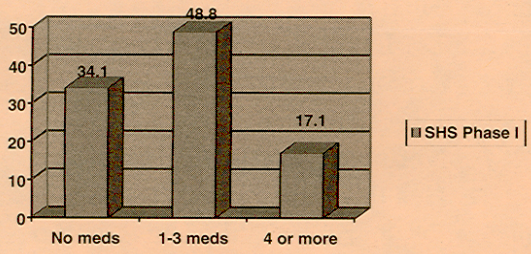
STRONG HEART STUDY
newsletter
INVESTIGATING CARDIOVASCULAR DISEASE IN AMERICAN INDIANS

April, 2002 Volume 14, Number 1

Taking Medicines: Too Many? Not Enough?



Elders usually have more illness than younger people. They often take several kinds of medicine. Using many medicines (polypharmacy) can cause drug reactions. Sometimes drug reactions can be serious enough to cause death.

The number of American Indian elders is growing. Many elders need to take medicines for diabetes and high blood pressure. They may have other conditions and take medicines (including traditional herbal remedies) for those as well. Researchers have studied what happens when older people take many medicines in the general population. No one has studied American Indian elders and the effects taking many medicines may have on them. Strong Heart Study data provide information in this area.

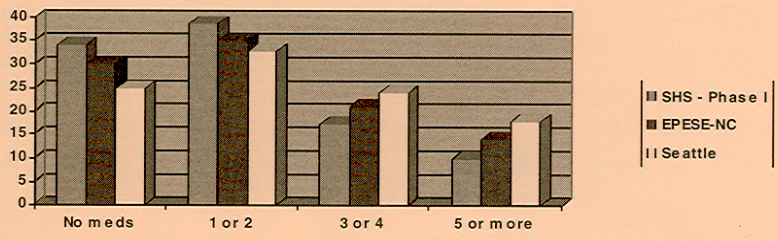
Strong Heart Study participants have made it possible for scientists to learn more about what happens when elders take many medicines. Participants brought all their medicines to the first SHS exams. Researchers were able to create a record of the medicines taken by participants. By studying these records, SHS scientists will be able to learn more about how taking many medicines affects older American Indians. Researchers will share what they discover in articles they are writing now.

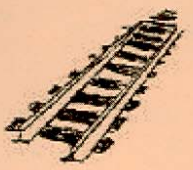
SHS scientists graphed the information collected and saw some interesting things. More than one third of participants were taking no medicine. Almost half were taking from one to three different kinds of medicine. About 17% were taking four or more different kinds of medicines.

Are SHS participants taking more or fewer medicines than other groups that have been studied? Again, the researchers graphed the SHS information with data from a study in rural North Carolina and from a study in Seattle.

As the graph shows, SHS participants used fewer medicines than either of the other two groups. More of the SHS group take no medicines. Although SHS group had the highest percentage of people who reported taking one or two medicines, SHS participants had the lowest percentage of people taking three or more medicines. SHS group's low number of medicines was a surprise since many of the SHS group have diabetes or high blood pressure. Now researchers are looking at whether some SHS participants may be under treated for their medical conditions.

Taking the right amount and kind of medicines for conditions being treated is important to good health. Always call your doctor or pharmacist if you think your medicines may be causing problems. If you want more information about taking several medicines at the same time, please contact your SHS office.





Strong Heart Study Stays on Track

The National Heart, Lung, and Blood Institute of the National Institutes of Health funds the Strong Heart Study. NHLBI must be certain that the SHS study follows guidelines for good research. To do this, NHLBI names a committee of scientists to examine the way the Strong Heart Study operates. The group is called the Observational Study Monitoring Board. SHS researchers give the OSMB reports at least once a year. Researchers report on topics such as how SHS signs up new participants, the number of times and ways SHS shares results of the study, changes in study plan, and unfavorable events. The OSMB studies the reports and recommends actions to the NHLBI Director. The most important question OSMB answers is whether or not to continue the study. The committee also gives advice on new sub-studies, study safety, and how stored samples should be used.

OSMB members come from across the country. The chairman of the Board is Dr. Greg Burke from Wake Forest University School of Medicine. The executive secretary of the board is Dr. Paul Sorlie, from NHLBI. Other board members are

- Dr. Eric Boerwinkle - University of Texas
- Dr. John Eckfeldt - University of Minnesota
- Dr. Dorothy Gohdes - New Mexico
- Dr. Jennie Joe - the University of Arizona
- Dr. Francine Romero - Northwest Portland Area Indian Health Board
- Dr. Patricia Wahl - University of Washington.

Dr. Gerald Ignace is a past president of the Association of American Indian Physicians. He was a member of the OSMB for many years. Dr. Ignace resigned from OSMB recently because of heavy clinical responsibilities.

SHS Ahead of the Game on Exams

The Strong Heart Study is ahead of schedule. Mid-February reports from the centers show that all centers have completed more examinations than targeted. Center totals are very close in number to each other:

- North and South Dakota - 556
- Arizona - 544
- Oklahoma - 546

The Strong Heart Study is a good model. SHS's success is due to strong community and participant support and the hard work of examination teams. We look forward to a strong finish as we enter the second year of examinations.

Heart Fact

Each minute, the heart pumps about 6 quarts of blood 3 times throughout the body.

Adiponectin and Insulin Resistance

Everything we do, even breathe and walk, takes energy. We get energy from food. Our bodies take the food we eat and change it into energy that we can use now or store as fat to use later. This process is complicated. Scientists are learning more about the process and the many things that can affect how well the body performs this necessary task. One thing that scientists know is that the body must be able to use insulin it produces to process sugar and starches into energy. Someone whose body can't use insulin has a condition called insulin resistance. Insulin resistance often leads to diabetes.

Researchers believe that some substances produced in fat cells (adipose tissue) may help the body's ability to use insulin (increase insulin sensitivity). One of these substances is called adiponectin. Adiponectin is a protein that circulates in the blood. Adiponectin levels in overweight people are lower than in people with normal weight. Scientists have questions about how adiponectin levels may affect health:

- Could having higher levels of adiponectin protect against becoming overweight?
- Could lower levels of adiponectin signal higher heart disease risk?

SHS researchers are planning to look at these questions. They will measure adiponectin levels in stored blood samples taken during Phase II. Adiponectin levels will be compared with the number of heart problems which developed after the samples were taken. The study may show that having less adiponectin leads to insulin resistance, diabetes, or heart disease. If this is the case, doctors may be able to use adiponectin levels to know which patients are at risk. This information could even lead to drugs which raise the level of adiponectin and prevent diabetes and heart disease.

Lipid Levels Treatment Guideline Now Available

Research is best when information leads to action. Strong Heart Study researchers recently saw their work become action with the creation of treatment guidelines for a major risk factor of heart disease. That risk is abnormal lipid levels in the blood.

Lipid levels that are risk factors for heart disease are:

- high "bad cholesterol" (LDL)
- low "good" cholesterol (HDL)
- high fat (triglyceride) levels

SHS research showed two reasons for action:

- high heart disease rate among Native Americans
- high cholesterol seems to create a greater risk for heart disease among Native Americans than among others

In December 2000 more than 70 Indian Health professionals met in Phoenix. The goal of their meeting was to decide the best way to treat abnormal lipid levels. Strong Heart Study researchers Jim Galloway and Barbara Howard led the group to make a framework for treatment guidelines. In January 2002 SHS researchers could see their work in action. The full set of treatment guidelines was released. Doctors and clinical health professionals now have good information to help them prevent heart disease. These guidelines are on the web at http://www.ihs.gov/MedicalPrograms/Cardiology/LipidGuidelines.pdf.

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Strong Heart Study On the Web

People say that you can find anything on the Web. Whether or not that is completely true, the Strong Heart Study website has been revised and you can now find the most current information about what's going on in the study by visiting this site.

The address of the revised site is http://strongheart.ouhsc.edu. Anyone can browse the menu bar on the left of the page and learn about the study's

- principal investigators
- organizational structure
- participating communities
- phases I - IV exams
- publications

Other features of the website include a link to view the SHS Data Book, and the SHS Operations Manual. The text of newsletters are also posted online.

The website is a work in progress for the SHS Coordinating Center in Oklahoma City. Webmaster Yiming Wang says that menu items marked with a star (*) are still under construction. The SHS Operations Manual, for example, is presented by sections in PDF files. Eventually viewers will be able to choose how they want to view the Operations Manual, either HTML or PDF format.

Viewers can also easily travel from the SHS website to related sites with one click. Links are provided to many organizations including the Centers for Disease Control, the Indian Health Service, the Department of Health and Human Services and the National Institutes of Health. In addition, a section called Special SHS links, takes the viewer to a page with information directly pertaining to the the Strong Heart Study. (A link to the lipids treatment guide described on page 3 of this newsletter is on the Special SHS links page.)

One section of the website requires a password. By logging in, SHS researchers can keep up with the latest decisions of the SHS Steering Committee and Data Sub-Committee.

Take a look at the SHS website. If you have suggestions, please e-mail the webmaster at yiming-wang@ouhsc.edu. Please indicate subject as SHS Website.