Perceptions of Chronic Kidney Disease in an indigenous rural population in Guatemala

Meghna Nandi,1,2 Sophie Kurschner,1 Katharine Wilcox,1,3 Magda Setz Mux,1 David Flood,1,5 Joaquin Barnoya,6 Carlos Mendoza,7
Peter Rohloff,1,4,8 Anita Chary1,8

1Wuqu’ Kawoq | Maya Health Alliance, 2Warren Alpert Medical School, 3Weill Cornell Medicine, 4Harvard Medical School, 5University of Michigan, 6UNICAR, 7INCAP, 8Brigham and Women’s Hospital

INTRODUCTION

- Chronic Kidney Disease (CKD) affects more than 10% of people worldwide.1
- In Guatemala, CKD is a principal cause of death and disability.2
- More than 40% of the Guatemalan population is indigenous but has limited access to health services due to language, cultural, and geographic barriers, in addition to widespread discrimination.3
- Little is known about the perceptions and knowledge of CKD in this population. Here, we study knowledge and attitudes of CKD in a primarily indigenous, rural population in Guatemala.

METHODS

- Qualitative arm of a larger mixed-methods study using a random sample to examine incidence and risk factors for CKD in Guatemala
- Participants were recruited from two rural areas:
  - San Antonio, Suchitepéquez: warm, southwestern coastal community with high agricultural production of sugar cane (hypothetical risk factor for CKD of unspecified causes)
  - Tecpán, Chimaltenango: cool, high-altitude central highlands community with high agricultural production of maize, beans, and vegetables
- Semi-structured interviews with 39 participants with abnormal kidney function results (GFR < 90) about reactions to results and perceptions of CKD causality and treatment

RESULTS

<table>
<thead>
<tr>
<th>DEMOGRAPHICS</th>
<th>Tecpán</th>
<th>San Antonio</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>16</td>
<td>23</td>
<td>39</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>4</td>
<td>9</td>
<td>13 (33%)</td>
</tr>
<tr>
<td>Women</td>
<td>12</td>
<td>14</td>
<td>26 (67%)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indigenous</td>
<td>13</td>
<td>10</td>
<td>23 (59%)</td>
</tr>
<tr>
<td>Ladino</td>
<td>3</td>
<td>13</td>
<td>16 (41%)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1</td>
<td>4</td>
<td>5 (13%)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>2</td>
<td>8</td>
<td>10 (26%)</td>
</tr>
<tr>
<td>Age</td>
<td>Mean</td>
<td>Mean</td>
<td>Mean</td>
</tr>
<tr>
<td>49.0</td>
<td>48.7</td>
<td>48.8</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Demographics

- *An average systolic blood pressure ≥ 140 or diastolic blood pressure ≥ 90 at first visit

REACTIONS TO ABNORMAL RESULTS

Neutrality (26%)

“it didn’t scare me. I felt normal. I wasn’t very surprised.”

Rationalization (23%)

“I thought maybe something because I had problems urinating, maybe because of an infection.”

Negative (21%)

“It scared me a little because many have died from kidney disease.”

PERCEPTIONS OF CKD CAUSALITY

- The majority of participants said they would pursue all three treatments if necessary and possible
- Nonetheless, many barriers and worries were cited:
  - Fear of infection
  - Difficult, risky procedures
  - Inadequate support at home
  - Travel to centralized treatment unit

AWARENESS OF CKD TREATMENTS

- Participants also noted the gravity of advanced treatments and expressed that it would be better to prevent advanced disease.
  - “Well, one dies with this...it’s better I take care of myself.”
  - “First I don’t want to reach this point because this is more serious.”

DISCUSSION

- Limited awareness of diabetes and hypertension as risk factors for CKD among participants with abnormal results
  - Large opportunity for prevention in primary care, health education, and public health campaigns
- Participants expressed willingness to do advanced CKD treatments if necessary, but have identified many social and economic barriers to treatment
- Limitations:
  - Findings not generalizable to urban areas
  - Few participants in this study met clinical criteria for CKD; findings not generalizable to those with advanced disease
  - Two-thirds of sample was female. Significant challenges recruiting male participants.
- Strengths:
  - Multi-institution network that was created to conduct research in local Mayan languages

REFERENCES


ACKNOWLEDGEMENTS

We would like to thank the entire indigenous health research team at Wuqu’ Kawoq | Maya Health Alliance for coordinating this project and the Instituto de Nutrición de Centro América y Panamá (INCAP) for their support in this project. Finally, we thank all study participants for their time and participation in our investigation.

Funding: NIH/FIC (R21 TW010831-02) MN also received support from the Watson Institute for International and Public Affairs Field Research Grant and the Framework in Global Health Initiative Summer Scholarship at Brown University.