

# Hypertension: The Silent Killer

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Hypertension (high blood pressure) is one of the major causes of death in the United States. It is the key risk factor in both heart disease and stroke. According to a study by the Department of Health and Human Services, in 1988, 58 million people in the U.S. have hypertension, including 39 million under the age of 65, (occurrence of hypertension increases with age) and it is higher for Black Americans at 38 percent, than for White Americans, at 29 percent, the report reveals.

Studies indicate a relationship between high sodium (salt) intake and the occurrence of high blood pressure and stroke. Salt contains about 40 percent sodium by weight and is used widely in the preservation, processing, and preparation of foods.

Although sodium is necessary for normal metabolic function, it is consumed in the United States at levels far beyond the 1.1 to 3.3 grams per day found to be safe and adequate for adults. The average sodium intake per day by adults is in the range of 4 to 6 grams. Far too much.

While some ethnic groups maintain normal blood pressure levels over a wider range of sodium intake, Blacks seem to be "salt sensitive" and display increased blood pressure in response to high sodium intake. Some data suggests that there are differences in renal sodium handling between Blacks and Whites, but the data do not indicate that high sodium intake in Blacks explains their higher prevalence of hypertension. National data shows that potassium intake is lower in Blacks. This fact may account for the greater sensitivity to the effects of sodium in Blacks and the resultant high blood pressure. Current data available on cell membrane electrolyte transport systems do not explain

Black/White blood pressure differences.

The major risk factor is stroke. Since the prevalence of hypertension is significantly higher in Blacks than in Whites, this accounts for the Black excess of stroke incidence and mortality.

The higher the prevalence of hypertension in Blacks, the higher the rates of end-stage renal disease (ESRD). Blacks have a disproportionately high rate of hypertensive disease. Though diagnoses in the studies reported (43,440 patients) were based on clinical rather than histological evidence, diagnostic error could not totally explain the disparity reported at the beginning of the article relative to high Black mortality from hypertension and subsequent stroke as compared to Whites (1981-88 38.9 White males and 58.1 Black females). Note the above information refers to deaths per 100,000.

It appears that earlier recognition and more vigorous treatment of hypertension might reduce the incidence of ESRD in Blacks. Even if the risk of chronic heart disease (CHD) in hypertensive Black males is somewhat less than in hypertensive White males, the impact of hypertension on chronic heart disease risk with both Black males and females, remains sizable because of the high prevalence of hypertension, a report from Health and Human Services says.

Hypertension-related mortality among Blacks in general seems to be declining as an awareness of the disease, information, treatment and blood pressure control become available. Improved hypertension control by Blacks is viewed as partially responsible for the downward trend in hypertension related mortality.

**Social Causes Attributed To Hypertension**

There is a direct association of education with hypertension prevalence, the HHS services study shows. Studies of Blacks indicate that there is an inverse association of blood pressure and/or incidence of elevated blood pressure with both income and social class. Despite the fact that the mechanism by which socioeconomic status is associated with high blood pressure in Blacks in unclear, high blood pressure has been related to areas of high social stress and instability as well as to coping styles, education and occupational insecurity, the report points out. Hypertension - associated mortality rates also show linkages with social instability. In light of the relationship between social factors and high blood pressure (and associated mortality rates), perhaps hypertension control in Blacks can be improved by interventions that are not strictly biomedical, but rather increased levels of social support, the study continues.

There are persistent differences between Blacks and Whites in education, occupational level and income. On the average, Blacks have fewer years of formal education than Whites, and those with equivalent education have access to fewer job opportunities. In addition, those with equivalent employment are likely to be paid less than Whites. There is some evidence of a low incidence of coronary disease in Blacks of high socioeconomic status (SES). Stepped-up efforts in hypertension control should continue to improve cardio-vascular disease incidence and mortality in Blacks. Awareness and caution of hypertension tendencies by Blacks in the last decade increased but many still have significant misconceptions concerning factors that lead to hypertension.

For both Blacks and Whites, a distinct social/class blood pressure gradient exists with those of lower

income and sparse educational attainment having the higher blood pressure, the HHS study shows. Numerous examinations found an inverse relationship between blood pressure (and the prevalence of hypertension) and the number of years of education. This correlation was more striking for Blacks than for Whites and persisted even after account was taken of body weight. For example, in Blacks with less than 10 years of schooling, the prevalence of hypertension was 43.9 percent, but in Blacks who had completed college education, the prevalence was 13.5 percent respectively, the study revealed.

Persistent Black excess of hypertension across all educational levels has been reported in national health surveys. Mean systolic and diastolic blood pressure were found to be inversely related to the amount of formal schooling received by the examinees in all race and sex groups. This association was more pronounced for women than for men.

Investigators conclude that social class may be among the prime causes of hypertension in Blacks. They point to a study that was done in an inner-city (Baltimore, MD) where in both sexes there was a direct association between the incidence of hypertension and income. Sons of professionals had an incidence of hypertension, over a four year period, that was approximately one quarter the hypertension found in the sons of laborers.

Areas of social disorganization, plagued by unemployment, lower per capita income, lower percentage of home ownership and high crime were described as "high stress" areas. Young Black men living in "high stress" areas were 2.5 times more susceptible to hypertension than those living in "low stress" or more tranquil environments, the Health and Human Services report concluded.