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Type 2 Diabetes

AJ Mimlitz
Augustana College, Rock Island Illinois

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Description of Type 2 Diabetes

Type 2 diabetes is the most common form of diabetes. The World Health Organization (2014) estimated that 9% of the world's population had diabetes in 2014, and over 90% of that 9% suffered from type 2 diabetes. Being a noncommunicable condition with environmental components, type 2 diabetes already causes 5 million deaths per year, expecting to become the 7th cause of death globally by 2030 (Alidrisi & Nijpels, 2018). Even though type 2 diabetes can be hereditary, its main cause is from lifestyle choices, such as your diet and amount of physical activity you achieve. Another cause is insulin resistance. This is when blood glucose levels in your body rise higher than normal, and in response, your body doesn't use insulin properly. At first, your pancreas makes extra insulin to make up for it, but over time, it struggles to keep up and can't produce enough insulin to keep your blood glucose at normal and healthy levels.

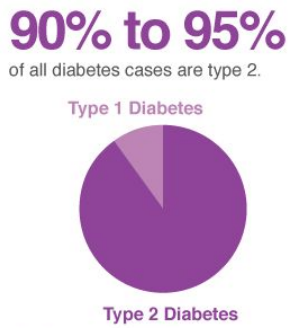

Figure 1: Shows the percentage of diabetes cases that are type 2

Data Source: *Type 2 Diabetes Statistics and Facts* (healthline.com)

In the US alone, 29.1 million people have diabetes with 1.4 million new cases diagnosed each year (NIDDK, 2017). According to the National Institute of Diabetes and Digestive and Kidney Diseases, type 2 diabetes is more prevalent in the US for African Americans (13.2% risk), Asian Americans (9% risk), and Hispanics (12.8% risk) than Caucasians (Healthline, 2018). American Indian adults in the US have the world's highest rate of type 2 diabetes suggesting that one in three are currently diagnosed. Research shows that the risk of developing type 2 diabetes increases with age, starting around puberty. Even though it is less common in children and young individuals than adults, the number of children diagnosed with type 2 diabetes is increasing due to more overweight youth. Studies show that adults aged 40-59 make up the age group with the highest diabetes rates (Healthline, 2018).

Epidemiology of Type 2 Diabetes

The International Diabetes Federation expresses that each year there are 5 million deaths attributable to diabetes (Ogurtsova et al., 2017). That is more than HIV/AIDS, malaria, and tuberculosis combined. Because of this, it is estimated that $673 million is globally spent on diabetes each year, making diabetes on the rise (CDC, 2017). Type 2 diabetes is diagnosed by 4 tests: The glycated hemoglobin (A1C) test, a random blood sugar test, a fasting blood sugar test, and an oral glucose tolerance test.

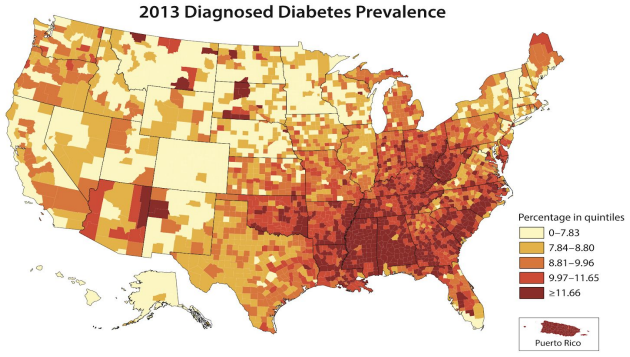

Figure 2: Shows the prevalence of diabetes in the US (2013)

Data Source: *United States Diabetes Surveillance System* (diabetes.org)

When type 2 diabetes is left untreated, it can lead to potential complications. This includes heart disease, stroke, kidney damage, and nerve damage. To prevent type 2 diabetes, it is recommended to eat a healthy diet, maintain a healthy weight, prevent smoking, drink alcohol in moderation, and partake in plenty of regular exercise. According to the New England Journal of Medicine, people with type 2 diabetes carry a 15% increased risk of premature death compared to healthy people (Tancredi et al., 2015). This mortality rate is associated with age, excess weight, family history, certain ethnicities, physical inactivity, and a poor diet. The morbidity rate for type 2

diabetes is also noted in the 2017 National Diabetes Statistics Report, stating that 9.3% of the US population is currently diagnosed with type 2 diabetes (CDC, 2017). The US influences the incidence/prevalence of type 2 diabetes because the country is getting more and more lazy, obese, and overall unhealthy. A decrease in physical activity and increase in poor diet are just a few examples of why type 2 diabetes is becoming more common and frequent.

The most influential social determinants of health relating to type 2 diabetes are social status, food, and access to health services. These are the main determinants because they all relate to getting a diagnosis of type 2 diabetes. Social status is associated with hierarchy, which increases the risk of getting type 2 diabetes (if your parents have diabetes, you might get diabetes). Food is associated with what and how much you put in your body, which also could increase the risk of type 2 diabetes because obesity is one of the main components of the diagnosis. Lastly, access to health services is associated with the availability of health providers/insurance, which could affect the diagnosis because if you don't have access to healthcare, you may never know that you have type 2 diabetes.

Solutions to Type 2 Diabetes

Multiple ideas for treatment and solution for type 2 diabetes has been implemented towards patients throughout the past 5 years. These ideas include changing lifestyles, incorporating therapies that normalize blood sugar, and partaking in the usage of insulin releasing medications. Recently, studies have shown that lifestyle interventions in type 2 diabetes prevention implementation studies can be very beneficial and effective. Specifically in the DE-PLAN study, 73 patients (out of the 105 that participated) showed weight loss during this particular intervention (Gilis-Januszewska et al., 2018). Even though the study showed a great strength with the weight loss it achieved right after the study, 2 years later, 63% of the 73 patients returned to their initial weight at the beginning of the study, which can be considered a huge weakness. The study suggests that future research should address this weakness with interventions that will improve long-term outcomes. Personally, I think a longer weight loss program should occur. This will not only improve smart exercise habits, but also increase good eating customs, decreasing the overall prevalence and incidence of type 2 diabetes.

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AJ Mimlitz
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