Objectives: Africans who live in Western countries have a higher prevalence of hypertension and other cardiovascular risk factors than do age-matched Africans who live in Africa. We conducted a community survey to evaluate cardiovascular risk in Africans who recently migrated to Italy.

Methods: Participants (N=83) from sub-Saharan Africa were recruited from an outpatient clinic for immigrants. Information on immigration date, family history of cardiovascular disease, physical activity, and smoking was obtained for all participants. Anthropometric parameters, blood pressure measurements, and laboratory analyses—including lipid profiles, plasma glucose, renal function, and serum and urinary electrolytes—were performed.

Results: Although participants who had recently arrived in Italy had a low cardiovascular risk, the correlations were significant between the length of time in Italy and body weight (r=−.47, P<.001), body mass index (r=−.59, P<.0001), waist circumference (r=−.54, P<.0001), total cholesterol (r=−.41, P<.001), low-density lipoprotein cholesterol (r=−.46, P<.0001), systolic blood pressure (r=−.31, P<.01), and diastolic blood pressure (r=−.23, P<.05). The rise in systolic and diastolic blood pressure was positively correlated with body weight, body mass index, and waist circumference (P<.05 for all) and inversely correlated with 24-hour urinary potassium (systolic blood pressure, r=−.35, P<.01; diastolic blood pressure, r=−.42, P<.0001).

Conclusions: The length of residence in Italy is associated with progressive modifications in cardiovascular risk even in a relatively short period of time. The inverse correlation between blood pressure and urinary potassium may reflect dietary changes, with a possible reduction in fruit and vegetable consumption compared with their original diet. (Ethn Dis. 2008;18:512–518)

Key Words: Cardiovascular Risk, Hypertension, Migration, African Race, Lifestyle

INTRODUCTION

Numerous epidemiologic studies have confirmed the influence of lifestyle on cardiovascular risk.1 Westernized lifestyle, ie, a diet rich in total calories, saturated fat, salt, sugar, and refined foods, accompanied by reduced physical activity, smoking, and increased mental stress, is related to a high incidence of cardiovascular disease (CVD).1,2 Africans who live in Western countries have a higher prevalence of hypertension and other cardiovascular risk factors than do Caucasians’ and age-matched Africans who live in Africa.3 This trend may be because a genetic trait is expressed when these individuals are exposed to a new environment associated with profound modifications in lifestyle. A number of candidate genes have been investigated (renin-angiotensin-aldosterone system, sodium epithelial channel, catecholaminergic/adrenergic function, renal kallikrein system, alpha-adducin).4 However, besides abnormalities in epithelial sodium channel and in angiotensinogen and aldosterone synthase genes reported in Black but not White South African hypertensives,5 no major genetic differences have been found; therefore, genetic predisposition may be permissive rather than deterministic.

Most countries in sub-Saharan Africa are undergoing epidemiologic transition, although infectious diseases are still present.6,7 As these countries become industrialized, the incidence and prevalence of CVD grows, and hypertension is a strong contributor for Black Africans.8 Urbanization, which is associated with increased access to mass media, better transportation systems, and large, modern supermarkets, may be a contributor to the CVD epidemic.1 Migration of people from sub-Saharan countries into Western societies is steadily increasing,9 and the relatively slow changes seen in Africa may occur at an accelerated pace in Africans who migrate to more affluent societies. Even in their home nations, higher income makes Black Africans more susceptible to myocardial infarction compared with higher-income Europeans who live in Africa and to other non-Black Africans (mixed-race ancestry including Khoi, San, and Maly descent), perhaps because they are at different stages of epidemiologic transition.8 If low birthweight is a risk factor for noncommunicable diseases according to Barker’s hypothesis,10 fetal malnutrition among...