

## 'Great British Bake Off' Christmas desserts not as naughty as you may think

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Christmas desserts from "The Great British Bake Off" are more likely to use ingredients that are associated with reductions, rather than increases, in the risk of death or disease, suggests research published in the Christmas issue of *The BMJ*.

As the holiday season approaches, the age-old debate resurfaces: Can we



indulge in Christmas desserts without feeling the pang of guilt? Can we look past the negative headlines of what butter and sugar do to our bodies, and enjoy a piece of Christmas cake in heavenly peace?

To answer this Christmas conundrum, researchers set out to determine the <u>health benefits</u> and harms of various ingredients in festive desserts from "The Great British Bake Off," a show that the team believes is "the greatest television baking competition of all time."

They said "Bah humbug" to the design flaws of nutritional observational research and conducted an umbrella review of umbrella reviews of meta-analyses of observational studies evaluating the associations between ingredients in 48 Christmas <u>dessert</u> recipes on the "Great British Bake Off" website (cakes, biscuits, pastries, puddings and desserts) and the risks of dying or developing various diseases.

Umbrella reviews synthesize previous meta-analyses and provide a highlevel summary of evidence on a particular topic.

From each recipe, they recorded the ingredients and put them into 17 groups: baking soda, powder, and other ingredients; butter; chocolate; cheese and yogurt; coffee; eggs; food coloring, flavorings, and extracts; fruit; milk; nuts (general or tree, excluding peanuts); peanuts or peanut butter; refined flour; salt; spices; sugar; and vegetable fat.

The team conducted a comprehensive literature search, screened 7,008 records, and ultimately identified 46 umbrella reviews that evaluated the associations between these ingredients and the risks of dying or developing various diseases.

They found 363 associations between ingredients and risk of death or disease, of which 149 were statistically significant, including 110 (74%) that estimated that the ingredient groups reduced the risk of death or



disease and 39 (26%) that increased the risk.

The most common ingredient groups associated with a reduced risk of death or disease were fruit (44 of 110, 40%), coffee (17 of 110, 16%), and nuts (14 of 110, 13%).

Sadly, for Prue Leith (the "Great British Bake Off" judge who enjoys a spot of alcohol in her bakes), alcohol (20 of 39, 51%) was the most common ingredient group associated with increased risk of death or disease, alongside sugar (5 of 39, 13%).

Alcohol was also associated with an increased risk of developing <u>colon</u> <u>cancer</u>, gastric cancer, gout, and irregular heart rate (atrial fibrillation). The researchers suggest that Prue's chocolate yule log may not be the ideal Christmas dessert because it is described as being "subtly laced with Irish cream to add to the festive spirit."

However, the researchers identified Paul Hollywood's Stollen as a potential option, with 82 significant associations, of which 70 suggested the ingredient groups decreased the risk of <u>disease</u>. The recipe contained ingredients such as almonds, milk and dried fruits and "overall, without the eggs, butter and sugar, this dessert is essentially a fruit salad with nuts. Yum," the researchers say.

The researchers point to several limitations. For example, the study relies on evidence from <u>observational studies</u>, which have inherent limitations that are difficult or impossible to address, focuses on specific ingredient groups rather than broader dietary exposures, and did not capture all <u>ingredients</u> in these Christmas desserts, such as food coloring.

What's more, they did not account for the amount of each ingredient in the recipes, admitting that "any recipe with fruit, even if it was only one berry, was weighted equally in terms of its protective effect in relation to



the harmful effect of butter." They acknowledge that a weighted analysis "would have been informative, but less fun."

Nevertheless, they conclude that "this Christmas, if concerns about the limitations of observational nutrition research can be set aside, we are pleased to report that everyone can have their cake and eat it too."

**More information:** Joshua D Wallach et al, Association of health benefits and harms of Christmas dessert ingredients in recipes from The Great British Bake Off: umbrella review of umbrella reviews of meta-analyses of observational studies, *BMJ* (2023). DOI: 10.1136/bmj-2023-077166,

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