

Research points to new treatment plan to beat high blood pressure

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Credit: University of Kent

It is known that changing diet can be effective in reducing high blood pressure but now new research, led by a University scientist, has revealed that people's natural gut bacteria can alter the effectiveness of dietary change.

Researchers used urinary 'finger-printing' to determine the effects of three 'healthy' diets on volunteers with moderately high [blood](#) pressure. The method allowed researchers to evaluate individual responses to carbohydrate-rich, protein-rich and monounsaturated fat-rich diets and monitor how closely the volunteers followed the diet.

The research suggests that there is the potential for the development of treatment plans for [high blood pressure](#) that take into account the metabolic and microbiological background of the individual.

Dr. Ruey Leng Loo, of Kent's Medway School of Pharmacy, working in a team with researchers from Imperial College London and Johns Hopkins University in the US, studied urine samples from 158 study participants.

The researchers found that each of the three healthy diets generally produced reduced blood pressure in most of the participants but that a small proportion of individuals responded less well to healthy diets. This was found to be due to individual differences in their [gut bacteria](#), which were detected by identifying bacterial metabolites in the urine.

Dr. Loo said that, although further research was needed, it would be feasible in the future for diabetologists, cardiologists and dieticians to adopt a new approach in identifying an individuals' clinical response to [diet](#) therapy, as well their adherence to prescribed diets.

The study, titled "Characterization of metabolic responses to healthy diets and the association with blood pressure: application to the Optimal Macronutrient Intake Trial for Heart Health (OmniHeart), a randomized control study," is published in the *American Journal of Clinical Nutrition*.

More information: Ruey Leng Loo et al. Characterization of metabolic responses to healthy diets and association with blood pressure:

application to the Optimal Macronutrient Intake Trial for Heart Health (OmniHeart), a randomized controlled study, *The American Journal of Clinical Nutrition* (2018). [DOI: 10.1093/ajcn/nqx072](https://doi.org/10.1093/ajcn/nqx072)

Provided by University of Kent

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