Medical Xpress

Reducing sugar and increasing fiber intake may improve diabetes risk factors in Latino teens

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Reducing sugar intake by the equivalent of one can of soda per day and increasing fiber intake by the amount equivalent to one half cup of beans per day appears to improve risk factors associated with type 2 diabetes in Latino adolescents, according to a report in the April issue of *Archives of Pediatrics & Adolescent Medicine*.

Almost 40 percent of Mexican American adolescents age 12 to 19 were overweight or at risk for overweight from 2003 to 2006, according to background information in the article. "Latino children are more insulin resistant and thus more likely to develop obesity-related chronic diseases than their white counterparts," the authors write. "To date, only a few studies have examined the effects of a high-fiber, low-sugar diet on metabolic health in overweight youth, and to our knowledge, none have tested the effects of this type of intervention in a mixed-sex group of Latino youth."

Emily Ventura, M.P.H., of Keck School of Medicine, University of Southern California, Los Angeles and colleagues conducted a 16-week study to examine if reductions in added sugar intake or increases in fiber intake would affect risk factors for developing type 2 diabetes in 54 overweight Latino adolescents (average age 15.5). Participants were split into three groups: control, nutrition (receiving one nutrition class per week) or nutrition plus strength training (receiving one nutrition class per week along with strength training twice a week).

Fifty-five percent of participants decreased their sugar intake by an average of 47 grams per day (equal to the sugar in one can of soda) and 59 percent increased their fiber intake by an average of 5 grams per day (equal to the fiber in a half cup of beans) across all intervention groups, including controls. Participants who decreased their sugar intake had an average 33 percent decrease in insulin secretion and those who increased their fiber intake had an average 10 percent reduction in visceral adipose tissue volume. "A reduction in visceral fat indicates a reduction in risk for type 2 diabetes, considering that to a greater degree than total body fat, visceral fat [fat surrounding the internal organs] has been shown to be negatively associated with insulin sensitivity," the authors note.

"Those who increased fiber intake had a significant reduction in body mass index (-2 percent vs. 2 percent) and visceral adipose tissue (-10 percent vs. no change) compared with those who decreased fiber intake," the authors write.

"Our results suggest that intensive interventions may not be necessary to achieve modifications in sugar and fiber intake. Accordingly, nutritional guidance given in the primary care or community setting may be sufficient to promote the suggested dietary changes in some individuals," the authors conclude. "In addition, policies that promote reduced intake of added sugar and increased intake of fiber could be effective public health strategies for the prevention of type 2 diabetes in this high-risk population."

More information: Arch Pediatr Adolesc Med. 2009;163[4]:320-327

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