

Title:

Hypertension, and Fruit and Vegetable Intake, in an Urban Population in South Africa

SUMMARY**Background**

Fruit and vegetable (FV) intake has been shown to reduce risk of hypertension. Few studies examined the effect of FV on hypertension in developing countries. The results from samples in South Africa have shown either no effect or small risk reduction.

Methods

Using data collected from 2,500 respondents from a large urban municipality in South Africa, we examined the relationship between the respondent's FV intake and presence of hypertension. The respondent's sociodemographic variables, FV intake, and prior hypertension diagnosis was elicited using surveys at two points in time about two years apart. At the end of the first interview survey, a nurse also measured the respondent's actual blood pressure, weight, and height. We calculated the prevalence, awareness, treatment, and control of hypertension. We next ran logistic regression to estimate the effect of some health behaviors (smoking, drinking, FV intake) on the probability of having nurse-measured hypertension, controlling for sociodemographic variables and body mass index. We also examined the factors related to the longitudinal self-reported hypertension, using fixed effect logistic regression that controls for any fixed but omitted variables that could affect both FV intake and hypertension.

Findings

Prevalence of the nurse-measured hypertension was around 50%, but less than half of those with hypertension self-reported an awareness of their hypertension. Higher FV intake was associated with lower probability of hypertension, regardless of whether the hypertension was nurse-measured or self-reported. A representative respondent who consumed one or fewer than one serving of FV per day had a 55% probability of having measured hypertension, and an otherwise identical individual who consumed seven or more FV servings per day had a 45% probability of having measured hypertension, having controlled for other confounders. The magnitude of this effect is equivalent to the increase in hypertension associated with almost 10 years of aging. Testing the effect of fruit and vegetables separately, we found that almost all of the hypertension-reducing effect came from vegetables but not fruit.

Interpretation

Higher FV, and especially vegetable, intake is negatively associated with hypertension in urban South Africa.

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