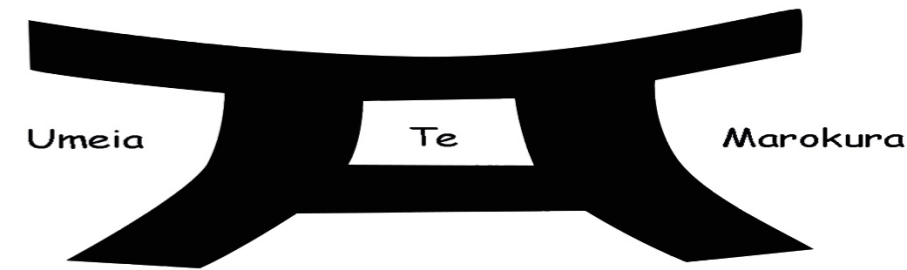


Type 2 Diabetes: Causes of Obesity

Urahiti Ben Year 11 | Titikaveka College, Rarotonga

TITIKAVEKA COLLEGE



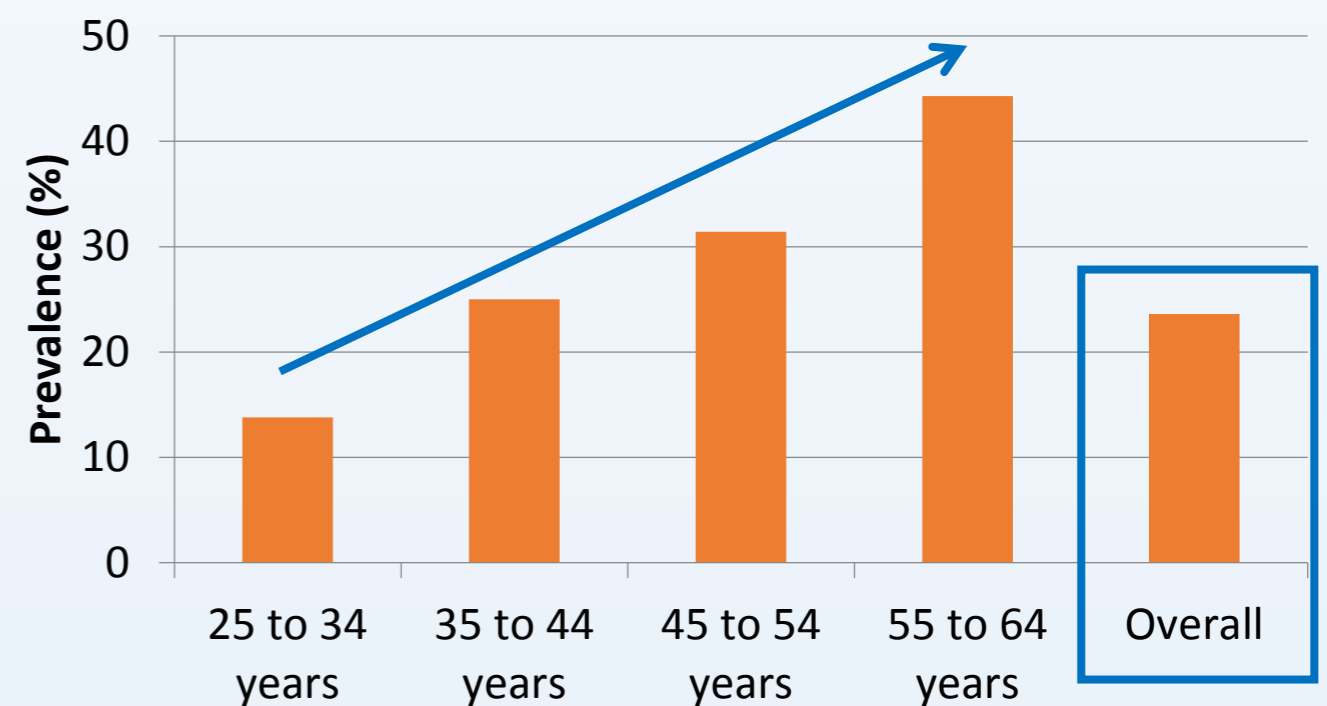
Research question

What are the causes of obesity, which may lead to type 2 diabetes?

Why is type 2 diabetes an issue for the Cook Islands?

- In the Cook Islands, 23.6% of adults have type 2 diabetes. The older the age group, the higher the percentage of people with type 2 diabetes.
- Genetics contributes to the development of obesity. For example, Polynesian people have higher rates of obesity than people of European or Asian descent.
- Obesity is an important risk factor of developing type 2 diabetes.
- One explanation of the higher obesity rate is the 'thrifty gene theory'. Our ancestors were voyagers, whose bodies were accustomed to storing large amounts of energy as fat. But our current lifestyle does not require this large fat store, making us more likely to be obese.

Adults with type 2 diabetes



What is type 2 diabetes?

- Type 2 diabetes is a disease when the pancreas is either not making enough insulin to match the amount of sugar entering the body, or it cannot use the insulin that it has made.
- This is known as insulin resistance. Insulin is a hormone that escorts sugar into the cells so that energy can be made.
- The sugar does not enter the cells, and the result is high blood sugar.

Impact:

- This terrible condition can lead to complications, such as heart disease, blindness, kidney failure, amputation and possibly death.

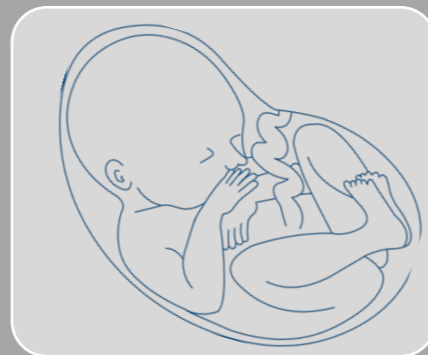
Causes of obesity and type 2 diabetes. What's the connection?

Diet



- A diet consisting mostly of processed food, foods high in sugar, high in fat (especially saturated fat), or low in fibre can increase blood sugar levels, cause high blood pressure, worsen insulin resistance, all resulting in a higher risk of developing type 2 diabetes.
- Our diets should contain food like fresh fruits, vegetables, and fibre-rich starchy foods, because they are digested slowly and provide a sustained release of glucose over time.

Diet during pregnancy



- Scientists have discovered a strong link between a mother's diet and the risk of her child getting diabetes. If a mother's diet during pregnancy is too poor, this will increase the risk of obesity or the child developing type 2 diabetes later in life.
- A healthy diet is necessary to lower the child's risk.

Physical activity



- Physical activity helps to fight insulin resistance by steadying blood glucose levels, by using glucose for energy.
- Physical activity also helps to improve glycaemic control, which determines how fast or slowly carbohydrates are digested.

References:

- Cook Islands Ministry of Health Cook Islands NCD STEPs Risk Factor Report.
- Causes of diabetes <https://www.atrainceu.com/course-module/1691114-090diabetes-type-2-module-05>.
- Physiology of type 2 diabetes <https://www.atrainceu.com/course-module/1691107-090diabetes-type-2-module-04>.

My recommendations

- People should find out how much food they should have in their meals. Information about type 2 diabetes is available from doctors, pharmacists and the internet.
- People need to be made aware of the harm that type 2 diabetes can do to us and how we can prevent it.
- Diet is especially important for pregnant mothers, as their children's health depends on it.
- I recommend better diet and lifestyle habits, such as using 5:30 (5 fruits and 30 minutes of exercise a day).