ABSTRACT

Chronic Obstructive Pulmonary Disease (COPD) is an airway obstructive disease due to chronic bronchitis or emphysema. One of the causes of COPD is smoking. Monitoring respiratory rate is used to determine the value of the breathing rate for one minute in passive and active smokers which aims to monitor the respiratory condition of outpatients and if there is an abnormal value can be used as a warning to the beginning of the risk of smoking patterns of life. The purpose of this study is to make a breathing rate monitoring device and SPO2 via Android (Respiratory Rate Parameter) using a flex sensor with analog output. the flex sensor works based on resistance where the resistance changes depending on the bending received by the flex sensor which then the output of the flex sensor enters the circuit difference. The output difference to the Arduino Mega Analog pin from the respiratory rate value is displayed on the LCD 16x2 and on Android using Bluetooth as the sending medium. Based on the results of data collection of 5 respondents with 6 times data retrieval, the results of the respiration value between the module and the comparator were obtained with a maximum difference of 1 value with an error of 1.29%. This tool is in a condition worthy of use and further development and research can still be carried out

keywords : Respirasi, Flex Sensor, Android.