Total sugar intake significantly associated with systolic blood pressure in small sample population

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Introduction

High Blood Pressure is related to

45% of all deaths from heart disease

51% of deaths from strokes

Objetive

To assess the impact of dietary sugar intake, Na^+, K^+ and NA^+/K^+ ratio on hypertension and cardiometabolic biomarkers

Methods

Blood was collected to measure glucose, triacylglycerols, total cholesterol, HDL-c, ApoA1, ApoB, or hs-CRP (enzymatic and turbidimetric techniques), oxidized LDL (ELISA), IL-6 and TNFa (Luminex)

Blood pressure (SBP, DBP, and HR) measured at least twice

Dietary intake was obtained using semi-quantitative FFQ, comprising 82 items

Results

78 participants
Aged from 19 to 80 years old
(M=48.5±13.5)

47% taking hypertensive medication

BMI ranged from 19.7 to 41.1 Kg/m^2
(M=29.2±5.4)

Average intake

Na^+ 3805±1397 mg

K^+ 3980±1300 mg

Ratio

Na/K 1.65±0.38

% of energy intake

Sugar 21.4%

Correlations

None found between Na+ or K+ with SBP, HR, and the cardiometabolic biomarkers ($p>0.05$)

% sugar intake and

Sistolic Blood Pressure - positive = 0.29, $p<0.05$, also significant after adjusting for BMI

Triacylglycerols - positive = 0.23, $p = 0.0561$ (borderline of significance)

Conclusions

Na^+, K^+, and their ratio do not associate with SBP, HR and cardiometabolic biomarkers, but % of sugar intake did

Sugar intake might have an important role in the etiopathology of hypertension

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