



Vitamin D deficiency, PCO syndrome, insulin resistance, Diabetes and obesity

Insulin resistance is the most common cause of type 2 diabetes. The condition is insidious and it takes years to develop. It is often a consequence of consuming far too much carbohydrates – especially refined ones – and the lack of vitamin D.

When we absorb carbohydrates, they are broken down into glucose. The pancreas then produces insulin, the hormone that helps glucose enter our cells – where glucose is urgently needed!

If people have insulin resistance, insulin cannot be effective because the cells are resistant and "don't let the sugar in." This leads to permanently increased blood sugar levels. As a result, the cells do not receive enough glucose, which is their main fuel source.

Vitamin D has the following functions:

The insulin-producing beta cells of the pancreas



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have Vitamin D receptors called VDR.

Vitamin D is believed to be required for the conversion of pro insulin (a precursor of insulin) into insulin.

VDR and vitamin D play a role in insulin production and release in the pancreas. They increase insulin sensitivity and blood sugar intake in the liver, muscles, brain and other tissues.

Vitamin D also regulates transport proteins in muscle cells. The protein is important for cellular glucose uptake.

Vitamin D receptors (VDR) were found in the hypothalamus, the main center of the brain. Science knows that the hypothalamus helps to control our appetite and metabolism.

Vitamin D regulates the white blood cells and inflammation-promoting-cytokines of the immune system. In other words, vitamin D helps fight low-inflammatory inflammation typically associated with obesity and/or insulin resistance and type 2 diabetes.

This type of chronic inflammation, which often goes unnoticed, produces large amounts of free radicals that cause oxidative stress, attack cholesterol and create the conditions for arterial calcification.