Performance Evaluation of Machine Learning Techniques for Prescription of Herbal Medicine for Obstetrics and Gynecology Problems

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Abstract

Women especially low income earners opt for herbal medicine to maintain their health status, curative purposes as well taking care of their Obstetrics (OB) and Gynecology (GYN) problems. The cost of herbal medicines are low compared to pharmaceutical drugs, however, several potential risks arises from the use of incorrectly prescribed herbal therapies. These arouse our interest in this study by conducting a comparative analysis of machine learning techniques for the prescription of herbal solutions for OB-GYN issues. This research involves intensive study of local herbal remedies and survey of traditional health care delivery within the western part of Nigeria. Four machine learning algorithms, such as Multilayer Perceptron, J48 Decision Trees, Naïve-Bayes and IBK (Instance Based Learner) were employed on thirty (30) data features for the performance evaluation process. This is aimed at obtaining the most suitable machine learning algorithm for an efficient herbal medicine prescription model for OB-GYN diseases. In this work, assessment and comparison of the four machine learning algorithms, specifically Instance-Based Learner (IBK), Multi-Layer Perceptron (MLP), J48 decision tree, Naïve-Bayes were carried out. Results showed an achieved accuracy of 100% using the Naive Bayes, MLP, IBK classification algorithms. We can reduce mortality rate among less privileged women through accurate diagnosis and prescription of herbal remedies.

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