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Simple public health intervention may prevent chronic kidney disease

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A simple and inexpensive public health intervention helped prevent many cases of chronic kidney disease (CKD) in Pakistan. The intervention, which is described in a study in the *Clinical Journal of the American Society of Nephrology* (*CJASN*), will be especially helpful for protecting the kidney health of people living in developing countries.

Up to 500 million people in the world have CKD, which has become one of the most rapidly escalating causes of death globally. Patients with advanced CKD require dialysis or transplantation to sustain life, but these therapies are unaffordable for the vast majority of people with CKD in developing nations. Unfortunately, there is dearth of information on public health interventions to preserve kidney health and prevent CKD, even though certain lifestyle factors and conditions (such as hypertension and diabetes) are known to increase the risk of developing the disease.

To address this, Tazeen Jafar, MD, MPH (Duke NUS Medical School, in Singapore, Duke Global Health Institute, in Durham, NC) and her colleagues from Pakistan, Singapore, and the United Kingdom assessed the effects of a combined public health intervention on the kidney health of hypertensive adults in Pakistan's general population. The study based at the Aga Khan University, Karachi, included 1271 individuals, and the intervention was delivered over 2 years. It included training of community health workers on aspects of a healthy lifestyle (such as improving diet, stopping smoking, increasing physical activity, and taking prescribed blood pressure-lowering medications) and training of

community general practitioners on the latest standards related to managing hypertension.

After 7 years of follow up—5 years after cessation of the intervention—kidney function remained unchanged among adults in the communities assigned to the combined intervention, whereas kidney function significantly declined among those who received usual care. Individuals in the communities with the combined intervention were half as likely as other individuals to experience a >20% decline in kidney function.

"We show that such a practical model based on primary care doctor training coupled with life style advice from non-physician health workers is likely to have a long-term benefit on preserving kidney function at a population level," said Dr. Jafar. "These simple strategies can be implementable in other low- and middle-income countries with similar risk factor burden and health systems infrastructure."

In an accompanying editorial, Min Jun MScMed, PhD and Brenda Hemmelgarn, MD, PhD (University of Calgary, in Canada) noted that adequate blood pressure control among high-risk patient groups such as those with CKD is as low as 13.2%, and awareness of CKD is lower in developing countries than in developed countries. "It follows that simple interventions based on education and communication of the importance of established prevention strategies including blood pressure management may have a significant impact at the population level," they wrote. "This therefore warrants further consideration including the assessment of the cost-effectiveness and sustainability of prevention strategies specific to CKD management in developing countries."

More information: "Home Health Education and General Practitioner Training in Hypertension Management: Long Term Effects on Kidney Function," DOI: 10.2215/CJN.05300515

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