

Study of more than 330,000 genomes indicates 34 genes potentially involved in vegetarianism

October 4 2023



Credit: Pixabay/CC0 Public Domain

Certain variations in genes involved in lipid metabolism and brain function may be associated with choosing a vegetarian diet, according to



a new study led by Nabeel Yaseen of Northwestern University, published in the open-access journal *PLOS ONE*.

A small percentage of the population chooses to eat a vegetarian diet for a variety of religious, ethical, environmental, and health-related reasons. A person's dietary choices may also involve a combination of personal taste, their <u>metabolism</u> and the effects of different foods on the body. All of these factors are strongly influenced by genetics, but the role of a person's genes in choosing a vegetarian diet is not well understood.

In the new study, researchers performed a genome-wide association study where they screened thousands of genomes to identify genetic variations linked to being vegetarian. The researchers compared genomes from 5,324 strict vegetarians to 329,455 non-vegetarians who are participants in the UK Biobank, a large-scale biomedical database.

They identified variants associated with 34 genes that may contribute to choosing a vegetarian diet. Several of these genes have important functions in <u>lipid metabolism</u> and <u>brain function</u>, which raises the possibility that differences in how the body processes lipids and the resulting effects on the brain may underlie the ability and choice to subsist on a vegetarian diet.

These results add to existing research pointing to a role for genetics in dietary choices. However, the researchers note that more research is needed into potential differences between lipid synthesis and metabolism in vegetarians and non-vegetarians, as well as other physiologic pathways which might underlie vegetarianism. A better understanding of these pathways may help nutritionists design more effective dietary recommendations based on a person's individual genetics.

The authors add, "Our data indicate that adherence to a strict <u>vegetarian</u> <u>diet</u> is influenced by genetics. Using a <u>genome-wide association study</u>,



we identified 34 genes with possible roles in vegetarianism."

More information: Genetics of vegetarianism: A genome-wide association study, *PLoS ONE* (2023). DOI: 10.1371/journal.pone.0291305

Provided by Public Library of Science

Citation: Study of more than 330,000 genomes indicates 34 genes potentially involved in vegetarianism (2023, October 4) retrieved 12 May 2024 from https://phys.org/news/2023-10-genomes-genes-potentially-involved-vegetarianism.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.