EDITORIAL

High sugar intake linked to raised risk of common mental disorders

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A HIGH SUGAR INTAKE IS ASSOCIATED WITH AN INCREASED INCIDENCE OF COMMON MENTAL disorders in men, but not in women, a UK prospective cohort study has found.[1]

The Whitehall II study recruited a cohort of 10,308 civil servants (6,895 men and 3,413 women) in 1985-88. During the 25-year follow-up period, diet was assessed on four occasions using a food frequency questionnaire. For each item on the food list, participants were asked how often they had consumed a portion during the previous 12 months.[2] For the present study the relevant items were sweet foods (ten items) and beverages (five items).

Participants were asked to complete the 30-item General Health Questionnaire on several occasions; common mental disorder (CMD) was defined as a GHQ score ≥ 5. In addition, they were asked to complete the Center for Epidemiologic Studies Depression Scale (CES-D) on three occasions; depression was defined as a score ≥ 16. Lastly, they were assessed for clinical depression using the Revised Clinical Interview Schedule (CIS-R) on a single occasion. For all three instruments, incidence at follow-up was assumed if the baseline CMD score was < 5, recurrence if the baseline CMD score was ≥ 5.

Cross-sectional analyses found that sugar intake was positively associated with both CMD and depression. However, the association with depression was lost after adjustment for potential confounders.

Compared with those in the lowest tertile, men in the highest tertile of sugar intake had significantly increased odds of incident common mental disorder five years later: adjusted odds ratio (OR) 1.23 (95% CI: 1.02-1.48). However, women in the highest tertile were not at increased risk: OR 0.94 (95% CI: 0.74-1.19).

The odds of recurrent depression five years later were increased in both men and women in the highest tertile of sugar intake. However, the association was no longer significant after adjustment for diet-related factors: OR 1.47 (95% CI: 0.98-2.22). There was no evidence of reverse causation: neither CMD nor depression predicted changes in sugar intake five years later.

Common mental disorders are 'mental conditions that cause marked emotional distress and interfere with daily function, but usually do not affect insight or cognition.' [3] A UK survey found that 60% of those with CMD had mixed (subthreshold) anxiety and depression, 28.6% had an anxiety disorder and 11.4% had depression.[4]

The present study investigated both incident and recurrent: CMD, depression and clinical depression after two (CMD only), five and ten years' follow-up. In addition, incident CMD at two and five years' follow-up was investigated separately for men and women. As a result, there were many opportunities to find a significant association and this does raise concern that the single significant positive finding may have been due to chance.

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It is surprising that a high sugar intake should have a detrimental effect on mental health in men only. There were twice as many men as women in the cohort and, as the authors acknowledge, one possible explanation is that the analysis for women was underpowered to detect an association.

The authors suggest several plausible mechanisms whereby a high sugar intake may cause depression. It is now recognised that diets high in sugar may lead to insulin resistance and obesity,[5] and obesity in turn can cause low self-esteem and depression.[6] Alternatively, sugar addiction may lead to depression through effects on dopamine signalling.[7]

The seasonal message from this study would appear to be that men should avoid mince pies, chocolates, Christmas cake and Christmas pudding, whereas women can consume them with impunity!

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