

ABSTRACT

Implementation Of The Logistic Regression Algorithm For Prediction Of Kidney Stone Disease Based On Clinical Data

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Kidney stones are among the most prevalent health conditions in Indonesia and often go undetected in their early stages due to minimal or absent symptoms. Clinical data are already available and can be utilized to support earlier identification efforts. This study aims to develop and evaluate a prediction of kidney stone status based on clinical data using the Logistic Regression algorithm. This approach is designed to generate probabilistic estimates of kidney stone occurrence and to provide interpretation of the influence of each input variable. Evaluation results show that the algorithm achieved an accuracy of 88.59% in predicting kidney stone status. A re-evaluation using only the significant variables improved the model's performance, reaching an accuracy of 89.13%. These findings support the use of Logistic Regression as an effective approach for systematically and reliably identifying the risk of kidney stones.

Keywords: *kidney stones disease, logistic regression, binary prediction, clinical data, machine learning, accuracy*