

ABSTRACT

Diabetes mellitus is one of the deadliest diseases faced by Indonesian people. The number of sufferers of this disease in Indonesia is 10 million according to the International Diabetes Federation (IDF). Indonesia is included in five countries with the number of people with diabetes mellitus. This disease is caused by high levels of glucose in the blood. Patients are usually not controlled for sugar consumption in everyday life. For measuring blood sugar levels so far, the most widely used device is invasive, namely by injuring the patient's body. Techniques like this make people reluctant to take measurements of glucose levels in their blood routinely. Though it is recommended to take measurements regularly to be able to control the intake of nutrients in the body. The method used in this experiment is to design and build a blood sugar measuring device using a photodiode sensor. As well as collecting data on several patients related to blood to obtain patient data. Based on the results of the identification of the problems mentioned above, the authors make a non-invasive measuring tool entitled "Design of a Non-invasive Blood Sugar Measuring Instrument (TFT Display)". Results that have been obtained from this study are there are error values in the voltage measurement circuit voltage distribution with the calculation of the resistance value to get the voltage value. The error value obtained is 5%. The results of the linear regression value of 0.996.

Keywords: Blood Sugar, Non-Invasive, Photodiode Sensor