

Epidemiology and classification of diabetes mellitus

For this task, I decided to study Cambridges medicine course as I really enjoy learning about different diseases and illnesses and their cures. For this task, I was originally going to write about neurodegeneration as I am interested by the brain and the nervous system.

Unfortunately, there wasn't any wider reading for that topic, so I chose "Understanding Diabetes" instead. All the statistics in this essay I found in "Diabetes in 2012" by Diabetes UK, so please keep in mind that these statistics are out of date.

Some key things I have learned whilst researching about type 1 and type 2 diabetes is how it occurs, how different medical conditions can be associated with type 2 diabetes and different ways we can reduce the effects of diabetes. Of the two types I have learned more about type 2 since 85% of people with diabetes have type 2. This is mainly because of the number of people who are overweight, although there are other factors that increase the risk of someone being diagnosed with type 2 diabetes, obesity is the most potent risk factor. As I have discovered through my research, in the UK in 2012, 62% of women and 66% of men are obese. That's almost 2 in 3 people. When I found this statistic, I was shocked, I had no idea that obesity was such a big problem in the UK. In my opinion, I think that people should be more aware of obesity and the risks, so we can reduce the number of people being diagnosed with obesity related conditions, including type 2 diabetes.

To understand how type 1 and type 2 diabetes occurs, you first need to understand how the body reacts to increase and decrease in blood glucose levels. When blood glucose levels increase, it's sensed by the pancreas and the beta cells within the pancreas secrete insulin to lower blood glucose levels. When blood glucose levels decrease, it's sensed by the pancreas and the alpha cells release glucagon which raises blood glucose level by promoting the conversion of glycogen to glucose in the liver, which is then released into the bloodstream. Diabetes mellitus occurs when the body is no longer able to lower blood glucose levels, type 1 occurs when the insulin producing cells in the pancreas have been destroyed, this can be because the body has had abnormal reaction to the cells triggered by a viral or other infection. Type 2 diabetes occurs when the body is no longer making enough insulin or the insulin it is making isn't working properly, this is called insulin resistance. There are many different treatments for type 2 diabetes, some boost insulin secretion to overcome insulin resistance and some directly decrease insulin resistance. Although, simple changes to lifestyle such as dieting and exercising can reduce the effect of type 2 diabetes by improving the body's ability to regulate blood glucose levels by boosting insulin secretion and decreasing insulin resistance. However, this can be a difficult change for people with type 2 diabetes as it takes lots of dedication and self-control.

As well as obesity, there are many other factors that increase someone's risk of being diagnosed with type 2 diabetes such as genes, ethnicity and age. More than 85% of type 1

diabetes occurs in individuals with no previous immediate family history, although, the risk of getting type 1 diabetes among immediate relatives to someone with the condition is about 15 times higher than in the general population. However, type 2 diabetes tends to cluster in families, people with diabetes in the family are two to six times more likely to have diabetes than people without diabetes in the family. Ethnicity is a major risk factor when it comes to type 2 diabetes, people of South Asian, African and African Caribbean decent are at most risk as type 2 diabetes is up to six times more common in people of South Asian descent and up to three times more common among people of African and African-Caribbean origin. Your risk of being diagnosed with type 2 diabetes also increases with age, type 2 diabetes usually appears in people over the age of 40, although in South Asian people, it often appears after the age of 25. However, recently, more children are being diagnosed with the condition, some as young as seven. Unfortunately, ethnicity, genes and age aren't something we can control but we can educate people on how to lower their risk of being diagnosed with type 2 diabetes by exercising, eating healthily, not smoking and staying within government guidelines on alcohol units.

From the course activity and information, I would really like to study this course at university as I enjoyed researching this topic. I picked to write my essay on medicine as it is a subject I am interested in, and I hope to someday have a job in medical science or medical research.