

# Low prevalence of type 2 diabetes among regular black tea drinkers

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The prevalence of type 2 diabetes is low in countries where consumption of black tea is high, suggests a mathematical analysis of data from 50 countries, published in the online journal *BMJ Open*.

The global prevalence of [type 2 diabetes](#) has increased six-fold over the past few decades, and the International Diabetes Federation calculates that the number of those with the disease will soar from 285 million in 2010 to 438 million in 2030.

The authors systematically mined information on black (fermented) [tea consumption](#) in 50 countries across every continent, based on 2009 sales data collected by an independent specialist market research company.

And they analysed [World Health Organization](#) data for those same countries on the prevalence of respiratory, infectious, and cardiovascular diseases, as well as cancer and diabetes.

Ireland topped the league table for [black tea](#) drinkers, at more than 2 kg/year per person, closely followed by the UK and Turkey. At the bottom of the table were South Korea, Brazil, China, Morocco and Mexico, with very low consumption.

A statistical approach, called [principal component analysis](#) (PCA), was used to tease out the key contribution of black tea on each of the health indicators selected at the [population level](#).

This showed an impact for black tea on rates of diabetes, but not on any of the other health indicators studied.

The link was confirmed with further statistical analysis, which pointed to a strong linear association between low rates of diabetes in countries where consumption of black tea is high.

The authors acknowledge several caveats to their findings, however.

They caution that the quality and consistency of data among all 50 countries are likely to vary, as will the criteria used to diagnose diabetes. And what may seem positive at the population level may not work as well as the individual level.

They also point out that various factors are likely to have contributed to the dramatic rise in [diabetes prevalence](#), and that a link between black tea consumption and the prevalence of the disease does not imply that one is caused by the other.

But their findings do back those of previous research, they say.

"These original study results are consistent with previous biological, physiological, and ecological studies conducted on the potential of [black tea] on diabetes and obesity"...and they provide "valuable additional scientific information at the global level," they write.

In recent years, a great deal of interest has focused on the health benefits of green tea, which contains simple flavonoids called catechins, thought to have anti-inflammatory properties, say the authors.

But the fermentation process, which turns green tea black, induces a range of complex flavonoids, including theaflavins and thearubigins, to which several potential health benefits have been attributed, they add.

**More information:** Relationships between black tea consumption and key health indicators in the world: an ecological study, [doi: 10.1136/bmjopen-2011-000648](https://doi.org/10.1136/bmjopen-2011-000648)

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