

ABSTRACT

Tuberculosis (TB) remains a serious health problem in Indonesia, with the country ranking fourth in the world for TB cases in 2011. Limited availability of doctors and lack of patient knowledge about TB are major challenges in managing this disease. Early detection of TB is crucial to inhibit disease progression and ensure proper treatment. A web-based diagnosis system for TB has been developed using the Rational Unified Process (RUP) method. This system combines forward chaining and backward chaining methods to strengthen diagnostic results, and uses certainty factor to provide a level of certainty in the diagnosis generated. TB symptom and disease data were obtained from an internal medicine specialist at Roemani Muhammadiyah Hospital in Semarang, as well as from independent literature. This diagnostic system is implemented using the PHP programming language and Laravel framework. The research results show that the TB diagnostic system has been successfully designed and implemented on a web-based platform to diagnose early TB and provide solutions for the disease based on symptoms entered by users. Testing conducted with an internal medicine specialist, using 10 test data points, achieved an accuracy rate of 80%. Based on these results, it can be concluded that the diagnostic system is suitable for diagnosing TB patients. With this diagnostic system, it is expected to facilitate the process of diagnosing TB symptoms and provide accurate information. This system has the potential to improve efficiency and effectiveness in handling TB, especially in the context of limited medical resources and public knowledge.

Keywords : Tuberculosis, Diagnostic System, RUP, Forward Chaining, Backward Chaining, Certainty Factor, Diagnosis