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Promoting Sustainable Kidney Health: The Asia-Pacific and Beyond

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Trajectories in blood glucose and the incidence of chronic kidney disease : a nationwide population-based study

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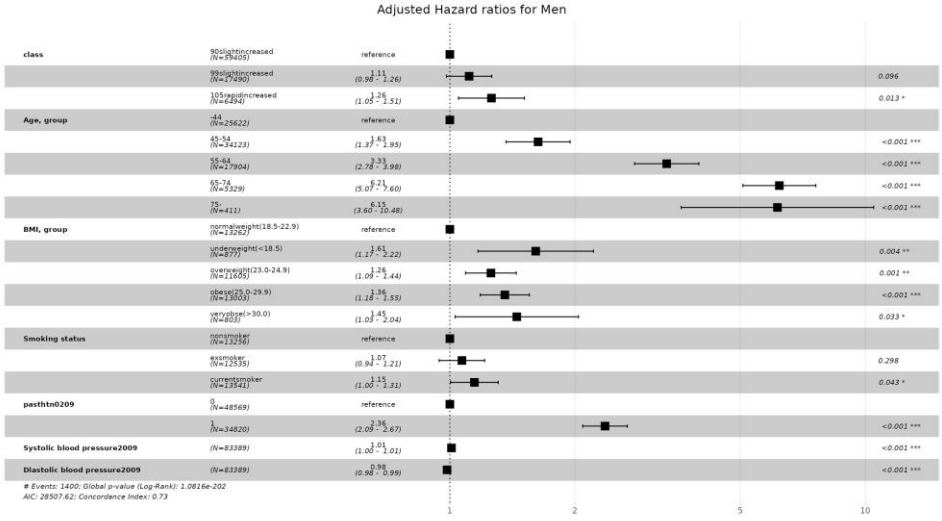
Objectives : This study focuses on the global prevalence of Chronic Kidney Disease (CKD), affecting approximately 850 million people, with a particular emphasis on the doubling of CKD cases in Korea over the past decade. Our study, utilizing the Korean National Health Insurance Corporation's database, aims to validate the utility of continuous blood glucose trends in predicting CKD and to confirm potential disparities based on gender. This research is expected to provide crucial insights, especially in regions with limited access to HbA1c testing.
Methods : This study utilized the NHIS Sample Cohort Database for health information. The study analyzed health screening data from 2002 to 2019 for individuals aged 40 and above, focusing on fasting blood glucose levels. The study classified individuals based on temporal changes in FBS, with a three-class model identified as most appropriate, revealing distinct patterns of FBS trajectories in males and females over the observation period.
Results : This study included 176,618 participants, exploring FBS trajectories and their associations with CKD over time. Participants were classified into different classes based on FBS trajectories, and characteristics were analyzed. The study observed CKD incidence over time, revealing that, for both genders, Class 2 exhibited an increased rate compared to other classes as time progressed.
Conclusions : This study is the first and relatively large-scale population-based research in Korea to assess the association between FBS trajectories and CKD development, stratified by gender. The major findings indicate that a long-term rapid increase in FBS trajectory is associated with the risk of CKD development, particularly in males within the normal blood sugar range but showing continuous FBS elevation. However, no such association was observed in females, highlighting gender-specific outcomes. In conclusion, the study identifies distinct FBS trajectories associated with CKD development in a Korean population, emphasizing the potential heightened CKD risk in individuals with long-term high-normal FBS.

Hazard ratio for male.jpg



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