Feferbaum et al, 2012 – Fluid intake patterns: an epidemiological study among children and adolescents in Brazil

Summary provided by Prof. Rubens Feferbaum, Pediatric Department, Faculty of Medicine, University of Sao Paulo, Sao Paulo, SP, Brazil.

Introduction

Dietary habits, considering solid foods and liquids, are one of the factors that influence the rising rates of childhood obesity. Epidemiological studies are generally designed to evaluate solid food intake; studies focusing on liquid intake are scarce in Brazil. A multicentre study was conducted in five Brazilian cities to evaluate the volume and the quality of liquids consumed by Brazilian children and adolescents. The main objective was to determine the proportion of liquids in their daily energy intake.

Key findings

The study included a total of 831 children and adolescents of both genders from 3 to 17 years of age. Participants completed a survey that included quantitative estimates of their daily liquid intake (water and other drinks). It was found that the total volume of liquid intake increased with age (p<0.05) through an increase of the volume of water (from 0.48 L/day to 0.70 L/day) and carbonated beverages (from 0.21 L/day to 0.48 L/day). On the contrary, the intake of milk and dairy products decreased (from 0.5 L/day to 0.32 L/day) with age. Milk and dairy products were the major contributors of energy intake from beverages for young children (aged 3 to 6 and 7 to 10 years old) but interestingly, sugar sweetened beverages were the main contributors among adolescents (11−17 years old), representing 290 Kcal/day.

Relevance for healthy hydration

The findings of this study show the situation of liquid intake consumed by children and adolescents in Brazil. They help to understand how inadequate hydration could possibly affect body weight as important body weight disturbance can potentially lead to overweight and obesity and their associated chronic diseases. These observations should encourage healthcare professionals to be more diligent in recording liquid intake.


Link to Abstract: http://www.biomedcentral.com/1471-2458/12/1005


Association between Water Intake, Chronic Kidney Disease, and Cardiovascular Disease: A Cross-Sectional Analysis of NHANES Data.

Summary provided by William F. Clark, Professor of Medicine, Western University, Canada.

Introduction

Recent evidence from animal and human studies suggests that a higher water intake may have a protective effect on kidney function and cardiovascular disease. We wish to examine the association between water intake, chronic kidney disease and cardiovascular disease in a cross-sectional analysis of the 2005-2006 National Health and Nutrition Examination Survey Population. Total water intake from food and beverages was categorized as low - that is less than 2 litres per day, moderate – 2 to 4.3 litres per day and high – greater than 4.3 litres per day. We examined the associations between the low total water intake and chronic kidney disease and self-reported cardiovascular disease.

Key Findings

Of the 3427 adults, whose mean age was 46, with a mean eGFR of 95ml/min/1.73m2, 13% had chronic kidney disease and 18% suffered cardiovascular disease.

Chronic kidney disease was higher among those with the lowest (less than 2 litres of fluid per day) versus the highest total water intake (greater than 4.3 litres per day), (odds ratio 2.52, 95% confidence interval, 0.91-6.96). Once stratified by the intake of plain water and other beverages, CKD was associated with a low intake of plain water with an odds ratio of 2.36 at 95% confidence intervals of 1.1-5.06 but not other beverages. There was no association between low water intake and cardiovascular disease.

Relevance for Healthy Hydration

This study provides additional evidence suggesting a potentially protective effect of higher total water intake, particularly plain water, on kidney function.

Dr. William F. Clark is a Professor of Medicine at Western University, Canada and Principle Investigator in the randomized control trial of water intake in patients with chronic kidney disease ongoing and Clinician Scientist in the Program of Experimental Medicine and Scientist at the Lawson Health Research Institute as well as a Consultant Nephrologist at the London Health Sciences Centre.


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