Diagnosis of Diabetes using Artificial Neural Network and Neuro-Fuzzy approach

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Abstract

**Background & Aim:** A main problem in diabetes is its timely and accurate diagnosis. This study aimed at diagnosing diabetes using data mining methods.

**Methods:** The present study is an analytical investigation including 768 individuals with 8 attributes. Artificial neural networks and fuzzy neural networks were used to diagnose the diabetes. To achieve a real accuracy, the Kfold method was used to divide samples into training and test groups.

**Results:** The mean square errors in multilayer perceptron network (MLP), learning vector quantization and Nero fuzzy networks were 98.6%, 98.2% and 99.6%, respectively.

**Conclusion:** According to the results of this study, data mining method can be effective in diagnosing diabetes. In this regard, both used methods are useful; however, higher precision was obtained following the use of Neuro-Fuzzy approach.