

The Algorithm for the Perfect Diet

By ACSH Staff — December 6, 2015



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Want an ice cream diet? One based on martinis? They have both been tried, and clinical trials have claimed success for someone.

Yet most fad diets do not work for everyone, regardless of what someone writing a diet book claims, though that doesn't stop friends from promoting the diet that works.

The reality is that body attractiveness is a changing fad and therefore so are many diets. Some cultures prize obesity, or big shoulders, some prize thin. Because body image is subjective, people are ripe for exploitation. They also tend to trade diets, offering advice to friends on what worked for them.

A [paper](#) [3] in the journal *Cell* seems to understand why diets work for some people and not for others. Scholars focused on variable responses of individuals with the same diet and believe they have discovered how to predict their responses, and provide each person specific dietary guides to achieve better blood sugar control. It involved post prandial glucose responses (PPGR), which refers to blood sugar levels post meals and identifies factors that are associated with the variability.

The study analyzed an Israeli population of pre-diabetics, between the ages of 18 to 70, with 54 percent overweight and 22 percent obese. Each participant's glucose level was monitored every five minutes over the course of a week for 800 participants with no prior diagnosis of type two diabetes mellitus. Surveys asked about food frequency, lifestyle behaviors, exercise and medical background, while height and hip circumference, blood tests, and a stool sample were taken.

The results revealed high interpersonal variability in the PPGR of each person that ate the same food. For example, one could eat ice cream and have a low PPGR, while the other person would have the opposite response with a high PPGR. The cause of these differences included influence from genetics, lifestyle, insulin sensitivity, and gut microbiota, basically just speculation.

Still, the scholars constructed an algorithm that predicted personalized PPGRs, which they then validated in a separate study involving 100 new participants.

They compared the algorithm to dietitians for predicting personalized PPGRs. Both were made to create a personalized good diet and bad diet for each of the 26 participants. The premise was that good diets would lead to predicted lower PPGRs, while the bad diets would result in higher PPGRs. The results which were collected over a one-week period were comparable, with both the algorithm and the dietitians predicting to a similar extent outcomes as expected.

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