Dr. Desai: Hello and welcome to the Kaiser Permanente Healthcast. Today in our studio we have Yolanda Gutierrez M.D. who is the Senior Clinical Nutritionist Educator in the Department of Pediatrics at the Kaiser Permanente Medical Center in Hayward. Welcome Dr. Gutierrez.

Dr. Gutierrez is going to be speaking to us today about childhood metabolic syndrome in the Mexican-American population. Dr. Gutierrez, let’s just start by defining what is metabolic syndrome?

Dr. Gutierrez: Thank you. Good morning. First of all, thank you for the introduction. The term metabolism usually refers to the transformation of food into energy. That is the simple way we can explain metabolism. But it involves many different biochemical processes such as digestion of nutrients, elimination of toxic wastes like urine and feces, when you breathe, blood circulation, controlling body temperature, contraction of the muscles, functioning of the brain and our nerves. So it is a cluster of processes that is called metabolism.

Dr. Desai: What is metabolic syndrome then?

Dr. Gutierrez: The World Health Organization established that definition and it was approved in 1998, around there. Not every health care provider has really accepted that as a definition but it is a cluster of dysequilibrium within the process. It involves abdominal obesity or a lot of fat in the tummy area. It involves high levels of triglycerides, low levels of high density lipoprotein which is the good cholesterol. Also the high blood pressure and insulin resistance. So this is the definition which is accepted widely but the National Cholesterol Educational Program also has these protocols and agreement with this definition for metabolic syndrome.

Dr. Desai: So does a clinician need to find all of these in their patient to define metabolic syndrome?

Dr. Gutierrez: Actually, not all of them need to be present. If you have one of these risk factors, it is likely that you may have the others.

Dr. Desai: We’re seeing high rates of overweight in children from every ethnic group. Why is there a higher incidence of overweight in Mexican-American children?
Dr. Gutierrez: Studies documenting the incidence is a higher amount in the Mexican-American population obesity crisis is not only in the United States. It is around the world. It is not only for Mexican-Americans. Also it is in the high income as well as the low income groups. And it is in every ethnic group. However, the Mexican American group do have higher rates. Why is that happening?

First of all, if we look at the rates of pregnancy in Mexican-Americans, they have a larger number of children. They tend to enter pregnancy, for the last fifteen to twenty years, with higher weights. They may develop gestational diabetes while they are pregnant. Then the baby at birth is large for weight.

That brings implication of sort of having the baby programmed for life. The prevention for this particular ethnic group and also for any other group in this country should start before the baby is born. So the idea of prevention of childhood obesity we think should start before the baby is born.

Another factor influencing the Mexican-American culture is changes in diet due to the enculturalization pattern. When they come to the United States, their diet changes drastically. Unfortunately, it is not in the right direction because of the abundance of food, and also that it is readily available including items that they were not readily available in Mexico (for example, fat like mayonnaise, oils, butter, margarine). Here those items are readily available but back home they are very expensive and it is a luxury to have these products.

Diet has changed in terms of decreasing fiber because now they drink liquid sugars in the forms of sodas or juices or High-C or Kool-Aid or Tang rather than the fresh fruits that were available at a lower price.

Then activity has also changed because of the car, jobs that require sitting or less activity and it is not safe for children or adults to be as active outside. Then the problem that we are addressing today has to do with a genetic component or genetic predisposition for the incidence of Syndrome X among this population.

Dr. Desai: Has there been any work done as to what the genetic factors are or is this just something we know occurs more in certain populations than others?

Dr. Gutierrez: Different studies reported different rates in terms of genetic predisposition. Mexican-American culture has a very high predisposition to obesity and diabetes and this is well-documented but only among the adult population. Recently a research article by Dr. Nancy Butte, who studied a quantitative genetic analysis of the metabolic syndrome in Hispanic children, was published in Pediatric Research in Volume 58 in 2005 in case someone is interested. The uniqueness about this study is that it is the first one looking at genetic predisposition and environmental factors affecting Mexican-American children. Dr. Butte studied 1,030 children who came from 319 or 320 Hispanic families in this study called “Viva la Familia” and they looked at abdominal obesity and high triglycerides. They looked at the HDL or the good cholesterol, elevated
blood pressure and insulin resistance. But Dr. Butte also added in that definitional criteria “abnormal liver function.” Out of the 1030 children in the study, 51% of the children were classified as overweight which is BMI higher than 95th percentile.

Of the overweight children, 47% were about 99th percentile. So these kids were very, very heavy in terms of percentage of fat in the body, obese. The metabolic syndrome was present in 20% of the overweight boys and 19% of the overweight girls but when liver function was included in the definition, the incidence was 28%.

So why is this study significant? If we have children as young as four to five years of age with metabolic syndrome, that is a serious health risk. We need to make an effort for the parents to understand these issues. What happens is that previously, the Hispanic culture is comfortable with a chubby baby.

Dr. Desai: Well, it’s a sign of good health.

Dr. Gutierrez: Well, it’s a sign of prosperity. It’s a cute, chubby, healthy baby. And twenty years ago, it was fine because we knew that the kid would grow out of that. But that is not happening any longer. So the kid will keep that fat because of major changes in the environmental factors that is creating the phenomenon to not happen any longer.

Dr. Desai: So Dr. Gutierrez, what are some of the other long-term implications of having metabolic syndrome? Why should I care as a parent that my child doesn’t get metabolic syndrome?

Dr. Gutierrez: It is very important that the parents understand the health consequences of the metabolic syndrome. For example, your child will develop Type II diabetes earlier in life, will develop high cholesterol, high triglyceride levels earlier that will lead to heart attack and also stroke. We would like to avoid and prevent all these earlier onsets of chronic diseases that can be modified. Even though there is a strong genetic predisposition, we do have at least 50% of environmental factors that are modifiable. The two strongest ones will be nutrition and activity.

Dr. Desai: Great. So let’s talk about some of the things that we can do about this. We’ve talked about what it is, what are consequences (we really don’t want our children to get this), what do we do to prevent it or least that 50% of what we can control, how do we reduce the likelihood of our children getting metabolic syndrome?

Dr. Gutierrez: For the Mexican-American families, I would like them to at least understand that nowadays, it is unlikely that the child will grow out of their “infant fat” let’s say. It is important to listen to the pediatrician’s assessment. If the doctor will tell you your child is overweight, it is important to listen because those are the first steps that leads to the metabolic syndrome and to all the early onset of chronic diseases that we just mentioned.
**Dr. Desai:** Alright. So we have to break that cultural stereotype that fat, chubby babies are healthy babies.

**Dr. Gutierrez:** For the Mexican-American culture it is extremely important. That is one of the first things pediatricians and parents need to agree upon. I feel the second most important aspect of what to do about it is to eliminate all liquid sugars that are offered to the children. We do need to change the way we are feeding our children nowadays.

**Dr. Desai:** So what’s a good example of liquid sugars?

**Dr. Gutierrez:** Sodas. All kinds of sodas, Tang, Hi-C, Kool-Aids, all the products on the market which are the ones that seem to be responsible for excess calories that are not needed because they don’t provide any nutrients for the children. We don’t need to have sweet drinks. The children need to learn to drink and like water, just simple water.

**Dr. Desai:** What about diet sodas? What about the diet drinks with Nutra-Sweet, Splenda and things like that, the artificial sweeteners that don’t have calories?

**Dr. Gutierrez:** We would not like to expose children to artificial chemicals. When they are given artificial products and artificial sugars, there are consequences in the metabolism of the children who are in the process of growth and development. For example, aspartate is one of the artificial sweeteners that stimulates high insulin levels. When insulin levels are higher, what is the message that the brain receives. It is “safe, safe, safe” so sugar cannot be stored in the body so the body can change it into fat and then it will be stored.

A second factor in terms of what to do. We would like to offer our children healthy carbohydrates. This is a category of nutrients that is divided in two. Good carbohydrates and bad carbohydrates. Good carbohydrates are the ones that are very high in fiber. When they are high in fiber, they slow the absorption of glucose or sugar into the system. Therefore, insulin will not have a chance to increase as high. Then those fibers also are able to give the child satiety so they are not hungry all the time, consistently. The important message regarding the carbohydrates that are good is that the families need to learn to read the labels. There is a difference between whole wheat bread and whole grain bread, for example. We want the child to be offered the grain, the whole kernel, so the digestive system takes a longer time to get into the sugar that is in the middle of that kernel so the blood sugar doesn’t increase as high.

**Dr. Desai:** So, high fiber, high grain. Other examples of fiber that kids should get?

**Dr. Gutierrez:** Fruits and vegetables. Also beans. Keep offering the children beans.

**Dr. Desai:** But beans you have to be careful of too. I mean there’s a lot of refried beans and things like that.
Dr. Gutierrez: I’m happy you mentioned about refried beans because beans are a staple in the Mexican-American diet along with corn tortillas. I would like to advise parents not to refry the beans because they are staples. They are eating beans breakfast, lunch, and dinner, adding probably 3 tablespoons of oil. It is the amount of extra calories that the kids are getting. If it is fresh from “la olla”, no refried beans, you can have it three times a day. Corn tortillas are better than flour because they have more fiber.

Dr. Desai: The issue about high fructose corn syrup. Can you touch on that topic?

Dr. Gutierrez: Let me define first what is high fructose corn syrup and why is it such a bad compound in our food supply nowadays. It started in 1975 to 1980 where high fructose corn syrup started mass production. In fructose, half of the molecule is sugar. The other half is sucrose. What happens here is that it metabolizes different from glucose, for example. The metabolism of fructose does not require insulin in order to release energy. So this compound stays in the liver. Studies have shown that this particular fructose is responsible for increased triglycerides, the obesity issues and that is a bad compound. Almost everything has corn syrup nowadays in the market. Read the labels. Avoid liquid sugars because the sodas and liquid sugars are one of the highest with high fructose corn syrup. The food industry uses it abundantly because it’s not expensive. It is readily available and easy to transport. Also it lasts long on the shelf in the store. We need to know about it so we don’t buy it.

Dr. Desai: It’s good for business but bad for your body.

Dr. Gutierrez: Very bad for your body. We don’t want to buy it. If we don’t buy it, they won’t make it.

In terms of what to do, another aspect would be not to skip any meals. The body works efficiently when you feed the body at regular times. So you teach your child to have breakfast, lunch, and dinner and about two snacks a day. What happens with the children who do skip breakfast? They have been fasting from 9 or 10 PM the night before and then don’t eat something until 2 to 3 PM. When the body goes through this period of starvation, there are also changes in terms of hormones working the body. You set the station on the brain that says “safe, safe, I’m starving.” It doesn’t matter how much weight the child is carrying. The body’s signal is that it is starving.

Dr. Desai: Talk about activities.

Dr. Gutierrez: Activity is the next factor that we are to encourage in order to alleviate the situation because activity will decrease the levels of insulin. Children are not active nowadays. Studies have documented that TV is a very serious issue. Activity at home. They are telling the grandmother how to spoil the grandchildren without food by teaching them how to play the things that she played when she was a little girl like jumping rope, playing with a ball against the wall, going up and down stairs. Going as a family unit for a little walk after they eat. Those are practices that used to be and are not happening any
The issue is that nowadays, children are consuming about 3500 calories and 30% of those calories are coming from liquid sugars.

**Dr. Desai:** As a reference, what should a child be getting?  

**Dr. Gutierrez:** Probably 1800 calories or 2000.  

**Dr. Desai:** So they’re getting double what they need.  

**Dr. Gutierrez:** Right. And they are not moving. So when you eat and then you don’t move, you store it. It becomes fat. The activity is extremely important.

**Dr. Desai:** Dr. Gutierrez, if you had one last thing to say to the parents of Mexican-American children related specifically to metabolic syndrome and obesity, what would that be?  

**Dr. Gutierrez:** I would like to tell the parents to think about within the family unit, who is really addicted to sodas? Are the children, or are the parents? I think the children don’t have the power of the money or the car to go buy those cases of sodas to bring them into the garage. So, think about it. This is a bad product. If we get rid of these, I think we will alleviate a lot of situations of obesity in our children.

The second measure for the parents and the children is to get back to the traditional way of eating and being a family unit. Turn the TV off when you are having dinner in the family. Then go as a family unit for walks. This is not new and this is the norm for the Hispanic culture. We will do anything for healthy children.

**Dr. Desai:** So go back to your roots. Dr. Gutierrez, thank you so much for spending the time to talk with us today about metabolic syndrome in children.

**Dr. Gutierrez:** Thank you.

**Dr. Desai:** I want to thank our listeners today for spending the time and listening to Dr. Gutierrez. If you have any further questions for Dr. Gutierrez, or just general questions about this pod cast, please fee free to e-mail us at Castmaster@KPHealthcast.org.

Once again, we have come to the end of another KP Healthcast. We hope you join us again next time. Until then, don’t forget to always be on the lookout for more ways to thrive.