Sugarsweetened beverages, weight gain, and incidence of type 2 diabetes in young and middle-aged women.

Schwimmer JT, Manson JE, Ludwig DS, Colditz GA, Stampfer MJ, Willett WC, Hu FB.

Abstract

CONTEXT: Sugarsweetened beverages like soft drinks and fruit punches contain large amounts of readily absorbable sugars and may contribute to weight gain and an increased risk of type 2 diabetes, but these relationships have been minimally examined in adults.

OBJECTIVE: To examine the association between consumption of sugarsweetened beverages and weight change and risk of type 2 diabetes in women.

DESIGN, SETTING, AND PARTICIPANTS: Prospective cohort analyses conducted from 1986 to 1999 among women in the Nurses' Health Study II. The diabetes analysis included 76,294 women free of diabetes and other major chronic diseases at baseline in 1991. The weight change analysis included 51,605 women for whom complete dietary information and body weight were ascertained in 1991, 1995, and 1999. We identified 741 incident cases of confirmed type 2 diabetes during 716,300 person-years of follow-up.

MAIN OUTCOME MEASURE: Weight gain and incidence of type 2 diabetes.

RESULTS: Those with stable consumption patterns had no difference in weight gain, but weight gain over a 4-year period was highest among women who increased their sugarsweetened soft drink consumption from 1 or fewer drinks per week to 1 or more drinks per day (multivariate-adjusted means: 4.69 kg for 1991 to 1995 and 4.20 kg for 1995 to 1999) and was smallest among women who decreased their intake (1.34 and 0.15 kg for the 2 periods, respectively) after adjusting for lifestyle and dietary confounders. Increased consumption of fruit punch was also associated with greater weight gain compared with decreased consumption. After adjustment for potential confounders, women consuming 1 or more sugarsweetened soft drinks per day had a relative risk (RR) of type 2 diabetes of 1.83 (95% confidence interval [CI], 1.42-2.30; P = .001 for trend) compared with those who consumed less than 1 of these beverages per month. Similarly, consumption of fruit punch was associated with increased diabetes risk (RR for >1 drink per day compared with <1 drink per month, 2.09; 95% CI, 1.33-3.30; P = .001).

CONCLUSION: Higher consumption of sugarsweetened beverages is associated with a greater magnitude of weight gain and an increased risk for development of type 2 diabetes in women, possibly by providing excessive calories and large amounts of rapidly absorbable sugars.

Comment

Sugarsweetened soft drinks, obesity, and type 2 diabetes. [JAMA. 2004]
Sugarsweetened beverages, weight gain, and diabetes. [JAMA. 2005]

PMID: 15533532 DOI: 10.1001/jama.292.8.827
[Indexed for MEDLINE]