



STRONG HEART STUDY

Cardiovascular disease in American Indians

NEWSLETTER

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ALL STRONG HEART CENTERS REACH THEIR GOALS



January, 1992 marks the completion of the initial examination phase of the Strong Heart Study. All centers achieved the goal of 1500 physical examinations of eligible participants from their respective centers. The participants, communities, staff members, and principal investigators should be very proud of a job well done. The Strong Heart Study now represents the biggest multicenter study of American Indians ever done.

In November, 1991 the Arizona center of the Strong Heart Study completed its last exam to reach 1547 and be the first to reach the 1500 eligible participants for the Strong Heart Study. By mid January the Oklahoma center had achieved 1549, and by the end of January the South Dakota center completed 1565 examinations. Within the South Dakota center each of the three clinics achieved their respective goals of 223 for Fort Totten, 440 for Eagle Butte and 902 for Pine Ridge. Each of the centers completed examinations beyond the original 1500 goal in order to achieve 1500 eligible participants. Near the end of the examination period a computer review of participants revealed 1-2 percent of

examinees were ineligible under the study design guidelines. In order to meet the goals as originally conceived, the investigators agreed to examine more than 1500. This attitude best represents the spirit of the Strong Heart Study staff; we are committed to high goals and meeting or exceeding those goals.

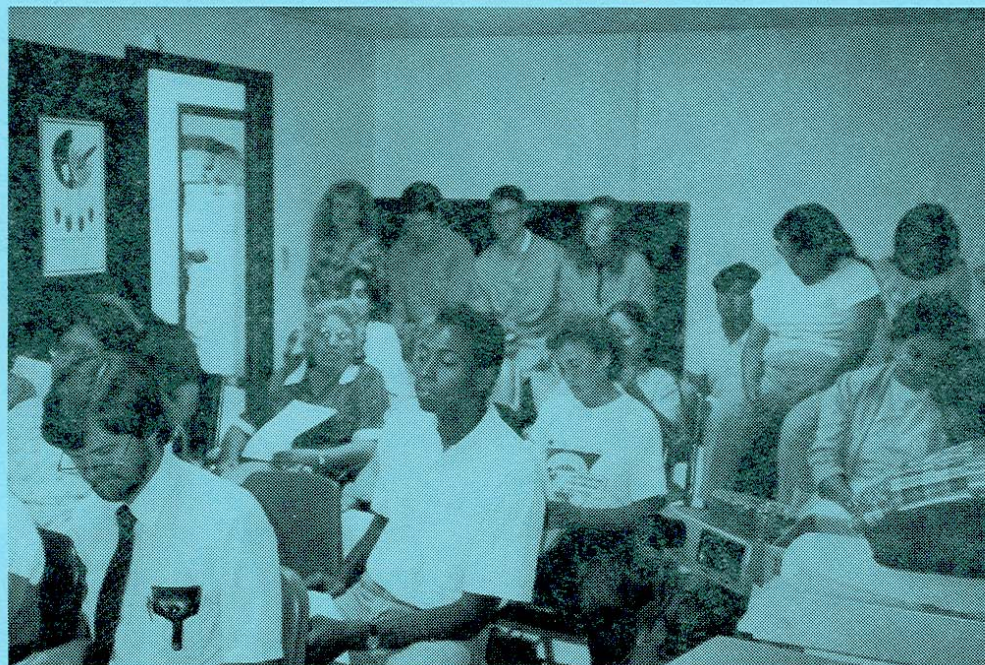
Success could not have been achieved without the commitment of so many individuals to do whatever was needed to get the job done. In Arizona, Betty Jarvis and Paula Harper led a final enthusiastic burst of 100 examinations in one month allowing the Arizona center to achieve the goal. Instead of relaxing and enjoying the achievement, they flew to South Dakota to provide assistance with the last big push at Pine Ridge. In South Dakota, Beverly Blake worked long hours and wore a groove in the pavement between Rapid City and the outlying clinics to provide backup during the long time periods of personnel shortages. In Oklahoma, Martha Stoddart worked during Christmas vacation to recruit participants and arrange examinations. Field clinics, Saturday clinics and evening recruiting provided hard-to-get participants in Oklahoma a more convenient time to get the message and be a participant. Those who have contributed to this first milestone of the Strong Heart Study are too numerous to mention but, to all those who contributed, please take a moment to enjoy the achievement. As a Program Administrator of the National Heart, Lung, and Blood Institute, Mr. Richard Fabsitz indicates that the Institute deeply appreciates the contribution of participants and is very proud of the hard work and dedication demonstrated by all members of the team in reaching this goal. With your continuing commitment, the best is yet to come.

PRELIMINARY RESULTS FROM PHASE I OF THE STRONG HEART STUDY

Now that examinations have been completed in all three centers, some preliminary data analyses have been conducted. Results to date from the cross-sectional study indicate there are significant differences in the occurrence of cardiovascular disease (CVD) among the three centers. The Sioux in the South Dakota center have at least 2 fold higher prevalence of heart disease based on electrocardiographic anomalies than do the Pima/Maricopa in Arizona, with rates in the Oklahoma tribes appearing to be intermediate. In addition there appear to be differences in occurrence of risk factors among the three groups. All three groups have a high rate of diabetes, but paradoxically the highest rate is in Arizona, the center lowest in cardiovascular disease. All three groups have a high prevalence of obesity, with the Arizona Indians having the highest rates. Blood pressure and rates of hypertension are low in all three centers, despite the high occurrence of diabetes and obesity. Again paradoxically the Arizona group with the lowest CVD rates has the highest preva-

lence of hypertension. Measurements of lipoproteins are proving to be particularly interesting. Plasma cholesterol and LDL cholesterol are higher in the South Dakota and Oklahoma centers as opposed to Arizona. In addition, rates of smoking among both men and women in the Dakota center are higher than those in Oklahoma and in the Pima/Maricopa Indians. Preliminary analysis of data on socioeconomic and cultural risk factors also suggest there may be differences among the three centers. Sioux Indians appear to have reported greater non-Indian admixture than do the Oklahoma and Arizona Indians.

The cross section data analysis will focus on which risk factors relate most closely to CVD within each center and then which may explain the differences observed among the centers. The results of longitudinal surveillance will then confirm whether these risk factors truly are predictorious of disease. Additional analyses should determine if predictors of disease vary by factors such as diabetic status.



Preliminary results of the Strong Heart Study have been presented to the participants periodically at community meetings . This picture was taken at a community meeting in South Dakota.

STRONG HEART STUDY PREPARES FOR SECOND PHASE

The Strong Heart Study has received additional funding from the National Heart, Lung, and Blood Institute to continue its study of the causes of heart diseases in American Indian people. The Strong Heart Study is currently preparing for the activities that will be part of this second phase of the study. Phase II officially began in October, 1991, and is scheduled to last into the Fall of 1996. Phase II of the Strong Heart Study will be done in the same three centers as Phase I; Arizona, North and South Dakota, and Oklahoma. All persons who took part in Phase I are eligible to participate in Phase II.

Phase II will involve Strong Heart Study participants in two major ways. First, during the five years of the second phase, the health and vital status of the Strong Heart Study populations will be monitored by study staff. These data will give useful information on the general health status of the people in these centers and will identify the important causes of poor health and the leading causes of death. Such information can be used for planning programs to target the major health problems and to improve the health of Indian people. Surveillance activities will

focus especially on the occurrence of heart disease and stroke. The Strong Heart Study needs the help of its participants in making this monitoring as complete as possible, so participants are asked to contact the study office or clinic if they have seen a doctor for any heart problems since the Phase I examination.

The other major component of Strong Heart Study Phase II will be a second physical examination. These examinations are currently scheduled to begin in the Summer of 1993 and will last through the Fall of 1995. All persons who took part in Phase I will have the opportunity to be re-examined as part of Phase II. This second examination will be similar to the Phase I examination and will take about the same amount of time to complete. Some of the tests will be the same as those done at the first examination, and others will be new. New tests include an evaluation of how well the lungs work and pictures of the heart as it beats. These are painless tests that will add a lot to evaluate the health status.

The SHS staff looks forward to seeing all the participants again as part of Phase II!

STRONG HEART DIETARY STUDY UPDATE

The Strong Heart Dietary Study data collection continued during the summer of 1991 to achieve a goal of 300 surveys completed at both the Oklahoma and Aberdeen sites. Dietary data has already been collected on approximately 300 Pima participants.

Seven health profession students attended a week long dietary interview training in Rapid City as follows: Amy Koplowsky, George Washington University medical student, assigned to Fort Totten, N.D.; Andre Winter and Kathaleen Jenkins, both Georgetown medical student and Alicia Rosen, medical student from Los Angeles were assigned to Kyle health center; Hankie

Poafpybitty, Vickie Lorentz and Kathy Pool were assigned to Oklahoma. The training was provided by local IHS nutrition staff: Steve Arity, RD, MS from Pine Ridge and Diane Schafer, RD, from Kyle, SD. The students then went to Oklahoma; Kyle, SD and Fort Totten to do dietary interviews. At the end of the summer, Oklahoma students had completed all 300 interviews. South and North Dakota combined completed nearly all interviews.

Data entry continues at a slow pace. At the present time, a data entry position is being advertised in Aberdeen so that Ms. Zephier can oversee data entry.

The Minnesota Nutrition Data System is the software package that is being utilized to enter the dietary data. The completion of data entry is anticipated to be June 1, 1992. The Strong Heart Study Coordinating Center in Oklahoma and the Steering Committee will assist on the analysis. This dietary study will provide important clues to understand the differences in

heart disease in the three groups.

Some of the nutrients that will be analyzed are calories, carbohydrates, total fat, cholesterol, monounsaturated, polyunsaturated and saturated fats, alcohol, water soluble fiber, vitamin C, vitamin A, beta carotene, retinol, calcium and fiber.

COORDINATING CENTER READY TO ANALYZE THE STRONG HEART STUDY DATA

Now that the field centers have completed their interviews and physical examinations, the Coordinating Center is very busy handling the large amount of data it has received. There are, on the average, about 580 pieces of information for each participant. These add up to about 2.7 million pieces of information the Coordinating Center has to process in the next few months. The current task is to do data cleaning, i.e., checking the accuracy and consistency of the responses given by the participants. This is the initial step before any statistical analysis is performed. The Coordinating Center is also working closely with the

investigators to prioritize the data analysis plan. The Steering Committee has recommended about ten initial topics to explore, which will eventually develop into many publications. At this stage, all the variables to be included in the data analysis are also being defined. These variables will be compatible with those used in other cardiovascular related studies. This will make the study results comparable to those reported by others. Everyone at the Coordinating Center is excited about analyzing the data and is looking forward to many interesting findings.

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