Abstract

Emerging realities in medical research had advocated for a shift from single disease diagnosis mostly in clinical diagnosis of geriatric patients since most geriatric patients presents more than one disease complications. Comorbidity is visibly a phenomenon predominantly seen in elderly patients thus has made the management of diseases in such patients’ complex. A metric is needed which would be an indispensable tool for prioritizing treatment or developing clinical guidelines so as to handle the blizzards of risks of overtreatment and inappropriate prescription. This metric would provide an evidence about how both conditions and care processes interact and as such would assist and/or complement human practitioners mostly in areas where there are only General Practitioners to handle comorbid disease diagnosis, treatment and management. In this paper, we present a framework using Artificial Neural Network whose inference mechanism is driven by Neutrosophic logic, all being mechanism employed in soft computing so as to ensure intelligent capability in handling comorbidity. This framework is generic and could be used for any comorbid disease of interest.
A Novel Framework for Predicting and Managing Comorbid Diseases using Neutrosophic Logic and Machine Learning

References


Index Terms

Computer Science  Artificial Intelligence

Keywords

Comorbidity, Genetic Programming, Neutrosophic Logic, Comorbidity burden, Poly-pharmacy, Pathology, Clinical Practice Guidelines, Clinical Pathway, Advanced Drug Reaction, pharmacogenomics.