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Health Care Predictive Analytical Tool for Seasonal Sensitive Population

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ABSTRACT

Seasonal variation in the environment can cause changes in human physiological system manifested by various clinical symptoms. Previously published papers from our lab used Google Trends analytics to predict four Seasonal (sensitive) Comorbid Lifestyle Diseases (SCLDs) such as asthma, obesity, hypertension and fibrosis on the basis of semantic similarity Disease network (DSN) constructed using disease ontology (DO) score of high altitude maladies[1]. Further, the analysis revealed a certain group of human population highly subjected to seasonal changes and their maladaptation (not acclimatized) which can possibly lead to the increased severity of SCLDs named as "seasonal sensitive population"[2]. This study aims to develop health care predictive analytical tool based on SCLDs related symptoms for identification of the highly sensitive human population. For that purpose, various biomedical literature resources viz MeSH, Pubmed, medical books were mined and discussed with medical practitioners to derive the knowledge of clinical symptoms associated with SCLDs. Thereafter the human disease symptoms network (HDSN) was used to narrow down the most common eight shared symptoms of SCLDs [3]. A weighted score matrix-based pattern matching algorithm was developed to identify the seasonal patterns in the eight symptoms and their severity. This predictive tool will assess us to detect the early identification of patient deterioration during seasonal changes, delivering suitable treatment prior to the disease severity and prophylactive health care to the patients at risk at their homes.

REFERENCE

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