# Is There an Optimal Diet for Humans?

A study of modern hunter-gatherer groups found that they exhibit generally excellent metabolic health while consuming a wide range of diets.

By Anahad O'Connor

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Nutrition experts have long debated whether there is an optimal diet that humans evolved to eat. But a study published this month adds a twist. It found that there is likely no single natural diet that is best for human health.

The research, published in the journal Obesity Reviews, looked at the diets, habits and physical activity levels of hundreds of modern hunter-gatherer groups and small-scale societies, whose lifestyles are similar to those of ancient populations. They found that they all exhibit generally excellent metabolic health while consuming a wide range of diets.

Some get up to 80 percent of their calories from carbohydrates. Others eat mostly meat. But there were some broad strokes: Almost all of them eat a mix of meat, fish and plants, consuming foods that are generally packed with nutrients. In general, they eat a lot more fiber than the average American. Most of their carbohydrates come from vegetables and starchy plants with a low glycemic index, meaning they do not lead to rapid spikes in blood sugar. But it is also not uncommon for hunter-gatherers to eat sugar, which they consume primarily in the form of honey.

The findings suggest that there is no one "true" diet for humans, who "can be very healthy on a wide range of diets," said the lead author of the study, Herman Pontzer, an associate professor of evolutionary anthropology at Duke University. "We know

that because we see a wide range of diets in these very healthy populations."



One thing hunter-gatherer populations have in common is a very high level of physical activity. Many walk between five and 10 miles a day. Yet paradoxically they do not have higher energy expenditure levels than the average American office worker. That suggests that health authorities should consider recommending exercise primarily as a way to improve metabolic health, but not necessarily as a calorie-burning antidote to obesity, the authors said.

From a public health perspective, modern hunter-gatherers may be most remarkable for their relative lack of chronic diseases like heart disease, hypertension and cancer. Obesity rates are low. They have very high levels of cardiorespiratory fitness, even in old age. And Type 2 diabetes and metabolic dysfunction are hardly ever seen.



Life in hunter-gatherer societies, however, is not easy. Infant mortality rates are high because of infectious disease. Deaths from accidents, gastrointestinal illness and acute infections are common. But those who survive to adulthood often reach old age relatively free from degenerative diseases that are the norm in industrialized nations. They are typically fit and active until the end, suggesting that there is something about their way of life that allows them to age healthfully.

"Few of us would want to trade places with them. Their lives are still tough," Dr. Pontzer said. "But the things they get sick from are things we know how to deal with, and the things they don't get sick from are the things we struggle to deal with."

It is possible that genetics and other factors unrelated to lifestyle protect them from chronic disease. But studies show that when people born into hunter-gatherer societies move to large cities and adopt Western lifestyles, they develop high rates of obesity and metabolic disease just like everyone else. Michael Gurven, an anthropologist at the University of California, Santa Barbara, has done extensive research on the Tsimane, a Bolivian population that lives a subsistence lifestyle of

hunting, gathering, fishing and farming.



The Tsimane get most of their calories from complex carbohydrates high in fiber like plantain, corn, cassava, rice and bananas, supplemented with wild game and fish. Dr. Gurven has published detailed studies showing that they have exceptional cardiovascular health and almost no diabetes. Yet Dr. Gurven has seen several cases of Tsimane people developing and dying from Type 2 diabetes after leaving their villages and moving to the nearby town of San Borja, where they took sedentary office jobs and gave up their traditional diet.

“They changed from their traditional diet to eating in town where everything is fried,” he said. “They started eating fried chicken and rice and drinking Coca-Cola. Some of these folks can see a pretty rapid change in health.”

For the new study, Dr. Pontzer and his colleagues analyzed data on hunter-gatherers and other small-scale societies across the globe, from South America to Africa and Australia. They looked at detailed dietary assessments of fossil and archaeological records to get a sense of what early humans ate. And they included new data collected from the Hadza, a community of people who spend their days hunting and foraging in northern Tanzania, much as their ancestors have for tens of thousands of years. The Hadza consume what some call “the oldest diet.” Dr. Pontzer has spent time with them and long studied their health.

In a typical day, the Hadza set out in groups early in the morning to hunt and forage in the savanna. The women traverse hilly terrain to collect wild berries and dig up tubers resembling fibrous sweet potatoes. Getting them is not easy, Dr. Pontzer said: The women use sticks to dig up the tubers, in some cases while carrying infants on their backs. The men head out to hunt animals, often killing small ones but, about once a month, something big like a zebra, warthog or gazelle. On days when their hunts come up short, they head over to beehives and collect honey, which is one of their favorite foods, accounting for at least 15 percent of the calories in their diet.

“On any given day in a Hadza camp, there is almost always honey, a little meat and tubers,” Dr. Pontzer said.

The amount of daily calories the Hadza consume is similar to that of the average American. But they rely on a fairly small number of foods. And notably they do not have potato chips, candy bars, ice cream and other ultra-processed foods that combine large amounts of fat and simple carbs — foods that are engineered to be irresistible even when we are not hungry.

The lack of novelty and variety in hunter-gatherer diets may be part of the reason they do not overeat and become obese. Studies show, for example, that the greater the variety of food choices in front of us, the longer it takes to feel full, a phenomenon known as sensory specific satiety.

“It’s the reason you always have room for dessert at a restaurant even when you’re full,” Dr. Pontzer said. “Even though you’ve had a savory meal and you can’t eat one more bite of steak, you’re still interested in the cheesecake because it’s sweet and that button hasn’t been worn out in your brain yet.”

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