

Chronic Kidney Disease Prediction

W. Priscilla Victoriya¹ M. Lincy Jacqueline²

Student, M.Sc Computer Science, Nirmala College for Women (Autonomous) Coimbatore, Tamilnadu¹

Assistant Professor, Nirmala College for Women (Autonomous) Coimbatore, Tamilnadu²

Abstract: *Early diagnosis and characterization are the important components in determine the treatment of chronic kidney disease CKD. CKD is an ailment which tends to damage the kidney ad affect their effective functioning of excreting waste and balancing body fluids. Some of the complications included are hypertension, anaemia (low blood count), mineral bone disorder, poor nutritional healthy acid base abnormalities ad neurological complications. These chronic diseases are prognosticated using various types of data mining classification approaches.*

I. INTRODUCTION

The disability of the kidneys to perform their regular blood filtering function et al. is named Chronic renal disorder (CKD). The term “chronic” describes the slow degradation of the kidney cells over an extended period of your time. This disease may be a major renal failure where the kidney sans blood filtering process and there's an important fluid build-up within the body. This leads to alarming increase of potassium and calcium salts within the body. Existence of high levels of those salts end in various other ailments within the body. The prime job of kidneys is to filter extra water and wastes from blood.

The efficient functioning of this process is important to balance the salts and minerals present in our body. The right balance of salts is necessary to regulate blood pressure, activate hormones, build red blood cells, etc. A high concentration of calcium results in various bone diseases and cystic ovaries in women. CKD also may cause sudden illness or allergy to certain medicines, want to predict the occurrence of CKD and presents a way of early medication. The detailed review on literature shows the appliance of varied machine learning algorithms to predict CKD.

II. METHODOLOGY

2.1 Existing System:

The burden of illness of CKD is high worldwide, but outcomes and resources for care may vary across countries. Irrespective of location, earlier identification should improve outcome. Strategies to improve identification include increasing public awareness, professional education, changes in health care policy, changes in health care delivery systems, and basic, clinical and outcomes research related to CKD.

2.2 Limitation of Existing System:

Course of chronic kidney disease, which defines stages of CKD, as well as antecedent conditions, outcomes, risk factors for adverse outcomes, and actions to improve outcomes. This representation of the course of CKD provides a framework previously lacking for the development of a public health approach to CKD.

2.3 Proposed System:

The common portal is being created to overcome the disadvantages stated earlier. Moreover, it helps the person know the complete process analysis. Foremost are control of blood pressure preferably with agents that block the renin-angiotensin pathway, lipid-lowering therapy (irrespective of the starting cholesterol concentration), and good glycaemic control (lowers the incidence of major atherosclerotic events in patients with CKD). Correction of acidosis is thought to slow the decline in GFR, but this requires confirmation. An easy approach is to take the optimum intake of salt and protein.

2.4 Features of Proposed System:

- Complete set of information
- Time saving
- Whole process in a single site

2.5 Proposed Methodology:

- Account module
- Analysis module
- Prediction module

2.6 Methodology Description:

Account Module:

Author is person who can make a book. So, he/she can use this webpage if he/she want to use this webpage means he/she need to register these details to the website with like name, email Id, Phone no and username and password and after registration process completed, he/she need to login with the credential like username and password which they gave on registration time if either username and password is wrong, he/she cannot login into the webpage

Analysis Module:

After login into website, he/she can dataset of chronic lung disease and can analysis that data already have like age and blood pressure how many of them is affected in that age and blood pressure and then they can analysis the applet of the dataset and al last they can check the how many them is affected the chronic disease and not affected by the pie charts analysis.

Prediction Module:

In this module can give their blood pressure and age as a input value then they can view the details of the data relate to the input given which as blood glucose level, haemoglobin rate, white blood count, red blood count, hypertension and disease is have or not have prediction alone not as conformed

III. EXPERIMENTAL RESULTS AND ANALYSIS

3.1 Result and Discussion

Figure 1.1 this show other count of the chronic lung's disease and not chronic lungs disease person count from the dataset we have gave.

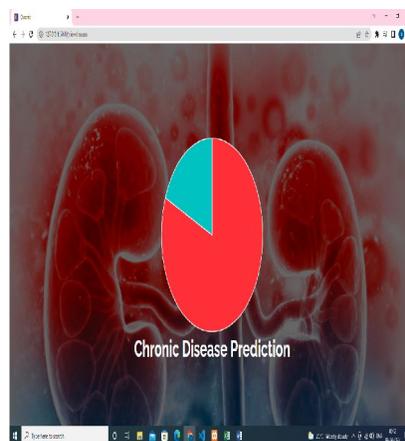


Figure 1.1

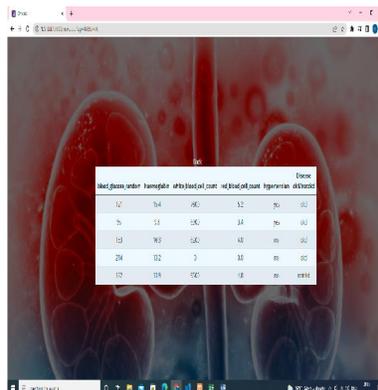


Figure 1.2

The data analysis gives their blood pressure and age as an input value then they can view the details of the data relate to the input given which as blood glucose level, haemoglobin rate, white blood count, red blood count, hypertension and disease is have or not have prediction alone not as conformed.

3.2 Comparison of Existing with Proposed System

Before we just analysis with dataset we have but here I overcome the input data what we give the output predicted will be result which means if we give blood pressure and age of any person the output will show the result of WBC, RBC count with the chronic disease is possible or not so just overcome the existing process

IV. CONCLUSION

This state is named as Acute Kidney Injury (AKI). An increased vital sign may cause heart problems and heart attacks. CKD in many cases results in permanent dialysis or kidney transplants. A history of renal disorder within the family also results in high probability of CKD. Literature shows that nearly one out of three people diagnosed with diabetes have CKD. Literature also presents evidences of early identification and care of CKD can improve the standard of the patient's life. Prediction algorithms in machine learning are often intelligently.

BIBLIOGRAPHY

- [1] Matthias, H," Models of software development", Retrieved on 5-OCT-2012, from <http://www.ccs.neu.edu/home/Matthias/670-s05/lectures/2.html>.
- [2] Pressman, R 2001, Software Engineering, 5th edition, McGraw-Hill, New York.
- [3] Ross D.T., J.B. Good enough and C.A. Irvine, Software engineering: Process, Principals, and goals. COMPUTER 8(5) (May 1975): 17-27.
- [4] Cartwright, A. (2008, November 1). Beyond the paper chase. Law Enforcement Technology, 35(11), 58, 60-62.
- [5] Geiger, B. (2004, March 4). Citizens reporting crimes online: the son Francisco experience. The Police Chief, 74(8).
- [6] Coresh J, Selvin E, Stevens LA, et al. Prevalence of chronic kidney disease in the United States. JAMA. 2007;298(17):2038–2047. doi:10.1001/jama.298.17.2038 [PubMed] [CrossRef] [Google Scholar]
- [7] Hsu CY, Vittinghoff E, Lin F, Shlipak MG. The incidence of end-stage renal disease is increasing faster than the prevalence of chronic renal insufficiency. Ann Intern Med. 2004;141(2):95–101. doi:10.7326/0003-4819-141-2-200407200-00007 [PubMed] [CrossRef] [Google Scholar]
- [8] Plantinga LC, Boulware LE, Coresh J, et al. Patient awareness of chronic kidney disease: trends and predictors. Arch Intern Med. 2008;168(20): 2268–2275. doi:10.1001/archinte.168.20.2268 [PMC free article] [PubMed] [CrossRef] [Google Scholar]
- [9] Gansevoort RT, Correa-Rotter R, Hemmelgarn BR, Jafar TH, Heerspink HJ, Mann JF, et al. chronic kidney disease and cardiovascular risk: epidemiology, mechanisms, and prevention. Lancet. 2013. pmid:23727170.

- [10] Go AS, Chertow GM, Fan D, McCulloch CE, Hsu CY. Chronic kidney disease and the risks of death, cardiovascular events, and hospitalization. *The New England journal of medicine*. 2004;351(13):1296–305. Epub 2004/09/24. pmid:15385656.
- [11] Matsushita K, van der Velde M, Astor BC, Woodward M, Levey AS, de Jong PE, et al. Association of estimated glomerular filtration rate and albuminuria with all-cause and cardiovascular mortality in general population cohorts: a collaborative meta-analysis. *Lancet*. 2010;375(9731):2073–81. Epub 2010/05/21. pmid:20483451.
- [12] Coresh J, Selvin E, Stevens LA, Manzi J, Kusek JW, Eggers P, et al. Prevalence of chronic kidney disease in the United States. *JAMA*. 2007;298(17):2038–47. pmid:17986697.
- [13] Abramson JL, Jurkowitz CT, Vaccarino V, Weintraub WS, McClellan W. Chronic kidney disease, anemia, and incident stroke in a middle-aged, community-based population: the ARIC Study. *Kidney Int*. 2003;64(2):610–5. Epub 2003/07/09.