ABSTRACT

In the medical world infusion is a commonly used medical devices. Infusion may provide periodic fluid directly into the patient's vein. Therefore, errors in the administration of IV fluids may have negative consequences to the patient. In the administration of drugs intravenously, needs to consider factors such as weight, age, gender, and psychological condition of the patient. Therefore, the authors make an infusion system that can work automatically and can be monitored on a regular basis.

Based on these conditions, we need a system that can monitor an IV infusion regularly. Hence the concept designed automated infusion where the doctor or nurse to enter the desired amount of the existing keypad on the user interface. The sensor used in this tool is a photodiode with a 5mm diamemer altitude that would be an indicator of fluid in the IV tube and a potentiometer as the monitor angle brace. Meanwhile, instead of a pressure hose used servo motor that moves to open or close the flow of the drip.

In this study used a microcontroller as servo motor control and remote monitoring of data delivery. LCD and keypad used as an interface that allows the doctor or nurse in using these tools. In designing these tools acquired the rise time 48ms, Slope is 0.3055 and the dominant time constant (τ) is 30.5ms. The system is able to reduce the angle error of up to 0800 and the trust factor appliance (CF) is 0.723718.

Keyword : Logika fuzzy, Expert Sistem, microcontroller, infuse drip, servo.