

EFFECTIVE MEDICAL TREATMENT OF THE MULTICULTURAL CARDIOVASCULAR PATIENT

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Introduction

In this chapter, cardiovascular disease is considered from an epidemiological and a therapeutic standpoint for the four principal underserved minorities in the United States: African Americans (AA), Hispanics (HA), American Indian/Alaskan Native Americans (AIA), and Asian/Pacific Islander Americans (APIA). In looking at CVD in these groups, we will be able to gain insights into the problems of healthcare disparities which face them in this area of medicine. Because the database is scant for all of the groups except African Americans, the emphasis will be on the latter group, using them as a surrogate for the entirety of the multicultural patient population. It is recognized that this fact underlies a problem: more scientific studies are needed on the health status and needs of all multicultural patients. It is hoped that this publication will provide some stimulus for such an effort.

Much of the information presented is drawn from the groundbreaking book, Unequal Treatment, published in 2002 by the Institute of Medicine. The other main source is Humane Medicine: A New Paradigm in Medical Education and Health Care Delivery, Volume II, published in 2001 by Richard Allen Williams, M.D. Because these two works are the sources of nearly all material presented, no specific references will be provided, and the reader is referred to these works for more in-depth coverage of the subject.

African Americans

Of all minority citizens of the United States, AA are the ones we know more about regarding health status. Concerning CVD in AA, the following epidemiological statistics are relevant:

- Life expectancy for blacks is lower than any other group in the nation. Comparable figures for whites and blacks are white males, 73.2 years; black males, 65.0; white females, 79.8; black females, 73.9 years. CVD is the leading cause of death in all Americans, accounting for more than 40 percent of the total annual deaths.
- The poverty rate for AA is disproportionately high, 31 percent, compared to 8 percent for whites. Poverty is especially devastating in large metropolitan areas, and it impacts upon health and CVD status. For example, in the Harlem section of New York City, the health status of blacks is worse than that found in Bangladesh, one of the poorest nations in the world. Much of this is due to poverty from unemployment, which is 13 percent for AA in Harlem compared to 6 percent for whites.
- Less than 30 percent of blacks possess health insurance compared to 71 percent for whites.
- The death rate from CVD is 154/100,000 for AA as opposed to 114/100,000 for white Americans.
- With respect to coronary heart disease (CHD), death rates are 133.1/1,000 for black males compared to 124.4/1,000 for white males, or 7 percent higher in black males; and rates for black women are 81.6/1,000 versus 60.3/1,000 for white women, or 35 percent higher for black females.
- Risk factor levels for CHD such as cigarette smoking, hypertension, and diabetes mellitus are higher in AA.
- For hypertension, the prevalence rates for black males and females 35 and 34.2 percent, respectively, compared to 24.4 and 19.3 percent for white males and females, respectively.
- Hypertension death rates for AA males and females are 355 and 352 percent higher, respectively than for white males and females.
- For congestive heart failure (CHF), the mortality rates are 2 1/2 times higher in AA than in whites. Blacks have higher rates of admission and discharge diagnoses with CHF than whites, indicating greater severity and poorer treatment of the disease in blacks.

- AA more commonly have hypertension as the underlying cause of CHF, than whites, who more often have ischemic heart disease as a precursor.
- For diabetes mellitus, now considered a CVD and a CHD risk equivalent, this disease is the fourth leading cause of death for blacks, although it is seventh for the general population. At least 11 percent of the black population has diabetes, and the age-adjusted death rates are 117 and 167 percent higher for black men and women than for their respective white counterparts. The prevalence of Type II diabetes in the 45-to-64 –year age group is 51 percent higher in blacks. Blacks tend to have higher rates of microalbuminuria and renal insufficiency for which diabetes is the number one cause. End-stage renal disease is up to 17 times more prevalent in AA than in whites. It is three times more prevalent in obese persons, and more hypertension is seen concomitantly in black diabetics.
- For cerebrovascular disease (CVD), mortality is twice as high for AA than for whites. Hypertension is the main precursor in 70 percent of stroke victims who are black, whereas whites more commonly have ischemic disease as the cause.
- For end-stage renal disease, diabetes is the principal precursor in blacks, followed closely by hypertension. The rate of diabetic renal disease progression is more rapid when hypertension coexists.

Treatment perspectives for CVD in African Americans

Based on the information above, it is apparent that there are huge disparities in CVD between blacks and whites, especially with regard to the precursors, risk factors, disease expression, incidence, prevalence, morbidity, and mortality. Is it possible to impact upon these negative statistics by using methods of treatment which may be more effective in this group? Although the answer to that question is unknown because not enough studies have been conducted using differential treatment in blacks compared to other races and ethnicities, it is important to note that information from several post-hoc analyses of clinical trials in many cardiovascular diseases indicates the following:

1. Black patients treated for hypertension may not respond as well to the same dose of ACE inhibitors and beta-blockers as whites when those drugs are used as monotherapy. This

difference is extinguished when diuretics are used in combination with these drugs or when blacks are treated with higher doses than standardly used. Also, one large study recently showed an excellent response to ACE inhibition in black patients with kidney disease.

- 2. African Americans with left ventricular dysfunction seemed to have a higher mortality rate than whites when treated with bucindolol, a beta-blocker. This has not been observed with carvedilol or metoprolol.**
- 3. Black patients with left ventricular dysfunction treated with an ACE inhibitor appeared to have a lesser response than whites.**
- 4. Black patients with left ventricular dysfunction may have a greater response than whites to vasodilator drugs.**
- 5. African American with hypertension are very responsive to treatment with diuretics and calcium channel blockers.**
- 6. Aggressive treatment of hypertension in blacks can lead to a lowering of the incidence of stroke by as much as 42 percent when the diastolic blood pressure is lowered by 5-6mm Hg.**
- 7. Black women in particular appear to be more sensitive to dietary control of hypertension.**

These are some of the differences observed between blacks and whites in treating CVD. There are many more, but they cannot all be cited in this short article. Suffice it to say that although there is some controversy about the differences and what they mean, no conclusions can be drawn until patients have equal access to treatment and until treatment itself is equalized.

Hispanic Americans (HA)

Hispanics represent the largest minority group in the United States, comprising about 12 percent of the population. They consist of five major subgroups depending on country of origin: Mexican (the largest subgroup), Puerto Rican, Cuban, Central/South American, and “other”. Their health status and cultural practices are not monolithic. Instead, there is great variation among the groups. Some pertinent facts regarding cardiovascular disease in HA are as follows:

- CVD prevalence is surprisingly low compared to other ethnic groups despite the fact that risk factor prevalence such as diabetes and obesity is high. This has been called the “Hispanic paradox”.
- Hypertension prevalence is lower in HA than in whites and blacks.
- Dyslipidemia rates tend to be higher than in blacks and similar to whites, and the metabolic syndrome is seen more in HA than in other groups.
- Coronary atherosclerosis rates for HA are lower than for whites.
- Cigarette smoking appears to be less prevalent among HA than among whites. HA are characterized by the fact that 35 percent are uninsured compared to 21.2 percent of AA and 14 percent of whites.

The implications of these facts for treatment of HA focus primarily on metabolic problems including diabetes, obesity, and dyslipidemia. CVD rates would fall even lower than they are if these risk factors were better controlled. Therefore, the most effective treatment for this group is a preventive strategy focused on risk factor reduction to avoid development of CVD.

Asian Americans/Pacific Islanders (AAPI)

Cardiovascular disease is the leading cause of death for AAPI, which is a very heterogeneous racial and cultural group with many subgroups. Filipinos constitute the largest subgroup, with over 2 million residents in the United States. It is the fastest-growing part of the population. Hypertension is a major risk factor for CVD in AAPI, although its prevalence is lower than in most minority groups. For example, hypertension prevalence for Chinese is 15.7 percent, for Japanese 12.5 percent, and for Filipinos 24.5 percent compared to 26 percent for blacks and 20.2 percent for whites. CHD rates are generally lower than for whites, although those from Guam and American Samoa have higher rates. As with Hispanics, the main focus of treatment should be preventive, aimed at risk factor reduction.

American Indian/Alaskan Native Americans (AIA)

Mortality from CVD, although ranking as the principal cause of death, is about half that for the general population. Most of the heart disease deaths in American Indians occur before the age of 35, when the CVD death rate is twice as high as for all other ethnic groups. Hypertension, diabetes, and obesity are prevailing risk factors which must be controlled. The Pima Indians of the Southwest have the highest rate of Type II diabetes in the world, and this epidemic must be controlled by more aggressive treatment. More studies are needed so that better efforts can be made to control CVD in this shrinking racial and cultural group.

Summary

The information provided above makes it clear that we have a problem of immense proportions regarding healthcare disparities in CVD among minority racial, cultural, and ethnic groups. African Americans are the most adversely affected, and seem to be most in need of effective medical treatment. All multicultural groups can benefit from preventive strategies aimed at risk factor reduction. Control of cigarette smoking, hypertension, diabetes, obesity, and dyslipidemia will have an impact on the development of CVD problems including coronary heart disease, congestive heart failure, stroke, and end-stage renal disease. These are measures which will improve the health status and extend the longevity of all Americans.