful eating tricks to connect with his hunger/fullness cues.
- Show him the MyPlate guide. Teach him the importance of including all the food groups in his diet.
- Discuss the importance and how to control portion sizes. Measure condiments added to foods, especially because fish sauce and soy sauce are high in sodium.
- Fiber helps lower blood lipids, which is why we need fruits and veggies.

Identify foods that he prefers from a Filipino diet and help build a balanced meal.

Examples:

- Fruits: apple, jackfruit, mango, melon, banana, soursop, pineapple
- Vegetables: garlic, onions, eggplant, carrot, bok choy, broccoli, cabbage, corn, potato, tomato, chayote
- Grains: rice (brown rice is higher in fiber, but white rice is still appropriate—monitor portion sizes), noodles
- Protein: leaner cuts of meat, trim fat off, pork shoulder instead of belly, chicken breast instead of legs, baked fish instead of fried
- Dairy (if he likes): yogurt, milk, cheese

Use tools to visualize a balanced diet and portion sizes:

- MyPlate can demonstrate how to portion each food group.
- Food models can depict the amounts of each food group are in one serving.
- Use a salt model: show how much 1,500 mg looks like in pure table salt form. You can also make a jar with other amounts, like 2,300 mg or more, to show that he may be eating way more than he thinks

Educate him on reading food labels for sodium content.

- Daily sodium intake should not exceed 2,000 mg per day.
- %Daily Value is based on the general guide of limiting sodium to 2,300 mg per day. Therefore, look at the amount of sodium in mg instead of %DV.

- For context, 1 teaspoon of fish sauce has 471 mg of sodium. One tsp of fish sauce is almost 1/3 of your limit! Try tasting your food before adding extra condiments high in salt.
- Try low sodium condiments to add flavor, like fresh herbs (garlic, ginger, chili, cilantro), vinegar, or lime.

Approach Mr. C. with a friendly demeanor. Even though hypertension is not a new diagnosis for him, it would not be appropriate to scold or reprimand him for not controlling his hypertension. It is also not appropriate to use scare tactics to get him to adhere to medical advice. Try showing emotional concern for possible consequences of continuing to make poor dietary choices.

3. What other lifestyle changes would you address with Mr. C to improve his health conditions?

**Stress:** teach him stress management techniques. Identify stressors (kids moving away, work, difficulties with health management) and ways to cope. Ex: breathing, walking more if it helps him destress, etc. Lower caffeine intake. Because he seems to enjoy spending time with family, help him find ways to add family time back into his routine even with the kids away. If he is willing, provide resources or refer him to a mental health counselor.

**Physical activity:** encourage him to begin exercising again if he is physically capable. Assist with setting goals. If his wife is in the room, help set group goals to walk together. Identify other forms of exercise he enjoys. Explain how exercise can assist with lowering blood pressure.

4. Calculate Mr. C's BMI and energy needs. What would you recommend his body weight be?

$$\text{BMI: } (185 \text{ lbs} \times 703) / (66 \text{ in} \times 66 \text{ in}) = 29.9 \text{ kg/m}^2$$

$$\text{Or } 84 \text{ kg} / (1.676 \text{ m} \times 1.676 \text{ m}) = 29.9 \text{ kg/m}^2$$

$$\text{Mifflin St. Jeor (men): } [(10 \times 84 \text{ kg}) + (6.25 \times 167.6) - (5 \times 54) + 5] \times 1.2 \text{ AF}$$

$$\text{EEN} = 1622 - 1947 \text{ kcal/day}$$

RBW should be the last weight he felt most comfortable with or 154 lbs (BMI 24.9).

5. How would you approach Mr. C regarding his views on weight and health?

First, explain that weight is just one factor that contributes to his hypertension. A higher weight can place more stress on the structure of the cardiovascular system, causing your heart to have to work harder. Weight is influenced by lifestyle, genetics, environment, and other factors.

As the healthcare provider, you can help Mr. C set realistic goals for weight loss. Figure out areas of nutrition education needed, like portion control, label reading, food groups,

etc. Help him find ways to improve the composition of his meals. Help him understand the purpose of nutrition and physical activity interventions to improve his blood pressure.

6. For each of the meals in the dietary recall, how would you suggest ways to lower sodium and fat intake? Should overall carbohydrates be reduced? Explain.

#### Breakfast:

- Replace butter with an unsaturated fat, like vegetable or grapeseed oil, to cook eggs.
- Instead of two eggs and two *longanisa*, choose one egg with two links or two eggs with one link. Two protein options may be more filling than he thinks!
- Mix the *longanisa* into the rice and eggs instead of adding extra soy sauce because it already has seasoning. Try adding garlic powder, black pepper, and other no-sodium condiment replacements.
- One portion of rice is 1/3 cup, so try decreasing rice and add more if he is still hungry.
- Choose a side of fruit or vegetables to add more fiber and make this meal more filling.
- Drink a cup of water for each cup of coffee to lower caffeine intake.

#### Lunch:

- Trim skin and fat off chicken.
- Mix the rice and meat together before adding extra soy sauce since *adobo* is already made with soy sauce.
- Add a little more vinegar for extra flavor instead of soy sauce.
- One portion of rice is 1/3 cup, so try decreasing rice and add more if he is still hungry.
- Choose the smallest drink size. Suggest beverages with a lower caffeine content to replace at least one of his coffee drinks per day. For example, an unsweetened black or green tea instead of more coffee. Other ways to increase energy without caffeine is light exercise, like walking, and drinking an adequate amount of water throughout the day.
- Instead of the latte, choose a fruit after the meal for a sweet treat.

#### Dinner:

- Choose a leaner cut of meat, like pork shoulder or salmon for the *sinigang*.

- Portion more vegetables into bowl of soup.
- One portion of rice is 1/3 cup, so try decreasing rice and add more if he is still hungry.
- Taste the soup before adding more fish sauce. *Sinigang* seasoning is usually high in sodium already. Measure fish sauce to pay attention to sodium intake. Use less *sinigang* seasoning by adding lime or vinegar for more flavor without extra salt.

#### Dessert:

- Dilute a smaller portion size (about ¼ tsp) of *bagoong* in vinegar to lower sodium and add more flavor. In this mixture, add other aromatics, like garlic, chili, and cilantro.
- Portion out a smaller amount of *bagoong* per mango slice to lower the amount eaten.
- Mix the mango with other fruits for a different and extra flavor.

## **Hispanic-Focused Case Study**

Rosio is a 26-year-old female from Puerto Rico who has prediabetes. During her last clinical visit, her doctor suggested she eat a balanced diet and exercise to lower her A1C (6.3%) to prevent the development of diabetes. Rosio cooks at home but finds it challenging to cook healthy because her husband does not like what she prepares. She gets discouraged from making lifestyle changes because of the little support she receives at home. Rosio spends most weekends with family eating traditional Puerto Rican dishes. She expresses concern and is unsure how to refuse her family's cooking. He does not want to upset anybody and is worried she doesn't have enough self-discipline to stay away from her favorite dishes.

Rosio's father has DM2 but does not show concern for his management since he is compliant with his medications. Family members constantly tell her about remedies and herbal teas to cure diabetes, while others emphasize avoiding all carbs like bread, rice, and fruit. Rosio states that she loves rice and is conflicted about cutting it out. She is overwhelmed with all the information and does not know where to start and what to believe.

Rosio works long hours from 7:30 am-6:00 pm at a daycare close to her home. The daycare is close to her home, so she walks to and from her job as it is a 7-minute walk. Rosio is not involved in any physical activity other than walks to and from work. She is also concerned about her weight and states that she has gained weight since marriage five years ago and would like to return to her usual weight of 155 lbs.

Rosio often skips breakfast most days, but when she wakes up early enough, she'll drink coffee or eat fruit. For lunch, Rosio packs leftovers from dinner the night before and eats between 12:00 and 1:00 pm. For dinner, Rosio gets home and begins cooking at 6:30 pm and usually eats at 8:00 pm. On weekends, she rarely cooks because she and her husband eat out or at a family member's home. Rosio finds it easy to snack on chewy bars, chips, or fruit because the kids keep her busy most of her shift.

### **Family History**

Father - DM2 since 2015

### **Past Medical History**

HTN

### **Anthropometrics**

BMI: 32 kg/m<sup>2</sup>

Wt: 185 lbs (84 kg)

Ht: 5'3"

Waist circumference: 37 in.

BP: 125/90

### **Significant Labs**

Fasting glucose: 122 mg/dL

A1C: 6.3%

### **24-Hour Dietary Recall**

Breakfast: 16 oz cup coffee with 1 tablespoon of vanilla creamer and 2 sugar packets, 1 medium banana

Lunch: 1 cup white rice, 1/2 cup *habichuelas* (pinto beans), 4 oz chicken breast (baked), 16 oz bottled water

Dinner: 2 each of *mofongo* (mashed plantains and pork)

Dessert: 1 slice of *tembleque* (coconut pudding), 12 oz can of Coke

Snack: 1 medium orange, 1 small bag of baked Lay's original flavor potato chips, 8 oz bottled water

**Questions:**

1. What is the difference between prediabetes and DM2? Based on the information above, what indications puts Rosio at risk for developing DM2?
2. What would you tell Rosio about the comments from her family members regarding avoiding certain foods and using home remedies to cure her condition?
3. Based upon the literature, which factors would you take into consideration before recommending an allotted carbohydrate range for Rosio?
4. Looking at overall health, are there any other concerns to consider based on the information provided?

## **Hispanic-Focused Case Study Answers**

Rosio is a 26-year-old female from Puerto Rico who has prediabetes. During her last clinical visit, her doctor suggested she eat a balanced diet and exercise to lower her A1C (6.3%) to prevent the development of diabetes. Rosio cooks at home but finds it challenging to cook healthy because her husband does not like what she prepares. She gets discouraged from making lifestyle changes because of the little support she receives at home. Rosio spends most weekends with family eating traditional Puerto Rican dishes. She expresses concern and is unsure how to refuse her family's cooking. He does not want to upset anybody and is worried she doesn't have enough self-discipline to stay away from her favorite dishes.

Rosio's father has DM2 but does not show concern for his management since he is compliant with his medications. Family members constantly tell her about remedies and herbal teas to cure diabetes, while others emphasize avoiding all carbs like bread, rice, and fruit. Rosio states that she loves rice and is conflicted about cutting it out. She is overwhelmed with all the information and does not know where to start and what to believe.

Rosio works long hours from 7:30 am-6:00 pm at a daycare close to her home. The daycare is close to her home, so she walks to and from her job as it is a 7-minute walk. Rosio is not involved in any physical activity other than walks to and from work. She is also concerned about her weight and states that she has gained weight since marriage five years ago and would like to return to her usual weight of 155 lbs.

Rosio often skips breakfast most days, but when she wakes up early enough, she'll drink coffee or eat fruit. For lunch, Rosio packs leftovers from dinner the night before and eats between 12:00 and 1:00 pm. For dinner, Rosio gets home and begins cooking at 6:30 pm and usually eats at 8:00 pm. On weekends, she rarely cooks because she and her husband eat out or at a family member's home. Rosio finds it easy to snack on chewy bars, chips, or fruit because the kids keep her busy most of her shift.

### **Family History**

Father - DM2 since 2015

### **Past Medical History**

HTN

### **Anthropometrics**

BMI: 32 kg/m<sup>2</sup>

Wt: 185 lbs (84 kg)

Ht: 5'3"

Waist circumference: 37 in.



BP: 125/90

### **Significant Labs**

Fasting glucose: 122 mg/dL

A1C: 6.3%

### **24-Hour Dietary Recall**

Breakfast: 16 oz cup coffee with 1 tablespoon of vanilla creamer and 2 sugar packets, 1 medium banana

Lunch: 1 cup white rice, 1/2 cup *habichuelas* (pinto beans), 4 oz chicken breast (baked), 16 oz bottled water

Dinner: 2 each of *mofongo* (mashed plantains and pork)

Dessert: 1 slice of *tembleque* (coconut pudding), 12 oz can of Coke

Snack: 1 medium orange, 1 small bag of baked Lay's original flavor potato chips, 8 oz bottled water

## Questions:

1. What is the difference between prediabetes and DM2? Based on the information above, what indications puts Rosio at risk for developing DM2?

Prediabetes is a condition where the body has higher blood sugar levels than normal, but not high enough to be diagnosed as type 2 diabetes. Type 2 diabetes occurs when the body has a hard time using the insulin the pancreas produces to keep blood sugar levels from getting too high.

- Consistent high blood sugar reading increases A1C %, which is a three-month average of blood sugar levels. Sugar levels during fasting of 100-125 mg/dl or A1C 5.7-6.4% indicates prediabetes.
- Proper diet and lifestyle changes can prevent progression of type 2 diabetes, which is a long-term condition with no cure where the body comes insulin resistant.
- Blood sugar levels are constantly elevated, and medication is needed for management. Blood sugar levels of 126 mg/dl or higher or A1C% 6.5% or higher indicates diabetes.
- Lack of proper care can lead to complications such as such as nerve, eye, and kidney damage and heart disease. Symptoms are often unnoticed for either condition until serious complications arise.

## Risk factors

- Lifestyle: Based on the 24-hour diet recall, Rosio has a high intake of simple carbohydrates which can lead to high blood sugar levels.
  - Environment: Including grocery stores nearby, access to quality healthcare, public safety of her neighborhood, etc.
  - Genetics: Based on Rosio's family history she has increased risk for developing diabetes. Hispanic populations, Puerto Ricans more specifically, have a higher risk than other hispanics to develop diabetes. Rosio is also considered obese with an apple shaped body structure, which raises concern for other health problems such as cardiovascular disease.
2. What would you tell Rosio about the comments from her family members regarding avoiding certain foods and using home remedies to cure her condition?

## Define nutrition terms related to diabetes for Rosio.

- Carbohydrates are foods that turn into sugar in the body. The body then uses that sugar as energy. Our bodies need energy from food for everything that we do in life. I (healthcare provider) wouldn't suggest cutting out bread, rice, or fruit, especially if you enjoy those foods. Some carbohydrates are fiber rich foods, like

fruit that will make you feel full while helping slow the rise in your blood sugar levels. It's important we are mindful of what kind and how much of those foods you're eating. Some carbohydrates are fiber rich foods, like fruit that will make you feel full while helping slow the rise in your blood sugar levels.

#### Home remedies

- Often used in many Hispanic cultures to treat diabetes. Be mindful of possible drug-nutrient interactions.
3. Based upon the literature, which factors would you take into consideration before recommending an allotted carbohydrate range for Rosio?

It is not a one size fits all answer.

- Carbohydrate recommendations vary from person to person since everyone's body is different.
  - Factors such as age, weight, and activity level influence the types and amount of food consumed.
4. Looking at overall health, are there any other concerns to consider based on the information provided?

Rosio is also at risk for metabolic syndrome. She needs to meet three out of five criteria. The criteria for metabolic syndrome diagnosis:

- A waistline that measures at least 35 inches. Rosio meets this criterion with a waist circumference is 37 inches.
- Blood pressure of 130/85 mmHg or higher. Her BP was 125/90.
- Fasting blood sugar of at least 100 mg/dL. Hers was elevated at 122 mg/dL.
- The last criteria are high triglycerides (150 mg/dL or higher) and low HDL (40 mg/dL or less). It is recommended that Rosio check cholesterol and triglyceride levels to evaluate these criteria. Regular physical activity and healthy eating can reduce the risk and symptoms of metabolic syndrome.

## East African Bowls

East African bowls are full of flavor and color! It's made with juicy chicken and vegetables that pair perfectly with a sweet, tangy dipping sauce. An easy to assemble dish that will have you wanting more!

Servings: 4

Serving Size: ½ cup barley, 1 cup roasted vegetables, ¼ cup chicken, and 2 Tbsp sauce

Prep time: 35 minutes

<u>U.S.</u>		<u>Metric</u>
1/2 cup	Pearl Barley	113 g
1 Tbsp	Olive Oil	13 mL
2 Tbsp	Lemon Juice	26 g
1 Tbsp	Berberé Spice Blend (see additional recipe)	6 g
2 cloves (1 Tbsp)	Garlic, minced	6 g
1/2 lb	Chicken Breast, cubed	248 g
<i>Vegetables:</i>		
1/2 Tbsp	Olive Oil	8 mL
2 cups	Cauliflower Florets	219 g
2 cups	Brussel Sprouts, halved	231 g
1 1/2 cups	Sweet Potato, peeled and cubed	149 g
1/2 medium	Red Onion, cut into wedges	137 g
1/2 Tbsp	Berberé Spice Blend (see additional recipe)	3 g
1/2 tsp	Black Pepper	3 g
<i>Sauce:</i>		
1/2 cup	Fresh Cilantro Leaves	12 g
1/4 cup	Fresh Mint Leaves	2 g
1 1/2 Tbsp	Sweetened Shredded Coconut	10 g
1/2 each	Jalapeño Pepper, seeded, chopped	10 g
1/4 cup	Granny Smith Apple	63 g
1 tsp	Lemon Juice	4 g
1/4 cup	Plain 2% Greek Yogurt	68 g
1/2 tsp	Cumin Powder	3 g

### **Preparation:**

1. Prepare Berbere spice (see additional recipe) and set aside.
2. Follow cooking directions on barley package. Drain off extra cooking liquid.<sup>1</sup>

3. Combine olive oil, lemon juice, Berbere spice and garlic in a resealable plastic bag. Add the cubed chicken to marinade for 15 minutes. Discard the marinade and pan sauté chicken until juices run clear and 160 degrees (will finish to 165 as it cools).
4. Preheat oven to 400 degrees F. Toss vegetables with oil, pepper, and Berbere spice blend in a large bowl. Spread vegetables in an even layer on a baking sheet. Roast 10 min, stir, and roast an addition 10 min or until starting to blister.
5. Meanwhile for the sauce, pulse the cilantro, mint, coconut, and jalapeño in a food processor until minced. Add the apple, cumin, lemon juice, yogurt, and pulse to mince. Transfer mixture to a bowl for serving.<sup>2</sup>
6. To serve, measure 1/2 cup barley, 1 cup roasted vegetables, 1/4 cup chicken and 2 Tbsp of sauce.

**Notes:**

1. Vary this dish by substituting sorghum, quinoa, farro, or brown rice instead of barley.
2. Sauce would pair great with salads, vegetables, and other meat dishes.

# Nutrition Facts

servings per container

**Serving size** (295g)

Amount per serving

**Calories** **330**

% Daily Value\*

**Total Fat** 9g 12%

Saturated Fat 2g 10%

Trans Fat 0g

**Cholesterol** 45mg 15%

**Sodium** 390mg 17%

**Total Carbohydrate** 45g 16%

Dietary Fiber 9g 32%

Total Sugars 8g

Includes 0g Added Sugars 0%

**Protein** 21g

Vitamin D 0mcg 0%

Calcium 95mg 8%

Iron 3mg 15%

Potassium 930mg 20%

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## **Berbere Spice Blend**

A traditional Ethiopian spice blend made of various spices that enrich the flavor of meat, vegetables, or fruit!

Servings: 6

Serving Size: 1 Tbsp

Prep time: 5 minutes

### **U.S.**

### **Metric**

1/4 cup	Ground Chili Powder (or red pepper flakes)	31 g
2 Tbsp	Paprika	8 g
1/2 Tbsp	Cayenne Pepper	4 g
1/2 tsp	Onion Powder	3 g
1/2 tsp	Ground Ginger	3 g
1/2 tsp	Cumin	3 g
1/2 tsp	Ground Coriander	3 g
1/2 tsp	Ground Cardamom	3 g
1/2 tsp	Ground Fenugreek	3 g
1/4 tsp	Garlic Powder	1 g
1/8 tsp	Ground Nutmeg	1 g
1/4 tsp	Ground Allspice	1 g
1/4 tsp	Ground Cloves	1 g

### **Preparation:**

1. Place all ingredients together in a bowl. Stir.
2. Store in an airtight container.

# Nutrition Facts

servings per container

**Serving size** (9g)

Amount per serving

**Calories** **30**

% Daily Value\*

**Total Fat** 1g **1%**

Saturated Fat 0g **0%**

Trans Fat 0g

**Cholesterol** 0mg **0%**

**Sodium** 160mg **7%**

**Total Carbohydrate** 5g **2%**

Dietary Fiber 3g **11%**

Total Sugars 0g

Includes 0g Added Sugars **0%**

**Protein** 1g

Vitamin D 0mcg **0%**

Calcium 29mg **2%**

Iron 1mg **6%**

Potassium 124mg **2%**

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## Plantain Pancakes

A great take on pancakes but with a surprise of sweetness. These pancakes are rich, dense, and delicious!

Servings: 10

Serving Size: 1 pancake

Prep time: 20 minutes

<u>U.S.</u>		<u>Metric</u>
2 Tbsp	Ground Flax Seed	16 g
1/4 cup	Water	57 mL
1 1/2 cup	Millet Flour	215 g
2 1/2 tsp	Baking Powder	11 g
1/4 tsp	Salt	1 g
1/4 tsp	Baking soda	1 g
1/2 tsp	Cinnamon	3 g
1 large	Overripe Plantain, peeled	378 g
1 1/4 cup	Unsweetened Almond Milk	295 g
1 can	Olive Oil Spray	137 g

### **Preparation:**

1. As an egg substitute, mix flaxseed with water in a small bowl and stir. Let sit for five minutes until thickened with an egg-like consistency.
2. In a medium bowl whisk together the millet flour, baking powder, sea salt, baking soda, and cinnamon.
3. In a blender add the plantain, almond milk, and flax seed mixture. Puree until the mixture is smooth.<sup>1</sup>
4. Add the plantain mixture to the flour mixture into bowl. Fold the batter gently with a rubber spatula until just blended; do not over-mix. Add more milk (if necessary) to create a pourable batter.
5. Spray olive oil onto preheated griddle or non-stick pan.
6. Drop ¼ cup of batter onto the griddle for each pancake, spacing them apart by about 2 inches. Cook until a few holes form on top of each pancake and the underside is golden brown, about 2 minutes. Flip the pancakes and cook until the bottom is golden brown and the top has risen, 1 to 2 minutes more.
7. Use a spatula to transfer the pancakes to a serving plate. Wipe the griddle clean, add more spray olive oil, and repeat.
8. Garnish with toppings of choice.<sup>2</sup> Enjoy!

### **Notes:**

1. Substitute personal milk preference in place of almond milk.

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2. Recommended toppings include honey and a sprinkle of cinnamon. Toppings may vary based upon cultural acceptance.

# Nutrition Facts

servings per container

**Serving size** (150g)

Amount per serving

**Calories** **210**

% Daily Value\*

**Total Fat** 3.5g 4%

Saturated Fat 0g 0%

Trans Fat 0g

**Cholesterol** 0mg 0%

**Sodium** 210mg 9%

**Total Carbohydrate** 41g 15%

Dietary Fiber 3g 11%

Total Sugars 7g

Includes 0g Added Sugars 0%

**Protein** 5g

Vitamin D 1mcg 6%

Calcium 240mg 20%

Iron 2mg 10%

Potassium 572mg 10%

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## **Pancit Bihon**

A quick and easy, one-pot dish from the Philippines. Finish with condiments like low-sodium chili sauce, low-sodium soy sauce, and lime juice to your preferences!

Servings: 4

Serving size: 2 ¼ Cups (330 g)

Prep time: 30 minutes

### **U.S.**

1 Tbsp

2 cloves (1 Tbsp)

2-3 thighs (12 oz)

½ medium (5 oz)

8 oz

6 oz

3 Tbsp

⅛ tsp

2 cups

6 oz

½ head (8 oz)

2 stalks

1 Tbsp

Vegetable Oil

Garlic, minced

Chicken Thighs, boneless, skinless

Onion, sliced

Carrots, julienned

Snow Peas, trimmed

Low-Sodium Soy Sauce

Black Pepper

Low-Sodium Chicken Broth

Thin Rice Noodles (bihon)

Green Cabbage, shredded

Green Onion, chopped

Cilantro, chopped

### **Metric**

15 mL

8 g

340 g

145 g

228 g

173 g

45 mL

1 g

473 mL

170 g

228 g

23 g

1 g

### **Preparation:**

1. Thinly slice chicken thighs.
2. In a wok or large pan with tall sides over high heat, heat the oil.
3. Add garlic to the pan and sauté until fragrant. Add the chicken to the pan in an even layer. Sauté until the chicken is starting to brown and about half-cooked.
4. Add the onions, carrot, and snow peas to the pan.<sup>1</sup> Add the soy sauce and black pepper. Cook until well-combined.
5. Add the chicken broth<sup>2</sup> to the pan. Bring up to a boil.
6. Add the noodles to the pan. Allow noodles to soften and absorb the liquid. Add the cabbage. Cook until all the liquid is absorbed, about 5 minutes.
7. Garnish with green onion, cilantro, and optional condiments.<sup>3</sup> Enjoy!

### **Notes:**

1. Traditionally, this recipe uses cabbage, carrots, snow peas. Use what you have on hand! The best types for this dish are tougher, less watery veggies.
2. Aim for a broth that has 70 mg of sodium or less per cup. Another option is water instead of broth.
3. If allowed 1 tsp of Sriracha adds 70 mg of sodium to each plate. One extra tsp of low-sodium soy sauce adds 198 mg of sodium to each plate.

# Nutrition Facts

servings per container

**Serving size** (463g)

Amount per serving

**Calories** 380

% Daily Value\*

**Total Fat** 8g 10%

Saturated Fat 1g 5%

Trans Fat 0g

**Cholesterol** 70mg 23%

**Sodium** 600mg 26%

**Total Carbohydrate** 51g 19%

Dietary Fiber 5g 18%

Total Sugars 8g

Includes 0g Added Sugars 0%

**Protein** 24g

Vitamin D 0mcg 0%

Calcium 70mg 6%

Iron 3mg 15%

Potassium 168mg 4%

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## Soondubu Stew

A spin off a Korean dish called soondubu-jjigae. This hot stew can be customized with whatever vegetables you have on hand. The star of this dish is the soondubu or the silky, extra soft tofu. Serve with brown rice to make it a meal.

Servings: 4

Serving Size: 2 ¼ cups, 470 g

Prep time: 30 minutes

### U.S.

<u>U.S.</u>		<u>Metric</u>
½ Tbsp	Vegetable oil	8 mL
2 cloves (1 Tbsp)	Garlic, minced	8 g
½ medium (5 oz)	Onion, diced	145 g
2 stalks	Green onion, green and white parts, chopped	23 g
1 ½ Tbsp	Gochugaru (Korean red chili powder)	10 g
1 tsp	Sugar	4 g
1 medium (2 ½ cups)	Zucchini, diced	341 g
3 oz	Mushrooms, sliced	80 g
2 cups	Low-sodium stock of choice	473 mL
2 Tbsp	Low-sodium soy sauce	30 mL
1 Tbsp	Sesame oil	15 mL
1 package (12 oz)	Tofu, silken, sliced	340 g

### **Preparation**

1. In a pan, heat the vegetable oil over medium heat.
2. Sauté the garlic, onion, and green onion until aromatic, about 2 minutes. Stir in the Gochugaru and sugar.
3. Add the zucchini and mushrooms. Sauté until softened, about 3-5 minutes.
4. Add the stock to the pot, cover with a lid, and bring to a boil. Mix in the soy sauce and sesame oil.
5. Add the sliced tofu on top. Put the lid back on and simmer for 3-5 minutes.

### **Optional:**

6. After turning off the heat, immediately crack an egg into the stew and mix.
7. Garnish with fresh green onions or kimchi.

# Nutrition Facts

servings per container

**Serving size** (370g)

Amount per serving

**Calories** **160**

% Daily Value\*

**Total Fat** 8g **10%**

Saturated Fat 1g **5%**

Trans Fat 0g

**Cholesterol** 0mg **0%**

**Sodium** 370mg **16%**

**Total Carbohydrate** 11g **4%**

Dietary Fiber 2g **7%**

Total Sugars 5g

Includes 2g Added Sugars **4%**

**Protein** 9g

Vitamin D 0mcg **0%**

Calcium 104mg **8%**

Iron 1mg **6%**

**Potassium** 447mg **10%**

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## Red Chicken Stew

Tomatoes are a staple in Hispanic culture. They are typically used to make salsa or sauces that complement the main dish. Enjoy this red chicken stew recipe that goes well with a side of rice.

Servings: 6

Serving Size: 1 cup (291 g)

Prep time: 1 hour and 30 minutes

### U.S.

		<u>Metric</u>
2 quarts	Water	2 L
1 lb	Chicken Breast, trimmed	702 g
3 cloves	Garlic, whole	7 g
1/4 cup	Cilantro, entire stem and leaf, packed	10 g
1 tsp	Cumin, ground	5 g
1 tsp	Coriander, ground	5 g
1 tsp	Paprika	5 g
1 tsp	Oregano, dried	5 g
1 medium	White Onion, divided, sliced	225 g
4 each	Mint Leaves	2 g
1 Tbsp	Olive oil	15 mL
2 cups	Cauliflower Florets, trim stem	260 g
2 cups	Broccoli Florets, trim stem	173 g
1 small	Zucchini, diced	146 g
	Cilantro, optional	
	Lime Wedges, optional	

### *Tomato Sauce:*

5 cups	Water	1 L
6 each	Roma Tomatoes	550 g
1/2 cup	White Onion, small, chopped	118 g
1 clove	Garlic	5 g
1 cup	Low Sodium Chicken Broth	236 mL
1/2 oz	Achiote	14 g
2 tsp	Cumin, ground	10 g
1 Tbsp	Chili Powder	15 g
1/4 tsp	Cayenne Pepper, ground	1 g
1/4 tsp	Kosher Salt	1 g

### **Preparation:**

1. In a saucepan, bring 2 quarts of water to boil. Add chicken breast, garlic, cilantro, cumin, coriander, paprika, oregano, 1/4 of the onion, and mint leaves. Cook for 1 hour or until chicken can easily shred with fork (190 F°).
2. While chicken is cooking prepare tomato sauce. See instructions below.



3. Using two forks, shred chicken in saucepan. Drain chicken and discard remaining broth.
4. In a separate pan, heat olive oil over medium heat. Add remaining onion (sliced) and sauté for 1-2 minutes.
5. Add cauliflower and cook for 3-4 minutes then add broccoli, zucchini squash, shredded chicken, and tomato sauce.
6. Reduce heat and let simmer for 8-10 minutes.
7. Garnish with chopped cilantro and lime wedge. Serve with a side of rice and enjoy!

**Tomato Sauce Instructions:**

1. In a saucepan, bring water to boil, then add tomatoes and cook until soft (8-10 minutes).
2. Using a fork or spoon, transfer tomatoes to a blender then add onion, garlic, chicken broth, achiote, cumin, chili powder, cayenne, and salt. Blend until liquified.

# Nutrition Facts

servings per container 6

**Serving size 1 cup (291g)**

Amount per serving

**Calories 180**

% Daily Value\*

**Total Fat** 5g 6%

Saturated Fat 1g 5%

Trans Fat 0g

**Cholesterol** 55mg 18%

**Sodium** 410mg 18%

**Total Carbohydrate** 13g 5%

Dietary Fiber 4g 14%

Total Sugars 5g

Includes 0g Added Sugars 0%

**Protein** 21g

Vitamin D 0mcg 0%

Calcium 84mg 6%

Iron 2mg 10%

Potassium 768mg 15%

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## **Mexican Style Lentils**

Try this quick and easy lentil soup with an authentic Mexican twist. Lentils can prepare for any meal of the day. Add corn tortillas to make this a complete meal.

Servings: 4

Serving Size: 1 cup (470 g)

Prep time: 25 minutes

### **U.S.**

		<b><u>Metric</u></b>
3 cups	Water	709 mL
1 cup	Lentils, brown	210 g
1 Tbsp	Olive Oil	15 mL
1 cup	White Onion, diced	132 g
1 each	Serrano Peppers, diced, seeds optional	7 g
2 each	Roma Tomatoes, diced	151 g
1 cup	Low Sodium Chicken Broth	236 mL
1/2 tsp	Black Pepper, ground	3 g
1/4 tsp	Kosher Salt	1 g
	Cilantro, optional topping	30 mL

### **Preparation:**

1. Bring water to boil in saucepan then add lentils. Reduce heat and let simmer for 8-10 minutes (Lentils should be slightly hard). Set aside.
2. In a separate pan, heat oil over medium heat. Add onions, serrano pepper, tomatoes, chicken broth, and black pepper. Sauté for 2-3 minutes or until soft.
3. Add vegetable mix to lentils. Set heat to low and let simmer for 8-10 minutes or until lentils are soft.
4. Garnish with cilantro. Serve and enjoy!

# Nutrition Facts

servings per container 4  
Serving size 1 cup (235 g)

Amount per serving

**Calories 230**

% Daily Value\*

Total Fat 4g 5%

Saturated Fat 0.5g 3%

Trans Fat 0g

Cholesterol 0mg 0%

Sodium 160mg 7%

Total Carbohydrate 37g 13%

Dietary Fiber 20g 71%

Total Sugars 4g

Includes 0g Added Sugars 0%

Protein 12g

Vitamin D 0mcg 0%

Calcium 59mg 4%

Iron 4mg 20%

Potassium 620mg 15%

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## **Discussion Guide**

### **Recipe Review (10-15 minutes):**

- Discuss each recipe's calories, fat, fiber, sodium, and serving size as well as appearance (compare and contrast).
- Name examples of foods and combinations of food groups to use the recipes in to create a culturally appropriate meal.
- Identify cultural foods from each recipe.

### **Pancit Bihon:**

- Rice noodles are a gluten-free option for those with gluten sensitivities.
- High fiber vegetables: carrot, cabbage, snow peas
- Low-sodium flavor options: soy sauce, chicken broth, lime, herbs
- What other protein options could you use in this dish? (Ex: lean pork, shrimp)
- What other vegetable options could you add or substitute? Ex:
  - Purple cabbage over green cabbage for extra antioxidants
  - Red or yellow bell pepper for sweetness
  - String beans instead of snow peas for accessibility

### **Soondubu Stew:**

- Plant-based protein with 9g per serving
- Why is sugar added in this recipe?
  - Korean cuisine often balances spicy with sweet flavors. This recipe uses less sugar than traditional recipes.
  - This recipe contains 2g added sugar per serving.
  - To decrease added sugars further, you can recommend a patient uses half a teaspoon first. Then, after cooking, taste the dish. Add the other half teaspoon if necessary.
  - To replace the added sugar, sauté the onions and garlic longer on a medium-low heat, until soft and brown. This will caramelize the alliums, releasing more glutamate and sweetness.
- Can be paired with grains like rice, rice cakes, or noodles to make this a balanced meal.

- This is a flavorful recipe that can help introduce tofu as a plant-based protein option for those who are unsure of how to prepare tofu.

### **Chana Masala:**

- The combination of spices gives the dish lots of flavor without the need for lots of salt.
- This flavorful combination of spices makes this dish perfect over rice or with roti.
- Traditional dish from Northern India
- Chickpeas are a good source of fiber, protein, and iron.
- Turmeric is a powerful antioxidant.
- May be stored in refrigerator for up to 5 days.

### **Roti/Chapati:**

- The whole wheat flour is not traditionally used, but it increases the fiber in this recipe.
- Versatile bread that can be eaten as a side to saucy dishes and dips
- Plates with roti often include rice. Instead of telling patients to choose one grain or the other, how can you honor food preferences while still balancing meal portions?
  - Pair half a serving of roti with half a serving of rice

### **Mexican Style Lentils:**

- Protein alternative with 12g per serving
- Excellent source of dietary fiber
- Easy recipe to substitute ingredient; add additional vegetables
- Complex carbohydrate. Great for people with diabetes.
- Lentils are a staple pantry item with a short cooking time, great for a quick, easy, and nutritious recipe
- Affordable recipe
- Low sodium recipe with 160mg per serving

### **Steamed Brown Rice:**

- Easy to make; only two ingredients needed.
- More fiber than white rice.
  - How is this helpful to people with diabetes or hypertension?
    - Slows the rise of blood glucose
    - Lowers blood cholesterol levels
- Can be paired with any flavorful protein and vegetables to make a balanced meal. Pairs well with African, Asian, and Hispanic meals!

### **Red Chicken Stew:**

- Lean protein with 21g per serving – allows for a longer lasting feeling of fullness
- Pair well with rice or tortillas, creating a more balanced meal
- Includes a variety of seasonings traditionally used in Hispanic cuisines which adds flavor and less reliance of salt.
- Reduced sodium
  - Traditionally, this recipe uses achiote and chicken bouillon, which are high in sodium. We decreased the sodium by using reduced sodium broth and only a ½ of the achiote package. This is an example of honoring the cultural preference of using achiote but ensuring it aligns with the goal of sodium reduction. You can increase the flavor without adding extra salt by using spices and herbs.
  - Spices and herbs included in the recipe that are traditionally found in Hispanic dishes are oregano, cilantro, and cumin.

### **Cuban Style Black Beans:**

- Fiber-rich food with 4g fiber per serving
- Meat alternative with 3g protein per serving
- Side dish often used in Cuban cuisines

### **East African Bowls:**

- Similar dishes are usually made in East Africa
- Fiber-rich vegetables- cauliflower, Brussel sprouts, and sweet potatoes
- Recipe full of fiber with 9g per serving

- Good source of lean protein-chicken with 21g per serving
- Pearl Barley is a whole grain.
- Easy substitutions for grain, meat, and vegetables
- Sauce pairs with other dishes- salads, vegetables, meats
- Berbere Spice is a traditional Ethiopian spice

#### **Plantain Pancakes:**

- Low fat with 3.5g per serving
- Fruit-based recipe
- Plantains are a great source of vitamin C. Vitamin C helps boost the immune system.
- Plantains are a great source of potassium
- Good source of calcium with 240mg representing 20% of your daily value
- Recipe for breakfast or dessert
- Toppings can vary upon cultural acceptance
- Easy substitutions for milk preference

#### **Simple Savory Greens:**

- Fiber rich vegetables- kale, collards, swiss chard
- Good source of vitamin K and potassium
- Side dish recipe used in African American cuisine
- Easy substitutions for your green preference
- Reduced sodium

#### **Mindfulness (5 minutes):**

- Discuss dishes in relation to the ingredient's origin, textures, and color that are consumed in each cultural group

#### **Debrief (5-10 minutes):**

- Ask each student to:



- State one new takeaway from the class.
- How would you use your knowledge from these recipes to exercise cultural humility during nutrition interviews?