

Intestinal flora determines health of obese people

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The international consortium MetaHIT, which includes the research group of Jeroen Raes (VIB / Vrije Universiteit Brussel), publishes in the leading journal *Nature* that there is a link between richness of bacterial species in the intestines and the susceptibility for medical complications related to obesity. The researchers demonstrated that people with fewer bacterial species in their intestines are more likely to develop complications, such as cardiovascular diseases and diabetes. A flora with decreased bacterial richness appears to function entirely differently to the healthy variety with greater diversity.

Jeroen Raes (VIB/VUB): "This is an amazing result with possibly enormous implications for the treatment and even prevention of the greatest public health issue of our time. But we are not there yet, now we need studies in which we can monitor people for a longer period. We want to perform these types of long-term studies together with the "Vlaams Darmflora Project" (Flemish Gut Flora Project), which is only possible thanks to the selfless efforts of thousands of Flemish residents."

Obesity, a health problem

Metabolic conditions have become an epidemic partly due to the modern lifestyle without a lot of exercise and easy access to (a lot of) energy-dense food. It is expected that obesity will increase tremendously all over the world; from 400 million [obese people](#) in 2005, to more than 700 million in 2015. A trend that will persist at least until 2030. Some people

appear to be more sensitive to obesity than others. Many studies over the years have examined the possible cause of this.

Bacterial richness in your intestines is associated with susceptibility to obesity

Over the last years it has become very clear that there is a link between the [bacterial population](#) in our [intestines](#) and our health. As a result, scientists also started studying the link between obesity and intestinal flora. An international consortium, including the VIB scientists Falk Hildebrand, Gwen Falony and Jeroen Raes in Brussels, examined the intestinal flora of 169 obese Danes and 123 non-obese Danes.

Jeroen Raes: "We were able to distinguish between two groups based on their intestinal flora: people with a large richness of bacterial species in their intestines and people with a few less [bacterial species](#). A species-rich bacterial flora appeared to function differently compared to the poorer variety. It was surprising to see that obese and non-obese people were found in both groups."

The scientists did see that the group with lower species richness in the [intestinal flora](#) was more susceptible to developing obesity-related conditions and chronic inflammation. The obese people in this group are more at risk of cardiovascular conditions than the obese people in the other group. These are important results that suggest that it is not only weight gain and dietary habits that play a role in the development of [medical complications](#) in obese people.

The Flemish Gut Flora Project

The question that remains is whether these results also translate to other countries and populations. Therefore, Jeroen Raes has established the

Flemish Intestinal Flora Project to follow up on these types of studies on a larger scale. Such efforts are crucial to confirm the insights acquired in smaller studies and to make an effective step towards improved treatments and medicines.

More information: [dx.doi.org/10.1038/nature12506](https://doi.org/10.1038/nature12506)
[dx.doi.org/10.1038/nature12480](https://doi.org/10.1038/nature12480)

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