



# STRONG HEART STUDY

INVESTIGATING CARDIOVASCULAR DISEASE  
IN AMERICAN INDIANS

## newsletter

[strongheart.ouhsc.edu](http://strongheart.ouhsc.edu)

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## Is there any way to prevent diabetes? YES!

So many people have developed diabetes in Indian Country that almost every family is touched by at least one or two members with this condition. Unfortunately, many of those we know with diabetes have also suffered some complication as a result, such as kidney failure and dialysis, or amputations, or heart disease and stroke. The idea that we might have to take medicines many times a day, or test our blood and give ourselves insulin shots makes it all the harder to think about having this disease. It seems as if medical science should have come up with something by now that can cure this disease or prevent it.

**The good news is that the latest research shows that diabetes can be prevented!**

The bad news is that it isn't easy.

About 2 years ago a branch of the National Institutes of Health (NIH, which is the government office that provides the funding for Strong Heart Study (SHS)) reported on an experiment they did in a number of different places around the country. About 3,200 people who had "pre-diabetes" (slightly higher blood sugars than normal, but not enough to be diagnosed with diabetes) joined this project. There were 171 American Indians in the study, and the participants were similar to those in SHS, in that they averaged 51 years of age, and many of them were overweight or obese.

These participants were divided into 3 groups. The first group was simply given the usual advice about their diet, exercise, not smoking, and so on. The second group was given the same advice; but also given a medication called Metformin twice a day. Participants in the third group were assigned a person to meet with them about once a week for the first 6 months and then monthly for the next 2 years. These counselors helped them exercise more (like fast walking for 30 minutes, 5 times a week), eat a healthier diet (low calorie, low fat) and lose weight (about 14 lbs on average).

The researchers then followed the participants for about 3 years, checking to see if the blood sugar for these people increased enough for them to be diagnosed with actual diabetes. This study found that those who were given the extra help to exercise and eat correctly were 58% less likely to develop actual diabetes, compared with those who were just given regular advice. The participants who were given both regular advice and Metformin had 31% less diabetes develop.

When the SHS has given results back to our participants about their blood sugar and other tests, we have always included information that is very

## SHS investigators get the word out at a national conference on CVD and diabetes

Strong Heart Study (SHS) investigators and staff participated in a recent national conference focusing on cardiovascular disease (CVD) and diabetes in the American Indian and Alaska Native communities. The 4-day conference (May 16-19, 2005), held in Denver, was sponsored by a coalition of leading health organizations, in conjunction with Indian health agencies.

It was estimated that over 800 were in attendance, and 60-70% of the attendees were community people, including tribal members, tribal leaders, and tribal and Indian Health Services (IHS) healthcare providers.

Dr. James M. Galloway, Director of the Native American Cardiology Program and senior cardiologist

for the IHS, was the driving force behind the conference. Dr. Galloway co-authored a number of SHS articles and worked closely with SHS investigators, using the SHS data in the development of guidelines for treatment of dyslipidemia for the IHS.

This national conference was an excellent opportunity for SHS investigators to disseminate results to providers and communities. Dr. Thomas K. Welty, co-investigator for the Dakotas SHS Center, presented a plenary session focusing on prevention of CVD. In the clinical track, Dr. Richard B. Devereux, PI for the SHS ECG and Ultrasound Reading Center, presented preclinical CVD in diabetes, while Dr. Wm. James Howard spoke on treatment options for LDL cholesterol.

Dr. Jeunliang Yeh, co-investigator for the SHS Coordinating Center, presented a poster on an article by Dr. Elisa T. Lee, PI of the Oklahoma Center, and several other SHS investigators. Dr. Lee and her colleagues developed a mathematical equation for physicians to use to predict coronary heart disease (CHD) risk in their American Indian patients. Software is being developed with this prediction equation for the SHS website (<http://strongheart.ouhsc.edu>) so that individuals can input their values of various risk factors and instantly obtain a probability of developing CHD in 10 years. Dr. Sandra Laston of the Southwest Foundation for Biomedical Research also presented a poster on the Strong Heart Family Study and GOCADAN (Genetics of Coronary Artery Disease in Alaska Natives), examining genetic and environmental factors contributing to the risk of CVD. These studies seek to identify genes that influence CVD risk and to determine how these genes affect preclinical and clinical CVD.

The SHS used this opportunity to hold a dinner for the representatives of the 13 SHS tribes/communities attending the conference. Dr. Lyle Best, PI for the Dakotas Center, was the MC. Dr. Yvette Roubideaux, Chair of the National Diabetes Education Program American Indian Workgroup, presented information on the diabetes and CVD prevention grants that are

### **...prevent diabetes? YES!**

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similar to what this study gave to their participants. We didn't have the funding to provide the special counselors to visit people as often as in this other study; but in the past few years many tribes have received funds to start diabetes prevention projects or fitness centers to help people learn to eat a healthier diet and exercise regularly.

We know that sometimes we sound like broken records, always saying the same thing about eating right and exercising; and we know that it is simple (but hard). Now we have another very important experiment that shows us again just how very important this simple idea is. To find out more about how to make these kinds of changes in your lifestyle, contact your local IHS Service Unit for prevention/control programs in your area.

Read more in the article above about the optimistic buzz among researchers and tribal people who attended the national conference on CVD and diabetes earlier in May. All agree that these lifestyle changes, which include eating a healthy diet and getting more exercise, can help turn around the high rates of chronic diseases in Indian country. ■

# Studying smoking cessation - are you ready to quit?



Cigarette smoking is known to cause heart disease and lung cancer. Nevertheless, many older American Indians continue to smoke cigarettes. Sadly, the leading causes of death among older American Indians are heart disease and cancer – both smoking related diseases. The **good news** is that studies have shown that older smokers who quit will have better health. After quitting they will breathe better and decrease their chances of having a heart attack or a stroke.

Previously there was little information about older American

Indians who managed to quit smoking. This moved investigators of Strong Heart to develop the following study: Smoking Cessation and Its Determinants Among Older American Indians: the Strong Heart Study (Dr. Patricia Nez Henderson, 2004). This study is the first to examine whether factors such as education, gender, smoking patterns, and medical history influence older American Indians to stop smoking.

### How was this study done?

Using the Strong Heart Study (SHS) data, we selected those participants who were current

smokers at the initial exam. We reevaluated their smoking status about 4 years later at the second SHS exam.

### What was found?

We determined that 21% of the participants had quit smoking by the second exam. After conducting some analyses on these data, the factors listed below (left) were associated with quitting smoking among older American Indians. The factors on the right were not found to be associated with quitting among older American Indians.

## Smoking Cessation in older American Indians

Factors associated with quitting smoking	Factors <i>not</i> associated with quitting smoking
<ul style="list-style-type: none"> <li><input type="checkbox"/> <i>older age</i></li> <li><input type="checkbox"/> <i>Arizona regional center</i></li> <li><input type="checkbox"/> <i>smoking less than a pack per day</i></li> <li><input type="checkbox"/> <i>fewer years of smoking</i></li> <li><input type="checkbox"/> <i>initiation of smoking at an older age</i></li> <li><input type="checkbox"/> <i>a history of diabetes</i></li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> <i>gender</i></li> <li><input type="checkbox"/> <i>level of education</i></li> <li><input type="checkbox"/> <i>childhood exposure to tobacco smoking</i></li> <li><input type="checkbox"/> <i>a history of heart disease, cancer, breathing disorders.</i></li> </ul>

**How does this information help SHS participants?** These unique characteristics of quitting among older American Indians can be used to help tribal leaders, tribal health departments, and the Indian Health Services develop and implement tribal-specific and culturally sensitive smoking interventions, prevention, and control policies. Notice that having dia-

betes is related to success in stopping smoking.

This is great news since most likely this relation is due in part to the excellent diabetes programs in our communities that are getting the word out about how devastating smoking can be to someone with diabetes.

The bottom line is, with or without diabetes, it has been shown that older smokers who quit will have better

health, resulting in stronger and healthier lungs, which helps decrease their chances of having heart attacks or strokes.

### What can one do to successfully quit smoking?

If you or someone you know is serious about quitting smoking, a concrete plan of action is needed to overcome the strong dependency on nicotine created by

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### **Dissemination of SHS findings...**

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funded. Most of the SHS communities have such grants. These grants are designed to establish preventive programs for persons with prediabetes and will be available for us to refer our participants to in the near future. Lorelei Decora, RN, Winnebago Tribe Diabetes Program Coordinator, presented information on the Talking Circles approach to diabetes education, prevention and control. Talking Circles could be a good vehicle to implement preventive programs for persons with prediabetes.

Dr. Welty felt SHS's prominent role in the conference was the culmination of 17 years of hard work by SHS investigators. In summarizing the conference, he said, "While the data still show marked increases in obesity, diabetes, and CVD in American Indian populations, there was a sense of optimism that things will get better by implementation of comprehensive and coordinated preventive programs. It would truly be a major scientific/public health breakthrough if one Indian community could document a reduction in the prevalences of chronic diseases. I am optimistic that this will happen, given the level of enthusiasm and commitment demonstrated at the conference." ■

### **Smoking Cessation - ready to quit?**

*(...continued from page 3)*

cigarette smoking. Ask anyone who has quit, and most will tell you it was not easy - but they will tell you the health benefits are well worth the hard work. How to quit smoking can be different with each person. There is no magic formula that works for all people. Some people quit better in groups or with a partner for moral support. Others do better with a more solitary approach. For some, a nicotine patch works. For others, gradually reducing the daily number of cigarettes smoked works best. For others, "cold-turkey" is the only way to go (stopping all tobacco use at once). It doesn't matter which path or program you choose, it only matters that you make the decision to stop smoking and work towards that goal. It doesn't even matter if you start on one method and switch to another. Becoming smoke free is the goal, and once you achieve this, it has been shown your body will respond with health benefits that reach far beyond just your lungs.

Some good sources of support for your efforts to quit smoking would include your family doctor, tribal health smoking cessation programs, or Internet support sites, such as <http://www.smokefree.gov/>. Also, begin speaking with your family and friends about your desire to quit smoking. You'd be surprised how many people have successfully quit and will bolster you in your efforts. ■