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Type 1 Diabetes

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Description of Type 1 Diabetes

As of 2015, The American Diabetes Association, (2015) recorded nearly 30 million Americans diagnosed with diabetes. That is 9.4 percent of the American population; about 1.25 percent of the 30 million have Type 1 diabetes. Type 1 diabetes is a noncommunicable disease present all around the world and is by far the less common form of diabetes.

There are **29 million** diagnosed cases of diabetes in the United States.

Type 1
5%

Type 2
95%

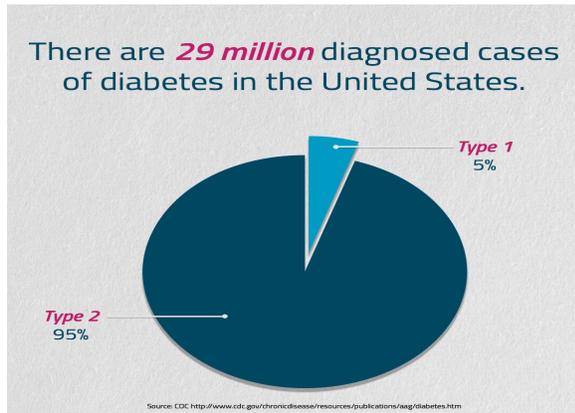Source: CDC http://www.cdc.gov/chronicdisease/resources/publications/aag/diabetes.htm

Figure 1: Shows percentage breakdown between Type 1 and Type 2 diabetes in America.

Data source: Juvenile Diabetes Lifestyle Checklist (bionix.com)

The cause of this disease is not officially known, yet it develops when the body's T-cells destroy insulin-producing β-cells in the pancreas (Denisse, 2017, para. 5). This condition, however, is assumed to be caused by genes and environmental factors like viruses (Filippi, 2008, para. 2). The outbreak of Type 1 Diabetes tends to increase as you get further from the equator. According to the Diabetes UK website that references The International Diabetes Federation, (diabetes.org, 2013) four of the top five nations with Type 1 diabetes prevalences per 100,000 are from the continent of Europe, with the United States sitting at number six. In order, the results list Finland (57.6%) number one followed by Sweden (43.1%), Saudi Arabia (31.4%), Norway (27.9%), United Kingdom (24.5%) and the United States (23.7%). These percentiles are also based off a designated range of zero to fourteen years of age. Caucasians seem to be more susceptible to Type 1 diabetes than African Americans and Hispanics; however, those of European origin tend to have the highest risk. When it comes to gender, there is a three to two, male to female ratio for this disease. On average, the American Diabetes Association (2015), also confirms that there are 1.5 million Americans diagnosed each year between the two forms.

Epidemiology of the Type 1 Diabetes

There are viruses that were said to be the agent for Type 1 Diabetes, however, researchers have found that an inverse correlation of hygiene and incidence of autoimmune disease could play a role (Filippi, 2008, para. 5). Symptoms of this condition include the following: excessive hunger and thirst, blurry vision, fatigue, excessive urination, and dramatic weight loss in a rather short period of time (mayoclinic.org, 2017). Multiple tests are generally required for a diagnosis of this disease. These tests are usually blood tests and are proven to be more accurate in the morning. The fasting blood glucose test, oral glucose tolerance test, random blood glucose test, and the glycated hemoglobin test can all be used to diagnose Type 1 Diabetes according to Everyday Health (Bennington-Castro, 2015). Glucose levels are measured in each one.

Type 1 diabetes usually occurs before the age of 40, specifically around the age 14. This condition has an estimated loss in life expectancy of 11.1 years. When it comes to men, they were later reduced to 8.3 years after attained the age of 20 and for women it is 7.9 years (Livingstone, 2015, para. 2). The biggest influence on Type 1 Diabetes in America would be the increased level of obesity and overall

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laziness that the country is accustomed to. The U.S. is prone to this catastrophe and because of it the level of Type 1 diagnoses are increasingly common. When healthy choices and guidance are not provided or chosen, the chances of these rates declining are rare.
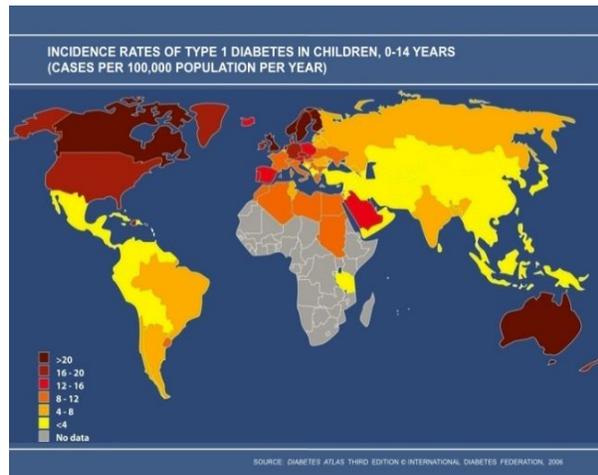

Figure 2: shows type 1 diabetes incidence rates in children, ages 0-14, by country

Data source: Geography of type 1 diabetes (diapedia.org)

Solutions to Type 1 Diabetes

Stopping immune destruction of β-cells, replacing or regenerating β-cells and preserving their function and mass, according to Jay Skyler (2011), are the biggest goals for intervention.

His article provides research and many supported consortia leading towards the future decline of Type 1 diagnosis. The TrialNet consortium is a study that deals with an international network that increases the understanding of the disease and looks to intervene in prohibiting the process of this disease. This study's focus is to simply find strategies to prevent this outrageous outbreak. Another consortium is TEDDY (The Environmental Determinants of Diabetes in the Young), which has objectives to identify "infectious agents, dietary factors, or other environmental exposures that are associated with increased risk of autoimmunity and type 1 diabetes" (Skyler & Ricordi, 2011, Table 1). As mentioned, the primary goal of this study is to find ways to take precautions in order to lower the rates of Type 1 Diabetes. Personally, I believe that enforcing healthier choices when it comes to food, aerobics, medicine, etc. through either schools, advertisements or professionals would be beneficial to society and would contribute to lowering the Type 1 diagnosis rate. If tests run successfully, perhaps a childhood shot or vaccine can be developed to prevent risks for this unwelcome illness.

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