

ABSTRACT

Infrared therapy is a therapeutic tool that has a function to enlarge blood vessels so that blood flow is smooth and the healing process or inflammation in the body is faster. The heat from infrared therapy lamps can also reduce joint or muscle pain..

The purpose of this research is to design an infrared therapy device equipped with light intensity settings and a timer controlled by android. The contribution of this research is the infrared lamp irradiation media system and has also been equipped with a safe distance of 30 -70cm using the HC-SR04 sensor, then equipped with a choice of a maximum therapy time of 10-30 minutes which is used to select the length of the therapy process. In addition, it can adjust the light intensity as needed via Android which is connected via the HC-05 bluetooth module which is enabled to regulate how much light intensity is emitted by the lamp.

After carrying out the measurement process, the error value on the timer measurement is obtained from the selection of Low, Medium and High switches, 10 minutes (10%), 15 minutes (0.6%), 30 minutes (0.3%). The distance measurements are, 10cm (10%), 20cm (2.5%), 30cm (1.6%), 40cm (0%), 50cm (4%), 60cm (1.6%), 70cm (0%).

Keywords: *infrared therapy, distance, timer, bluetooth*