

## Impaired fasting glucose is associated with renal hyperfiltration in young adults: Nationwide survey (KNHANE 2007- 2023)

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**Introduction:** The rising prevalence of prediabetes is associated with significant long-term health risks. Renal hyperfiltration (RHF), a potential early marker of kidney dysfunction, has not been well studied in relation to impaired fasting glucose (IFG) in specific population. We aimed to investigate the association between fasting glucose levels and the presence of RHF in young to middle aged adults with prediabetes using nationwide health examination data from 2007 to 2023. This study included 4,076 young to middle aged adults, aged 19 to 45 years with impaired fasting glucose (IFG), identified from the Korea National Health and Nutrition Examination Surveys (KNHANES) conducted between 2007 and 2023. Renal hyperfiltration (RHF) was defined as an estimated glomerular filtration rate (eGFR) with residuals exceeding the 90th percentile, adjusted for age, sex, body weight, and height. The mean age of participants was  $38.4 \pm 5.6$  years, with 1,976 (48.3%) being female. The average estimated