



The Crucial Psychological Effect of Insulin among People with Diabetes

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ABOUT THE STUDY

Insulin as a drug is a pharmaceutical preparation of the protein hormone insulin used to treat hyperglycemia i.e., high blood glucose, such conditions include type 1 diabetes, type 2 diabetes, gestational diabetes, and diabetic complications such as diabetes ketoacidosis and hyperosmolar hyperglycemic conditions. Taking insulin and other diabetes medications is often part of the management of diabetes. In addition to choosing healthy foods and drinks, physical activity, getting enough sleep, and managing stress, dosing helps manage your condition. The medicine you take depends on the type of diabetes you have and how well the medicine controls the blood sugar. Insulin should be injected several times a day, including when eating and drinking, to control blood sugar levels. There are several ways to administer insulin. You can use a needle and syringe, an insulin pen, or an insulin pump. The artificial pancreas, also known as the automatic insulin delivery system, maybe another option for some people. Some people with type 2 diabetes can control their blood sugar levels by changing their lifestyles. These lifestyle changes include eating healthy foods and drinks, limiting calorie intake in the case of overweight and obesity, and being physically active.

Fast-acting insulin is used in combination with appropriate diet and exercise programs to control hyperglycemia in diabetics. Controlling hyperglycemia helps prevent kidney damage, blindness, nerve problems, limb loss, and sexual function problems. Proper management of diabetes can also reduce the risk of heart attack and stroke. This artificial insulin product is the same as human insulin. It replaces the insulin in your body that normally makes. Short-acting insulin by helping blood sugar (glucose) enters the cells so that your body can use it for energy. This drug is usually used in combination with intermediate or long-acting insulin products. This drug can also be used alone or with other oral diabetes medications (such as metformin). Human insulin doses, always expressed in USP units, are based on blood and urine sugar test results and need to be carefully individualized to achieve optimal effects. Does not start, stop, or change your medication without first consulting the doctor,

healthcare provider, or pharmacist. If you don't have diabetes, insulin can help you in the following ways.

Regulates blood sugar levels

After eating, carbohydrates are broken down into glucose. Sugar is the body's main source of energy. After that, glucose enters the bloodstream. The pancreas responds by producing insulin. Insulin allows glucose to enter the cells of the body and supply energy.

Store excess glucose for energy

When insulin levels are high, after consuming food, excess glucose is stored in the liver in the form of glycogen. While taking the food insulin levels are low and at that particular time liver releases glycogen into the bloodstream in the form of glucose. This keeps blood sugar levels within a narrow range.

Types of insulin

- Fast-acting insulin begins to act about 15 minutes after injection, peaks about 1 to 2 hours after injection, and lasts for 2 to 4 hours. Types of fast-acting Insulin are, Aspart (Fiasp, NovoLog) insulin, glulisine (Apidra), and insulin lispro (Admelog, Humalog, Lyumjev).
- Short-acting insulin usually enters the bloodstream within 30 minutes after injection, peaks 2-3 hours after injection, and is effective for approximately 3-6 hours. Types of short-acting insulins are Human Regular (Humulin R, Novolin R, Velosulin R).
- Intermediate-acting insulin generally reaches the bloodstream about 2-4 hours after injection, peaks 4-12 hours later, and is effective for about 12-18 hours. Types of intermediate-acting insulin are NPH (Humulin N, Novolin N).
- Long-acting insulin enters the bloodstream hours after injection and tends to lower blood sugar levels for up to 24 hours. Types of long acting insulin are Degludec (Tresiva), Detemil (Levemir), Glaargine.

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Received: 26-Apr-2022, Manuscript No. JBB-22-17040; **Editor assigned:** 29-Apr-2022, PreQC No. JBB-22-17040 (PQ); **Reviewed:** 16-May-2022, QC No. JBB-22-17040; **Revised:** 23-May-2022, Manuscript No. JBB-22-17040 (R); **Published:** 30-May-2022, DOI: 10.35248/0975-0851.22.14.472

Citation: Lorelei E (2022) The Crucial Psychological Effect of Insulin among People with Diabetes. J Bioequiv Availab. 14: 472.

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- The ultra-long-acting type reaches the bloodstream in 6 hours, does not peak, and lasts for about 36 hours or more. Types of ultra-long acting insulin are Glargine U300 (Toujeo).

Insulin is grouped according to how long it lasts in the body. Fast-acting or short-acting insulin helps lower blood sugar levels in the diet, and moderate-acting or long-acting insulin helps meet the body's general needs. Both help control blood sugar levels. Syringes are manufactured in sizes of 30 units (0.3 ml), 50 units (0.5 ml) and 100 units (1.0 ml). The size of the syringe required depends on the insulin dose. Adverse reactions

associated with the use of insulin include injection site reaction (pain, redness, and irritation), headache, Flu-like symptoms, indigestion, diarrhea, back pain, and sore throat. Symptoms of hypoglycemia (hypoglycemia) include such as headaches, hunger, weakness, sweating, tremors, irritation, and loss of concentration, rapid breathing, fast heartbeat, fainting, and seizures. Symptoms of decreased blood potassium levels (hypokalemia) include such as muscle spasms, weakness, and arrhythmia.