EPISODE 29: WORLD DIABETES DAY 2023

Rita Kalyani, MD: Welcome to ***Diabetes Deconstructed***, a podcast for people interesting in learning more about diabetes. I'm your host, Dr. Rita Kalyani at Johns Hopkins. We developed this podcast as a companion to our ***Patient Guide to Diabetes*** website. If you want a trusted and easy to understand resource for diabetes or to listen to previous podcasts, please visit **hopkinsdiabetesinfo.org**.

Today we are thrilled to welcome Dr. Stanley Chen Cardenas, who will be speaking with us on today's special edition podcast for World Diabetes Day with a special focus on diabetes in Latin America. In honor of World Diabetes Day, Dr. Cardenas will respond to questions in both English and Spanish, and we are thrilled to have our first bilingual podcast today.

Dr. Chen Cardenas is an Assistant Professor of Medicine in the Division of Endocrinology, Diabetes, and Metabolism at the Johns Hopkins University School of Medicine. He was born in Panama, obtained his medical degree at the University of Panama, where he became interested in endocrinology and basic translational research. This led him to migrate to the United States. He initially worked in an immunology lab in Panama, then at the Joslin Diabetes Center of Harvard Medical School, where he studied micro RNAs as biomarkers in beta cell destruction in type 1 diabetes. He continued his training in Baltimore at Sinai Hospital, where he served as chief resident, and then an endocrinology fellowship at Johns Hopkins University. Relevant for this podcast as an endocrinologist, he spent two years working in Latin America, more specifically in Panama, both in the public and private healthcare system. We are thrilled to have you here today, Dr. Chen Cardenas.

Stanley Chen Cardenas, MD: Thank you, Dr. Kalyani, for that kind introduction. It's my pleasure to be here.

RK: Well, we are so excited to hear from you in both English and Spanish today about some important points related to the global prevalence of diabetes focused on Latin America and also about factors that might be different for us to consider in managing diabetes or thinking about diabetes in these other countries. I wondered if you could first start off by telling us, what is diabetes?

SC: Diabetes, is a group of disorders that are basically characterized by high blood sugar or hyperglycemia, which could be the consequence of problems with insulin production or secretion or insulin action or a combination of both.

To answer this question in Spanish, I would say, *La diabetes es un grupo de enfermedades metabólicas que tienen en común el aumento del nivel de azúcar en la sangre. Y eso se debe a que el páncreas no produce suficiente insulina, o la insulina no puede ejercer su acción, o una combinación de ambos procesos.*

RK: Why is it important for us to diagnose diabetes? What are the complications that we should be aware of?

SC: That is a very important question because diabetes can lead to complications in the long term and many of them are associated with vascular or damage in the blood vessels. For example, damage to the retina or the eye, which can lead to loss of vision; damage to the kidneys, which can lead to renal failure; or damage to the nerves that can lead to many complications such as foot ulcers, amputations, among others. There are so many other complications that are derived from diabetes.

In Spanish, Diabetes es importante tratarla porque puede llevar a complicaciones a largo plazo, entre esas están el daño a la visión (o a los ojos), puede dañar al riñón y terminar en falla del riñón, puede causar problemas con los nervios y causar neuropatías, ulceras y amputaciones.

I'd like to go back to the question also to mention that cardiovascular diseases are a big problem where diabetes is a major risk factor.

Y quiero decirlo en Español también, donde la diabetes puede llevar a enfermedad cardiovascular y es muy importante tratarla.

RK: That is so true. Cardiovascular disease in particular can affect people of any background, any country and we know that it is the primary cause of morbidity and mortality in, in people with diabetes. I wonder if you could talk a little bit about the epidemiology of diabetes in the United States, to start off with how many people in the United States have diabetes and who are they?

SC: Sure. That's a really important question also to have an idea of the scope of the problem. So data from the American Diabetes Association from 2019 reported that approximately 37.3 million Americans had diabetes, which is roughly 11.3% of the population with diabetes.

En los Estados Unidos aproximadamente 37.3 millones de personas sufrían de diabetes según las estadísticas en el 2019, y eso es equivalente a 11.3% de la población, o uno de cada diez.

RK: And we know that diabetes continues to grow in terms of the numbers of people with diabetes in the United States. How common is diabetes among different racial and ethnic groups?

SC: That's right, I agree with you, Dr. Kalyani. So the distribution of diabetes, it depends from the studies, but from the data that we know from the American Diabetes Association, that about 14.5% of American Indians have diabetes, 12.1% of non-Hispanic blacks, about 11.8% of Hispanics, and 9.5% of Asian Americans, and 7.4% non-Hispanic whites suffer from diabetes.

In Spanish, aproximadamente 14.5% de American Indians, o Nativos Americanos, 12.1% of Hispanos no negros o afroamericanos, 11.8% de hispanos y 9.5% de Asiaticos Americanos y 7.4% de blancos no hispanos sufren de diabetes.

RK: That's so interesting to hear about the different risks of diabetes in different racial and ethnic groups. How does the prevalence compare for Hispanic versus non-Hispanic whites in the United States?

SC: In general, for non-Hispanics in the U.S., the prevalence is higher than Hispanics in the US.

En Español sería, para no hispanos en los Estados Unidos es mayor que para hispanos [la prevalencia].

RK: It's so interesting to hear that the rates and the risk of diabetes is different by racial and ethnic groups and that there may be specific groups at higher risk for complications. You know, I was intrigued by this statistic from the office of minority health that said in 2018, Hispanics were 1.3 times more likely than non-Hispanic whites to die from diabetes. Hispanic adults were also 70 percent more likely than non-Hispanic white adults to be diagnosed with diabetes by a physician. I was wondering, Dr. Chen Cardenas, do those statistics surprise you and why do you think this might be?

SC: So, I think it's probably multi factorial. I think that depends on the access to health care is one important problem that sometimes is seen in this population. The ability to access healthy food or ability to make healthy choices. I think those are things that also influence and of course, there is a genetic background in that statistics, perhaps.

Para responder en español, el problema quizá hay múltiples razones. Muy probablemente el acceso a salud, el acceso a comida o alimentos saludables, las elecciones que hacen los pacientes y también probablemente hay un componente genético que predispone a ese riesgo adicional.

RK: It sounds like there's many factors that might contribute but really behooves us to focus on addressing those factors to reduce the burden of the complications, particularly in high-risk groups, such as Hispanic Americans. Moving on to Latin America, which is much broader, but related. First of all, could you tell us what do we mean when we say Latin America?

SC: The concept Latin America, is really a concept that includes countries that predominantly speak language derived from the Latin — meaning Spanish, Portuguese, and French. And it's an interesting concept because it includes about 20 to 33 countries, depending on whether you include the Caribbean or not. Within this concept, there are probably about more than about 600 million people. So it is a large group of people.

En español, Latinoamérica es un concepto que involucra un grupo de países (que hablan predominantemente idiomas derivados del latín como Español, Portugués y Frances. Incluye alrededor de 20 a 33 países si el Caribe es incluido. Y en este grupo de países viven más de 600 millones de personas donde hay un grupo heterogéneo de personas.

RK: I think the terminology can be confusing sometimes and might mean different things to different people, but I think the general sense that there might be some common factors among these countries, whether it's in language or culture or even risk of chronic diseases is important. Could you tell us a little bit about the epidemiology of diabetes in in Latin American countries compared to other countries in the world?

SC: Latin America have different regions from Central America, South America, the Caribbean and really the prevalence of diabetes is different and varies in each region and within countries of the region.

Primero para traducir esto Latinoamérica incluye, como mencione, Centroamérica, Sur America y el Caribe. Dentro de Centroamérica existen multiples países al igual que cada región. Y la prevalencia varían de acuerdo con los países.

If go back to some of the countries with the highest prevalence of diabetes, for instance, in Central America, Mexico, Nicaragua, and Costa Rica are the 3 countries that most frequently remain as the ones with the highest and of course, this prevalence can vary depending on the studies, but these are the 3 countries in the Central American region. In South America, Chile, Venezuela, and Uruguay have the highest prevalence of diabetes. And in the Caribbean, Puerto Rico, Dominican Republic, and Haiti are the ones with the highest prevalence.

En Español, los países de Centroamérica que mantienen las más altas prevalencias de diabetes incluye México, Nicaragua y Costa Rica. En América del Sur, Chile, Venezuela y Uruguay. Y en el Caribe, Puerto Rico, la Republica Dominicana y Haití.

One point that I have to make, is that there are some regions in Latin America where there's very little data and we don't really know what's the prevalence in some regions.

Hay áreas que no se sabe muy bien cuanto o cual es la prevalencia porque hay datos limitados.

RK: That's so interesting and important to note that within Central America and South America and the Caribbean that there are differences by country. Not all countries are the same and really points to understanding what are the unique factors that might contribute to those country by country differences. What about in Panama, where you're from, how does diabetes in Panama compare to other parts of Latin America?

SC: That is a very important, interesting question. In Panama, the prevalence of diabetes in adults is about 8.2% and it's not the highest, but it's on the on the high end and it's unfortunately been increasing over the years, along with the increased prevalence of obesity, which is, you know, the major risk factor for type 2 diabetes.

En Panamá, la prevalencia de diabetes es 8.32% en adultos y este número ha ido incrementando junto con la prevalencia de obesidad.

RK: That's interesting. You know, in the United States, the prevalence by the most recent estimates is around 11% for diabetes. Do you think that in other countries such as Panama or the countries that you mentioned where we don't have enough data that we might actually be underestimating the prevalence? How reliable is the data do you think that we have that?

SC: That's a that's a good question, Dr. Kalyani, because being in Panama, I know the difference between the countryside and the city and when you do studies, trying to look for prevalence of

doing surveys, you find differences in the city and it's very hard to just reach some places in the countryside. So that creates some heterogeneity and lack of data. So we can only estimate.

En español, la pregunta de la Dra. Kalyani sobre la prevalencia y la diabetes en Panamá, por ejemplo. Los datos de la ciudad y las partes más alejadas del interior (del país) donde no siempre se puede llegar a obtener la información y lo que se hacen son estimaciones de prevalencia de la información.

RK: It makes sense that it could be hard to reach people who might not be as digitally connected or accessible by road and on the countryside, talking a little bit about differences in diabetes in big urban centers versus rural populations. I wonder if you could talk about what kind of differences you may have seen in Panama, and in general, what kind of differences in diabetes rates and complications have been noted.

SC: Within Panama, it seems to give us an impression and I said, give us the impression because we don't have all the data, but it seems like in the city, there's a higher prevalence of diabetes — and I'm referring particularly to type 2 diabetes. Whereas in the countryside, there is an interesting phenomenon where you are having the issue of undernutrition and obesity at the same time and these have been described in different countries across the Latin American communities like Mexico, Chile, they have many of them that are struggling with undernutrition and obesity at the same time, which as we mentioned earlier is a risk for type 2 diabetes.

La pregunta es cómo es la diferencia entre regiones urbanas y rurales. Y en regiones urbanas nos impresiona que prevalencia es mucho mayor comparado con el countryside o con el interior de los países. Y en el interior del país se observa un fenómeno que involucra desnutrición y a la vez se puede observar obesidad, ambos coexistiendo en las mismas regiones. Esto se ha observado en otros países como México, Venezuela, Chile donde los gobiernos y los médicos tienen que lidiar desnutrición y obesidad al mismo tiempo que como sabemos es un factor de riesgo para Diabetes tipo 2.

RK: I'm glad you brought that up because I think it's very true that in many parts of the world, whereas in the United States, obesity is related to higher risk of type 2 diabetes, that may not be the case in all countries of the world, that the opposite — under nutrition, as well — and really lack of resources for food, which encourages processed foods or high-density foods might also increase the risk of diabetes. Why do you think both obesity and under nutrition are observed in Latin American countries in relation to diabetes risk?

SC: To what extent undernutrition is related to diabetes risk in our countries, I'm not entirely sure about that part. Obesity as occurs in developed countries, it is associated with the increased prevalence of diabetes. So I don't… as I said, [I'm] not sure about under nutrition and diabetes, but we do see that because of the lack of access to food — and this is seen in many native communities where they don't have what [is] available as in the city — you can see that the tendency for undernutrition.

La pregunta por qué la desnutrición y la obesidad están vinculadas a la diabetes tipo 2. Sabemos que la obesidad está asociada a diabetes tipo 2; sin embargo, la desnutrición no

tenemos datos que apoyen que está asociada a diabetes tipo 2, pero es un problema que enfrentamos en nuestros países tanto la coexistencia de desnutrición y obesidad.

Another part of this question that I think it's a reality in our countries is that sometimes it's hard to provide appropriate nutrition because the kind of food that is available to low socioeconomic status is not the healthiest one. So, and that creates problems with nutrition or malnutrition.

Un punto que quiero agregar es que a veces la comida que está disponible (desde el punto de vista económico) para familias de bajo ingreso no es saludable, entonces eso hace que haya más problemas de malnutrición u obesidad en familias con bajos recursos.

RK: Yeah, that's so true that diet quality also matters and sometimes the foods that are inexpensive are the foods that are not as healthy, right? Whereas the healthier foods such as fresh vegetables, fresh fruits might not be affordable to those with limited means I think that in some countries in the world, diabetes has been described as a disease of affluence almost, associated with those who can afford to eat, who may be of larger size and may be more likely to develop diabetes. Whereas it's in other parts of the world it may be more related to those who don't have the financial means and may have low… lower socioeconomic status. What have you seen in Panama when you were there — what's been described in Latin America — is diabetes more common in those of higher socioeconomic groups or usually lower socioeconomic groups?

SC: I've seen it both Dr. Kalyani — in higher and lower. And in part in some of the cultures in some regions of our countries, you know, being not necessarily extremely, but obese, sometimes is a sign of wealth. You're wealthy if you, you know, you have a big belly. So if the kid is, you know, seems to be well nourished, it's a sign of (that) you're wealthy. Fortunately, that's been changing with more education, and I think that's positive too, that the population is trying to understand better the implications of nutrition.

En español la pregunta es dónde se observa más diabetes en clases altas o clases bajas? La verdad se ha observado en ambos grupos. Tanto en altos como en bajos, y todavía existe la creencia de que en niños o en adultos que están gorditos o están bien "nutridos", eso es un signo de prosperidad o de buena salud, y no es así. Gracias a la educación hemos podido también educar a la población y presentarles que no necesariamente, eso no es cierto, que hay que mantener un peso saludable.

RK: It's definitely something to think about in terms of how environmental influences and lifestyle influences can differentially impact the risk of diabetes in different countries. Having practiced in Panama and also now having practiced in the United States, what are some differences you've seen in terms of access to resources for your patients with diabetes in both countries and perhaps differences in the way that diabetes is viewed culturally in terms of being able to effectively manage the disease?

SC: There are multiple differences and multiple aspects of diabetes comparing the United States and at least Panama and some of the Latin American countries that share some of the Panamanian type of culture. In the public settings, because many countries in Latin America have a public health care and a private health care. In the public, generally, what we see, we have

some limited resources. And we don't have all the most recent or newer medications, so we have very limited resource often. So that's one difference. In terms of the private [health care], people can pay for their medications and pay out of pocket sometimes for their medication. It's interesting how, how the pricing changes between countries — the US and other countries in Latin America. So that's very interesting. Let me translate that.

La primera parte de la pregunta es, cómo es diferente la diabetes en Panamá y en países como Estados Unidos y comparado con Latinoamérica? Es importante resaltar que, que hay diferencias en las formas de los sistemas de salud tanto en Latinoamérica como en Estados Unidos. En muchos países latinoamericanos, el sistema público cubre mucho de la salud, pero no hay todos los medicamentos ni hay acceso a todos los medicamentos más nuevos, y en la parte privada es interesante ver como la diferencia de precios entre los medicamentos de países de Latinoamérica y los mismos medicamentos en los Estados Unidos.

To continue answering the question, the second part is the patient population [is] different. So, in some, and depending on the literacy, some patients in Latin America don't have a lot of education, so they follow whatever the doctor says. And some in the US, you find more of a patient physician interaction. It is not as unidirectional, so you have both people contribute with the things that they're willing to do to treat their diabetes. So, in my experience in Panama, for instance, in the countryside, people will do whatever the doctor said. And in one way, that makes the job easier for the doctor, but at the same time, I think that patients should have also an opinion about things that they're willing to do to make their disease more manageable.

En nuestros países latinoamericanos muchas veces no cuestionan a los médicos y hacen lo que el doctor les dice y en Estados Unidos es más una relación de dos partes donde el paciente tiene su opinión y el médico le da su opinión y llegan a un acuerdo y eso tiene sus variaciones en Latinoamérica, pero es bueno también que el paciente tenga una opinión para que podamos trabajar en grupo, así que son algunas de las diferencias que se observan.

RK: It's so interesting to hear of the different interactions between people with diabetes and their providers in different parts of the world and also within the same country how different it can be. You know, in some cultures diabetes might be something that you just expect to have happen, given your family history or I've encountered instances when visiting other countries where it may be described as “a touch of sugar,” or might just be something that is in the common language because it is something that you see so often. When you were in Panama, what was the impression that you had of how diabetes kind of fit into the daily culture, if you will, or the daily language? Is it something that people were familiar with, or is it something that people felt was very, for lack of a better word, not sure how to approach it, something that was unexpected?

SC: People were very aware of the disease and many of them were terrified of having diabetes because they feel that the moment they have diabetes, they cannot eat the things they like anymore, and they will have amputations and all the complications that we described. Not infrequently, it runs in the family and not infrequently, you will see that first-degree relatives had died from a heart attack, have had a stroke and everything happened after they were diagnosed with diabetes. So people, in my experience, a lot of people were very scared of that diagnosis,

almost as saying you have some form of cancer. That was good in a way, because people were very conscious about their disease, but at the same time creates extra anxiety [about their] perception of the disease, which we know that if we treat it, and if we do the right things with the medications, with our lifestyle, it can be controlled.

¿La pregunta es, como percibían las personas la diabetes? Muchos la percibían como un diagnóstico que les cambiaba la vida y estaban muy asustados de las complicaciones como las amputaciones y problemas que vienen ligados a ese diagnóstico y no era infrecuente ver familias donde el papa o los familiares habían tenido infartos o enfermedades como stroke (derrame) luego del diagnóstico de diabetes y tenían temor lo que nos ayudaba a poder hacerlos más conscientes de la enfermedad y eran más conscientes de la enfermedad, pero a la vez creaba ansiedad. Hoy sabemos que si manejamos el azúcar de los pacientes es posible controlar y evitar las complicaciones con unos buenos cambios en el estilo de vida y los medicamentos apropiados.

RK: Thanks for mentioning that aspect of fear or terror because I think that even within the United States that happens, but particularly I would think in populations where you might have seen more of the late stage complications such as amputations, like you mentioned, or had family members who've had kidney problems or been on dialysis or gone blind from diabetes, that there would be more of this anxiety or fear of the diagnosis. Having traveled to the Caribbean many years ago especially, we had a program in Trinidad looking at diabetes. And one of the things that struck me was the fear in men of erectile dysfunction. The stigma of not wanting to talk about the fact that they had diabetes because it was connected to this potential complication. Did you encounter similar fears of not wanting to talk about having diabetes when you were in Panama?

SC: Yeah, that's a very interesting point. It is not very common as an endocrinologist to have a consult for low testosterone, or like you mentioned, erectile dysfunction. It is not something that has been linked yet in our society as diabetes as a risk factor for one of those complications in terms of reproduction. And we know now that diabetes is linked to many other complications, low bone density, dementia, and these are being more recently described, but it's not in the minds of our patients. So I think that, you know, raising some awareness also could be a good thing. But no, it's interesting because I never had one person coming for that specific reason, but I did notice that some patients came just to prevent. So, people came in without diabetes — without even prediabetes — willing to seek guidance on how to prevent it, which I think it's also a good idea to be aware that you have risk factors, and you would like to work on before developing diabetes.

En español, la pregunta que si he recibido pacientes con problemas por ejemplo de disfunción eréctil asociado a diabetes, y este tipo de problemas? Y pues no encontré en mi experiencia durante el tiempo en Panamá que los pacientes vinculaban la diabetes con estos problemas, y pues sí es cierto que en los últimos años se han asociados más complicaciones vinculadas a diabetes, como demencias y otros trastornos. Y pues, es bueno que los pacientes estén conscientes que todos éstos son complicaciones asociado a la azúcar no controlada.

RK: Recognizing that countries within Latin America will have their differences; nonetheless, I wonder… you talked about prevention, and I wonder if we could talk a little bit about prevention strategies in Latin American countries? And particularly the diet and lifestyle behaviors that might uniquely contribute to different rates of diabetes in Latin American countries. And what in your opinion should be done in terms of prevention of diabetes in these countries, having practiced there yourself?

SC: Latin America, it's diet in the sense that high carbohydrate it's common in all the meals throughout the day. As an example, rice, white rice, is very fundamental part of all pretty much all the meals except for breakfast in Panama. But I know that all the Latin American countries, even for breakfast, eat white rice, fried food, fried plantains fried vegetables are very common in breakfast, lunch or dinner. People can have a plate that include pasta, with macaroni, with white rice, with plantains. So you have three carbohydrates in the same plate, and that's multiple times a week. So the amount of carbohydrates that are included in our diet is high. Our diet, traditional diet, is sometimes probably not the best; that's one challenge that we face. With regards [to] lifestyle, you know, in many parts — and this have changed a little bit over the last few decades — going to exercise as a healthy measure was not part of our Latin American thought process. We were more practicing sports or just walking, but we were not thinking about preventing disease when we walk and that has evolved a little bit. And again, this could be different from different countries, but that's what I still see. And with regards [to] what can we do to help or prevent diabetes in our population, I think that everything starts from education, and it has to be done very early in life. I would say even in school, how to avoid unhealthy food; how to maintain active or good lifestyle. I think those are the most impactful things in the future to prevent the trends because the trends are not good in terms o the prevalence of diabetes seems to be going up. Only, and unless we educate our population, I think that's the only thing that could really make the change.

La pregunta es, qué es característico de nuestra dieta, nuestro estilo de vida en Latinoamérica, y qué se puede hacer para prevenir complicaciones o la diabetes?.

Nuestra dieta es alta en carbohidratos, comemos platano, yuca, arroz blanco; muchas veces al día estamos expuestos a carbohidratos entonces eso nos hace un factor de riesgo para diabetes. Nuestro estilo de vida tiende a ser sedentario y no es parte de nuestra mentalidad como latinos en general. Y esto ha cambiado en los últimos años. Sobre hacer actividad física, sobre ir a hacer ejercicio para prevenir una enfermedad. Lo hacemos más por recreación. Entonces eso es importante que lo tengamos presente. Y la otra parte es cómo prevenirlo. Y creo que lo más importante es educar. Sin educación no vamos a poder cambiar la dirección en la que está yendo la diabetes. Lastimosamente parece que la diabetes sólo va incrementando. Y la educación, escoger comidas saludables , evitar las comidas que no son saludables, actividad física son medias importante para poder lograr prevenir diabetes.

RK: Yeah, I agree. I think education and really addressing the aspects of the lifestyle that might increase the risk of diabetes is important, especially in those who might have a family history or have other risk factors for diabetes. You know, we've talked a lot about aspects that might increase the risk of diabetes in Latin American countries. Are there some countries where

we might actually learn from perhaps the relatively healthier lifestyles or countries that might have lower prevalence of diabetes in Latin America?

SC: I don't have good data on hand to really tell us as an example, because it's still a problem very prevalent in all the region, but there's been some interventions that have been attempted or done by governments in some countries. For instance, there are some countries that have increased taxes on sugar, sweet beverages; [manufacturers] have put some labels on some of the packing of the food to make people more aware that these are food high in carbohydrates or not healthy food; also the way the marketing. There was a lot of unrestricted marketing to children with high carbohydrate containing [food] and sweet and candies and that was not helping the problem. So, the school food environment also has been modified in some areas, in some countries where there is some more restriction to soda and soft drinks and, processed food. So, those are things that have been done, although it is hard really to quantify the effect of that in those interventions. But I think that those are good initiatives from some governments. I think Mexico has some plans in place; Colombia, Chile has some plans in place; same with Peru and I think Panama also has some. So there are some success with those, but hard again, to quantify,

Para responder en Español, es difícil saber, hay países que tienen menores prevalencia, pero a veces es difícil saber si es sólo la prevalencia por problemas con cómo dan los datos, o si hay un éxito; en mi conocimiento no estoy muy claro. Entonces sí sé que hay muchos países que han implementado, por ejemplo: impuestos a las bebidas azucaradas, han puesto rótulos en las comidas para alertar a la población de comidas que no son saludables, también se ha tratado de reducir las propagandas o marketing a los niños sobre bebidas o sobre productos altos en carbohidratos y azucares. En las escuelas por ejemplo en algunos gobiernos se han tratado de limitar la exposición a jugos, sodas y productos procesados. Entonces ha habido ciertos progresos en ciertos países y algunos ejemplos, si no me equivoco, sé que Panamá ha hecho algunos, Colombia, Venezuela, México, Chile me parece también que ha hecho algunas modificaciones. Entonces se han hecho modificaciones, pero es difícil decir o cuantificar el éxito de estas intervenciones.

RK: It's great to hear about these programs that have been successful. I think taxing sugar, sweetened beverages here in the United States has had mixed success in its ability to really change people's behavior. And that might have to do with population that we're targeting and what people have gotten used to in terms of their habits. But I think that overall, having these kinds of interventions that address the specific needs of the population can be really effective. So that's really great to hear that they've met with, it sounds like good success for the most part in many parts of Latin America. You know, when we talk about Hispanics now, just moving back to Hispanics in the United States — those who are of Latin American descent and now are living in the United States — when we think about those who have recently migrated or come to the U.S., many may have different degrees of acculturation in terms of how much they embrace Western lifestyle behaviors versus retain their own lifestyle behaviors from their Latin American countries. How important do you think that is as we think about diabetes among Hispanics in the United States? And what do you think we could do better in terms of addressing the needs of this population?

SC: So in general, coming to a different country is always a stressful event and it's difficult to adapt and not infrequently comes with mental problems — meaning depression or anxiety, uncertainty about future or stability. So that's one of I think risk factors that start to create a stressful scenario that predisposes [someone] to behaviors to abnormal eating behaviors. And as opposed to many countries, in the U.S. we have plenty of resources, meaning that there's abundance of access to food that sometimes many patients or people that comes from countries [where] they have limited ability to obtain food and they come and now there's all these foods available that they can obtain. So it's a big change for many, many people. And then it's harder for… at the beginning and if depending on the situation of each of the immigrants —and if it's legal or illegal — access to health care. It's very hard to get access to health care once they come into the U.S. or, for those that are descendant of immigrants — let's say their parents are immigrants, legal or illegal — that branches their situation, their background, where they're born. So access to health care and then the family dynamic, the education, whether what kind of food choices they make and how are they raised that's of course and we haven't even talked about the genetics aspect, but there are some genetic aspects related to the community that may predispose to higher prevalence of diabetes. Those are important things to consider. And the question is, what can we do to prevent that? I think it also comes down to education and health care, too. How can we make it more accessible? And there are some programs that try to offer health [care]. The other problem is that whether the patients are aware of these programs, are they available? So many come across many patients that they don't even know, and the language is a barrier, particularly with an immigrant from very low education. They don't express themselves even well in Spanish and now they come to an English speaking country. So that's a difficult scenario.

Hay dificultad para adaptarse, hay a veces depresión y eso lleva a comportamientos a comer o no cuidar la salud. También eso lleva a que como uno también es migrante, es más difícil el acceso a la salud y es costoso, entonces eso genera un factor de riesgo además de la parte genética, los latinos también tienen cierta predisposición genética y eso hace que sea un poco más difícil. También el idioma es una barrera importante y pues tenemos que ver cómo llevarles a estas personas o decirles que existen programas o lugares donde pueden llegar a pedir ayuda.

RK: You've really hit upon some important issues I think for the Hispanic population in the United States and perhaps even immigrants to the United States in general, in terms of health literacy, access to resources, having health insurance coverage, and then even the ability to communicate in a language that is not a native language. And I think that the point you bring up about not being aware of programs that are out there is a big one because the programs can't help the populations they're designed to help unless people know about them. And I know for us as health care providers, it's important that we tell our patients about them, but also for people with diabetes to learn about these programs. Sometimes it can be hard to navigate the various resources out there.

Just in closing, I wonder if you could share with us. What do you tell your patients who might be Hispanic or from Latin American populations regarding having a diagnosis of diabetes, the risk of complications, and what they can do to really live a long, healthy life with this disease? What do you tell them?

SC: I usually tell patients that, first of all, that they have a lot of power in their disease. Most of patients that are not, let's say, not insulin dependent can do tremendous progress in their diabetes control just by modifying some of their habits or dietary choices. And sometimes they are worried about cost of medication. Sometimes they're worried about whether and I'd be able to afford this medication, but simple measures that are non-expensive can lead to really great impact under diabetes control. So when they hear that, they realize that, "Yeah, actually I can do something." And that empowers them to take control over at least part of the disease. And I tell them I can help… try to help and try to help you navigate to get the medications or to get the right medications. And I think that as a team we could do lots of things. And I tell the same that if you keep checking your blood sugar, that will give me information. Once the patient understands the importance of that they can play a role in these, they are happier and they tend to be more successful than when they believe that everything comes from just a medication that the doctor prescribed. So, I think that going back to what can we do, I think that education to prevent and engaging the patients and trying to explain [to] them that they have some ability to help their disease and that we are here to help them. I think that at least… I think it's a good start to prevent or to avoid most of the complication from diabetes that could be really devastating.

En español, también les digo a los pacientes que pues al final la educación, que lean lo más que puedan, que estén dispuestos a colaborar con sus cambios en la dieta y en su estilo de vida, pueden tener un impacto tremendo y prevenir las complicaciones de esta enfermedad que pueden ser muy devastadoras.

RK: Well, thank you so much, Dr. Chen Cardenas for being with us today for the Special World Diabetes Day podcast for our first ever bilingual podcast in both English and Spanish. I know that it will be widely, appreciated by people from many different backgrounds that are listening with us today. And specifically sharing your insights on diabetes in Latin America, especially having practiced in Panama yourself. We truly, truly appreciate your time today. So thank you for being with us.

SC: Thank you so much, Dr. Kalyani. I really enjoyed talking to you about this major issue in our population.

RK: Thank you.

I'm Dr. Rita Kalyani, and you've been listening to ***Diabetes Deconstructed***, a companion podcast to the ***Johns Hopkins Patient Guide to Diabetes*** website, which also has useful information about diabetes, including videos and animations a lifestyle and nutrition blog, and a comprehensive diabetes glossary among many other things. For more information, visit hopkinsdiabetesinfo.org. We'd love to hear from our listeners. The email address is hopkinsdiabetesinfo@jhmi.edu. Thanks for listening, be well and see you next time.