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Soft drinks found to be the crucial link between obesity and tooth wear

KING'S COLLEGE LONDON

A new study published today in the journal *Clinical Oral Investigations*, has found that sugar-sweetened acidic drinks, such as soft drinks, is the common factor between obesity and tooth wear among adults.

Scientists from King's College London found that being overweight or obese was undoubtedly associated with having tooth wear. Significantly, they also found that the increased consumption of sugary soft drinks may be a leading cause of the erosion of tooth enamel and dentine in obese patients.

Drawing on data from the National Health and Nutrition Examination Survey 2003-2004, they analysed a representative sample of survey participants of 3,541 patients in the United States. Patient BMI and the level of tooth wear were the exposure and outcome measurements in the analysis. The intake of sugar-sweetened acidic drinks was recorded through two non-consecutive 24-hour recall interviews where the patients were asked to provide details of diet intake across these two days.

"It is the acidic nature of some drinks such as carbonated drinks and acidic fruit juices that leads to tooth wear," said lead author Dr Saoirse O'Toole from King's College London.

Tooth wear is ranked as the third most important dental condition, after cavities and gum disease and the consumption of acidic food and drink is a leading cause of this. Obese patients also have other risk factors such as increased likelihood of gastric reflux disease (heartburn) which was controlled for in this study.

"This is an important message for obese patients who are consuming calories through acidic sugar sweetened drinks. These drinks may be doing damage to their body and their teeth. There is also an important message for dentists. We should be asking our patients who are obese and have tooth wear what calories they are drinking as this may be having an effect on their full bodies - not just their teeth," Dr O'Toole added.

Previous research from King's has found that tooth wear affects up to 30% of European adults. It is the premature wearing of teeth due to the softening of the dental enamel from dietary or gastric acids, combined with wear and tear. It occurs when the outer layer (enamel) of the tooth slowly dissolves. This can lead to changes in the shape or appearance of teeth, and they can become sensitive when eating or drinking cold food and drinks. At its worst, the tooth structure can gradually wear away. Severe Erosive Tooth Wear reduces quality of life and can mean complex and costly procedures, costing up to £30,000 per patient. Tooth wear is preventable and changes to consumption habits can help stop people from getting it or making it worse.

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