Patterns of Blood Flow May Predict High Blood Pressure in Later Life

Many Africans in South Africa have high blood pressure. Knowing that how the heart and blood vessels respond to activity can be linked to high blood pressure in later life, we studied the heart and blood vessels of Black South African children.

Our results showed that some of the children, when active, had a higher rate of blood flow through their blood vessels compared to others in their group. In young people this higher volume of blood pumped by the heart may predict the development of early high blood pressure and probable diseases of the heart and blood vessels in later life.

If the at-risk children could be identified early, the development of heart and blood vessel disease in later life could be prevented.

Source: The Influence of Cardiac and Vascular Responses on Baseline Cardiovascular Parameters in Black African Children

Carla M.T. Fourie, MSc; Johannes M. van Rooyen, DSc; Hugo W. Huisman, PhD; Nicolaas T. Malan, DSc; Rudolph Schutte, PhD; Leoné Malan, PhD; Aletta E. Schutte, PhD

Measuring Body Fat and Linking Measurements to Metabolic Syndrome

Currently, billions of dollars are spent on medical conditions related to overweight and obesity in the United States. Interestingly, where the body fat is found, rather than the total amount of body fat, may be more closely related to a group of factors called metabolic syndrome. It is believed that central obesity (fat deposited around the abdomen) can predict the factors of metabolic syndrome.

These factors include levels of fasting glucose, blood pressure, and triglycerides, waist circumference (WAIST) measurement, and reduced levels of high density lipoprotein cholesterol. Scientists do now agree, however on what is the best way to measure central obesity to predict the factors of metabolic syndrome. Two methods are currently used: WAIST or waist to hip ratio (WHR) and the body mass index (BMI). Since measures of central obesity have been typically developed and used in mostly White populations, scientists wonder if either method is useful for racial and ethnic groups.

Our study examined BMI, WAIST, and WHR and how it was linked to metabolic syndrome among a sample of overweight/obese Caucasian (CA), African (AA), and Hispanic American (HA) women.

We found that BMI could only predict blood pressure in CA and AA women and did not predict any factors of the metabolic syndrome in HA women. WAIST was a better predictor of blood pressure in both CA and AA women. WAIST was also a significant predictor of high density lipoprotein cholesterol and triglycerides in CA women and predicted glucose levels in AA and HA women. These variables are strong predictors of diabetes and heart disease risk in women. WAIST was the only measure that could predict glucose levels in HA women.

Interestingly, WHR predicted the same variables as WAIST in CA and HA and turned out to be a stronger predictor of high density lipoprotein cholesterol and triglycerides in CA women. WHR failed to predict any variables in HA women.

Our findings show that we need to have better predictors of health risk in HA women. Although WAIST and WHR were both better than BMI in predicting factors related to metabolic syndrome, differences by race and ethnicity were noted. Since both WAIST and WHR are relatively quick, easy, and inexpensive to perform, we recommend clinicians routinely use these measures in their assessment of health risk in their patients.

Source: Anthropometric Correlates of Metabolic Syndrome Components in a Diverse Sample of Overweight/Obese Women

Arlette Perry, PhD; Xuewen Wang, PhD; Yi-Tzu Kuo, MS, ATC

ENCOURAGING AMERICAN INDIANS, ALASKA NATIVES TO PARTICIPATE IN CANCER CLINICAL TRIALS

Cancer is the second leading cause of death in the United States. Research has shown that individuals from underserved populations are more likely than the overall US population to:

- be diagnosed with, and die from, preventable and curable cancers;
- report to the doctor only once the cancer has advanced instead of being detected through screening; and
- receive sub–optimal treatment and long-term care.

American Indians and Alaska Natives (AIANs) are under-represented in clinical trials, although they have some of the worst cancer-related health disparities of any American minority group. Our goal was to identify factors that may influence AIANs' decision-making regarding whether or not to participate in a mock cancer clinical trial.

At an annual social event honoring American Indian and Alaska Native Elders, we conducted a survey in which the respondent did not reveal his or her name (anonymous). We talked with individuals who were interested in participating and handed out the survey that assessed willingness to participate in a mock cancer clinical trial. The survey assessed how 37 factors may influence one's willingness to participate in the clinical trial. Those completing the survey were given a raffle ticket for a drawing to be held the same day.

Factors that most strongly increased willingness to participate were:

- having a lead researcher of Alaska Native descent;
- having a study physician with experience treating American Indians/ Alaska Natives;
- personal experience with the cancer being studied;
- family support for participation, and
- belief/hope that the study would result in new treatments.

Factors that decreased willingness to participate in the study were living far from the study site and a high risk that confidentiality would not be upheld.

Our results identified traditional and culturally unique barriers to research participation among older American Indians/Alaska Natives. Our study findings emphasize the need to establish partnerships with Native communities to build trust and disseminate information about cancer clinical trial participation. Our results also points out the importance of family in decision-making among older American Indians/ Alaska Natives and the strong preference for culturally competent professionals in research efforts.

Source: Barriers to Cancer Clinical Trials Participation Among Native Elders

Donna L. LaVallie, DO, MPH; Fredric M. Wolf, PhD; Clemma Jacobsen, MS; Dedra Buchwald, MD

RECOGNIZING SIGNS OF HEART ATTACK AND TAKING ACTION

Every year, an estimated 700,000 Americans experience heart attack, and 500,000 experience a repeat heart attack. Heart attacks can be treated properly therapies are given within a specific time window. To do this, 9-1-1 must be called quickly and symptoms must be recognized. The American Heart Association describes the symptoms of heart attack as chest discomfort, discomfort in other areas of the upper body (eg, arms, back, jaw, or stomach), shortness of breath, and other signs (eg, cold sweat, nausea, or lightheadedness).

Research has shown African American and Mexican American populations suffer more from heart disease and heart attack compared to Whites. The goal of this study was to estimate knowledge of heart attack symptoms and calling 9-1-1 among African Americans, Hispanics, and Whites. We used the 2001 National Health Interview Survey (NHIS), an annual household survey, to obtain this information among persons 18 years of age and older.

The results showed several important findings. In 2001, the most common heart attack symptoms recognized by US adults were chest pain or discomfort (89.9%), pain, discomfort in arms or shoulders (83.7%), and shortness of breath (82.1%). Approximately 92.5% of survey respondents recognized that the best thing to do during a heart attack was to call 9-1-1. However, only 41.8% of US adults knew all the actions

to take when a heart attack is suspected, recognized all five heart attack symptoms, and knew to call 9-1-1. African Americans and Hispanics were less likely to know each heart attack symptom compared to Whites and Hispanics were less likely to call 9-1-1 compared to Whites.

Findings from this study suggest that knowledge of heart attack symptoms is low, with less than half of US adults able to recognize all appropriate actions. Racial/ethnic differences in knowledge of each of the heart attack symptoms and calling 9-1-1 also exist. Studies have shown only a small portion of African Americans attribute heart attack symptoms to the heart, while the remaining individuals credit symptoms to indigestion, breathing problems or other unknown causes. Persons attributing symptoms to those other than a heart attack tend to delay treatment, which could increase chances for future heart attacks. One way to increase knowledge and survival among these groups is to target educational efforts, focusing on awareness of symptoms and appropriate actions. These educational efforts should also reflect the cultural uniqueness of African Americans and Hispanic populations and be delivered through various types of media outlets.

Source: Racial and Ethnic Disparities Associated with Knowledge of Symptoms of Heart Attack and Use of 911: National Health Interview Survey, 2001

Henraya F. McGruder, PhD; Kurt J. Greenlund, PhD; Ann M. Malarcher, PhD; Theresa L. Antoine, MPH; Janet B. Croft, PhD; Zhi-Jie Zheng, PhD

KNOW THE SIGNS OF STROKE AND STEPS TO TAKE TO HELP A STROKE VICTIM

Each year more than 750,000 Americans have a stroke, which is caused by an interruption of blood flow to the brain. Individuals who are at risk for stroke may have a number of health conditions including high blood pressure, high cholesterol, or heart disease. Those who are at higher risk for stroke also include adults who are inactive, elderly, or from racial/ethnic minority groups.

Early identification of the signs of stroke is very important to prevent stroke-related death and to limit disability caused by stroke. Most Americans have difficulty recognizing the five major warning signs of stroke and they frequently delay seeking help for stroke. Racial/ethnic minorities including African Americans, Hispanics, Native Americans, Pacific Islanders, and Asian Americans are less likely to know the warning signs of stroke and are more likely to delay seeking the help for stroke compared to Whites.

Veterans are a unique population to study since all veterans are provided care in Veterans Administration (VA) hospitals and receive good care regardless of race/ethnicity. In addition, veterans tend to be older and have multiple risk factors for stroke, so it is important for them to recognize the warning signs of stroke.

We examined responses from 36,150 veterans to find out if they recognized the five major warning signs of stroke and if they knew how to get treatment for stroke. The veterans included in this study participated in a 2003 US national survey of public health. Overall, 96% recognized sudden confusion or trouble speaking; 97% recognized sudden facial, arm, or leg weakness; 88% recognized sudden vision loss; 94% recognized sudden trouble walking; and 80% recognized sudden headache as the major warning signs/symptoms of stroke. About 86% of veterans knew that calling 9-1-1 was the first action to take if someone was having a stroke. However, only 17% of veterans knew all five warning signs/symptoms and only 15% knew all five warning signs/symptoms and that calling 9-1-1 was the first action. In addition, we found that Hispanic veterans were less likely to recognize the five warning signs of stroke and call 9-1-1 as the first action to take if someone was having a stroke compared to veterans of other race/ethnicity.

These findings are important because stroke may present in different ways. Being able to recognize all five symptoms and knowing the importance of calling 9-1-1 as the first action when someone is having a stroke ensures that patients are more likely to get the treatment they need. Patients should be familiar with the five major warning signs of stroke and be ready to call 9-1-1 immediately if they or a family member have any of these symptoms:

1. Sudden confusion or trouble speaking
2. Sudden facial, arm, or leg weakness
3. Sudden loss of vision
4. Sudden trouble walking
5. Sudden headache

Source: Racial/Ethnic Differences in Stroke Awareness Among Veterans

Charles Ellis, PhD; Leonard E. Egede, MD, MS

ASTHMA MANAGEMENT PLANS FOR CHILDREN CAN LEAD TO A HEALTHIER LIFE

Asthma is a major illness among children in the United States where more Black children have asthma than White children. Also in the United States, more Black children are hospitalized, go to the emergency department, and even die from asthma compared to White children. Although asthma is a major cause for childhood illnesses, asthma attacks can be prevented when individuals have access to care and understand the illness. It is not well understood why Black children suffer more from asthma than White children.

Proper management of asthma can avoid an asthma attack and help children live a healthier life. The National Heart, Lung, and Blood Institute (NHLBI) is a national organization that recommends that all doctors provide individuals with asthma an asthma management plan. The plan should offer information on asthma, what to do to avoid an asthma attack, and when to visit a doctor.

Our study looked at different racial groups of children to find out if having an asthma management plan would lower the number of asthma attacks. This study used the 2002 and 2003 National Health Interview Survey, which is a national survey of health in the United States. In the survey, 2,110 children under the age of 17 had asthma. Most of the children were White (50.96%), and the other racial groups were Black (26.12%), and Hispanic (22.92%). Most of the children with asthma lived in the South (36.30%), and others lived in the Northeast (21.23%), Midwest (22.71%), and the West (19.76%).

Most of the children did not have an asthma management plan (59.00%). White children were more likely than Black and Hispanic children to have an asthma management plan. Children with an asthma management plan were less likely to have an asthma attack. If all children are provided an asthma management plan, racial differences could be lowered. It is important to continue to develop programs and recommendations to increase asthma management plans for children with asthma in the United States so that they can have a healthier life.

Source: Racial Influences Associated with Asthma Management of Episodes Among Children in the United States
Crystal N. Piper, PhD; Keith Elder, PhD; Saundra Glover, PhD; Jong-deuk Baek, PhD

LOW LEVELS OF MAGNESIUM PLACE DIABETICS AT INCREASED RISK

We conducted a study among Ethiopian patients with diabetes to find out how much magnesium was present in a diabetic patient compared to a healthy person.

Magnesium plays an important role in how your body's cells work. Many studies have shown that patients with type 1 and type 2 diabetes have low levels of magnesium but we wanted to find out if this was also true for African patients with diabetes.

In our study, we had 159 patients: 44 had type 1 diabetes; 69 had type 2 diabetes; and 46 were healthy persons (control group). Average patient age differed among the three groups: approximately 30 years of age for the type 1 group; approximately 51 years of age for the type 2 group; and approximately 29 years of age for the control group.

Hypomagnesemia (low level of magnesium) was seen in 65% of the patients with diabetes.

The lower levels of magnesium place these patients at increased risk of complications. We recommend monitoring of magnesium levels and providing magnesium supplements for diabetic patients to avoid hypomagnesemia.

Source: Hypomagnesemia in Ethiopians with Diabetes Mellitus
Berhane Seyoum, MD, MPH; Elias S. Siraj, MD; Christopher Saenz, MA; Jemal Abdulkadir, MD

HOW BLOOD PRESSURE AFFECTS THE AGING MIND

Much of the healthcare advice for African American adults centers around the management and implications of high blood pressure for living a healthy life. Higher-than-average blood pressue can lead to many major chronic conditions, such as cardiovascular disease and diabetes. In addition, high blood pressure has also been found to affect mental abilities; however, this relationship has not been well studied in African Americans.

The purpose of our study was to examine how blood pressure affected memory measures in African American adults. We gathered information from 361 African American adults who were 50 to 92 years of age. We found links between levels of systolic blood pressure and brain functioning (cognitive measures), but no link between cognitive measures and diastolic blood pressure. We found that, from knowing a person's systolic blood pressure, we could predict performance on measures of memory impairment, short-term memory, memory for stories, and a measure speed of cognitive processing. This was found even after taking into account information like a person's age and their education.

These findings suggest that blood pressure is an important factor that makes the aging and health process variable among African American people in their cognitive functioning. With the greater prevalence, severity, and earlier onset of hypertension in African Americans, the initial damage that elevated blood pressure can cause on cognitive functioning has yet to be examined.

The growing interest in understanding the factors that affect brain functioning in African Americans will likely result in more studies of risk factors for poor cognitive functioning and explanations for differences between racial/ethnic groups. One question which remains is why the rates of poor cognitive function among older African Americans are not higher, given the relationship between blood pressure and cognitive function and the higher rates of hypertension in this population. Perhaps, in addition to risk factors like higher rates of high blood pressure, there may also be protective factors, such as the social support we get from family and loved ones. This is clearly an area that needs further study to identify ways to improve quality of life for older African Americans.

Source: Blood Pressure and Memory in Older African Americans

Keith E. Whitfield, PhD; Jason C. Allaire, PhD; Alyssa Gamaldo, MS; Adrienne T. Aiken-Morgan, PhD; Regina Sims, PhD; Christopher Edwards, PhD