**a) Data Set Description**

Explain in detail the dataset: attributes, input variables, output variable (only

one), data types, missing data, etc.

|  |  |
| --- | --- |
| **Attribute** | **Description** |
| class (output) | It describes either person have diabetes or not. |
| Polyuria | Frequent urination among the diabetic and non-diabetic person |
| Polydipsia | An increase in thirst |
| sudden weight loss | Diabetic patients can lose weight abnormally. |
| weakness | Weakness occurs when the cells do not get enough glucose. The medicines for diabetes help sugar to reach the cells for energy that it may not lead to harmful levels in blood. The side effect of diabetic medicines is low blood sugar, or hypoglycemia. |
| Polyphagia | A rise in appetite |
| Genital thrush | Diabetic patients usually suffer with yeast infections problem due to increase in candida (fungal growth). It leads to high sugar levels in a person’s saliva, sweat and urine which results in the yeast growth in a person’s body and can end up with thrush. |
| Itching | Yeast infection to a diabetic person can cause itching. |
| Irritability | A person suffering from diabetes can have mood swings, blood-sugar, and glycemic. Due to glycemic, a person can suffer with poor mental health condition, such as anxiety and worry. This is due to glucose level in brain which controls brain’s working.  Glycemic index (GI) depends on the food that a person takes. Foods having carbohydrates have a GI. A diabetic person who eats foods having no carbohydrates can also suffer problems due to affect in blood sugar. |
| Delayed healing | In diabetic patients, wounds do not heal well or healing occurs slowly because of the stopping of natural phenomenon of the body to produce or use insulin. |
| Partial paresis | Partial paresis also known as partial or mild paralysis. This is the process of weakening of a muscle or group of muscles. It occurs due to damage of nerves in body. |
| Muscle stiffness | Diabetes patients can have leg pain due to the process of diabetic neuropathy (a process of nerves damage around a person’s muscles). As muscles leads to nerves damage, a person can become unable to walk. |
| Alopecia | Hairs from the body are removed in diabetic patients. |
| Obesity | Diabetic patients can gain weight abnormally. |

A growing body of evidence suggests a relationship between mood and blood-sugar, or glycemic, highs and lows. Symptoms of poor glycemic regulation have been shown to closely mirror mental health symptoms, such as irritability, anxiety, and worry. This should come as no surprise, as the brain runs primarily on glucose.

Glycemic index (GI) is a measure of how quickly a food can make your blood sugar (glucose) rise. Only foods that contain carbohydrates have a GI. Foods such as oils, fats, and meats do not have a GI, though in people with diabetes, they can affect the blood sugar.

for people with diabetes, wounds tend to heal more slowly or do not heal well because the body cannot produce or use insulin.

Paresis involves the weakening of a muscle or group of muscles. It may also be referred to as partial or mild paralysis. Unlike paralysis, people with paresis can still move their muscles. These movements are just weaker than normal. Paresis occurs when nerves are damaged.

Diabetes can cause leg soreness and pain. Over time, high blood sugar damages the nerves around your muscles. This nerve damage is called “diabetic neuropathy.” Diabetic neuropathy causes diabetic leg pain and soreness, which can make it hard for you to walk and stay active.

the partial or complete absence of hair from areas of the body where it normally grows; baldness

With alopecia areata, the immune system attacks the hair follicles, leading to the loss of patches of hair on the head and other parts of the body.

Overweight and obesity are defined as abnormal or excessive fat accumulation that presents a risk to health.

Fatigue and weakness may result when the cells do not get enough glucose. Diabetes medications, such as insulin or metformin, help more of this sugar to move into the cells and prevent it from building to harmful levels in the blood. A potential side effect of diabetes medications is low blood sugar, or hypoglycemia.