

## **Abstract**

Dengue fever is one of an epidemic that usually emerged a spreading disease and caused death. In Indonesia, the threat of this disease is still high. In 2015, recorded about 12,675 people suffered Dengue Fever in 34 province and near 1,229 people died. The spreading disease of Dengue Fever occurred in a particular period of time, so that the estimated number of Dengue Fever patients who come to the hospital at that time were possibly bigger than the existing doctor. In fact, the person who entitled to undertake the diagnosis is an expert/doctor. Thus, the undertaken diagnosis is taking time that the patient should line up. In this research, the expert system used by medic/paramedic was built. So that can undertake the diagnosis with the expert knowledge and the result of such diagnosis become a doctor's recommendation to be confirmed and followed up.

This application or expert system is build using Case Based Reasoning (CBR) and Rule Based Reasoning (RBR) method. The data that used in this case is the old case data of the dengue fever patients from RSUD dr. Soeselo Slawi and the data obtained from the direct expert knowledge. The data is processed to become a reference when the patient insert the symptoms they undergone. The verification between the old and the new cases using similarity concept and the best solutions were taken based on Bayes probability calculations. In consonance with the experiment that have been carried out, the expert system application for thr diagnosis of dengue fever accomplished the level of the accuracy of 92%. Such value is quite satisfying because it has been fulfill the minimum clasification determined by the WHO, and able to reach the average of the doctor capability in Indonesia in diagnose the dengue fever.

**Keywords:** case based reasoning, ruled based reasoning, expert system, dengue fever