

ABSTRACT

The statistic shows that the deaths caused by HIV is 15% and caused by AIDS is 7.7% of the total 200 thousand cases in Indonesia, the majority caused by Opportunistic Infections that are handled inappropriately. Meanwhile, the presence of The Active Hospital of Service, Support, and Treatment for HIV/AIDS in Indonesia is only available in big cities, so the number of medical practitioners who understand HIV/AIDS is limited and available only in The Active Hospital of Service, Support, and Treatment for HIV/AIDS.

Because of the problem, an expert system is designed to provide a result of diagnosis of opportunistic infections based on the symptoms experienced by the patients of HIV/AIDS. Knowledge base of the expert system will be obtained studying the symptoms and Opportunistic Infections through the books and interviews to human experts. Clinical symptoms will be arranged into a knowledge base that is then used as a knowledge base on the expert system. Knowledge base will then be traced using Naïve Bayes Classifier method to determine the probability value of Opportunistic Infections based on the symptoms suffered, resulting in a conclusion of diagnosis of IO.

Medical records of HIV/AIDS patients were used as a test data. Using confusion matrix, system performance is measured by calculating the accuracy, precision, and recall. Testing is performed to determine the accuracy of the expert system in providing results of diagnosis. Of the ten classes of Opportunistic Infections, obtained the average value of accuracy is 98.4%, the average value of precision is 92.5%, and the average value of recall is 95.2%.

Keywords: *expert system, Naïve Bayes Classifier, Opportunistic Infections, HIV, AIDS*