

Foods associated with an increased risk of cardiovascular disease and death in middle-age

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Two common dietary patterns identified in British adults, which include high intakes of chocolate and confectionary, may be associated with an increased risk of cardiovascular disease and death in middle-age, according to a study published in the open access journal *BMC Medicine*.

Carmen Piernas, the corresponding author said: "Cardiovascular [disease](#) is one of the main causes of death and disability in the UK and [poor diet](#) is a major contributor to this. The most common dietary guidelines are based on the nutrients found in foods rather than foods themselves and this can be confusing for the public. Our findings help identify specific foods and beverages that are commonly eaten in Britain and that may increase the risk of [cardiovascular disease](#) and mortality."

Researchers from the University of Oxford, UK identified two diets that were associated with an increased risk of cardiovascular disease and death

in middle-age in Britain. The first was high in chocolate, confectionary, butter and white bread and low in [fresh fruit](#) and vegetables. The second was high in sugar-sweetened beverages, fruit juice, chocolate, confectionary, table sugar and preserves and low in butter and higher-fat cheese.

The researchers found that those whose diet included higher amounts of chocolate, confectionary, butter and [white bread](#), were more likely to be male, younger, experiencing economic deprivation, current smokers, less physically active, living with obesity or have hypertension compared to those whose diet did not include high amounts of these foods. In this group, individuals who were younger than 60 years old or living with overweight or obesity had a higher risk of cardiovascular disease than individuals who were older than 60 years or not living with overweight or obesity.

Those whose diet was high in sugar-sweetened beverages, fruit juice and preserves were found to have an increased risk for cardiovascular disease and mortality, even though they also tended to be physically active and less likely to be current smokers or living with obesity, hypertension, diabetes or high cholesterol, than those who did not eat this diet. Women, individuals who were younger than 60 years old or who lived with obesity in particular had a higher risk of cardiovascular disease, if they consumed a diet high in these foods.

To examine the effects of diet on the risk of cardiovascular disease and mortality, the authors analysed data collected from 116,806 adults from England, Scotland and Wales who were recruited to the UK Biobank between 2006 and 2010. Participants were aged between 37 and 73 years old, with an average age of 56 years old. Participants reported the [food](#) they ate during the

previous 24 hours on between two and five occasions. The researchers then identified the nutrients and food groups eaten by participants. The incidence of cardiovascular disease and mortality was calculated using hospital admission and death registry records until 2017 and 2020, respectively.

The authors caution that the observational nature of the study does not allow for conclusions about a causal relationship between [diet](#), cardiovascular disease and mortality. Additionally, as dietary data was taken from individual 24 hour assessments rather than a continuous period of time, it may not be representative of participants' lifetime diets. Future research could investigate the potential reasons for the associations between the two diets investigated in this study and cardiovascular disease and [mortality](#).

Carmen Piernas said: "Our research suggests that eating less chocolate, confectionery, butter, low-fibre bread, sugar-sweetened beverages, [fruit juice](#), table sugar and preserves could be associated with a lower risk of cardiovascular disease or death during middle-age. This is consistent with previous research which has suggested that eating foods that contain less sugar and fewer calories may be associated with a lower risk of cardiovascular disease. The findings of this study could be used to create food-based dietary advice that could help people eat more healthily and reduce their risk of cardiovascular disease."

More information: Associations between dietary patterns and the incidence of total and fatal cardiovascular disease and all-cause mortality in 116,806 individuals from the UK Biobank: a prospective cohort study, *BMC Medicine* (2021). [DOI: 10.1186/s12916-021-01958-x](https://doi.org/10.1186/s12916-021-01958-x)

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