

Abstract Title: Effects of plant-based diet on renal function in CKD patients
Fang-Ching HU¹, Ju-Hsia TSENG²
¹Division of Nutrition, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation; ²Division of Nephrology, Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation [R]

Introduction: Low protein diets and low phosphate diets are often considered as solutions for slowing down CKD progression. Moreover, plant-based diets are superior to traditional animal protein diets for prevention and treatment of diabetic kidney disease. Nowadays, there are only short-term studies about the effects of vegetarian diet in CKD patients. Therefore, further long-term studies are required to critically examine the effects of substitution of plant protein for animal protein in the diets on the renal function of CKD patients.

Objective: Our objective was to investigate potential impact on renal progression of different dietary patterns.

Method: During 2006 to 2015, 914 CKD patients aged >20 had been recruited from nephrology clinics and referred to registered dietitians for one-year low protein diet education. Since there is a big difference in numbers of vegans (n=22, 10 males and 12 females; mean age: 75±9.5) and omnivores (n=892), only 88 omnivores (sex-, age-, CKD stage-, and primary disease-matched) were chosen for the following study. Participants' dietary intakes were assessed with diet-history interview, 3-day dietary records and a 24-hour dietary recall four times during one-year interval, and collected eGFR, BMI and serum albumin.

Results: There was no significant difference between omnivores and vegan groups at baseline. After three month, there was significant difference between omnivores and vegan groups in eGFR decline (p=0.041). However, there was no significant difference after six month and one year. The omnivores group's overall mean eGFR change was -1.60 ml/mim per 1.73 m² (p=0.038). The vegan group's overall mean eGFR change was -3.36 ml/mim per 1.73 m² (p=0.036).

Conclusion: Plant-based protein as compared with animal-based protein, may have less adverse impact on metabolic risk factors in CKD. There were no statistically significant associations of plant-based diet and renal functions. The reasons might be the plant protein quality and food additives of vegan diet in Taiwan.