Universiti Teknologi MARA

Thalassemia Diagnosis using Fuzzy Expert System

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**Thesis submitted in fulfillment of the requirements for
Bachelor of Computer Science (Hons.) Faculty of
Computer and Mathematical Sciences**

January 2017

ACKNOWLEDGEMENT

ABSTRACT

Thalassemia is a group of inherited blood disorders that cause the body to be unable to produce healthy hemoglobin and red blood cells. This disease is very dangerous since it could lead to death if those affected do not gets quick treatments. Current statistic shows that one out of 20 people of Malaysia are carriers of genes the thalassemia genes. The objective of this project is to study how to diagnose the likelihood of thalassemia occurring in a child and to develop an expert system that could diagnose the possibility of a child having the disease.This system is an expert system that uses fuzzy logic. In developing the system, a domain expert was interviewed to obtain information and create some rules of the system. The input parameter of this system is the early symptoms for a child which are fatigue, jaundice, pallor and the family histories. The output of this system is the possibility of thalassemia disease occurring in the patient. The system has been tested with real patient data and it produces output with 65% of accuracy. This system would be very helpful to parents as it can help them to know the possibility of their child having thalassemia before more invasive and expensive tests are done.

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