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### **B. CHRONIC KIDNEY DISEASE IN AGRICULTURAL COMMUNITIES IN CENTRAL AMERICA: PROGRESS REPORT**

#### **Background**

1. In 2013, during the 52nd Directing Council of the Pan American Health Organization (PAHO), the Member States adopted Resolution CD52.R10 (1), *Chronic Kidney Disease in Agricultural Communities in Central America* (Document CD52/8) (2). Progress reports with recommendations to address gaps were submitted in 2015, 2017, and 2019 (3-5). The purpose of this document is to report to the PAHO Governing Bodies on progress in implementing the recommendations.

2. Over the past two decades, a growing number of cases of people suffering and dying from chronic kidney disease (CKD) have been reported in the Central American subregion. Among them, a type of CKD has been reported, with causes different from those most commonly associated with this disease, such as diabetes mellitus and hypertension. This type of non-traditional CKD (CKDnT), or CKD of uncertain or still unknown etiology, is more common in this subregion than in the Region of the Americas as a whole, trending upward as a percentage of reported cases.

3. In the period 2005-2014, premature mortality<sup>1</sup> from CKD<sup>2</sup> in the Region of the Americas increased by 21.4%<sup>3</sup>, in contrast to 34.8% in Central America and 39.4% in North America. It should be noted that unlike the rest of the subregions, there has been a 26.4% increase in mortality from CKD in people aged 10-29. Premature mortality by sex in the Region is higher in men (58.1% of the total deaths were male) and more so in Central America (62.4%). The proportion of deaths in men in this subregion is also higher among people aged 10-29 (61.6%), while it is 52% or less in the rest of the subregions.

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<sup>1</sup> Defined as deaths of people aged 30-69.

<sup>2</sup> Coded as category N18, "Chronic Kidney Disease," in the International Classification of Diseases, Tenth Revision (ICD-10).

<sup>3</sup> According to the information for 2018 in the Regional Mortality Database of the Pan American Health Organization.

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With regard to years of life lost due to premature death from CKD, the analysis shows a rate of 325.5 age-adjusted years of life lost per 100,000 population in 2015 (6-9).

4. The risk of becoming critically ill after being infected with SARS-CoV-2 is higher in older persons and people with underlying health conditions. People with CKD are at higher risk of dying from complications of COVID-19 than those who do not have the disease. Furthermore, patients with severe complications of COVID-19 often develop acute renal disease. These two phenomena have implications for the impact of COVID-19 in populations with a high prevalence of CKDnT and pose an immediate threat to public health (10).

#### **Analysis of the progress made**

5. Several countries have reported progress in developing policies and tools to improve response capacity in the health services and strengthen interventions for the care of people living with CKD and CKDnT and the treatment of their disease. Costa Rica formalized the definition of both a suspected and confirmed case of a patient with CKDnT (also called Mesoamerican nephropathy) through Executive Decree 41628-S, and the Costa Rican Social Security Fund was requested to establish a program for this disease in its health services (Official Document ms-DM-3944-2020). El Salvador, under the aegis of the National Institute of Health, completed a guide for managing stage 1-3 CKD for the population over 18 in primary health care facilities. Guatemala, with the support of a specific technical advisory commission, created the Guatemalan kidney dialysis and transplant registry (ministerial agreement 151-2018) and produced a reporting manual and the primary data collection form, which can be found on the EPIWEB platform of its Health Management Information System (SIGSA) (11, 12).

6. At the regional level, virtual courses on acute renal failure, prevention and management of chronic kidney disease, and peritoneal dialysis were offered for first-level health teams through the Pan American Health Organization's Virtual Campus for Public Health. Between 2016 (when these courses were launched) and 2020, a total of 47,442 professionals benefitted from these training programs.

7. In order to strengthen epidemiological, occupational, and environmental surveillance and reporting systems, with emphasis on CKDnT, Costa Rica amended Executive Decree 40556-S on mandatory notification of health events to include CKD and CKDnT. It also created a national CKDnT surveillance protocol that requires local and regional interinstitutional health surveillance commissions (CLOVIS and CIREVIS) in the country to monitor suspected and confirmed cases of CKDnT (13, 14).

8. A review of the evidence on the occupational nature of CKDnT was conducted and published in a special report in the Pan American Journal of Public Health (15). Furthermore, during the third international workshop, held in Costa Rica by the consortium of CKDnT researchers, agreement was reached on parameters and criteria for harmonizing epidemiological, occupational, and environmental surveillance to ensure comparable

information among countries, and a monitoring indicator was included in the work plan for workers' health in the next biennium (16).

9. With regard to the implementation of mechanisms for advocacy and intersectoral action, occupational surveillance and screening protocols were adopted for the early case detection in the affected countries.

10. With the objective of strengthening research and the analysis of evidence to support decision-making in coordination with the PAHO/WHO Collaborating Centers in environmental and occupational health (National Institute of Environmental Health Sciences [NIEHS] in the United States, and the Regional Institute for Studies on Toxic Substances [IRET] in Costa Rica), the Third International Workshop on Chronic Kidney Diseases of Uncertain/Non-traditional Etiology in Mesoamerica and Other Regions was held, whose final report is published online (17).

11. The Pan American Sanitary Bureau prepared a summary of the evidence on CKD management for the adult population at the first level of care, which included risk assessment, diagnosis, non-pharmacological treatment, referral to other levels of care, and prognostic factors. This summary was used to prepare management protocols such as those issued by El Salvador's Ministry of Health. The Bureau also produced and updated its guidance for the care of critical adult patients with COVID-19 in the Americas, which includes recommendations for the management of patients with complications of kidney disease (18, 19).

12. A final report on this resolution will be submitted to the PAHO Governing Bodies in 2023. The activities with regard to non-traditional chronic kidney disease will subsequently be monitored through the reports evaluating the Program Budget and the Strategic Plan, periodically submitted to the Governing Bodies.

### **Measures needed to improve the situation**

13. In terms of the progress and challenges that the countries face in relation to CKDnT, the following actions are considered necessary:

- a) Determine the impact of the COVID-19 pandemic on the population with CKDnT and strengthen prevention activities in this area and care for people with both diseases.
- b) Promote the development of plans of action for an integrated response to the CKDnT problem in the most affected areas; such plans should include prevention and broader access to services that provide early diagnosis and care for people with CKD.
- c) Promote intersectoral action for the prevention of CKDnT based on the national and local context.

- d) Continue efforts to strengthen epidemiological, occupational, and environmental surveillance, as well as reporting systems, with emphasis on CKDnT, including greater collaboration with research institutions to bolster analytical capacity and the use of information for implementation of surveillance systems and activities. Tailor surveillance, prevalence studies, and screening to local needs and the use of agreed basic protocols to facilitate assessment of the environmental and occupational situation and the comparison of country information.
- e) Make progress in implementing the research agenda in the context of the COVID-19 pandemic and strengthen national and international partnerships to promote the use of scientific evidence for decision-making in public policy and practice, which will help to strengthen the health system and access to services.
- f) Improve communication and the sharing of information, research findings, experiences, tools, guidance, and protocols, and strengthen cooperation among countries to increase response capacity to address this problem, along with advocacy and intersectoral action.

#### **Action by the Executive Committee**

14. The Executive Committee is invited to take note of this report and provide any comments it deems pertinent.

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