ABSTRACT

Full term and premature babies have decreased body temperature by 0.1 ° C-0.3 ° C per minute, infant warmer was developed to provide the effect of heat on the baby as the temperature in the mother's uterus. The purpose of this study is to modify the infant warmer tool by adding parameters SpO_2, BPM and skin sensors. The contribution of this research is that the SpO_2, BPM and skin sensor monitoring systems are very helpful in the therapeutic and healing process using infant warmers. The use of the right sensor and has a good quality will produce results and a small error value so it does not exceed the maximum value that is tolerated. The MAX 30100 sensor can detect oxygen saturation in the blood (SpO_2) and heart rate (BPM), the DS18B20 temperature sensor can detect temperatures on the surface of the skin or body. Based on the results of measurements on 3 different respondents with 6 times of data retrieval and compared with standard tools the largest error value obtained from SpO_2 is 0.68% and the smallest error value is 0.17%, while the largest error value from BPM is 0.76 bpm and the smallest error value is 0.42 bpm, the value of skin temperature error obtained is 0.28% obtained from the measurement of 1 respondent with 6 times of data retrieval and compared with standard tools. The tool is said to be suitable for use because the maximum limit in SpO_2 error tolerance is 2% and BPM is 5%. The results of this research can be implemented on infant warmers to improve monitoring of physiological conditions in patients.

Keywords: Infant warmer, SpO_2, BPM, Skin Temperature.