

Using metabolomics to evaluate effects of diets

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A new study by Ohio University faculty members found that metabolomics may be an extremely valuable tool in evaluating effects of diets.

The study, titled "Metabolomics and Microbiomes as Potential Tools to

Evaluate the Effects of the Mediterranean Diet," was conducted by Ohio University Assistant Professor Mercedes Sotos-Prieto.

The study focused on metabolomics and microbiomes. "Human [microbiome](#) is the collection of microbes that live in our body and the metabolomics study the complete set of metabolites present in a given biological system," Dr. Sotos-Prieto said.

"Diet and other lifestyles can interfere and modify the microbiota that are for example in our gut and the production of metabolites," Dr. Sotos-Prieto said. "This is important because imbalance of unhealthy and healthy microbes can be associated with [weight gain](#) or lipid disorders, for example."

When it came to picking the correct diet for the study the Mediterranean diet was chosen over others due to the fact that there is [scientific evidence](#) to support that the Mediterranean diet actually is helpful at preventing cardiovascular diseases long term.

While there have been studies done on metabolomics and microbiomes very few have just looked at the Mediterranean diet.

Previous studies have been done on the individual components of the Mediterranean diet and the metabolomes and microbiomes that were found in people following it. This study looked at the results of the previous studies but took into consideration the whole diet and its effects.

"I was interested in knowing how Mediterranean [diet](#) can improve cardiovascular health through gut microbial changes or changes in metabolites," Dr. Sotos-Prieto said.

Traditionally, effects of diets rely on peoples' own recording and

reporting via interviews and food journals. This can cause error in study results. By taking a look at metabolomics and microbiomes doctors and researchers can begin to stop solely relying on self-reporting and have solid evidence to back it up.

The findings found that while metabolomics and microbiomes may be a helpful tool, as this point doctors and researchers can not solely rely on them. "...differences in microbial profiles appear to be dependent upon several factors including age, habitual dietary consumption, overall health, disease risk and underlying pathology," the study concludes.

More information: Qi Jin et al. Metabolomics and Microbiomes as Potential Tools to Evaluate the Effects of the Mediterranean Diet, *Nutrients* (2019). [DOI: 10.3390/nu11010207](https://doi.org/10.3390/nu11010207)

Provided by Ohio University

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