Analysis of Typhoid Fever Disease Classification Using the Naive Bayes Algorithm at the Jember Clinic Plantation Hospital

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ABSTRACT

Typhoid Fever is an acute infectious disease of the digestive system caused by Salmonella typhi or Salmonella paratyphi. In 2024, it ranked first among the top 10 inpatient diseases at Jember Clinic Plantation Hospital, with 2,051 reported cases. The Widal test is commonly used to confirm Typhoid Fever, but it requires a waiting period of 7 days from the onset of fever symptoms to yield reliable results. This delay emphasizes the importance of early identification of suspected Typhoid Fever cases that have not yet been accurately diagnosed, as many inpatients are still classified with general diagnoses, such as febris. Accurate suspect diagnosis is also essential to ensure alignment with the patient's medical history, which supports the reliability of medical coding claims and reporting. This study aims to analyze the classification of Typhoid Fever disease using the Naive Bayes Algorithm at the Jember Clinic Plantation Hospital. This type of research is quantitative, utilizing the RapidMiner tool and the Naive Bayes Algorithm. The study sample includes 328 inpatient medical records with 11 variables: age, fever, headache, muscle pain, nausea, vomiting, abdominal pain, diarrhea, weakness, relative bradycardia, and clouded consciousness. The results of this study indicate that the comparison of training data and test data 80%:20% has an accuracy value of 81.82%, a precision value of 81.82%, and a recall value of 81.82%. The output of this research is a Google Script Application which is used as a prediction form for Typhoid Fever disease with accuracy, precision, and recall of 80%.

Keywords : *Accuracy*, *Naive Bayes Algorithm*, *Recall*, *Typhoid Fever*, *Precision*