



# A Vegetarian Diet Can Prevent and Reverse Type 2 Diabetes



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## Abstract

Type 2 diabetes affects 21 million people in the United States. Individuals with the disease can prevent and reverse it through diet alone. Many studies show this method for curing the disease by following groups of people with the disease, putting them on a plant-based, low-fat diet and recording the results. Most of the studies conclude that by eating a plant-based diet consistently, symptoms of the disease are greatly reduced and in some cases entirely eliminated. Certain other health risks induced by the disease were stopped as well. Overall, many peer-reviewed research studies on type 2 diabetes concur that eating a plant-based whole foods diet will reduce disease symptoms.

## Introduction

In the United States today 21 million people have diabetes, with 90 to 95 percent of diabetes cases being type 2 (1). In type 2 diabetes, cells can not properly interact with insulin. Because of this the pancreas gradually loses its ability to produce it. Insulin is important because it takes the sugar, glucose (figure A), from the blood to the cells. Immediately the cells oxidize the sugar for energy (2). Over time elevated amounts of blood glucose can cause many problems in the body. These complications include heart disease, stroke, high blood pressure, blindness, kidney disease, nervous system disease, amputation, dental disease, pregnancy complications, and death (1). I hypothesize that that through a whole food and plant-based diet one can prevent or even reverse the effects of the disease.

## Methods

The information in this project was gathered from peer-reviewed literature. Articles came primarily from *Diabetes Care* and the *New England Journal of Medicine*. The China Study, by T. Colin Campbell and Thomas M. Campbell II, was also used for information pertaining to diabetes and how diet can help people who have the disease. The internet provided general facts about the disease itself and information relating national statistics on the subject.

## Results

Of the many studies on the prevention of diabetes, one written about in the *New England Journal of Medicine* and conducted by the Diabetes Prevention Research Group (3) strongly expresses that through diet one lowers the risk of getting the disease. The researchers used three separate groups of individuals, all showing elevated levels of blood sugar, and gave them three separate diets. The first group, the control, was directed to follow a standard diet, while being given a placebo drug. The second group was given the same diet in conjunction with a drug called metformin, used to slow the production of sugar by liver. The last group was given a low fat diet and was told to exercise. After about three years the third group had 58% fewer diabetes cases than the control group. The second group did have a decrease, with 31% less cases of the disease, but the third group, without using and paying for drugs, had a better outcome and a lower risk of obtaining the disease.

The results of attempting to reverse the effects type 2 diabetes show success. A study by James Anderson M.D.(4) used a controlled experiment in a hospital to show that with the right diet, diabetic patients could heal themselves of the disease. Twenty five patients, none being overweight, all having type 2 diabetes, were given a whole foods plant-based diet with a small amount of meat for one week. After the first week all patients were changed to an entirely vegetarian diet for three more weeks. At the end of the experiment, twenty four patients did not have to take insulin shots (Graph 1).

Figure B.  $\text{Glu} + 6\text{O}_2 \rightarrow 6\text{CO}_2 + 6\text{H}_2\text{O} + 37\text{ATP}$  Respiration

Figure A. Glucose ( $\text{C}_6\text{H}_{12}\text{O}_6$ ), and its structure

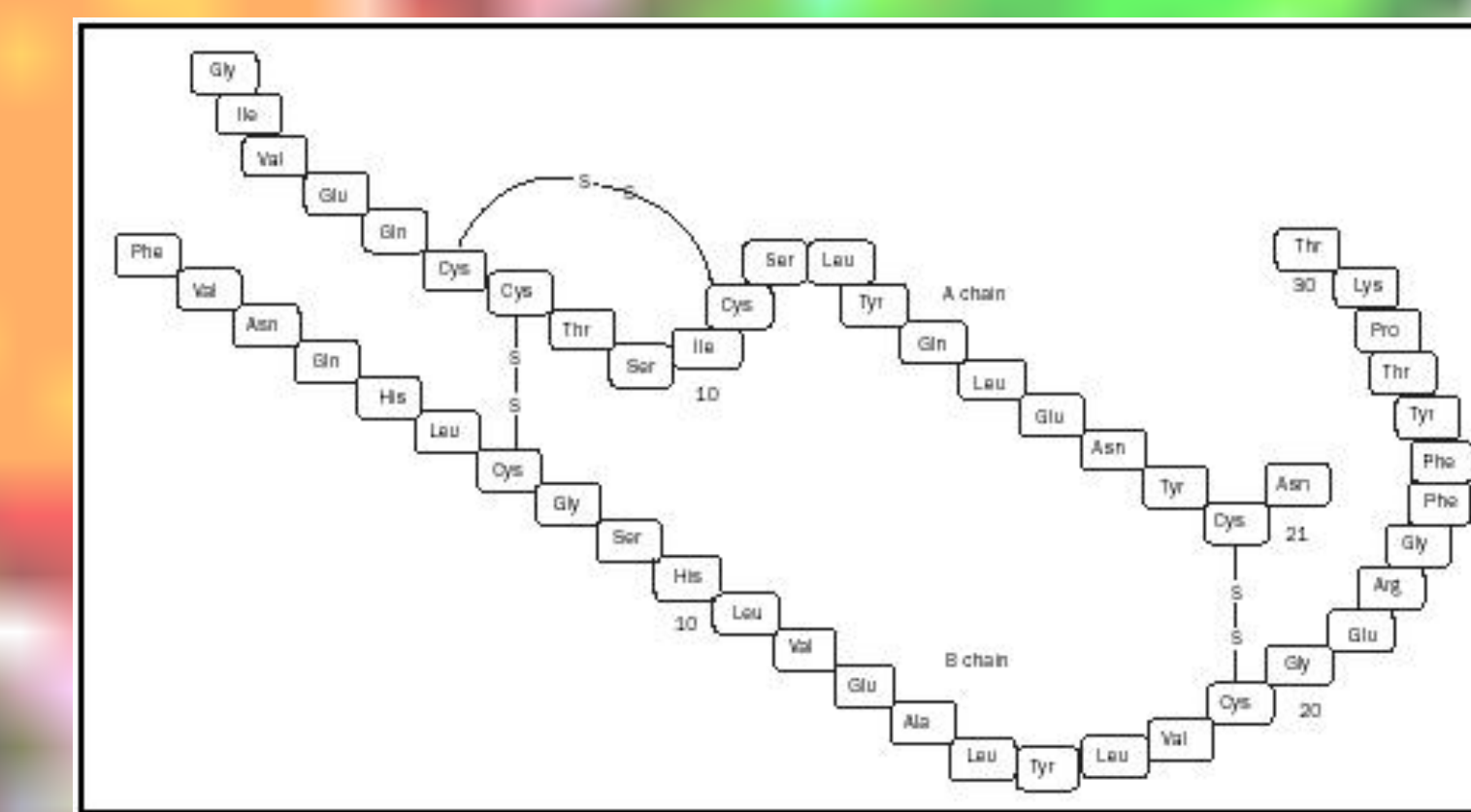
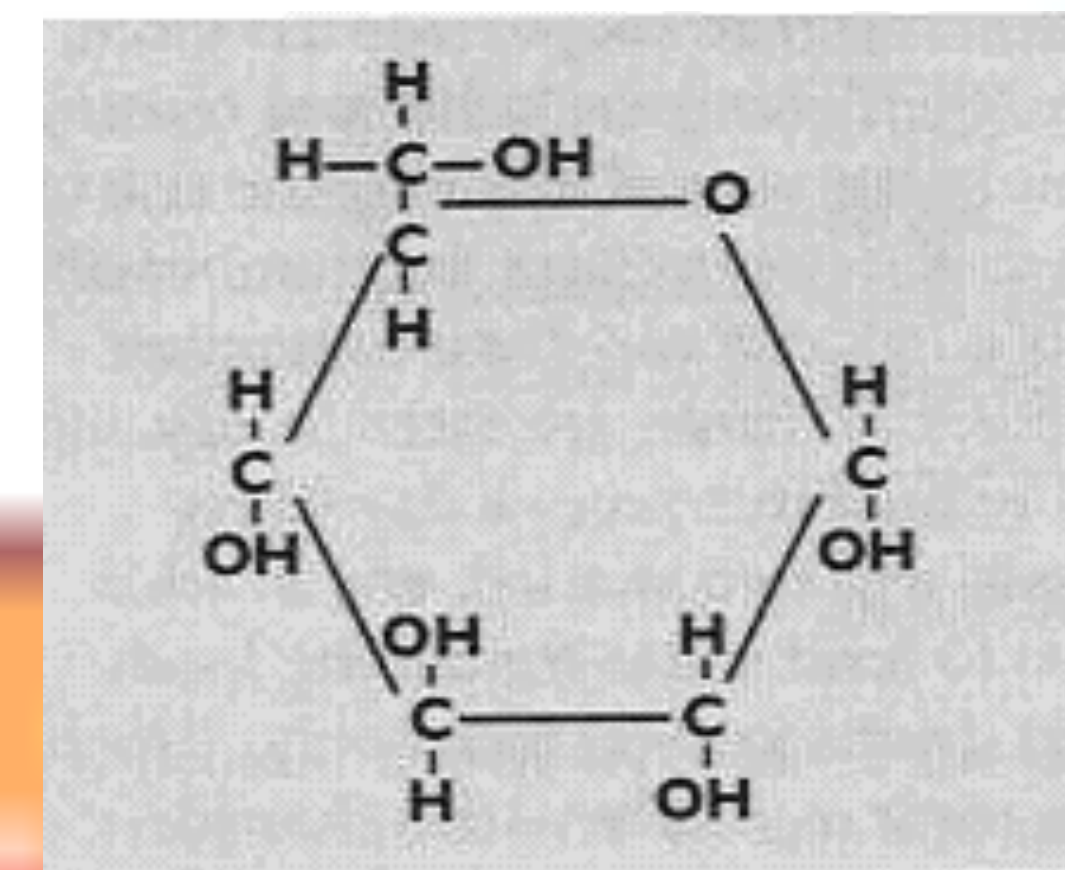
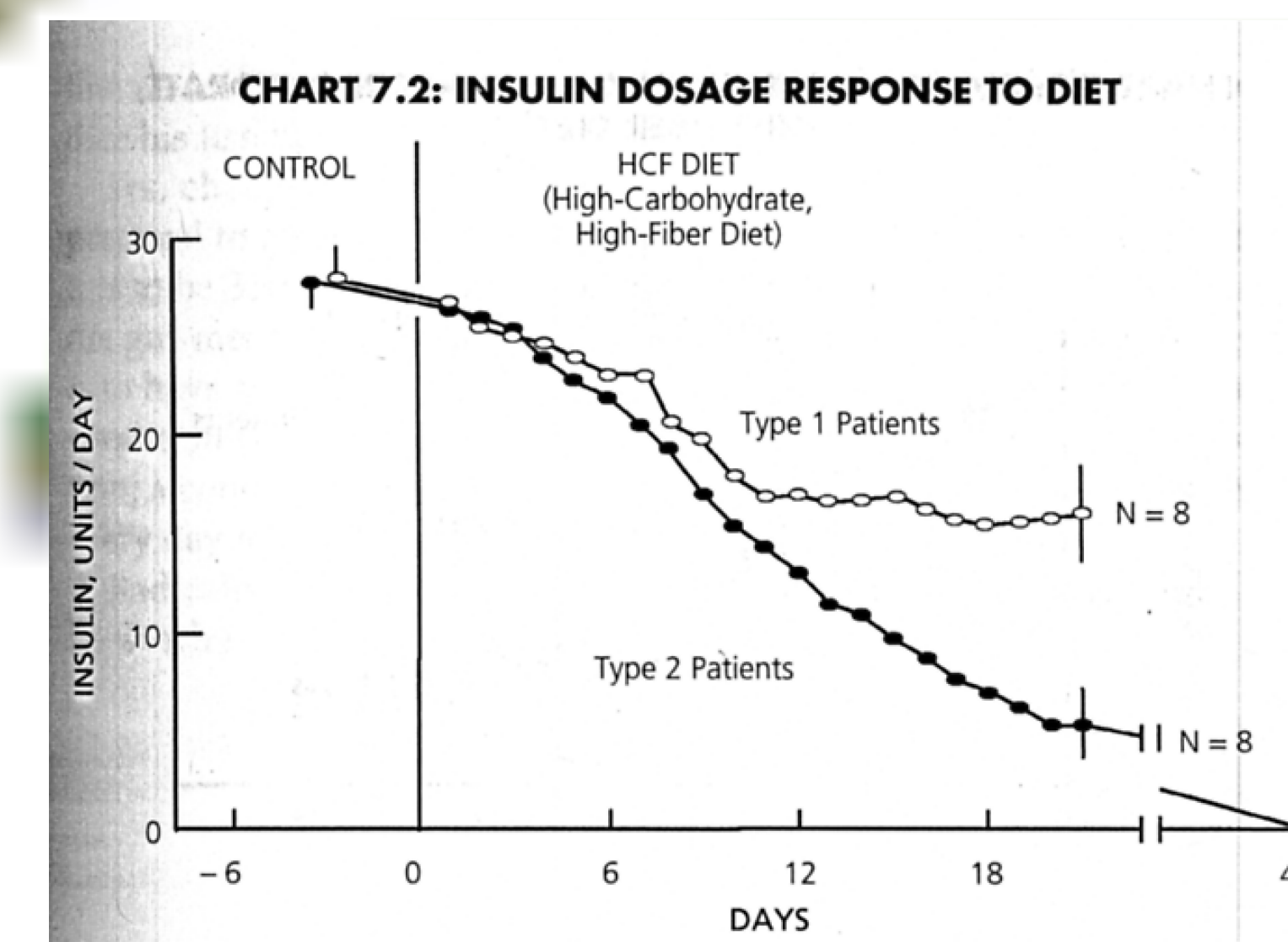


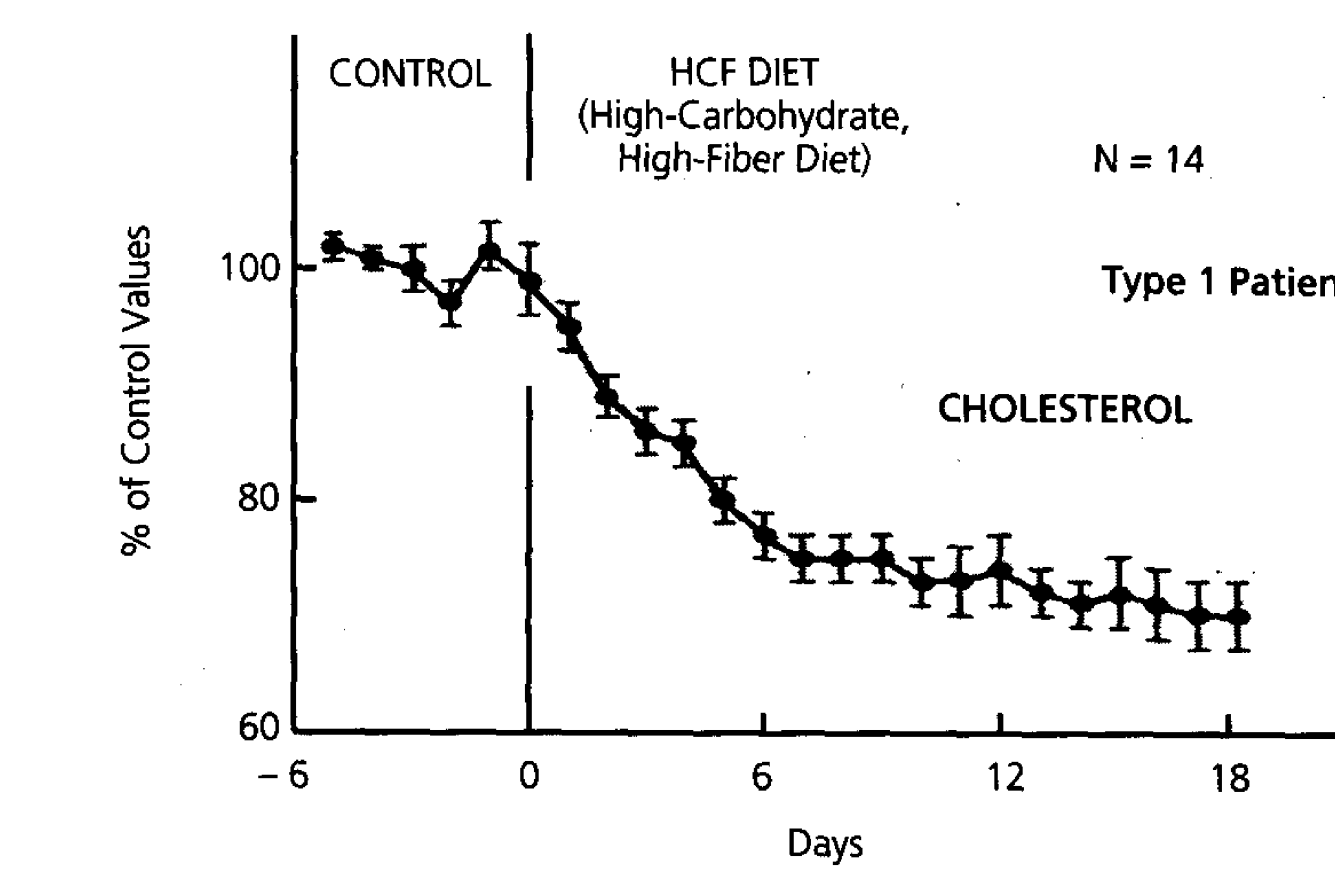
Figure C. Insulin's Amino Acid sequence.

Graph 1.

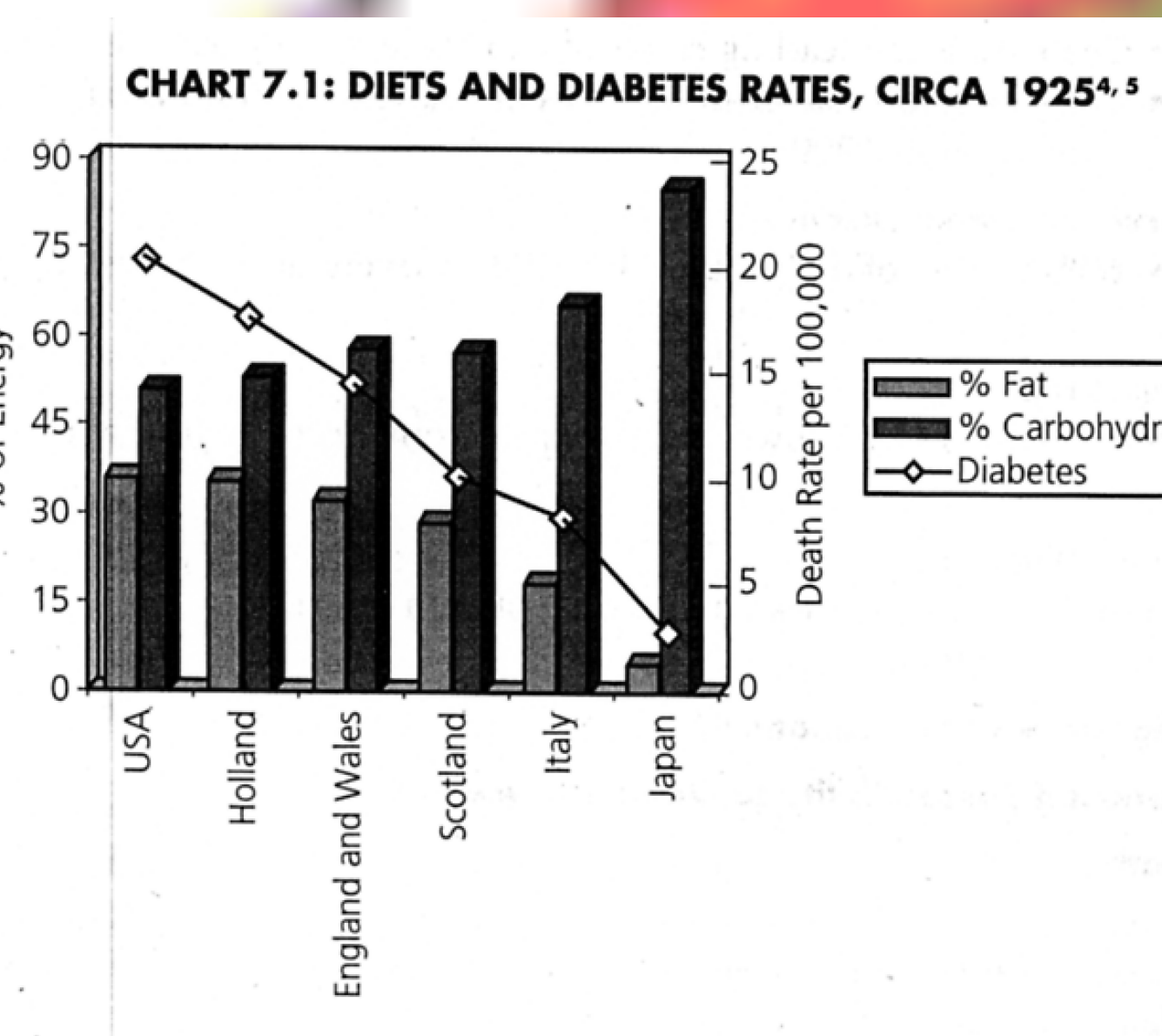


Graph 2.

CHART 7.3: BLOOD CHOLESTEROL ON HIGH-CARBOHYDRATE, HIGH-FIBER DIET



Graph 3.



## Results (continued)

The only person who did not gain these results had diabetes for twenty one years and was taking thirty five units of insulin a day, a very large amount. In the time of the experiment the patient reduced the insulin intake to only eight units, and after continuing with the diet, eight weeks later, was completely rid of the need for insulin. When Dr. Anderson checked with the subjects years later, those who stayed on the diet continued to maintain health. Not only Dr. Anderson has found results such as these. Scientists at the Pritikin Center did a similar study prescribing a low-fat plant-based diet, and of the forty patients, thirty four were able to discontinue the use of insulin in twenty six days(6). Using these diets, the body does not need extra insulin, but can produce and use enough for normal bodily function. Also, the multitude of other risk factors of the disease are greatly reduced by curing or weakening the disease (Graph 2).

## Discussion

Research shows that with a whole food, plant-based diet, individuals can control type 2 diabetes. Avoiding meat and dairy products and only eating non-refined plant-based foods, the body can heal itself. By following this diet before symptoms occur, one can significantly lower their risk of the disease. Even in severe cases the disease can be cured (4). Other than diabetes being cured, the risks individuals obtain by having the disease are eliminated as well. Today nutrition may not be seen as important for disease control and prevention, but many studies show that this is incorrect. The studies presented here were controlled studies that are more reliable than just observational studies. These peer-reviewed studies present independently evaluated results. Medical institutions need to become aware and start teaching future healthcare providers that nutrition plays a vital role in disease prevention. With constant attention individuals who stay on the diet continue to improve and can have healthier lives without the burden and risks of type 2 diabetes. Some medical professionals may view these results as extreme. Can patients change their lifestyles so drastically? Because of this, even if doctors know about the studies showing that diet can prevent diabetes, they do not forcefully advocate it, and resort to medicine and eventually surgery. Overall, the general population needs to be educated on this issue so that approximately 80,000 lives can be saved annually.

## References

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