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News Release

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Cooking styles may hold clues to heart disease rates, scientists say

Food cooked at high heat may carry toxic chemicals that raise risk of heart disease, researchers have warned.

Cooking at a lower heat could help to cut chances of developing the killer disease, experts say.

Researchers call for further studies to investigate the link, which could explain why heart disease rates are higher in communities where traditional cooking methods involve high temperatures.

Cooking food at temperatures above 150 degrees centigrade changes their chemical structure and can lead to the formation of toxic products known as neo-formed contaminants (NFCs).

These include trans-fatty acids – which are known to be harmful and are banned from food sold in many parts of the world – and other toxins called advanced glycation end-products.

Frying foods at a high heat is particularly problematic because the oils readily break down to form trans-fatty acids.

An international team – led by the University of Edinburgh – reviewed previous studies that have investigated the effects of NFCs on human and animal tissue. The studies explored the relationship between these products and heart disease risk.

Their findings revealed that cooking methods – including frying and roasting – which are common in South Asian countries created high levels of trans-fatty acids, especially if the oil is reused.

In China – where heart disease rates are lower – cooking commonly involves braising, steaming and boiling, which does not give rise to the same level of toxic products, the researchers found.

Scientists carried out the research to investigate why people from some ethnicities are more likely to develop heart disease even if they move to other parts of the world.

Studies have shown, for example, that men born in Pakistan have a 62 per cent higher chance of dying from a heart attack compared to people born in England and Wales.

Ranked among the top universities in the world

Previous research suggested that this increased risk could be linked to higher rates of diabetes in these communities. Experts say this does not explain the whole story.

Professor Raj Bhopal, of the University of Edinburgh's Usher Institute of Population Health Sciences, said: "We still don't know why some ethnic groups are more susceptible to heart disease and this could be part of the answer to this mystery. It is exciting because if our findings are proven to be correct, we could make a real impact on rates of heart disease within a generation.

"We've found some evidence to back up this view but more research will be needed to confirm the findings before we can make any recommendations for changing national guidelines on a healthy diet.

"The findings could be particularly important in Scotland, where heart disease rates are among the highest in the world."

The study is published in the journal *Nutrition*.

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