What is and how do I manage Type II Diabetes?

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Diabetes mellitus is a group of metabolic diseases characterized by high blood glucose levels that result from defects in either insulin secretion, insulin action, or both. So, diabetes is essentially caused by a problem in either the way your body makes insulin or the way it uses insulin. Read on to learn more about the basics of blood sugar levels and insulin, as well as what can go wrong and how to manage it.

Glucose is a simple sugar and an essential nutrient that provides energy for the functioning of the body's cells. Glucose from digested food is absorbed by the intestinal cells into the bloodstream, where it is carried to all the other cells in the body.

However, glucose cannot enter the cells alone and needs insulin to aid its transport into the cells. Without insulin, the cells become starved of glucose energy despite a possible abundance of glucose in the bloodstream. In certain types of diabetes, the cells' inability to utilize glucose gives rise to the ironic situation of "starvation amidst plenty". Insulin is a hormone that actually stimulates the muscle cells and other cells in our body to remove glucose from the blood and to store it. Insulin is produced by specialized cells (beta cells) of the pancreas.

After a meal, as blood glucose levels begin to rise, the pancreas is the first organ to respond

It releases insulin, which signals the body's tissues and cells to take up surplus glucose from the blood. Muscle and liver cells use some of this excess glucose to make glycogen. Several hours after the meal, the reverse situation occurs.

The blood glucose levels now begin to drop and the body's cells are in need of energy. Another pancreatic hormone – glucagon – now floods the bloodstream, and the liver changes the stored glycogen back to glucose.

Type 1 and Type 2 – what's the difference?

Diabetes mellitus type 1 (aka insulin-dependant or juvenile-onset diabetes) is the less common of the two, occurring in just 10 – 20% of cases of diabetes. The individual's own immune system attacks the beta cells of the pancreas and soon, the pancreas can no longer produce insulin. After each meal, blood glucose therefore remains elevated, even though the body tissues are simultaneously starving for glucose. The individual must therefore receive insulin from an external source in order to assist the cells in taking up the needed glucose from the blood. This is why this type of diabetes is referred to as insulin-dependant.

Diabetes mellitus type 2 (non-insulin-dependant or adult-onset diabetes) is characterised by the body either not producing enough insulin or by the body's cells "ignoring" the insulin. It is the predominant type of diabetes and is generally characterised by insulin resistance of the body's cells, meaning that our cells do not respond normally or as sensitively to insulin.

Insulin may be present in the bloodstream and it may stimulate cells to take up glucose, but in the case of type 2 diabetes, they do so more slowly than normal. So, there are high levels of glucose in the blood (as in type 1) but there are also often high levels of insulin too. Eventually, the pancreas becomes exhausted and overworked and less able to make insulin. At this point, some people with type 2 diabetes must begin to take insulin to supplement their own supply.

Type 2 diabetes tends to occur later in life and also to run in families. People with this disease often become obese because they overeat due to their cell's resistance to insulin – their cells are essentially "hungry."

Complications of Diabetes:

The effects of diabetes can be severe and may progress even when drugs are used to control blood sugar levels. The root cause of all of the complications is probably the same: diabetes causes blockage or destruction of the capillaries that feed blood to the organs, and tissues therefore die from lack of nourishment. Complications include heart and blood vessel disease, nerve damage, kidney damage, impaired vision and possible blindness, foot damage, and skin and mouth conditions. The key to avoiding type 2 diabetes lies in controlling your risk factors; fewer of the following risk factors that apply to you, the lower your likelihood of developing the condition:

Risk factors for Type 2 Diabetes:

1. Obesity: A body mass index (BMI) greater than 27 indicates a risk for developing type 2 diabetes. People who are overweight are more likely to have insulin resistance, because fat interferes with the body's ability to use insulin.

$$BMI = \frac{\text{weight (kg)}}{\text{height (m)}^2}$$

2. Apple-shaped figure (i.e. abdominal obesity, central obesity, visceral fat): Individuals who carry most of their weight around their stomachs tend to have a higher risk of diabetes than those with a pear-shape (where excess fat is mainly carried in the hips and thighs).

3. Age: Increasing age worsens the risk of type 2 diabetes.

4. Genetics & Family History: Having a blood relative with type 2 diabetes greatly increases your risk for the condition, as does being of African, Latin American or Asian descent.

5. High blood pressure: Up to 60% of people with undiagnosed diabetes have high blood pressure.

Managing Diabetes with the help of the AIM products:

A person with type 2 diabetes must constantly balance three lifestyle factors: diet, exercise and medication in order to control their blood glucose levels. Supplementing the diet with whole food supplements can also go a long way in managing the condition.

Chromium is the major mineral involved in insulin production. A deficiency can therefore interfere with the production and utilization of insulin. Chromium helps support stable blood sugar levels, which is also key to weight loss. GlucoChrom is a unique combination of chromium, vanadium, bitter melon and gymnema sylvestre. These substances have been used both traditionally and by health practitioners for years in order to help maintain healthy blood sugar levels. Working together, they provide the body with a natural way to balance blood sugar levels.

Soluble fibre has generated considerable interest in diabetes management recently as it has repeatedly been shown to decrease postprandial (after a meal) glucose and insulin concentrations both in person with diabetes and without. AIM's fit 'n fiber is a delicious peach flavoured fibre supplement drink that contains a very high percentage of soluble fibre. Soluble fibre slows the digestion and absorption of carbohydrates from the small intestine, thereby improving the body's handling of glucose and insulin, and reducing the risk of developing diabetes.