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Beverage Consumption Among Low-Income Hispanics with Uncontrolled Type 2 Diabetes

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BACKGROUND

• Hispanics/Latinos are the largest (14% of the US population) and fastest growing minority group in the US.

• Hispanics suffer twice the incidence of type 2 diabetes as do non-Hispanic white individuals, and also exhibit poorer diabetes control and greater rates of diabetes-related complications and mortality. Identifying factors that contribute to these statistics is critical to reduce human suffering and societal costs.

• Soft drinks and other sugar-sweetened beverages (SSBs) are the number one source of added sugars in the American diet. Most women should consume no more than 100 calories of added sugars per day; most men, no more than 150 calories. SSB intake is a significant contributor to weight gain in the population and may contribute to increased risk of type 2 diabetes and cardiovascular disease.

• Little is known about the caloric contribution of beverages to total caloric intake among Hispanics with type 2 diabetes. SSBs may contribute to the epidemic of obesity and diabetes, and deter optimal metabolic control, among Hispanic individuals with type 2 diabetes.

Study Objective

This study sought to describe beverage consumption, caloric contribution of beverages to total caloric intake, and associations between beverage consumption and metabolic factors among a sample of low-income Hispanics participating in a trial of a diabetes self-management intervention.

METHODS

Population and Setting

• Subjects were participants in a randomized clinical trial (RCT) of a diabetes self-management intervention.
• Patients were recruited from five urban community health centers in central and western Massachusetts.
• Screening and recruitment followed a systematic multi-step process to ascertain eligibility based on the criteria listed below.

Eligibility Criteria for the RCT

• Hispanic/Latino origin.
• > 18 years old.
• Documented diagnosis of T2DM.
• HbA1c > 7.5 in previous 7 months.
• Functionally capable of meeting the intervention goals (able to walk, no evidence of cognitive impairments, no medical contraindications).
• No current or recent (past 2 years) history of alcoholism/drug abuse; no psychiatric hospitalization or suicidality within past 5 years.
• Physician approval to participate in the study.
• Not planning to move out of the area.

Baseline Measurements

Laboratory Measures:
HbA1c, Lipid profile (HDL, LDL and triglycerides)

Anthropometric Measures:
Height and weight; calculated body mass index (BMI)
Waist circumference
Systolic and diastolic blood pressure (SBP, DBP)

Survey Measures:
Demographics: Age, gender, education, birth place, income, medical insurance, years since diabetes diagnosis.

Analysis
Overall descriptive statistics are provided including frequencies and percents for categories and means and standard deviations for continuous variables.

DISCUSSION

• Treatment strategies to improve glucose control and reduce diabetes complications among Hispanics are needed.
• There is a high consumption of calories from beverages, accounting for one-fifth of total caloric intake, among this high-risk Hispanic population.
• Milk, juices, fruit drinks and regular soda are particular sources of calories.
• Beverage consumption is associated with metabolic markers, including HbA1c, cholesterol, blood pressure, BMI and waist circumference, and may thus increase risk for diabetic and cardiovascular complications in this population.
• Beverage consumption among low-income Hispanics warrants further clinical and research attention, including development of interventions that target all liquid calories, not just sugar-sweetened beverages.
• Targeting beverage consumption through simple messages that are in line with the literacy challenges posed by this population may be feasible. The vast benefit of clarifying a single food group that can be modified to reduce risk factors of diabetes and obesity in this population cannot be overstated.

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