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Prevalence and associated factors of kidney disease among hypertensive patients in Gwalior -Chambal region of Central India: a cross-sectional study

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Objectives : This study aimed to determine the prevalence of kidney disease and its associated factors in selected hypertensive individuals in the Gwalior-Chambal region of Central India.

Methods : This cross-sectional study involved 735 participants, aged 30 to 79 years, of any gender, who visited the Diabetic Clinic at the Health Center of Jiwaji University for the first time between 2018 and 2022. The study excluded pregnant women and patients with chronic infections. We assessed fasting blood glucose levels, anthropometric measurements, and blood pressure (using a standard sphygmomanometer) for all participants. The data were analyzed using the Student's t-test and a Stepwise Binary Logistic Regression model. To evaluate the prevalence and stage of hypertension, we followed the American Heart Association (AHA) clinical practice guidelines (2017), and the estimated glomerular filtration rate (eGFR) was calculated using the National Kidney Foundation calculator.

Results : The prevalence of kidney diseases is highest among males aged between 40 and 60 years. Approximately 3% of this population has chronic kidney disease, while 62% are diagnosed with early-stage kidney diseases. The breakdown of early-stage kidney diseases is as follows: 26.3% in individuals with normal, 28.8% in pre-diabetic and 44.9% in those with diabetes.

Conclusions : The highest prevalence of KD was found among diabetic individuals with hypertension. Significant associations were identified between KD and factors such as age and BMI . This study suggests that health planners should implement strategies to address the rising rates of KD in the region. These strategies should include health education focused on promoting lifestyle changes and dietary modifications.