



## A Plant-Based Diet Approach to Diabetes

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can increase the volume of foods without adding calories. Experiments have shown that regardless of calorie count, people tend to eat the same amount of food at a meal. This is likely a result of the signaling that occurs from stretch receptors in the stomach to the brain after a certain amount of food has been consumed.<sup>2</sup> The majority of a PBD consists of low-calorie components that are rich in fiber and water, meaning individuals can eat more food without gaining weight. In fact, people who eat meat-free diets consume an average of 364 fewer calories per day.<sup>3</sup> Those who eat PBDs may even have an 11% higher resting metabolic rate, possibly due to higher gene expression of the fat-burning enzyme carnitine palmitoyltransferase.<sup>4</sup> PBDs have also been shown to have a greater positive effect on both quality of life and mood in comparison to those who consume a conventional diet. This was demonstrated by the results of a recent weight-loss trial, in which diabetics were randomized to consume either a conventional diabetic diet or a PBD. At the end of 6 months, participants in the PBD group reported feeling less constrained with their diet than those in the conventional diet group. Interestingly, the participants in the PBD group also had decreased disinhibition scores, indicating that a PBD may be a more sustainable long-term intervention.<sup>5</sup>

There is growing interest in plant-based diets (PBDs) for their role in managing various chronic diseases such as obesity, cardiovascular disease, and both type 1 diabetes and type 2 diabetes. For this article, a PBD will be defined as a diet rich in whole, plant foods (fruits, vegetables, tubers, whole grains, legumes, and small amounts of nuts and seeds) and devoid of animal products (including meat, dairy, fish, eggs) as well as processed and refined foods. This way of eating is also commonly referred to as a low-fat vegan diet. Individuals with diabetes should consider adopting a whole-foods PBD for optimal health and glycemic control.

When consuming a whole-foods PBD, 75% to 80% of calories will come from carbohydrates. While this may alarm some health professionals, studies show that the lowest rates of diabetes worldwide are found among populations that consume the most carbohydrates.<sup>1</sup> On average, fruits and vegetables contain about 80% to 90% water. Water, like fiber,

As humans, we have an unlimited capacity to store fat in the form of adipose tissue. This ability to store fat, combined with an excess intake of calories will result in lipotoxicity,

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