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**Long-term Trends of Blood Pressure and Blood Glucose in Patients with
Chronic Kidney Disease in South Korea, 1998-2021**

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Objectives : Uncontrolled hypertension and elevated blood glucose are established risk factors for the progression of chronic kidney disease (CKD) and its complications. The long-term trends in these CKD risk factors, including the coronavirus 2019 (COVID-19) pandemic, have not been thoroughly studied in South Korea.

Methods : We used data from 1998 to 2021 Korea National Health and Nutrition Examination Survey. CKD were defined as estimated glomerular filtration rate <60 mL/min/1.73m² and spot proteinuria of ≥1+. The evaluated risk factors for CKD included uncontrolled blood pressure and blood glucose, defined as a mean systolic blood pressure ≥120 mmHg and a glycated hemoglobin level ≥6.5%. We examined the trend in the prevalence of uncontrolled hypertension and blood glucose, conducting subgroup analysis based on socioeconomic and behavioral factors.

Results : The trend among a total of 4,648 CKD patients with uncontrolled hypertension gradually decreased or remained steady from 1998 to 2019. However, there was an increase observed in COVID-19 pandemic period from 2019 to 2021 (1998-2005, 75.5% [95% confidence interval (CI) 71.5–79.5]; 2016–2019, 63.6% [95% CI 60.5–66.7]; 2021, 69.4% [95% CI 63.6–75.1]; and β diff, 0.65; 95% CI 0.30 to 1.00). In the subgroup analysis of the prevalence of uncontrolled hypertension in CKD, almost all subgroups increased during the pandemic, except for older patients (age ≥ 65). However, the overall trend difference in the prevalence of uncontrolled blood glucose among a total of 1,848 CKD patients with diabetes did not show significant changes (β diff, 2.80; 95% CI -0.11-5.71) between the periods before and during the COVID-19 pandemic.

Conclusions : During the COVID-19 pandemic, uncontrolled hypertension had a more significant impact on CKD patients than uncontrolled blood glucose, with an increase in the prevalence of uncontrolled hypertension. It is estimated that additional attention for uncontrolled hypertension with CKD patients may be needed during periods of medical vulnerability, such as the COVID-19 pandemic