AN APPLICATION OF PREDICTIVE MODEL IN DETECTING CHRONIC KIDNEY FAILURE AND DISEASE USING FUZZY LOGIC

NUR IDRINA BINTI ZAKARIA
AIN NAZIRAH BINTI MOHD ADNAN

Thesis Submitted in Fulfillment of the Requirement for Bachelor of Science (Hons.) Computational Mathematics in the Faculty of Computer and Mathematical Sciences Universiti Teknologi MARA

July 2019

DECLARATION BY CANDIDATE

We certify that this report and the research to which it refers is the product of our own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

.....

NUR IDRINA BINTI ZAKARIA

2016289548

.....

AIN NAZIRAH BINTI MOHD ADNAN

2016299186

DATE: 11 JULY 2019

ABSTRACT

The 24th report of the Malaysian Dialysis and Transplant register for 2016 states that Malaysia has seen 100% increment in the number of new dialysis patients that suffer from chronic kidney disease (CKD) over the past 10 years. Therefore, this research aimed to predict the CKD using fuzzy logic toolbox. The data were collected from seventy clinical test patients based on blood urea nitrogen, eGFR (estimated glomerular filtration rate) and serum creatinine test. The fuzzification of these data was generated using fuzzy toolbox in MATLAB software. As a conclusion, early detection of CKD is very important. The result showed the status of CKD for each patient whether a "Yes" or "No". As a conclusion, early detection of CKD is very important to help patients to be treated at an early stage with the follow-up treatment and consultation with the nephrologist.

TABLE OF CONTENT