

ABSTRACT

An Epidemiological Study of Potassium Status,  
Hypertension and Diabetes In Barbados

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The relationships between hypertension, diabetes, potassium status and other factors were examined in a population-based sample of 464 Barbadians. A stratified random sample by gender and age (40 - 79 years) was obtained from enumeration registers and investigated over a three month period. The previously reported low potassium range for Barbadians was confirmed (2.9 - 4.7 mmol/l). Within-subject correlation of plasma potassium and 24-hour urine potassium was demonstrated by repeat investigation in 70 subjects one year later.

A high prevalence of obesity, hypertension and diabetes was confirmed in this population with relatively good health care. The prevalence of hypertension (by history) was 36% in the whole sample. Twenty-six percent of subjects were receiving antihypertensives, yet a diastolic BP of > 90 mmHg was found in 17% of the whole sample.

Six percent of subjects had a fasting plasma glucose greater than that cited by the World Health Organization (WHO). Subjects not on thiazides, compared to those on thiazides did not show a significant difference in fasting glucose or potassium values, but did show higher uric acid and cholesterol values.

Dietary analyses confirmed the traditional high starch, low fruit Barbadian diet. The major risk factors for hypertension were female gender, obesity in females and positive family history.

In this study a high prevalence of hypokalemia and moderately low dietary potassium has been demonstrated, but neither potassium deficiency nor thiazide use appeared to be definitely linked to diabetes or hypertension.