OBJECTIVE: Hypertension (HTN) contributes to vascular disease, and is increasingly common in non-western, rural contexts, such as the Yup’ik people of Southwestern Alaska. While much is known regarding HTN risk factors in western contexts, little is known about their relevance to non-western populations. We explore an American Heart Association risk factor model for HTN in predicting risk and protection from HTN among Yup’ik people.

METHODS: Using data from 1015 Yup’ik individuals residing in remote Southwestern Alaska, we explore age, sex, education, waist circumference, physical activity, tobacco, social support, and cultural identification in multinomial logistic regressions comparing pre-hypertension (pre-HTN; systolic 120 to 129 mm Hg), and hypertension (HTN; systolic ≥130 mm Hg) to optimal blood pressure (opt-BP; systolic <120 mm Hg).

RESULTS: We find positive associations between age (2%, 5% greater odds respectively), waist circumference (3%, 5% greater odds respectively) and hypertension medication usage (60%, 85% greater odds respectively) with both pre-HTN and HTN. We also find men have 86% greater odds of pre-HTN, people with fasting blood glucose ≥110 mg/dL have 52% increased odds of pre-HTN, and married persons have 19% lower odds of having pre-HTN compared to having opt-BP. Bicultural identification mitigates age related increases in BP and deleterious effects of low formal education.

CONCLUSIONS: While model continuities are noted in our Yup’ik study, important points of divergence are also noted. Future research on cultural identification and social support has promising implications for guiding responsive interventions. (Ethn Dis. 2013;23[4]:484–491)

Key Words: Hypertension, Alaska Natives, American Indians, Blood Pressure

INTRODUCTION

Hypertension (HTN) continues to be an important risk factor for cardiovascular disease (CVD) despite improved awareness and treatments.1,2 The American Heart Association (AHA) identifies significant factors associated with development of HTN in Western countries to include age, sex, high salt intake, increased alcohol intake and physical inactivity.3 Hypertension has also emerged as a major global health problem where two-thirds of stroke and half of ischemic heart disease may be attributable to non-optimal blood pressure (BP).4 Though 80% of CVD deaths occur in low and middle income countries, research on HTN in non-western and rural communities remains sparse.4,5 The Institute of Medicine report, Promoting Cardiovascular Health, suggests that identifying mechanisms for the collection of local data, including BP measures, as well as elucidating social-contextual and community factors in HTN, are critical to meeting this global health challenge.5

In Alaska, approximately 50% of Alaska Native people live in small rural communities, and have varying degrees of reliance on subsistence foods; the Yup’ik have traditionally followed a subsistence lifestyle which includes following the seasonal shifts in the availability of different fish, sea mammals, game and plants such as berries. Prevalence of premature death from CVD among Alaska Native people has historically been low.6 However, more recent data indicate that this pattern of lower CVD risk may be changing, aligning itself more closely with other Native American groups.7

Despite these trends, risk factors for HTN in Alaska Native people are understudied and there is a paucity of research on the applicability of Western risk models in native populations. Examining a model of HTN applicable to non-Western groups can contribute to our understanding of risk and protective factors for HTN, which may help guide interventions among Alaska Native people as well as other nonwestern, rural groups in a variety of global health settings. Our study aims to test the applicability of the AHA risk factor model of HTN, and explore other variables that may enhance the predictive power of a model of HTN.

METHODS

Our analysis addresses one of the primary aims of the Center for Alaska Native Health Research (CANHR)

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