

UNIVERSITI TEKNOLOGI MARA



**THE DIAGNOSIS OF DIABETES MELLITUS BASED ON
HbA1C TEST FROM MAY TO AUGUST 2017**

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DECLARATION

I hereby declare that this thesis is based on my original work. I also declare that this thesis has not previously or concurrently submitted by any other student at UiTM or other institutions.

AUGUST 2017

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ABSTRACT

THE DIAGNOSIS OF DIABETES MELLITUS BASED ON HbA1C TEST FROM MAY TO AUGUST 2017

The measurement of the concentration of hemoglobin A1C or known as glycated hemoglobin in human bodies had been determined a new method by using the ion-exchange high-performance liquid chromatography (HPLC) principal that very sensitive for early detection of diabetes mellitus. Normal red blood cells in human body only survives for 8-12 weeks before renewal in erythropoiesis process, and by measuring the HbA1C concentration can reflect the average of blood glucose levels over that duration. This finding could replace the previous test such as fasting plasma glucose which the advantage of using the HbA1C test to measure glucose level in the blood rather than plasma glucose is that HbA1C test will give overall picture of glucose exposure over several months and the patient are not require to do fasting blood sugar. Moreover, HbA1C can minimize pre-analytical variability caused it is very stable after collection and produce no change in its concentration when transferred into the EDTA collection tube. Nowadays, the automation such as Biorad D-10 was worldwide used in the hospitals caused of their ability to produce result quickly. Based on other researches, the most common be suspected with diabetes disorder was high in women than men patients and the patients that 50 – 70 years old were the most affected with the high glycaemic exposure in their bodies.

Key words : Hemoglobin A1C, HPLC, fasting plasma glucose, EDTA collection tube.

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