

# Chronic Kidney Disease Dataset

## Early stage of Indians Chronic Kidney Disease (CKD)

Number of Instances: 400 (250 CKD, 150 notckd)

Number of Attributes: 24 + class = 25 (11 numeric ,14 nominal)

**age:** (Patient Age) (numerical)

It's a column to identify each patient's age.

**bp :** (blood pressure) (numerical)

Blood pressure is measured in millimeters of mercury (mmHg) and ideal blood pressure is between 90/60mmHg and 120/80mmHg, high blood pressure is 140/90mmHg or higher, low blood pressure is below 90/60mmHg.

**sg:** (Specific Gravity) (nominal) (1.005,1.010,1.015,1.020,1.025)

Properly defined as the ratio of the density of a substance (typically a liquid or a solid) compared to the density of water.

**al:** (Albumin) (nominal) (0,1,2,3,4,5)

It is a type of protein found in the blood, which is made in the liver. It is one of the most abundant proteins in the blood ranging from 75-80% of blood plasma. Albumin differs from blood proteins in that it does not have an added glycosyl group.

**su:** (Sugar) (nominal) (0,1,2,3,4,5)

Measuring blood sugar is one of the most frequently performed tests in laboratories, and its importance is due to early detection of diabetes. More importantly, the detection of diabetic intolerance, which is the condition that precedes symptomatic diabetes. Normal range: 70-100 milligrams per 100 milliliters (3.9-5.6 mmol/L).

**rbc:** (red blood cells) (nominal)

A red blood cell (RBC) count measures the number of red blood cells, also known as erythrocytes, in your blood. Red blood cells carry oxygen from your lungs to every cell in your body. Your cells need oxygen to grow, reproduce, and stay healthy. An RBC count that is higher or lower than normal is often the first sign of an illness.

**pc:** (Pus Cell) (nominal)

The meaning of the presence of Pus cells or what is known as urine pus is the high number of white blood cells or pus cells in the urine, the most common cause of white blood cells in the urine is an infection in the urinary tract, usually in the bladder, but can also be in the kidneys.

**pcc:** (pus cell clumps) (nominal)

Visual Pus Cell Clumps (present) indicate that usually an individual have an infection that has been present for too long.

**ba:** (bacteria) (nominal)

A bacteria culture test can help find harmful bacteria in or on your body that may be making you sick. To do the test, you will need to give a sample of your blood, urine, skin, or other tissue. The type of sample depends on where the infection seems to be located.

**bgr:** (blood glucose random) (numerical)

A random glucose test is one method for measuring the amount of glucose or sugar circulating in a person's blood. Normal: less than 100 mg/dl, Prediabetes: 100–125 mg/dl, Diabetes: 126 mg/dl or above.

**bu :** (Blood Urea) (numerical)

The BUN test measures the amount of urea nitrogen in your blood. Urea nitrogen is a waste product that your kidneys remove from your blood. Higher than normal BUN levels may be a sign that your kidneys aren't working well.

**sc:** (Serum creatinine) (numerical)

A creatinine test is a measure of how well your kidneys are performing their job of filtering waste from your blood. The diagnostic value of serum creatinine and cystatin c in evaluating glomerular filtration rate in patients with chronic kidney disease.

**sod:** (Sodium) (numerical)

A sodium blood test measures the amount of sodium in your blood. Sodium is a type of electrolyte. Electrolytes are electrically charged minerals. They help control the amount of fluid and the balance of acids and bases (pH balance) in your body. The normal range for blood sodium levels is 135 to 145 milliequivalents per liter (mEq/L).

**pot:** (potassium) (numerical)

A potassium blood test measures the amount of potassium in your blood. Potassium is a type of electrolyte. Electrolytes are electrically charged minerals that help control fluid levels and the balance of acids and bases (pH balance) in your body. A normal potassium level is between 3.6 and 5.2 millimoles per liter.

**hemo:** (hemoglobin) (numerical)

Hemoglobin tests are part of a complete blood count (CBC) test, which identifies the number of red blood cells, white blood cells and platelets in a blood sample. The normal range for hemoglobin levels is 12 grams per deciliter to 17.4 grams per deciliter of blood for adults.

**pcv:** (Packed cell volume) (numerical)

A measurement of the proportion of blood that is made up of cells. Kidney diseases are one of the conditions that contribute to the low reading in the PCV.

**wc:** (white blood cell count) (numerical)

A WBC count is a blood test to measure the number of white blood cells (WBCs) in the blood. The normal number of WBCs in the blood is 4,500 to 11,000 WBCs per microliter (4.5 to 11.0  $\times 10^9$ /L).

**rc:** (red blood cell count) (numerical)

The test can help diagnose different kinds of anemia (low number of RBCs) and other conditions affecting red blood cells. Normal RC ranges are Male: 4.7 to 6.1 million cells per microliter (cells/mcL) Female: 4.2 to 5.4 million cells/mcL.

**htn:** (Hypertension) (nominal)

blood pressure that is higher than normal. Adults with diabetes, high blood pressure, or both have a higher risk of developing chronic kidney disease than those without these conditions.

**dm:** (Diabetes mellitus) (nominal)

Diabetes mellitus is a disorder in which the body does not produce enough or respond normally to insulin, causing blood sugar (glucose) levels to be abnormally high. Diabetes damages blood vessels and increases the risk of heart attack, stroke, chronic kidney disease, and vision loss.

**cad:** (Coronary Artery Disease) (nominal)

it indicates if one has heart problems.

**appet:** (Appetite) (nominal)

It shows whether a person is eating well and has an appetite or has problems.

**pe:** (Pedal Edema) (nominal)

Pedal edema (foot and ankle swelling) is one of the cardinal signs of congestive heart failure (HF) but can also be due to other systemic or local conditions, including chronic kidney disease, liver disease, thyroid disorders, venous insufficiency, and venous thrombosis.

**ane:** (Anemia) (nominal)

Anemia is a condition in which you lack enough healthy red blood cells to carry adequate oxygen to your body's tissues.

**class:** (Classification) (nominal)

ckd: have chronic kidney disease

notckd: not having chronic kidney disease

Class Distribution: (2 classes):

ckd: 250

notckd: 150