

Nutritional Considerations for Dialysis Vegetarian Patients, Part One



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Intended Audience: Dialysis Patients, Practitioners

THIS IS A two part series aimed at education for the practitioner and patient on following a vegetarian diet on dialysis. The benefits and risks of following a plant based diet on dialysis and specific teaching points are discussed to help with planning an optimal nutrition plan of care. The first part of this series will focus on education for the practitioner followed by a second piece focusing on patient education.

Current research showing the advantages of following a vegetarian diet for the prevention and progression of disease, including chronic kidney disease, is now widely known and often recommended by a number of organizations and providers.¹⁻³ However, there is a lack of research showing the benefits and risks that may be associated with following a vegetarian diet for dialysis patients to be regularly recommended by providers. Diets often emphasized for dialysis patients consist of protein-rich animal products to meet higher protein needs required for this population and limited quantities of fruits, vegetables, and whole grains to help control serum potassium and phosphorus levels. Therefore, it can be confusing for patients who have been following a vegetarian-based diet to help prevent the progression of chronic kidney disease and improve overall health to now be told to consume more animal products for protein, limit fruit and vegetable intake, and switch from whole grains to refined grains. As renal dietitians, it is important to be familiar with the benefits and risks of following vegetarian diets on dialysis to prevent malnutrition and abnormal nutrition-related laboratory values.

There are many benefits of a vegetarian- or plant-based diet to consider that may be beneficial for dialysis patients. Kidney disease patients have been shown to have lower anti-

oxidant levels and have increased oxidative stress compared with controls.⁴ In individuals following vegetarian diets, it has been shown that they maintain higher antioxidant levels, in particular vitamin C, vitamin E, and β -carotene.⁵ Other benefits of a vegetarian diet include helping control high blood pressure, decreased proteinuria, decreased levels of cardiovascular disease risk factors such as total cholesterol, low-density lipoprotein cholesterol and triglyceride levels, decreased inflammation, prevention of metabolic acidosis with a more alkaline diet, and improved insulin sensitivity.⁶⁻¹¹ Studies show that a plant based diet tends to be lower in saturated fats and contains higher levels of monounsaturated and polyunsaturated fatty acids, which may offer a cardio protective benefit.¹² With cardiovascular disease being the number one cause of death in kidney disease patients, the benefits associated with a plant-based diet may be something to consider for dialysis patients.¹³

Vegetarian diets do not go without potential nutritional risks especially for kidney disease patients, who are already at a higher risk for malnutrition. Vegetarian diets have been associated with a lower body mass index and lower levels of retinol, vitamin B₁₂, vitamin D, calcium, zinc, iron, and long-chain n-3 fatty acids.^{12,14,15} Careful consideration and planning should be made for vegetarian dialysis patients to prevent inadequate protein intake and malnutrition, high levels of potassium and phosphorus, and inadequate micronutrient intake. It is important to monitor the need for vegetarian oral supplements and protein powders if protein needs cannot be met with diet alone. Providing education on phosphate binders and portion control and monitoring diet quality and the need for vitamin and mineral supplements can help to prevent nutrition complications in vegetarian patients.

More studies are needed on the long-term benefits and downfalls of a vegetarian diet for dialysis patients in order for clinicians to shift their recommendations. However, there is not a one size that fits all diet for any disease state. Adequate nutrition should be achieved with the patient in mind, and diet recommendations should be individualized to help meet overall nutrition goals. For vegetarian patients, the benefits and downfalls of a vegetarian diet for dialysis should be discussed with the patient, and a nutrition plan of care should be established to help prevent any nutritional complications. Teaching the patient the best ways to

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improve one's health through nutrition with an easy and attainable nutrition plan of care should be the practitioner's main focus. With proper planning, monitoring and education, vegetarian diets can offer many benefits, and it is the practitioner's job to work with the dialysis client if that is their preference. The following educational piece is for the practitioner and provides an outline of key focus points to emphasize when working with dialysis vegetarian patients.

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