**Using Electronic Medical Records to Predict Physiological Age as a Biomarker to Predict Geriatric Diseases**

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With the increasing of population aging, aging research has gradually become an important subject in the biomedical field. Human aging is not only the accumulation of physiological changes, but also the precursor of many diseases. Therefore, in-depth research on the aging process is of great significance for early disease prevention and health management. At present, the measurement of aging mainly depends on biomarkers, organ function and physiological indicators. However, these measurement methods are often limited to a single indicator or rely on age-specific data, which has large uncertainties and limitations. In order to more accurately predict an individual's aging process and related disease risk, we propose a multifactor age prediction method based on physical phenotype, past medical history (ICD code and disease description), and sex differences. We constructed age prediction models for seven organ systems (cardiovascular, respiratory, musculoskeletal, immune, kidney, liver, metabolism) and analyzed the effects of different living environments and habits on age prediction. Further, based on the predicted age, we explored the probability of chronic disease infection in various organ systems in the coming years and assessed the role of environmental and lifestyle factors in the prediction. The experimental results show that this method can provide a more personalized assessment of aging, and provide a new research perspective for individualized health management and disease prevention.

图示, 示意图

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