

# Lack of access to healthy food may contribute to health disparities in kidney disease

September 16 2010

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Processed and fast foods enriched with phosphorus additives may play a role in health disparities in chronic kidney disease, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN). Previously, genetics was considered the leading reason blacks are four times more likely to progress to end stage renal disease than whites and have much higher rates of cardiovascular disease and mortality in early chronic kidney disease (CKD).

Phosphorus, a mineral found naturally in foods such as milk, cheese, beans and peanut butter, is vital for the formation of bones and teeth, as well as energy production and the formation of cell membranes. Since the kidneys excrete excess [phosphate](#), patients with CKD may develop increased blood levels of phosphate, or hyperphosphatemia. Manufacturers add phosphates to foods to give them a longer shelf life and make them more appealing.

Orlando M. Gutierrez, MD, MMSc, lead author; Myles Wolf, MD, MMSc, senior author; (University of Miami Medical School) and colleagues analyzed phosphate levels in the blood of patients participating in the Chronic Renal Insufficiency Cohort Study (CRIC), a prospective cohort study established by the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) to examine risk factors for kidney [disease progression](#) and cardiovascular disease in patients with CKD.

"Many studies have demonstrated that an elevated level of phosphate in the blood is associated with adverse outcomes in patients with chronic [kidney disease](#) and that blacks have higher phosphate levels than whites but we did not understand why levels are higher in blacks," said Wolf. "Our earlier work in the general population suggested that poverty was linked to a higher phosphate level, so we decided to delve deeper into that connection in the setting of [chronic kidney disease](#)."

Among the 3,612 racially and ethnically diverse participants, those with the lowest incomes and those who were unemployed had higher phosphate concentrations in their blood than participants with higher income and rates of employment. Furthermore, there was no difference in phosphate levels by race when only blacks and whites in the lowest income group were compared. The investigators concluded that the known racial difference in phosphate levels is largely driven by differences in socioeconomic status.

Take-home message: "For low-income patients, access to healthy food choices is limited, so their diet tends to consist of processed and fast foods heavily enriched with highly-absorbable phosphorus additives," said Gutierrez. "The amount of phosphorus additives in food is not always listed, so people unknowingly ingest more phosphorus than they probably should."

**More information:** The article, entitled "Low Socioeconomic Status Associates with Higher Serum Phosphate Irrespective of Race" will appear online on September 16, 2010: [doi 10.1681/ASN.2010020221](https://doi.org/10.1681/ASN.2010020221)

Provided by American Society of Nephrology

Citation: Lack of access to healthy food may contribute to health disparities in kidney disease

(2010, September 16) retrieved 25 April 2024 from  
<https://medicalxpress.com/news/2010-09-lack-access-healthy-food-contribute.html>

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