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Intelligent Emotion and Sensory Remote Prioritisation for Patients with Multiple Chronic Diseases

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Abstract
An intelligent remote prioritization for patients with high-risk multiple chronic diseases is proposed in this research, based on emotion and sensory measurements and multi-criteria decision making. The methodology comprises two phases: (1) a case study is discussed through the adoption of a multi-criteria decision matrix for high-risk level patients; (2) the technique for reorganizing opinion order to interval levels (TROOIL) is modified by combining it with an extended fuzzy-weighted zero-inconsistency (FWZIC) method over fractional orthotriple fuzzy sets to address objective weighting issues associated with the original TROOIL. In the first hierarchy level, chronic heart disease is identified as the most important criterion, followed by emotion-based criteria in the second. The third hierarchy level shows that Peaks is identified as the most important sensor-based criterion and chest pain as the most important emotion criterion. Low blood pressure disease is identified as the most important criterion for patient prioritization, with the most severe cases being prioritized. The results are evaluated using systematic ranking and sensitivity analysis. © 2023 by the authors.

Author Keywords
emotion criteria; multi-chronic diseases; multi-criteria decision making; patients prioritisation; sensor criteria

Index Keywords
Decision making, Diseases, Sensitivity analysis; Chronic disease, Emotion criteria, Multi criteria decision-making, Multi-chronic disease, Multicriteria decision-making, Multicriterion decision makings, Patient prioritization, Prioritization, Sensor criteria, Sensory measurement; Blood pressure; emotion, heart disease, human, hypotension, intelligence, patient; Emotions, Heart Diseases, Humans, Hypotension, Intelligence, Patients

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