

Weight bugging you? Solution may be in the gut

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OBESITY in Australia has more than doubled over 20 years, with everything from minimal exercise, poor diet and lack of willpower blamed for declining health. But scientists have discovered there are trillions of other factors - all found in the gut - that are contributing to the increasing rate of disease.

Researchers from the University of Maryland in the United States have found 26 bacteria in gut microbiota that appear to be linked with metabolic syndrome, which is a combination of disorders that together increase cardiovascular disease and diabetes risk. Factors such as cholesterol, glucose levels and body mass all contribute to metabolic syndrome.

"The gut microbiota has been implicated in obesity, perhaps by influencing energy homeostasis, host signalling, insulin resistance, gut permeability, inflammation and the innate immune response," according to the study, published in the online journal, PLoS.

"Our analyses revealed several novel insights into the structure and role of the gut microbiota in obesity and the metabolic syndrome."

To examine the influence of gut flora, researchers recruited 310 Amish from Pennsylvania, chosen because the community has little genetic variation making it easier to identify risk factors for disease.

All the adults were overweight, obese and had traits of metabolic syndrome. Researchers analysed their stool samples - which contains the microbes present in the gut - and then characterised the gut microbiota of each adult.

They found specific species of microbes either positively or negatively influenced metabolic syndrome traits.

It is one of the first studies to make a link between organisms in the gut and inflammatory processes that contribute to obesity.

By identifying which species of gut bacteria have a negative impact on health, scientists hope to swing the balance of microbes back in favour of those that promote good health.

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