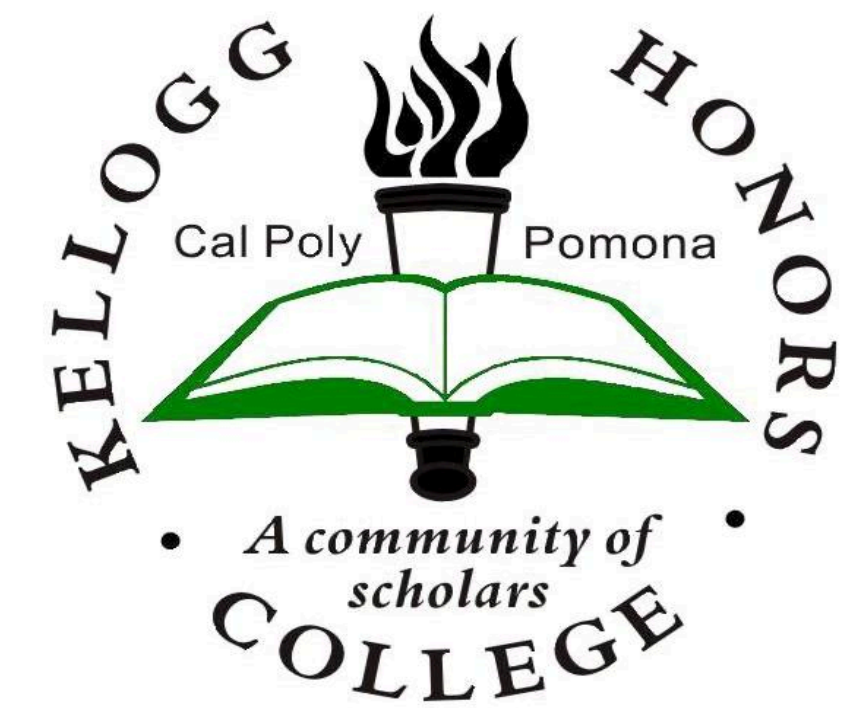


Diabetes Prevention in the Real World



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Abstract

The Diabetes Prevention Program, also known as DPP, works to prevent or delay type 2 diabetes through the partnership of public and private organizations. Individuals with prediabetes or at risk for type 2 diabetes work with the partners to make it easier to change their lifestyle and reduce their risk of type 2 diabetes. The participants are provided with evidence based, affordable and high-quality programs in an effort to improve their overall health according to the CDC. My project revolves around the education aspect where we teach participants to make lasting lifestyle changes, like eating healthier, adding physical activity into their daily routine, and improving coping skills. To tie into these meetings, further research into diabetes and obesity is done for a full comprehensive lesson plan. Additionally, certified nutritionists are the instructors of the course that includes about 10 participants per meeting. The goal is to see the overall weight decreased, increased overall activity, and healthier eating habits of these participants. Through data collection of weight, waist to hip ratios, hemoglobin A1C levels and activity throughout the program, these eager individuals gradually turn their life around for a healthier new beginning.

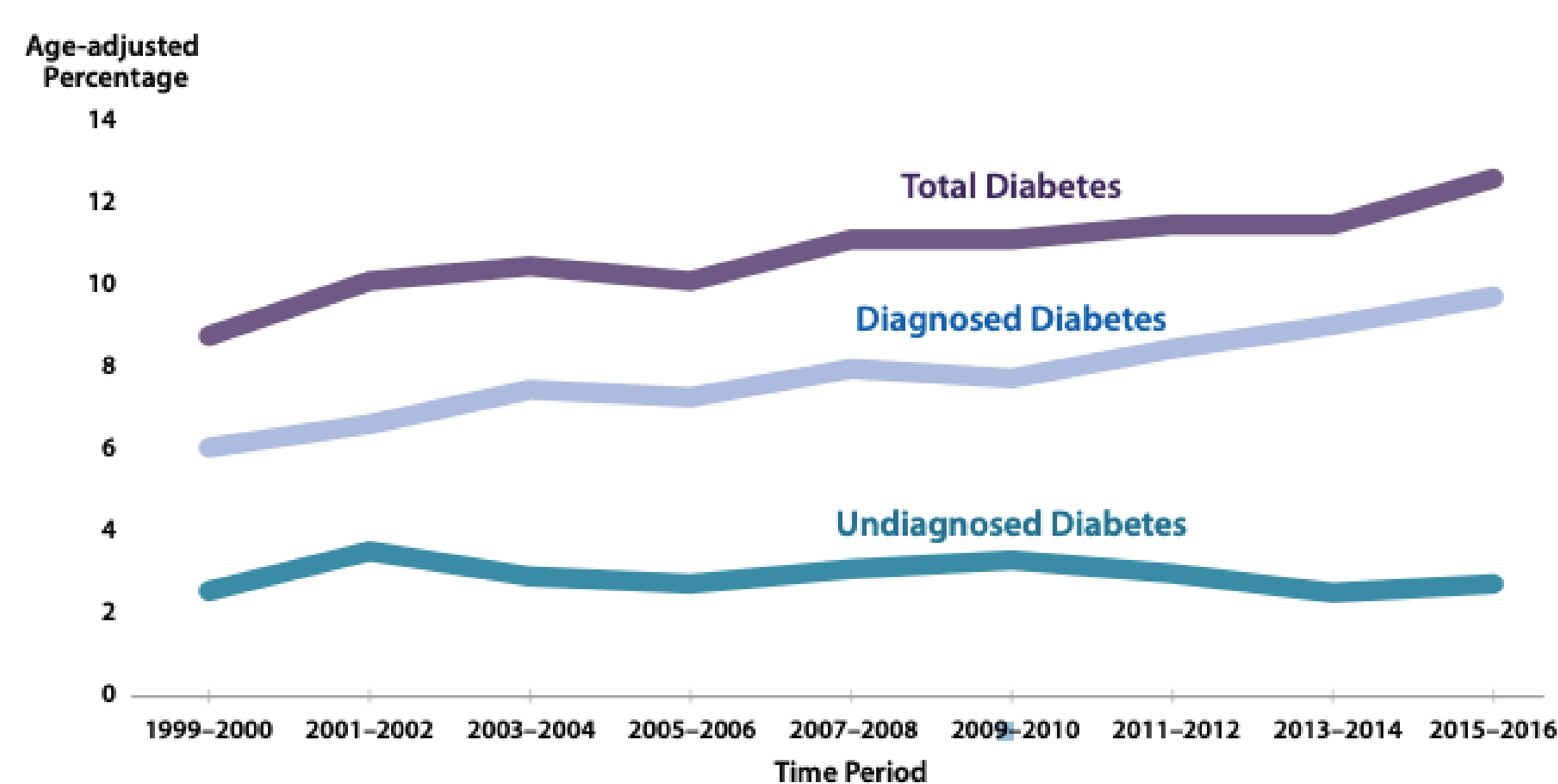
Background

Diabetes is a metabolic disorder characterized by hyperglycemia (high blood glucose levels). A comparison of the two types:

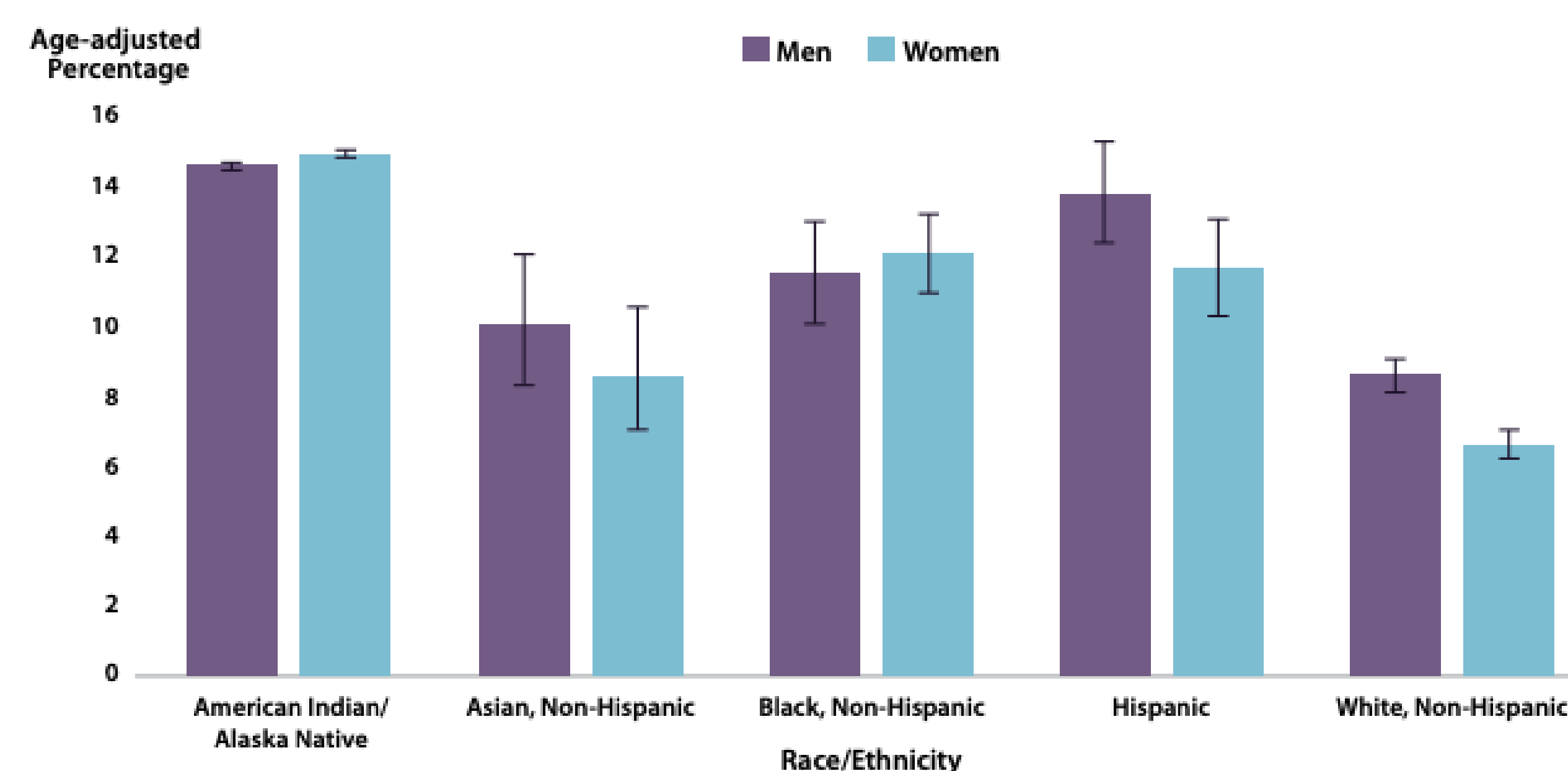
- Type 1 is an autoimmune disorder that kills pancreatic beta cells, resulting in insulin deficiency which can be treated with insulin. It results in the presence of antibodies against beta cells, though the ultimate cause is not known, it can be genetic. The usual onset is less than 30 years old, with no association with obesity, low to undetectable plasma levels of insulin, associated with loss of beta cells, leads to ketoacidosis, comprises about 5% of U.S. diabetics, and its prevalence is stable.
- Type 2 is associated with impaired response to insulin, therefore, adding more insulin does not help. The usual onset is also less than 30 years old but is more prevalent in adults, associated with obesity, variable plasma levels of insulin, islet cells are smaller than usual for no known reason, no ketoacidosis is observed, comprises about 95% of U.S. diabetics and its prevalence is rising. 34.2 million US adults have diabetes, and 1 in 5 of them don't know they have it.

Statistics

Graph one shows the increase of Diabetes over time more specifically about the past 15 years or so. It is increasing more and more each year (CDC). Graph two shows the disparities among diabetes in men vs women along with race and ethnicity, the majority affected are men and especially minority groups (CDC).



Graph 1



Graph 2

Data Collection and Results

Every week, ten participants of two groups meet up either in person or via zoom to collect weight and activity. The whole goal of the program is to see weight levels decrease and exercise activity increase. The lesson plans themselves give tools to the participants and motivate them to make lifestyle changes. After just a few months, majority of the participant's weight has decreased along with a steady increase of exercise. It has been known that forcing crash diets and intense workouts right away does not last long nor will it be maintained, this is also known as the yo-yo effect. This is when the weight fluctuates from being overweight to healthy every so often. The research and final data results is still on-going to see whether these participants will continue their healthy eating habits and exercise for the rest of their lifetime.

Conclusion

The overall purpose of the whole program is to either prevent diabetes from occurring or moderating its severity. With the introduction of a healthy diet and reasonable exercise habits, Type 2 diabetes can be controlled and help save lives. Unfortunately, the data is showing a rising rate of diabetes in the US, but this program has definitely been proven to at least assist in reducing the steep increase and provide guidance to make a beneficial lifestyle change.