

food is formulated to be palatable or hyperpalatable; maintain flavor, texture, attractive color, long shelf-life; and is obtained using sophisticated industrial processes, typically resulting in energy-dense products, with added sugar, unhealthy fats, and food additives (potassium, sodium, phosphate, and chemical substances) that can also trigger addictive eating behaviors. Data on the deleterious effects of additives and contaminants are accumulating for the overall population and it is reasonable to consider that they may be even more dangerous in CKD patients.^{4,5} Therefore, we suggest that dietary advice in CKD pregnancy should also focus on avoiding (ultra)processed and preserved food, regardless of its plant-based or animal-based origin, thus exploiting the opportunity to improve long-term health through nutritional education in pregnancy.⁵

Therefore, the mantra of the bestselling author Michael Pollan “Eat food. Not too much. Mostly plants” can be adapted for pregnant CKD patients as follows: eat food, underlining that what has been excessively processed is no longer “food”; not too much, to limit weight gain, a risk factor of adverse pregnancy outcomes; mostly plants, wisely, however, flexibly, preferring plant-based diets.

ACKNOWLEDGMENTS

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Response Letter to: Pregnancy, Healthy Eating, and CKD: “Eat Food, Not Too Much, Mainly Plants,” by Piccoli *et al.* (KIR-01-23-0003)



The Author Replies: We thank colleagues Piccoli *et al.* for their kind comments on our national guidelines on Pregnancy Wish and Pregnancy in chronic kidney disease (CKD).¹ We agree with their advice for pregnant patients with more advanced stages of CKD to use a moderately protein-restricted, preferably plant-based diet and, if indicated, a very low protein diet supplemented with a mixture of 3 essential amino acids and the nitrogen-free hydroxyl analogs and keto analogs of 6 other essential amino acids to reduce the generation of blood urea nitrogen and other potentially toxic metabolites² and probably also prevent glomerular hyperfiltration. Unfortunately, we agree that there is scarce evidence on this subject in this group of patients. Dietary studies with relevant endpoints will be a great challenge in this small population. Therefore, pragmatic recommendations are needed on this topic and we will have to wait for more evidence on, among others, the choice of keto analogs or essential amino acids that are important for fetal health. Interestingly, in a recent meta-analysis across species on the topic of amino acids and fetal growth (outside CKD in healthy and diseased pregnancies), Terstappen *et al.*³ showed that arginine and (N-Carbamyl) glutamate improve fetal growth (most likely via promoting placental health). As

also suggested, we consider integrating food choice in the following version of our guidelines an interesting recommendation because recently it was shown that higher consumption of ultraprocessed food was associated with rapid ($\geq 30\%$) decline in estimated glomerular filtration rate relative to baseline.⁴ Therefore, it seems an easy improvement in the treatment of pregnant women with CKD to pay more attention to food quality during their pregnancy. Moreover, plant-based diets can satisfy the nutritional requirements in all stages of human life and contributes to human health and ultimately to the health of the planet.⁵¹ In conclusion, we agree to consider to advise focusing on a healthy diet with fresh products to women with CKD and a pregnancy wish and during pregnancy.

SUPPLEMENTARY MATERIAL

[Supplementary File \(PDF\)](#)

Supplementary References.

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