

ABSTRACT

At birth, the infant must learn to adapt the initial situation where the infant is so dependent to become independent. At that time, the infant is in Neonatal state (0-28 days) where the infant must learn to perform the function of his organs, such as keeping his body temperature in normal condition. One effect of the failure Neonatus to maintain its body temperature within normal limits is the Neonatus is very susceptible to suffering Hypothermia. To solve the issue, it is necessary to make an air temperature monitoring system in the neonate cabin. This system can utilize the WiFi network in the process of setting the air temperature in the neonate cabin.

In this research , the writer using hairdryer as the neonate cabin heater and using humidifier as an air humidity regulator inside the neonate cabin. Hairdryer is a heating tool that uses electric motors to drive the fan blades and the heating element. The heating element is a long spiral wrapped around the heat-resistant frame of the mical material and the propeller motor is a DC motor. The temperature and humidity in the neonate cabin are monitored with SHT-11, a temperature and humidity sensor. For monitoring and controlling process, the writer use wireless system by utilizing WiFi network connected to Android device, so if there is temperature and humidity changes, the system in neonate cabin will be able to set with android device through WiFi network. In this WiFi-based monitoring system we can adjust the initial temperature and humidity without having to go to the Neonate's cabin.

In this study, Hairdryer as Heater can achieve the desired temperature value that is reaching 36°C. By using speed I, Heater experience temperature rise per 3 minutes. By using speed II, Heater experience temperature rise per 1 minute. Humidifier can achieve humidity value in accordance with the desired that is in the range 50%-60% RH (Relative Humidity) with a rise per % it takes about 1 minute. In testing the WiFi connection, the connection used can be said to be good because the delay is obtained at 71 ms when measured with a different room with a distance of ± 10 meters. In application performance testing, this application has a good performance and does not burden the device because it uses only 0.299 MB of RAM.

Keywords : neonate cabin, SHT-11, WiFi Android, Relative Humidity.