

EDUCATING AND MOBILIZING YOUTH TO DETECT UNDIAGNOSED ELEVATED BLOOD PRESSURE: SEARCHING FOR THE SILENT KILLER

Background: Hispanic individuals with high blood pressure are less likely than other ethnic groups to be aware of their high blood pressure or to be on medication for the condition. We investigated the feasibility of using high school students in predominantly Hispanic neighborhoods to conduct a large-scale blood pressure screening and education outreach in their communities.

Methods: In 2005, 960 students from Los Angeles high schools in predominantly Hispanic communities were trained to conduct blood pressure screening and provide educational materials and referrals. A multivariable analysis using logistic regression was conducted to analyze the association between self-reported cardiovascular risk factors and elevated blood pressure.

Results: Students presented educational materials to 5395 persons and screened 5165 persons in their communities. Of 5395 individuals screened, 299 (6%) were found to have elevated blood pressure, of which only 77 (26%) were taking antihypertensive medication. Of those with elevated blood pressure on screening, 46% indicated they had a history of hypertension, and 3% of the entire screened community were identified as having elevated blood pressure for the first time. Older age, male sex, heavy alcohol consumption, and history of hypertension were all independently associated with elevated blood pressure.

Conclusions: Training high school students to identify persons with elevated blood pressure is feasible and could reach large numbers of ethnic minorities unaware of their blood pressure status. (*Ethn Dis.* 2008;18:84–88)

Key Words: Hypertension, Screening, Outreach, Community, High School Students

From the Stroke Center and Department of Neurology, UCLA Medical Center (BO), Los Angeles Unified School District Nursing Services (PH, LH, AC, MG, SYM), American Heart Association, Western States Affiliates (SB, EMC), Los Angeles County Fire Department (FDP), Los Angeles, California, USA.

Address correspondence and reprint requests to: Bruce Ovbiagele, MD; Stroke Center and Department of Neurology; University of California at Los Angeles; 710 Westwood Plaza; Los Angeles, CA 90095; 310-267-2063 (fax); Ovibes@mednet.ucla.edu

Bruce Ovbiagele, MD; Patti Hutchison, RN, BSN, MA; Linda Handschumacher, RN, MPA, MA; Andrea Coleman, RN, BSN, MA; Marilou Gutierrez, RN, BSN, MA; Stephanie Yellin-Mednick, RN, BSN, MA; Sylvia Beanes, MPA; Elizabeth M. Cooper, BS, MAOM; Franklin D. Pratt, MD

INTRODUCTION

Hypertension is a primary risk factor for heart disease, stroke, and renal disease and as such represents a substantial public health burden in the United States.¹ In 2004, hypertension killed >54,000 people in the United States and was a “primary or contributing cause of death” in ≈277,000 individuals.² Although morbidity and mortality from hypertension have declined since the 1970s, current levels of hypertension control remain unacceptably low. For instance, 28% of hypertensive adults are unaware of their condition, and nearly 39% of those with hypertension are not receiving treatment.³ While hypertension affects all populations, racial and ethnic disparities exist in its prevalence and treatment. African Americans are more likely to suffer from hypertension, and Mexican Americans with hypertension are significantly less likely to be aware of their condition, to be on medication, or to have their hypertension under control compared to their non-Hispanic White counterparts.¹

Traditionally a disease of older adults, hypertension now affects children and young adults in increasing numbers. A 2002 study of individuals aged 10–19 years in Houston found a 4.5% prevalence of hypertension overall, with significantly higher prevalence in Hispanic children.⁴ Compounding this issue, emerging data indicate that even persons with blood pressure values previously considered to be in the high-normal range are also at risk for cardiovascular disease (CVD). Data from the Framingham Heart Study

revealed hazard ratios for CVD of 1.6 in men with pre-hypertension (ie, blood pressure of 120/80–129/89 mm Hg) and 2.5 in women with pre-hypertension when compared with men and women with normal blood pressure.⁵

Given the pervasiveness of hypertension in the United States, a population-based approach to combating the problem may be warranted.⁶ Accordingly, Healthy People 2010 objective 12–12 seeks to “Increase the proportion of adults who have had their blood pressure measured within the preceding two years and could state whether their blood pressure was normal or high.”⁷

The American Heart Association Minority Health Summit recommends using community members as health educators to raise hypertension awareness in their communities.⁸

Indeed, numerous public health interventions have employed lay health educators and community members to conduct blood pressure screening.^{9–13} One such study published >20 years ago used high school students to conduct blood pressure screening on a modest scale.⁹ We, however, are unaware of any large-scale studies that have

...we investigated the feasibility of a large-scale intervention using Los Angeles high school students to screen members of their communities for elevated blood pressure.
