

## ABSTRACT

*Oxygen therapy is a medical procedure that aims to make the oxygen levels in the body sufficient. At a certain level, if the body lacks or excess oxygen in the blood and is not treated immediately, it can endanger the patient's condition. In administering oxygen therapy, it must be in accordance with the appropriate dose by continuously monitoring the level of oxygen saturation of the patient.*

*The purpose of this study is to design a device that can monitor the state of oxygen saturation in a patient's blood. The contribution of this study is as a reference for administering oxygen therapy (oxygenation) to patients. In order to make this tool more practical and efficient to use, it is made with monitoring tools in real time. The design of this tool uses a DS-100A finger sensor to take the beam of light absorbed by hemoglobin to then be processed and the resulting SpO2 value.*

*The result of the module is the SpO2 reading value as a percentage. From the results of tests conducted with standard measuring tools on the respondents produced the largest percentage of errors of 1.7%. The results of this study can be implemented on an automatic oxygen regulator based on the patient's SpO2 level to improve the efficiency of the patient's SpO2 level monitoring system in dosing the oxygen therapy method.*

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**Keywords:** *Oxygen, Oxygen Therapy, Pulse Oximetry*