ORIGINAL COMMUNICATIONS

CARDIOVASCULAR DISEASES AND STROKE IN AFRICAN AMERICANS: A CALL FOR ACTION

Edward S. Cooper, MD
Philadelphia, Pennsylvania

Considerable disparities in cardiovascular and stroke mortality and morbidity rates exist between African Americans and other Americans. Increased prevalence and severity of hypertension, with earlier onset and often inadequate therapy, seem to be the major culprits responsible for the differences. There are ominous signs indicating that our recent dramatic progress in the control of cardiovascular disease and stroke is slowing, and in certain areas (stroke incidence and prevalence, hypertensive end-stage renal disease) progress is actually regressing. It is urgent that renewed research and medical interventions be undertaken to address this crisis. The American Heart Association and the National Medical Association have these and many other goals in common. Concerted action by all concerned organizations is essential. (*J Natl Med Assoc.* 1993;85:97-100.)

Key words • cardiovascular disease • stroke • hypertension • African Americans

African Americans face a health crisis of enormous magnitude. Wide disparities in cardiovascular disease and stroke mortality and morbidity rates exist between African Americans and all other population groups in the United States.[1,2] Because cardiovascular diseases and stroke kill almost as many African Americans as all other causes combined, it is incumbent upon me as the president of the American Heart Association (AHA) to review briefly the dimension of the problem we face and to summarize what the AHA is doing to help address the crisis. I will also suggest how the AHA and our historically dedicated organizations, such as the National Medical Association (NMA) and the Association of Black Cardiologists (ABC), can most effectively work together to meet the crisis.

As a 40-year member of the NMA and a participant in NMA programs at multiple levels through the years, I am sensitive to the struggle the NMA has made in the past, often alone, to cope with the many health needs of African Americans and other disadvantaged groups. However, I can see the potential for greater progress now that we have vigorous allies in organizations such as the ABC; the US Department of Health and Human Services under Dr Louis Sullivan; the National Institutes of Health directed by Dr Bernadine Healey (a former AHA president and founder of the AHA Women and Minority Leadership Committee); the National Heart, Lung, and Blood Institute under Dr Claude Lenfant; the National Institute of Neurological Communitive Disorders and Stroke directed by Dr Murray Goldstein; and the Association of American Medical Colleges (AAMC) minority section under Dr Herbert Nickens with Dr Edward Stemmler as AAMC President. I cite these particular medical organizations and leaders because I know of their sincere and expressed determination to make every effort to help rectify the serious disparities in cardiovascular disease and stroke mortality and morbidity rates that exist today in certain US minorities, especially in African Americans (and Hispanic Americans to a lesser degree). Incidentally, where these wide disparities do exist, high prevalence of hypertension seems to be the principal culprit.

THE PROBLEM

The cardiovascular mortality rate for black males is 34% higher than for white males and 60% higher for

From the University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania. Presented in part as the Keynote Address, Banquet of the Scientific Sessions of the Association of Black Cardiologists, April 10, 1992, Dallas, Texas. Requests for reprints should be addressed to Dr Edward S. Cooper, Hospital of the University of Pennsylvania, 3400 Spruce St, 3rd Floor, Ste A, Philadelphia, PA 19104.

black females than for white females. Moreover, African Americans have one-and-a-half to two times more stroke deaths than whites, and three to five times more stroke deaths in the most productive years, between the ages of 35 and 50.[3] Blacks have 10 to 18 times more kidney failure caused by high blood pressure requiring artificial kidney treatments or transplants, and the figures are becoming worse.[4] This is alarming and unacceptable; we must find out all of the factors involved and address them forthwith to turn this situation around.

Chronic heart failure caused by high blood pressure is three to five times more common in African Americans than in other Americans. Coronary artery heart disease including myocardial infarction is the most common single cause of death in the United States among all population groups, and it is nearly equal in frequency among black and white men but is more common in black women than in white women. There is compelling evidence that African Americans are much less likely to receive effective, but expensive, therapeutic interventions for coronary heart disease.[5,6] The entire issue of access to quality health care for all Americans is of critical importance.

The wide racial disparity in cardiovascular disease and stroke mortality and morbidity rates is why the AHA and other organizations consider issues of minority health care crucial to eradicating the national peril of heart disease. First, as is well known to NMA members, lack of knowledge about heart disease and stroke is perhaps one of the greatest detriments to the black community. For example, African Americans are less likely than whites to know what blood pressure level is normal for their age. Blacks are less likely than whites to identify obesity, cigarette smoking, physical inactivity, and high blood cholesterol as modifiable risk factors for heart attacks. Knowledge and concern about nutrition also is lower among blacks than whites. African Americans, Hispanics, and low socioeconomic whites are less likely to change their dietary habits to reduce the risk of heart disease and stroke. In addition, cigarette smoking is more common among blacks, although there are more heavy cigarette smokers among whites.

Second, patient care is very expensive—and unaffordable—for many blacks. That is why it is more humane and cost effective to prevent heart disease and stroke. The risk factors must be detected and treated before cardiovascular disease and stroke occur.[7-19] Unless the cost of health services is controlled, the rationing of health services will become inevitable, despite how distasteful this prospect is to us all.

The words of former Supreme Court Justice Thurgood Marshall remind me of the social ills that impact heart disease and stroke among blacks: "The position of the Negro today in America is a tragic but inevitable consequence of centuries of unequal treatment." And so it is today, more than 20 years after that statement was made.

There is still an urgent need to train more black and other minority physicians and healthcare workers. The percentage of black physicians in the United States is about 3%, yet blacks constitute about 12% of the American population. I had the privilege of being chosen by the late Dr Montague Cobb to be chairman of the NMA Talent Recruitment Council during his NMA presidency. During the period of my service (1963-1966), the experience was exceedingly valuable, and I am delighted to learn that the NMA continues to have innovative recruitment projects for minorities. We are all especially proud of our young health professionals and investigators and their many accomplishments.

There is still an urgent need for special programs to reduce cardiovascular diseases and stroke in blacks and other racial minority groups. That is why the AHA is—and must continue—targeting uniquely designed high blood pressure detection and control programs to the many hard-to-reach blacks. It is well documented that many disadvantaged racial minorities have less access to health services. The AHA has created a Task Force on Access to Quality Health Care with Dr Charles Francis, a long-term NMA member (and the director of the department of medicine at Harlem Hospital), and Dr Harriet Duston, a former AHA President, as co-chairpersons. Incidentally, the problem of access to quality health care is not principally a racial one; 78% of the health uninsured in the United States are white. The flip side, however, is that 30% of Hispanics are uninsured, 20% of blacks, and 10% of whites. So there is a definite racial component, and there are many individuals who are hurting because of the lack of health care and medications, usually despite their best efforts. If adequate access to health services and medications were available to all African Americans and those of low socioeconomic status, then many if not most of the previously mentioned disparities would disappear.

I have chaired an AHA committee that issued many crucial findings and opinions in a report entitled "Cardiovascular Diseases and Stroke in African-Americans and Other Racial Minorities in the United States: A Statement for Health Professionals."[2] This report was published simultaneously in the April 1991 issues of the AHA journals *Circulation* and *Stroke*. This report concluded that the current crisis can be controlled

only if there is a renewed commitment to expand research, to improve public health measures, and to include racial minorities in clinical trials. Greater emphasis also must be placed on identifying and rectifying environmental factors that underlie health differences.

The big payoff will come in controlling heart diseases and stroke when we learn how to prevent cardiovascular disease risk factors themselves, ie, prevent high blood pressure and high blood cholesterol in the first place, not to mention the primary prevention of obesity and diabetes (and cigarette smoking). Further research advances, including those in vascular and molecular biology and genetics, will be necessary before dramatic progress can be accomplished along this line of primary prevention of risk factors. Such advances will help us to identify early in life those individuals most prone to develop risk factors and focus special preventive efforts on them. Furthermore, the fruits of such research will permit us to design improved diagnostic tests, medications, and treatment intervention including (in the next century) genetic engineering under rigidly controlled and monitored conditions to possibly remove or neutralize harmful risk factors.

However, we must face reality and begin our fight today with weight reduction; reduced salt, cholesterol, saturated fat, and total caloric intake; increased exercise; cessation of smoking; and other preventive measures. Each American should know his or her blood pressure and cholesterol levels, and each home should contain a blood pressure instrument, just like a thermometer.

THE AHA PROGRAMS

In addition to the recently established AHA Task Force on Quality Health Care and our previous Task Force on Medications for the indigent, the AHA has a long history of interest in minority health programs. The AHA staff and volunteers, under the direction of the AHA officers and Mr Dudley Hafner with Dr Rodman Starke, have been busy and creative in establishing various minority programs over the years.

The AHA Public Education and Community Program Committee has awarded 12 ethnic diversity grants to fund innovative and expanded programs to help people learn to control or manage their cardiovascular risk factors. Incidentally, Dr Clyde Johnson, an African American who headed the selection committee for these grants, has been nominated to become National Chairman-Elect of the AHA Board of Directors.

In September 1991, in Washington, DC, the AHA held an Editors' Conference on Cardiovascular Diseases and Stroke in African Americans where the US Secretary of Health and Human Services, Dr Louis Sullivan, delivered the keynote address. Many NMA members participated in this event, and video and audiotapes of the proceedings are available through local AHA affiliates and the National AHA Center in Dallas.

While all of the AHA's research programs are open to minority applicants, the AHA National Center has established Minority Scientist Development Awards for members of ethnic groups underrepresented in science. Also, the AHA has added 20 Minority Medical Student Research Fellowship slots to the existing 100 for all students. The Minority Medical Student Fellowships are available through various medical schools and are designed for students who want to take a year off during their medical school years for cardiovascular research training and experience. The Minority Scientist Development Awards are for young postdoctoral scientists who are in the process of becoming independent investigators. We hope this information concerning these awards will spread through the African-American community. We would prefer to have too many applicants, compared to our present situation of too few applicants, from whom winners can be chosen.

These are only a few of our programs and signs of progress. The most meaningful proof of progress, however, is the increasing number of minorities counted among the 19 million Americans that the AHA reached through these interactive educational programs last year. Even more important is the continuing decline in disability and age-adjusted death rates from heart and blood vessel diseases. However, there are already signs of a slowdown in progress in several areas. For example, during the 1960s and 1970s, stroke death rates were falling about 5% per year (with black females profiting most), then slowed to about 2% per year in the 1980s and now fluctuate at about a 1% or 2% decline per year. In fact, stroke incidence and prevalence rates are actually rising in the Framingham Study participants and elsewhere. The exact cause is unknown, but is most likely related in some way to the aging population and improved diagnosis with computed tomography scans and magnetic resonance imaging tests. This entire area deserves and is receiving our closest scrutiny.

THE NEED FOR CONCERTED EFFORT

The National Center for Health Statistics reported in January that the life expectancy for black males has dropped every year since 1984, except in 1987 when it remained unchanged. For black females, life expectancy has fluctuated with no clear trend since 1982. The 60 000

excess deaths related to high blood pressure is one reason why.

There is an urgent need for all organizations interested in bridging racial gaps to work together. For example, many NMA members may wish to become local, state, and national volunteer leaders of the AHA, or may disseminate some of the AHA's published materials to the patients and communities of NMA members.

There are other ways that the NMA and AHA and other organizations can work together. The five major goals of the AHA Women and Minority Leadership Committee Strategic Plan for 1990-2000 are:

- to reduce cardiovascular risk among all segments of the community through the implementation of effective education and behavior change programs particularly targeted to women and minorities,
- to involve all segments of each community in all phases of the Association at all levels,
- to increase women and minority participation in lay and scientific/medical leadership positions on all AHA councils, committees, and components,
- to substantially increase the numbers of women and minorities in cardiovascular science, medicine, and research careers, and
- to encourage and support research relevant to women and minorities to determine the prevalence and incidence of cardiovascular diseases and stroke, their causative mechanisms, and treatment.

These goals have been endorsed and approved by all segments of the AHA, including the AHA Delegate Assembly in 1988, and I am sure that these goals mirror those of all physicians who work with and in African-American communities. We must all pull together to close the racial gaps that exist in American mortality and morbidity rates from cardiovascular disease and stroke.

Acknowledgment

The author thanks Mr Roger Campbell for his assistance in preparing the manuscript.

Literature Cited

1. US Department of Health and Human Services. Cardiovascular and cerebrovascular disease, parts 1 and 2. In: *Report of the Secretary's Task Force on Black and Minority Health.* Washington, DC: US Government Printing Office; 1986. US Dept of Health and Human Services publication 186-620-638:40716.
2. Cooper ES, Kuller LH, Saunders E, Martinez-Maldonado M, Caplan L, Yatsu F, et al. Cardiovascular diseases and stroke in African-Americans and other racial minorities in the United States: a statement for health professionals. *Circulation.* 1991;83:1462-1480.
3. Caplan LR, Cooper ES. Cerebrovascular disease in blacks. *J Natl Med Assoc.* 1987;79:33-36.
4. Shulman NB. Renal disease in hypertensive blacks. In: Hall WS, Saunders E, Shulman NB, eds. *Hypertension in Blacks: Epidemiology, Pathophysiology and Treatment.* Chicago, Ill: Year Book Medical Publishers Inc; 1985:106-112.
5. Curry CL, Crawford-Green C. Coronary heart disease in blacks. In: Saunders E, ed. *Cardiovascular Diseases in Blacks.* Philadelphia, Pa: FA Davis Co; 1991:205-225.
6. Goldberg KC, Hartz AJ, Jacobson SJ, Krakauer H, Rimm A. Racial and community factors influencing coronary artery bypass graft surgery rates for all 1980 Medicare patients. *JAMA.* 1992;267:1473-1477.
7. Savage DD. Significance of increased left ventricular mass in black and white hypertensive patients. *J Natl Med Assoc.* 1989;80(suppl):7-11.
8. Haywood LJ. Hypertension in minority populations: access to care. *Am J Med.* 1990;88(suppl 36):175.
9. Brown J, King A, Frances CK. Cardiovascular effects of alcohol, cocaine, and acquired immune deficiency. In: Saunders E, ed. *Cardiovascular Diseases in Blacks.* Philadelphia, Pa: FA Davis Co; 1991:341-376.
10. Williams RA, ed. *Textbook of Black-Related Diseases.* New York, NY: McGraw-Hill; 1975.
11. Watkins LO. Coronary heart disease and coronary disease risk factors in black populations in underdeveloped countries. The case for premordial prevention. *Am Heart J.* 1984;108(pt 2):850-862.
12. Gillum RF. Cerebrovascular disease morbidity in the United States 1970-1983. Age, sex, region and vascular surgery. *Stroke.* 1986;17:656-661.
13. Adams-Campbell LL, Nwankwo M, Ukoli F, Omene J, Haile GT, Kuller LH. Body fat distribution patterns and blood pressure in black and white women. *J Natl Med Assoc.* 1990;82:573-579.
14. Cooper RS, Simmons BE, Castaner A, Santhanam V, Ghali J, Mar M. Left ventricular hypertrophy is associated with worse survival independent of ventricular function and number of coronary arteries severely narrowed. *Am J Cardiol.* 1990;65:441-445.
15. Peniston RL, Randal OS. Coronary artery disease in black Americans 1920-1960: the shaping of medical opinion. *J Natl Med Assoc.* 1989;81:591-600.
16. Hall WD, Kong W. Hypertension in blacks: nonpharmacologic and pharmacologic therapy. In: Saunders E, ed. *Cardiovascular Diseases in Blacks.* Philadelphia, Pa: FA Davis Co; 1991:157-172.
17. Thomas J, Semenya K, Neser WB, Thomas DJ, Green DR, Gillum RF. Precursors of hypertension in black medical students: the Meharry Cohort Study. *J Natl Med Assoc.* 1984;76:111-121.
18. Cregler L, Mark H. Cardiovascular dangers of cocaine abuse. *Am J Cardiol.* 1986;57:1185-1186.
19. James SA. Socioeconomic influences on coronary heart disease in black populations. *Am Heart J.* 1984;108(part 11):669-672.