LITERATURE REVIEW

M. P. N. M. Wickramasinghe. et al present a methodology to control the disease using a suitable diet plan. In this research, classifiers are constructed using different algorithms like Multiclass Decision Jungle, Multiclass Decision Forest, Multiclass Neural Network and Multiclass Logistic Regression. An allowable potassium level of the patient. The classification algorithms recommend a diet place based on the predicted potassium zone.

H. A. Wibawa. et al proposed and evaluated a Kernel-based Extreme Learning Machine (ELM) to predict Chronic Kidney Disease. The performance of four kernel-based ELM, namely RBF-ELM, Linear-ELM, Polynomial-ELM, and Wavelet-ELM are compared with the performance of standard ELM. The above methodologies were compared on metrics of sensitivity and specificity. Radial Basis Function – Extreme Learning Machine (RBF-ELM) showed higher prediction rates.

CKD increases the risk factors of Cardio Vascular Disease (CVD) like hypertension, diabetes mellitus, dyslipidaemia, and metabolic syndrome. CKD also leads to End Stage Renal Disease (ESRD) which has no cure. U. N. Dulhare. Et al extracted action rules based on stages but also predicted CKD by using naïve Bayes with OneR attribute selector which helps to prevent the advancing of chronic renal disease to further stages.

It is said that the median survival time of past due-stage patients is simplest approximately three years. Evaluating exactly the condition of suffers is of incredible importance as it might substantially assist to decide appropriate care, medications or medical interventions wished, which amongst them have a complicated interrelationship and have an impact on the final results of the person patient. H. Zhang. Et al investigated the performance of Artificial Neural Network (ANN) models while applying them to the survivability prediction of Chronic Kidney Disease (CKD) patients.

Dialysis of a Kidney transplant stays the only option for the patient with End Stage Renal Disease (ESRD). The progression of the disease can be slowed down or even stopped in a favourable case by early prediction of CKD and proper treatments with diet. J. Aljaaf et al concluded that the application of machine learning algorithms with predictive analytics proves to be an intelligent solution for early prediction of the disease.

Data mining models project ensemble techniques called Boosting which enhances the prediction of a model. AdaBoost and LogitBoost are generally used to compare the

performance of classification algorithms. Arif-Ul-Islam. Et al analysed the performance of boosting algorithms for detecting CKD and derived rules illustrating the relationship among the various attributes of CKD. The paper used Ant-Miner machine learning algorithm along with Decision tree to derive rules.

Data mining methods are used to generate decisions by elicitating hidden information from chronic disease datasets. This calls for the storage and manipulation of large amounts of structured, unstructured and semi-structured data. The role of big data in the same is very important. G. Kaur. Et al predicted chronic kidney disease using various data mining algorithms in Hadoop environment. Classifiers like KNN and SVM are used in the research.

Levels of creatinine, sodium, and urea in blood play an important role in deciding the survival prediction or the need for kidney transplantation in patients undergoing dialysis and becoming worse .V. Ravindra. Et al used a simple K-means algorithm to elicit knowledge about the interaction between many of these CKD parameters and patient survival. He concluded that the clustering procedure predicts the survival period of the patients who undergo the dialysis procedure.

For CKD prediction R. Devika Et al examined the performance of Naive Bayes, K-Nearest Neighbour (KNN) and Random Forest classifiers based on accuracy, preciseness and execution time for. P.Panwong.et al created a classification model for predicting the transitional interval of Kidney disease stages 3 to 5 and also used a Decision tree, K-nearest neighbour, Naïve Bayes and Artificial neural networks for eliciting the knowledge and creating a classification model with the selected set of attributes.

S. Vijayarani. Et. al predicted kidney diseases by using Support Vector Machine (SVM) and Artificial Neural Networks (ANN). The research compared the performance of the above two algorithms on accuracy and execution time. Misir R. et al used feature selection algorithms to identify a set of features that efficiently predict kidney diseases. The Reduced feature set results in reduced costs, saves time and reduced uncertainty.

Kidney damage due to diabetes is chronic and a slow process, but has significant effects on the patient. High glucose levels in the blood disturb the kidney from functioning effectively. Bharathi. Et al has applied association rule mining to predict diabetes mellitus in a given dataset by generating summarization rules. Revathy. Et. al has used decision theory to validate the clustering data mining technique.