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Effects of Personalized Nutrition Counseling on Dietary Intake and Health Outcomes in Vietnamese Kidney Transplant Recipients

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Introduction: Personalized nutrition counselling (PNC) can help prevent nutrition-related complications by providing tailored dietary advice based on individual characteristics. This study examines the effects of PNC on dietary intake and health outcomes in kidney transplant recipients (KTRs).

Methods: A 6-month randomized control trial was conducted at 108 Military Central Hospital between March and November 2022, Hanoi, Vietnam, involving 97 participants with stable kidney function. Participants were randomly assigned to PNC (n=50) or control (CG=47) groups. PNC group received personalized dietary advice based on their dietary intake and health status, while CG group received standard care. Weight, albumin, fasting glucose, triglyceride, and total cholesterol were collected at baseline, midway and end at 6 months of intervention. The intervention's effect was measured by linear mix regression analysis and eta-square.

Results: 78 out of 97 participants completed the study, resulting in dropout rate of 19.6%. In PNC group, there was no significant change in body weight between baseline and end-line measurements (mean change -0.3kg). Dietary energy intake (mean± standard deviation: 30.6±10.4kcal/kg) and protein intake (1.3±0.4g/kg) remained consistent after intervention (p>0.05). Additionally, there was significant decrease in polyunsaturated fat in PNC group. Compared to CG group, dietary intake was moderately affected by PNC intervention in KTRs (eta-square >0.06, p<0.05). Six months after intervention, PNC group showed reductions in prevalence of nutrition-related complications, including hyperglycemia (>5.6mmol/L), hypertriglyceridemia (>1.7mmol/L), and high total cholesterol (>5.17mmol/L). In contrast, CG group experienced an increased incidence of hyperglycemia and high total cholesterol, although these changes were not significant.

Conclusion: Over six months, PNC had a moderate impact on maintaining dietary intake and a small effect on clinical status. This study suggests that when resources allow, a health management program with PNC should be provided to all KTRs to help improve overall health status.