9. Self-reported CKDu and associated risk factors in Central America. Preliminary results from the Second Central American Survey of Working Conditions and Health

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Abstract:
Introduction: In Central America, chronic kidney disease of undetermined cause (CKDu) is associated with occupational and environmental exposures affecting young men working in lowland agricultural settings, primarily in sugar cane workers, but there are likely to be other at-risk groups who share similar exposures. Suspected causes include a combination of exposure to high temperatures and humidity, inadequate hydration, high physical demands and concomitant use of nephrotoxic nonsteroidal anti-inflammatory agents (NSAIDs), among others.

Objective: To identify the prevalence of CKDu risk factors, self-reported CKDu and work-related CKDu by geographic location, occupation, and industry in the six Spanish-speaking Central American countries: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

Methods: Interviewer-administered survey of a nationally representative sample of 9,032 (~1,500 per country) workers, the Second Central American Survey of Working Conditions and Health, conducted in 2018. The survey included a panel of items on putative risk factors for CKDu (heat/humidity exposure, hydration, physical exertion, analgesic use, agrochemical use), self-reported CKDu and self-reported work-related CKDu.

Results: The prevalence of CKDu risk factors and self-reported CKDu varied across countries, occupations, and industries. Exposure to high temperatures ranged from 25% in Costa Rica to 54% in El Salvador. Exposure to high humidity ranged from 7% in El Salvador to 27% in Panama. Costa Rica had the highest prevalence of participants not drinking water during work (9%); Panama had the highest physically demanding work (48%). Use of NSAIDs ranged from 11% to 30% across countries, but was relatively consistent across industries (14% to 20%). Exposure to agrochemicals was highest in Panama (12%). Self-reported CKDu ranged from 17% in El Salvador to 55% in Nicaragua. Among workers reporting CKDu, the percentage who felt it was work-related ranged from 30% in Guatemala to 71% in Nicaragua. By industry, the highest prevalence of CKDu (24%) and work-related CKDu (62%) were in agriculture and construction, respectively. By occupation, prevalence of CKDu (7%) and work-related CKDu (56%) were highest in agricultural workers and construction workers, respectively.

Conclusion: This preliminary analysis of a large population-based study identifies a broad distribution of suspected CKDu risk factors and self-reported CKDu across Central America, supporting the need to broaden epidemiological research beyond the sugar cane industry.Partially supported by Grants IL-29677-16-75-K-48 from the United States Department

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