

ABSTRACT

Acute Myocardial Infarction, commonly referred to as heart attack, is the most common cause of sudden death, so monitoring tool is needed with system that can notify doctors. The purpose of this study was to design heart attack detection device through vital sign indicators. The contribution of this research is the system works using wireless, and is equipped with detection system for indications of heart attack. In order for monitoring to be carried out wirelessly and supported by detection system, this design uses wireless module as data transmission and uses a warning notification system that is used for detection. Respiration rate was measured using piezoelectric sensor and body temperature was measured using DS18B20 sensor. Data processing is carried out with ESP32 displayed by the HC-12 module on the Personal Computer. If an indication of heart attack is detected in parameter value, the tool will activate a notification. The results showed that the largest respiratory error value was 4% and the largest body temperature error value was 0.55%. The ability to transmit data can be sent at a maximum distance of 25 meters without obstructions. In every indication of heart attack, it was found that this design can provide good notification. The results of this study indicate that wireless transmission can be carried out at a certain distance and can detect heart attacks. This research can be implemented in patients who have been diagnosed with heart attack so that it can facilitate monitoring.

Keywords: *Monitoring, Heart Attack, Respiration, Temperature, Wireless*