

# Ultra-processed food is associated with cardiovascular disease

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Weekly consumption of ultra-processed food is linked with an increased risk of heart disease, according to research presented at ESC Congress 2021.

Ultra-processed food refers to a wide range of products such as mass produced bread, ready meals, fast foods, sweets and desserts, salty snacks, [breakfast cereals](#), reconstituted meat including chicken and fish nuggets, instant noodles and soups, tinned vegetables with added salt, sugar-coated dried fruit, sodas and sweetened beverages.

Limited information exists on the relationship of these products with [heart](#) attacks and strokes. This study examined the association between consumption of ultra-processed foods and developing, or dying from, [cardiovascular disease](#) over a 10-year period.

The analysis used data from the ATTICA prospective study, which was conducted during 2001-2012 in Greece. The study enrolled adults free of cardiovascular disease at baseline who were asked about the frequency and portion sizes of a range of foods and beverages consumed during the previous seven days. The researchers also used a questionnaire to assess level of adherence to a heart healthy dietary pattern, i.e. the Mediterranean diet, which emphasises fruit, vegetables, and whole grains. Participants were assigned a score of 0 to 55 (higher values mean better adherence).

Participants were followed up for 10 years for the occurrence of fatal and non-fatal cardiovascular events including [heart attack](#), unstable angina, stroke, heart failure and heart rhythm disorders (arrhythmias).

The study included 2,020 participants, of whom 1,014 were women and 1,006 were men. The average age was 45 years. On average, participants consumed approximately 15 servings of ultra-processed foods per week. During the 10-year follow up there were 317 cardiovascular events. The incidence of cardiovascular events was progressively higher as ultra-processed food consumption rose. With an average weekly consumption of 7.5, 13, and 18 servings, the incidence of cardiovascular disease was 8.1%, 12.2%, and 16.6%, respectively.

Each additional weekly serving of ultra-processed food was associated with a 10% higher likelihood of cardiovascular disease within the decade (hazard ratio [HR] per additional weekly serving=1.10; 95% confidence interval [CI] 1.02–1.21;  $p=0.04$ ).

The association was reassessed according to adherence to a Mediterranean diet. The aggravating role of ultra-processed foods became even stronger in participants with a low level of adherence to this dietary pattern. In those with a Mediterranean diet score less than 27, each additional weekly serving of ultra-processed food was associated with a 19% higher likelihood of cardiovascular disease within the decade (HR per additional weekly serving=1.19; 95% CI 1.12–1.25;  $p=0.02$ ).

In those with a moderate to high level of adherence to the Mediterranean diet (score above 27), each additional weekly serving of ultra-processed food was associated with an 8% higher likelihood of cardiovascular disease within 10 years—but the association was no longer significant (HR per additional weekly serving=1.08; 95% CI 0.98–1.19;  $p=0.09$ ).

Study author Dr. Matina Kouvari of Harokopio University of Athens, Greece said: "Evidence is accumulating for an association between ultra-processed foods and increased risks of several chronic diseases. Our study suggests that the detrimental relationship with cardiovascular disease is even stronger in those with a generally unhealthy diet. Public health initiatives and nutrition policies are needed to promote nutritious food choices while for individuals, limiting ultra-processed [food](#) intake seems sensible."

**More information:** Abstract title: Ultra-processed foods and ten-year cardiovascular disease incidence in a Mediterranean population: results from a population-based cohort study.

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