Abstract

Considerable numbers of studies have related audiometry hearing threshold values with various diseases and conditions that cause hearing loss. The purpose of this study was to find the relationship that exists between pure-tone audiometry threshold values and hearing loss symptoms in a medical datasets of 339 hearing loss patients using association rule mining algorithm. FP-Growth (Frequent Pattern) algorithm is employed for this purpose to generate itemsets given 0.2 (20%) as the support threshold value and 0.7 (70%) as the confidence value for association rule generation. Interesting relationships were discovered and the results were compared to earlier findings using the same method on a sample datasets of 50 hearing loss patients with 0.1 as the minimum support and 0.7 confidence thresholds for the association rule mining. There is similarity in the correlation that exists between symptoms and the pure-tone hearing thresholds from the initial study results and the correlation in the current study results. The experimental result with 339 patients medical datasets extends previously published findings on 50 patients' medical datasets and the sets of symptoms that appear together is consistent with current knowledge of those symptoms occurring together as evidenced clinically.
Identifying relationship between Hearing loss Symptoms and Pure-tone Audiometry Thresholds with FP-Growth Algorithm

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Index Terms

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Keywords

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