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<http://diabetes.niddk.nih.gov/dm/pubs/pima/kiddis/kiddis.htm>

At 25, Donna Young has warm eyes, and a confident, lovely smile. She seems too young to worry about her health, much less about getting diabetes.

But in an interview at the Indian Health Service Hospital in Phoenix where she is a research volunteer, Donna says she has to think about it. Grandparents on both sides of the family had diabetes. "My dad and my mom have it, so there are lots of points against me." Although lots of her family members are aware that diabetes is in the family, Donna says, they think it won't affect them.

"That's how I was," she adds, until her aunt, also aged 25, was diagnosed as diabetic a year ago. "I did the oral glucose test and my blood sugar was 143 and that's borderline." She and a friend started walking two miles every morning. She exercised and watched her diet. Three months later, Donna's oral glucose tolerance test was 93. "I was all excited," she recounts. "I lost 5 centimeters off my thigh, and 4 off my waist." Mike Milner, an NIDDK physician's assistant who works closely with patients, said it really showed, she adds with pleasure.

"My mom was always telling me to watch my weight because she's diabetic, but I always just brushed it off. Then when I saw the results, I was all surprised and it made me happy. When I told my mom, she goes, "Oh, I've been telling you all this time." Donna laughs. Her recently diagnosed aunt has been walking with her, too. "She's lost a lot of weight, and her blood sugar's gone down. She goes for regular check-ups, and she feels better. Before it didn't seem like she had too much energy. She has three young boys, and now she has a lot more energy to play with them," Donna adds.

Having seen how diabetes affects family members, Donna admits she was scared by her high blood sugar a year ago. Now, she's pleased to think she can prevent getting diabetes for a while. "I'm slowing it down with my weight loss and everything. It made such a big difference."

Choosing Good Food

The desert that surrounds the Bapchule home of one man who has lived with diabetes for many years is quiet and serene. Nothing punctuates the silence during a September afternoon visit except the occasional barking of the family's two friendly dogs, who nose gently at visitors before flopping in the shade of the palo verde trees near the house.

He talks quietly about the children he and his wife raised, about the house they built with the help of her Tohono O'Odham relatives on the Gila River Indian Reservation, and about how he decided to change his diet for better health.

Both his parents had diabetes. Three brothers died from it. Another brother is on dialysis because of kidney disease. This Pima man remembers being diagnosed with diabetes while still in his twenties. "I didn't really notice it at first," he says softly. "I was young."

Twenty years later, however, he had to take notice. He had developed diabetic neuropathy, a complication of diabetes that affects the nerves and makes wounds slow to heal. His left leg had to be amputated in 1985 because of it.

He had to retire from the farm labor he had done all his life. Eventually, he developed kidney problems. Told that he would have to go on dialysis, he and his wife met with a dietician.

"I just did what she told us," he says simply. "When I had another appointment with the kidney doctor at the hospital, he looked at my chart and said, 'What did you do? You don't need to go on that machine yet,'" he adds with a wide smile.

What he did was just what the dietician told him to do, he says. "I had to give up just about everything I ate, and watch amounts. Everything, everything, was really reduced."

He eats meat, but in small amounts: "Like they told me, put two fingers together, and just that much," he gestures. "Two bites!," he adds, laughing. He learned to fill up on rice and lots of vegetables, and to use other tips from the dietician to control appetite and eat healthier foods.

"The first three months I'd really get hungry between meals, but the dietician told me to just get a snack mid-morning, mid-afternoon—something light, like an apple. I kept on doing that, and now I don't have to. I got used to it," he explains.

He can smile about it because the rewards have been good. He went from weighing 250 pounds to a trim leanness. His blood sugar, which had registered 235 or 250, tested normal—around 90. "Oh, I feel great whenever I just sit back and think about it. It just feels great," he says with satisfaction.

Despite his quiet personality, this is obviously a man who doesn't give up. His wife's help has been essential—she buys all the food, reads all the labels, and does all the cooking.

It was hardest to give up favorite foods like fried bread and beans, he admits, and sometimes he has eaten it when he was "really hungry for it." For those occasions, his wife uses light oil, which reduces the fat.

"I didn't know controlling my diet would really make such a difference, but it sure did," he says finally.

Running to keep Diabetes in check

"Those are mine, up there," Terrance Thomas says simply, taking the runner's trophies he has won in community races from a shelf on his living room wall.

He has come by them the hard way, running the Bapchule roads near his home every day of the week, in the often humid twilight, close to nine each evening. Only on Saturday and Sunday does he sometimes slack off a bit from his three to four mile regimen, reducing his effort to a more casual mile or so.

Although he has been an amateur boxer and at one time fought brush fires while living in California, Terrance doesn't run for toughness. He runs for health.

The Sacaton native was diagnosed with diabetes at age 11, while attending boarding school in Carson City, Nevada. He began losing weight, and a physical turned up high blood sugar. As an adult with diabetes, he suffered from fatigue on the job, and found himself wanting to sleep all the time. After a hard year in 1989, he says, "I started an exercise program for myself. I try to pay attention to what I eat, have small portions of everything, but not too much." But it is his running that he believes helps him keep his diabetes in check.

Sometimes he gets his wife to drop him off at some distance and he runs home to vary his routine. "I think it makes a difference in my health," he says. His trophies speak for a winning attitude.

The sand-colored stucco home where one Pima mother lives with her husband and three daughters in Bapchule is neat as a pin. Her household chores are good exercise, she says, to help control her diabetes. "I try to watch what I eat, avoid sweets, and take daily walks," she adds.

A Mother and her Daughters

The woman's mother, who developed diabetes shortly after her daughter was born, died from kidney disease that developed from her long-term diabetes. Her father, a retired heavy equipment operator who had been very active in Reservation life, suffered an amputation—a complication of his diabetes—a year ago, after being hospitalized for several long months. "He got a sore on his foot and never got it treated," she explains. Four of her ten brothers and sisters also have the disease, which runs in families.

Although she has seen the worst diabetes can do, this mother is not giving up. What her father and other family members have gone through makes her want to take care of herself: "I could be in that same situation."

She is also motivated by wanting to see her three daughters, aged 12, 7, and 3, keep their health. All were big babies, and they have remained heavy for their ages. "All of my kids

are chubby," she adds. That's common for babies born to mothers who have or are prone to develop diabetes, according to NIH researchers who are studying the disease in the Pima Indians. This mother is trying to teach her daughters to watch what they eat because being overweight can lead to diabetes.

Her third-grader, a pretty child with glossy black hair who likes to read when she isn't playing with her cat, already has diabetes. Her mother helps her monitor her blood sugar and is teaching her about choosing healthy foods, although she admits it's hard. When sweets are sometimes given out at school, her daughter gets a toy instead. "I tell her the cookies are gone, but you've still got the toy," her mother says.

Although researchers are still searching for the genes that cause diabetes in many Pima families, they say that cutting fat in the diet and exercising are the best ways yet known to prevent diabetes and modify its long-term effects.

"What I really want to do is change the way we eat here," the woman explains, referring to fried foods and the tacos the family loves. She knows that eating less sugar and fat is important for her family's health. "They say if you bake or broil, it's supposed to be better, and I've been trying to do that lately." Meanwhile, her mother's caring message seems to be having an effect on her daughter. Her favorite dessert is bananas.