

## **Lack of Cultural and Language Concordant Nutrition Education for Hispanic/Latinx Individuals with Chronic Kidney Disease: A Call to Action**

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**Title: Lack of Cultural and Language Concordant Nutrition Education for Hispanic/Latinx Individuals with Chronic Kidney Disease: A Call to Action**

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## Latinx Individuals and Chronic Kidney Disease

The Latinx (Hispanic, preferred non-gender-based term for Latino/Latina) community is the largest racial and ethnic minority group in the U.S., and they experience a disproportionate burden of chronic kidney disease (CKD) and a faster progression to kidney failure than non-Latinx Whites (1). Due to a variety of factors, including discordant care, Latinx individuals with CKD are less likely to receive pre-dialysis nephrology care which may lead to a lower likelihood to receive pre-dialysis nutritional education (2). Dietary behaviors are important modifiable lifestyle factors that play a role in the management and progression of CKD and its associated comorbidities and complications. In addition to poor access to pre-dialysis nutritional counseling, Latinx individuals with CKD receive nutritional educational materials or behavioral interventions that are not culture or language concordant (3, 4). In this perspective, we describe the lack of culture and language concordant nutritional education, food insecurity, and we propose a roadmap to improve clinical and patient-centered outcomes for Latinx with CKD.

### The Distress Faced by Latinx Individuals with CKD

The start of kidney replacement therapy is a difficult period for patients and their caregivers as there are disease and treatment-associated changes, including rapid fluid fluctuations, symptom development, and adaptation to a new lifestyle centered around dialysis (3). For patients that did not receive pre-dialysis nephrology care, they must adjust to these changes quickly and to a medical nutrition therapy (MNT) traditionally centered on restricting or limiting certain nutrients (phosphorus, potassium, sodium, and protein) depending on the grade of kidney dysfunction and other comorbidities (5). Not surprisingly, this MNT has been described as one of the most complicated in clinical populations (5).

The MNT provided to Latinx individuals may not be culturally tailored to the patient's food preferences. Latinx individuals may be advised to restrict foods traditionally consumed in their culture, as these foods may be good sources of potassium and phosphorus, while being recommended to consume non-traditional U.S. foods that are not staples in their diet (6). This advice may contribute to distress and a rejection of dietary recommendations, decreased nutrient-dense food intake, increased energy-dense food consumption with sodium, phosphorus, and potassium additives, and compromised nutritional status.

In addition to the lack of cultural concordance, language concordance is another challenge faced by Latinx individuals. The current materials available through national societies, foundations, and companies readily available online are verbatim translations without cultural adaptation to Spanish. Furthermore, healthcare staff may not be proficient in Spanish and fail to use a certified Spanish language interpreter. In a qualitative study, interdisciplinary dialysis center clinicians observed that patients who report limited English proficiency are often skipped during rounds; dialysis technicians reported they (or the patient's family) are asked to provide ad-hoc language interpretation, which is discouraged and prohibited per Title VI of the Civil Rights Act of 1964 (3). Therefore, the lack of culturally and language concordant education may further contribute to the distress and limit dietary adherence in Latinx individuals with CKD. In fact, dietary restrictions have been depicted by Latinx individuals receiving hemodialysis as *culturally isolating* and the *most distressing* aspect of living with kidney failure: "All the food I had to let go... cause I like avocados, beans, tomatoes, tortillas... I can't handle that!" (4).

### Food Insecurity is an Additional Barrier in Latinx Individuals with CKD

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3 Education and counseling may not be sufficient to overcome the high food insecurity affecting  
4 the CKD Latinx community. NHANES data reported that while Mexican American adults represented 23%  
5 of the U.S. population, approximately 54% had food insecurity (7, 8). Food insecurity is associated with  
6 CKD and contributes to poor diet and health in various ways, such as reductions in nutrient dense foods  
7 and increases in ultra-processed foods (7). In the Latinx population, this may translate to being unable to  
8 afford minimally processed foods or healthy substitutes for CKD. This may further exacerbate mineral  
9 and bone disorder, cardiovascular disease, and disordered glucose metabolism in the Latinx population  
10 already at risk for increased diabetes, a primary contributor to CKD among Latinx individuals.

### 11 12 13 **Breaking the Cycle: Community-based Interventions to Mitigate Food Insecurity and Eliminate** 14 **Inequities in Latinx Individuals with CKD**

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17 There is a critical need to create educational materials that are culturally and language  
18 concordant, providing nutritional education that does not eliminate foods that are traditional for Latinx  
19 communities, and consider community-based strategies (**Table 1**). Educational materials that are  
20 culturally and language concordant should incorporate, at the very minimum, foods traditionally  
21 consumed by Latinx individuals to reduce the feeling of isolation and distress (**Table 1**). While several of  
22 the currently available materials have overwhelmingly excluded foods important to Latinx individuals, a  
23 lack of evidence exists between dietary potassium intake and hyperkalemia. Furthermore, plant-based  
24 foods that naturally contain potassium or phosphorus may be incorporated given the differences in  
25 nutrient bioaccessibility (5). Therefore, the message should shift away from avoiding foods important to  
26 the Latinx community and instead look for ways to incorporate them. Some strategies include  
27 appropriate portion control, frequency, and taking advantage of culinary techniques (e.g.,  
28 demineralization) to include vegetables and legumes (**Table 1**) (9). Another strategy is to identify a  
29 substitution to lower the amount of potassium and phosphorus, such as replacing commercial spices or  
30 sauces with homemade versions with the appropriate modifications. A strategy for supporting  
31 individuals to increase the intake of fresh plant-based foods is by providing these foods, such as fruits,  
32 vegetables, and legumes, as has been shown through community-based interventions by Drs. Wesson  
33 and Crews (7).

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36 Importantly, we need more Latinx healthcare providers who can provide culturally and language  
37 concordant care and Latinx researchers who can build trust and encourage increased participation in  
38 research. While we work to diversify the healthcare workforce, patient navigators (i.e., community  
39 health workers or *promotoras*) can serve as a bridge to healthcare providers. Community-based dietary  
40 interventions that employ navigators could also incorporate family and faith, which are highlighted as  
41 important values for Latinx individuals. All of these individuals can further promote dietary cultural and  
42 language concordance. Additionally, Latinx individuals face discrimination and are hesitant to seek  
43 healthcare; navigators can reduce work to build trust with Latinx individuals and provide education in  
44 safe locations such as churches (10). Finally, increased language and cultural concordance can facilitate  
45 furtherance of research in the Latinx community to develop better approaches to remaining challenges.

### 46 47 48 **Conclusion**

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50 The Latinx CKD community faces distress through overly restrictive nutritional prescriptions, lack  
51 of culturally and language concordant care, and a lack of Latinx providers. In collaboration with  
52 healthcare providers and researchers, patient navigators can work together to develop materials and  
53 interventions that are culturally and language appropriate to reduce discordant care, health inequities,  
54 and disparities in the Latinx CKD community.

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**Authors Contributions:**

Luis Perez: Conceptualization, Writing – original draft, Writing – review & editing

Annabel Biruete: Conceptualization, Writing – original draft, Writing – review & editing

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**References:**

1. System USRD. 2021 USRDS Annual Data Report: Epidemiology of kidney disease in the United States. National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases, Bethesda, MD: , 2021. Report No.
2. Purnell TS, Bae S, Luo X, Johnson M, Crews DC, Cooper LA, et al. National Trends in the Association of Race and Ethnicity With Predialysis Nephrology Care in the United States From 2005 to 2015. *JAMA Netw Open*. 2020;3(8):e2015003. Epub 2020/08/28. doi: 10.1001/jamanetworkopen.2020.15003. PubMed PMID: 32852554; PubMed Central PMCID: PMC7453308.
3. Cervantes L, Rizzolo K, Carr AL, Steiner JF, Chonchol M, Powe N, et al. Social and Cultural Challenges in Caring for Latinx Individuals With Kidney Failure in Urban Settings. *JAMA Netw Open*. 2021;4(9):e2125838. Epub 2021/09/18. doi: 10.1001/jamanetworkopen.2021.25838. PubMed PMID: 34533567; PubMed Central PMCID: PMC8449281.
4. Cervantes L, Jones J, Linas S, Fischer S. Qualitative Interviews Exploring Palliative Care Perspectives of Latinos on Dialysis. *Clin J Am Soc Nephrol*. 2017;12(5):788-98. Epub 2017/04/14. doi: 10.2215/CJN.10260916. PubMed PMID: 28404600; PubMed Central PMCID: PMC5477217.
5. Biruete A, Jeong JH, Barnes JL, Wilund KR. Modified Nutritional Recommendations to Improve Dietary Patterns and Outcomes in Hemodialysis Patients. *J Ren Nutr*. 2017;27(1):62-70. Epub 2016/07/30. doi: 10.1053/j.jrn.2016.06.001. PubMed PMID: 27471172.
6. Burrowes JD. Incorporating ethnic and cultural food preferences in the renal diet. *Adv Ren Replace Ther*. 2004;11(1):97-104. Epub 2004/01/20. doi: 10.1053/j.arrt.2003.10.014. PubMed PMID: 14730544.
7. Banerjee T, Crews DC, Wesson DE, Dharmarajan S, Saran R, Rios Burrows N, et al. Food Insecurity, CKD, and Subsequent ESRD in US Adults. *Am J Kidney Dis*. 2017;70(1):38-47. Epub 2017/02/22. doi: 10.1053/j.ajkd.2016.10.035. PubMed PMID: 28215947; PubMed Central PMCID: PMC5765854.
8. Mokiao R, Hingorani S. Food Insecurity and Kidney Disease: Symptoms of Structural Racism. *Clin J Am Soc Nephrol*. 2021. Epub 2021/10/15. doi: 10.2215/CJN.07860621. PubMed PMID: 34645693; PubMed Central PMCID: PMC8729488.
9. Martinez-Pineda M, Yague-Ruiz C, Caverni-Munoz A, Vercet-Tormo A. Cooking Legumes: A Way for Their Inclusion in the Renal Patient Diet. *J Ren Nutr*. 2019;29(2):118-25. Epub 2018/10/17. doi: 10.1053/j.jrn.2018.08.001. PubMed PMID: 30322788.
10. Novick TK, Diaz S, Barrios F, Cubas D, Choudhary K, Nader P, et al. Perspectives on Kidney Disease Education and Recommendations for Improvement Among Latinx Patients Receiving Emergency-Only Hemodialysis. *JAMA Netw Open*. 2021;4(9):e2124658. Epub 2021/09/10. doi: 10.1001/jamanetworkopen.2021.24658. PubMed PMID: 34499133; PubMed Central PMCID: PMC8430451.

**Table 1. Barriers to Language and Cultural Concordance Among Latinx Individuals with CKD**

<b>Problem</b>	<b>Barriers</b>	<b>Opportunities/Recommendations</b>
<b>Access to MNT</b>	<ul style="list-style-type: none"> <li>• Low referral rates</li> <li>• Underinsurance</li> <li>• Low awareness</li> </ul>	<ul style="list-style-type: none"> <li>• Promote benefit awareness</li> <li>• Patient navigators</li> <li>• Community clinics</li> <li>• Partnership with local and national organizations to increase awareness</li> <li>• Promote stronger representation of Latinx individuals in research studies</li> </ul>
<b>Dietary adherence</b>	<ul style="list-style-type: none"> <li>• Dietary restrictions</li> </ul>	<ul style="list-style-type: none"> <li>• Inclusion of fruits (e.g., avocados, bananas, papaya, cantaloupe) due to the nutrient content (dietary fiber, vitamins, and minerals) with education efforts focusing on portion control and frequency</li> <li>• Inclusion of vegetables (e.g., tomatoes and potatoes) due to the nutrient content (dietary fiber, vitamins, and minerals), focusing education efforts on portion control, frequency, and demineralization cooking techniques</li> <li>• Inclusion of legumes (e.g., beans and lentils) due to nutrient content (dietary fiber, vitamins, and minerals), focusing education efforts on demineralization cooking techniques, portion control, and frequency</li> <li>• Promote the use of Latinx seasoning substitutes and culinary techniques for their preparation (e.g., sofrito)</li> <li>• Consider the use of dietary patterns appropriate for the population (e.g., Dieta de la Milpa for Mexico and Central America)</li> </ul>
<b>Lack of language/cultural concordant materials</b>	<ul style="list-style-type: none"> <li>• Use of generic/non-adapted materials</li> </ul>	<ul style="list-style-type: none"> <li>• Increase Latinx providers</li> <li>• Latinx educators/providers to develop concordant materials</li> <li>• Patient partnership for the development of materials</li> <li>• Promote studies showing the efficacy of language and cultural concordant materials to improve outcomes in the Latinx CKD population</li> </ul>

MNT, medical nutrition therapy