Correlation but no association of sugar sweetened beverage consumption with systolic and diastolic blood pressure among Mexican adolescents

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Introduction: Mexico has positioned itself as the largest consumer of sugar sweetened beverages (SSB). It has been proposed that the consumption of SSB is associated with increased prevalence of overweight and obesity as well as other cardiovascular risk factors, including hypertension.

Objective: To determine the relationship between the consumption of SSB patterns and blood pressure in a Mexican sample of adolescents.

Method: A cross-sectional study including 242 adolescents was conducted in Mexico City; anthropometric measurements were taken as well as blood pressure according to AHA recommendations to diagnose hypertension and a 24h recall was obtained.

Results: A higher prevalence of hypertension was observed in men than women (13.9 vs 11.7%; p< 0.05) with a mean systolic blood pressure higher in boys compared with girls (103.1±11.4 vs 99.8± 10.5 mmHg; p<0.05). A consumption of 5±5.8 servings a day (s/d) of SSB was reported. Soft drinks and juices were consumed in average of 2.39±4.5 and 1.29 ± 2.3 s/d, respectively. No differences between soft drinks or juice were reported according to the presence of systolic/diastolic hypertension and normal blood pressure (2.91±5.4 vs 2.24±4.2; 1.36±1.67 vs 1.27±2.43 s/d, respectively; p>0.05). A high correlation between soft drinks and juices consumption and systolic blood pressure (r=0.985 p < 0.001; r=0.987; p < 0.001, respectively). Also, the correlations for diastolic blood pressure and soft drinks and juices intake were r=0.987 and r=0.613, both with a p<0.001. Also, a lower consumption of sodium was observed in children with systolic hypertension (2046.3±1581.8 vs 1510.1±1294.7; p=0.05 for systolic) and no differences were observed for children with diastolic hypertension.

Conclusion: There is no association between SSB and systolic and diastolic blood pressure among Mexican adolescents.

Key words: blood pressure, sugar sweetened beverage.

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