

Integrative Approaches in Renal Nutrition: Ayurveda Practices

Dr. Rupali Panse, Course Director and Faculty



HINDU UNIVERSITY OF AMERICA

INTRODUCTION & AIM

- Renal Diet often to limit phosphorus, potassium, and fluid intake, leading to frustration, a sense of diminished autonomy, and perceived dietary limitations.[1]
- A multidisciplinary approach is essential for updating medical needs, ensuring dietary adherence, and preventing malnutrition and inadequate dialysis.
- This study explores the potential of integrating Ayurnutrigenomics[2] (traditional dietary principles) including a plant-based diet, into the nutritional management of Renal disorders proposing a holistic and personalized approach grounded in ancient wisdom.
- Innovative gut modulatory interventions, such as specific cooking techniques, spice formulations, and a variety of plant-based foods, are highlighted as key components of this integrated approach.
- Nephroprotective and Antioxidant** Role of Ayurvedic food list[3]
- Anti-inflammatory, Gut modulatory** culinary herbs and spices in Ayurvedic Diet[4,]

METHOD

- Literature search in classical Ayurveda texts Charak Samhita, Sushrut Samhita and Ashtanga Sangraha for Renal Disorders and therapeutics intervention with diet
- Database search using PubMed, Scopus etc. For research not older than 5 years
- Key words: Ayurveda, CKD, Renal Diet, Ayurveda nutrition
- Inclusion: peer reviewed journals, Clinical nutrition therapy in CKD, spices and culinary herbs and renal impact
- Exclusion: non CKD, older than 5 yrs, unreliable databases.

Results

Ayurvedic Pathya Diet: Integrated Comparison for Safety in Renal Diseases

Table 1: Low Phosphorus Foods (Safe for Renal Disorders)

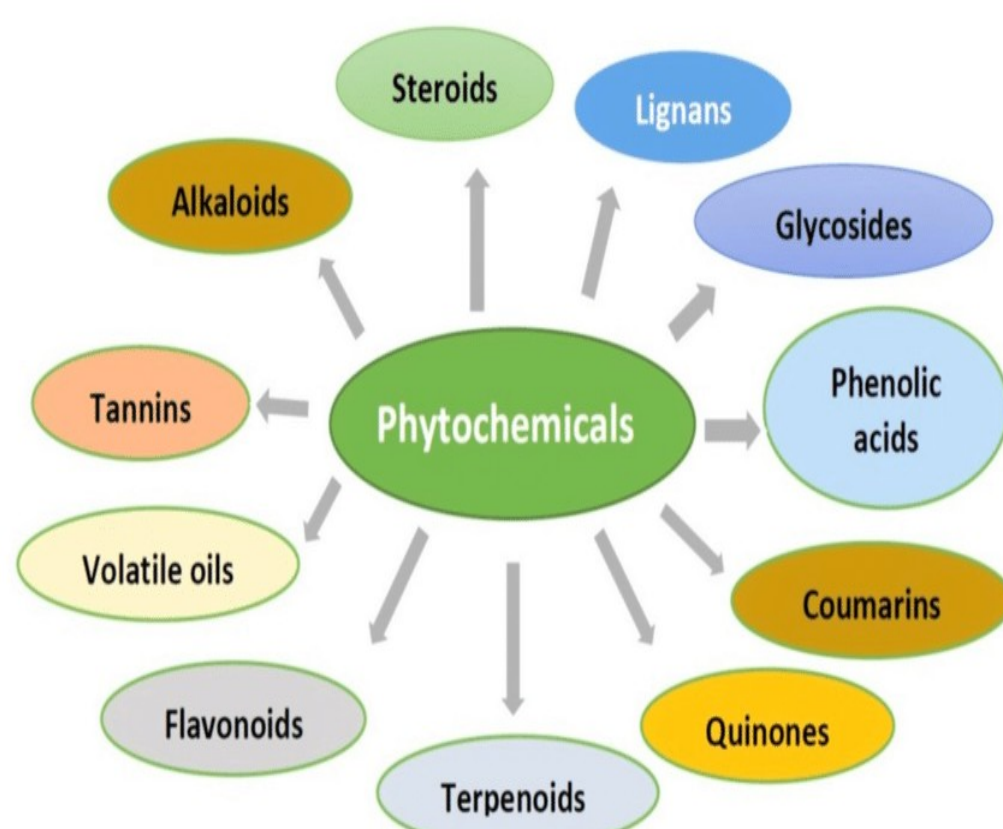
Ayurvedic Food Item	Phosphorus Content (mg/100g)	Protein Content (g/100g)	Renal Suitability (General)
Raw Unrefined Sugar (Sharkara)	Negligible	0 g	Yes, safe (low phosphorus)
Cow Ghee Medicated with Herbs	Negligible	0 g	Yes, safe (low phosphorus)
Live Mineral Water (Jala)	Varies (minimal)	0 g	Yes, safe (low phosphorus)
Snake Gourd (Patola)	Negligible	1-2 g	Yes, safe (low phosphorus)
Barley Water (Yava Jala)	10-20 mg	0.1-0.2 g	Yes, safe (low phosphorus)
Ginger (Ardra)	34 mg	1.8 g	Yes, safe (low phosphorus)
Jamuns (Jambu)	15 mg	0.7 g	Yes, safe (low phosphorus)

Table 2: Moderate Phosphorus Foods (Consume in Moderation)

Ayurvedic Food Item	Phosphorus Content (mg/100g)	Protein Content (g/100g)	Renal Suitability (General)
Cooked Brown Rice (Shali)	150 mg	2-3 g	In moderation (moderate phosphorus)
Spiced Buttermilk (Takra)	90-100 mg	3-4 g	In moderation (moderate phosphorus)
Green Mung Bean Soup (Mudga Rasa)	100-150 mg	6-8 g	Limited, moderate phosphorus
Curd (Dadhi)	100-150 mg	3-4 g	Limited, moderate phosphorus
Cow Milk (Dugdha)	90-95 mg	3.2 g	Limited, moderate phosphorus
Garlic (Rasona)	153 mg	6.4 g	Limited, moderate phosphorus
Turmeric (Haridra)	252 mg	8 g	Limited, moderate phosphorus
Mustard (Sarshapa)	208 mg	4.7 g	Limited, moderate phosphorus
Peas (Matar)	108 mg	5 g	Limited, moderate

Table 3: High Phosphorus Foods (Avoid or Limit)

Ayurvedic Food Item	Phosphorus Content (mg/100g)	Protein Content (g/100g)	Renal Suitability (General)
Goat Meat Soup (Aja Mamsa Rasa)	30-50 mg	2-4 g	Better option (low phosphorus)
Horsegram Soup (Kulath Rasa)	300-400 mg	8-10 g	No, high phosphorus
Wheat (Godhuma)	200-300 mg	13 g	Limited, moderate-high phosphorus
Black Sesame (Tila)	600-700 mg	18 g	No, high phosphorus
Urad Bean (Mash)	300-400 mg	25 g	No, high phosphorus
Black Gram (Mash)	300-400 mg	25 g	No, high phosphorus



DISCUSSION

Ayurnutrigenomics and Preventive, Predictive and Personalized Nutrition in CKDs [5,6,7,8,,9,

Tridosha :

- Involvement of physiological energies Vata, Kapha and Pitta and influence on pathophysiology of CKDs

Prakriti (Body Constitution):

- Nutritional outputs differs as per individual body type and metabolic profile. Diet compatible to body type is individualistic approach

Incompatible food (Virudhahara) :

- Unique theory to address food interactions and metabolic errors due to inflammatory food and their impact on chronic disorders

Etiology :

- Diet and Lifestyle major role in pathology. Ayurveda identifies and projects preventive guidelines

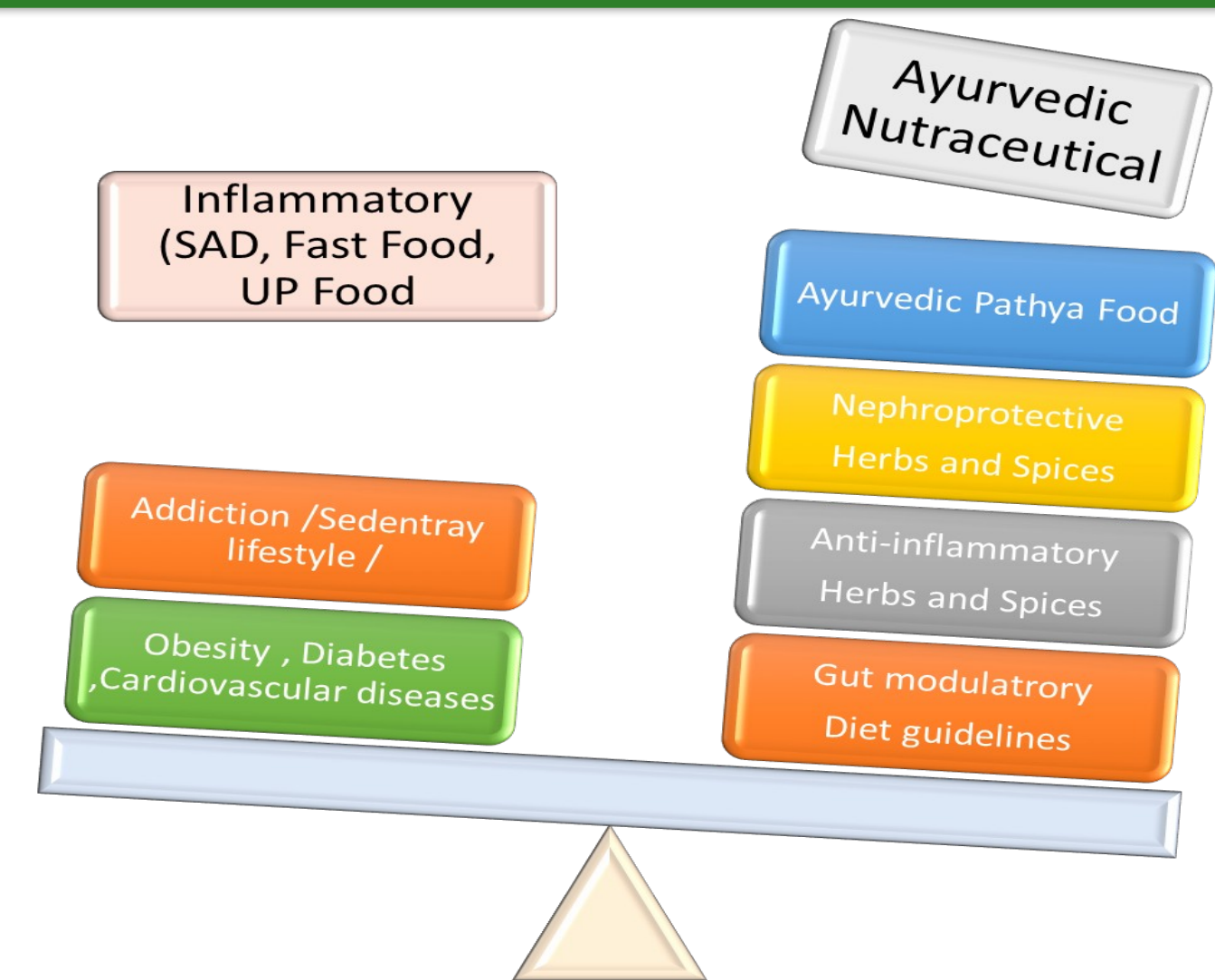
Cooking techniques :

- Soaking, steaming, natural fermenting, cooking with water are advocated compared to inflammatory techniques like deep frying. Cooking with alcohol, curing, cooking on high temperature and barbecuing

Nutravigilance:

- The potential impact of food and nutrients or supplements on metabolism (beneficial or harmful) is stated as Santarpana crucial in CKD management

Future Area of Research and Intergation



CONCLUSION

- ✓ Interdisciplinary approach by bridging the gap between physician, dietician and Ayurvedic nutritionist for comprehensive foundation for management of diet in CKD patient
- ✓ Promising synergies for improving patient outcomes in many chronic disorders including CKDs.
- ✓ Ayurveda's holistic perception to create personalized dietary interventions.

REFERENCES

- Collister D, Pyne L, Cunningham J, et al. Multidisciplinary Chronic Kidney Disease Clinic Practices: A Scoping Review. *Can J Kidney Health Dis.* 2019;6:2054358119882667. Published 2019 Oct 18. doi:10.1177/2054358119882667
- Banerjee S, Debnath P, Debnath PK. Ayurnutrigenomics: Ayurveda-inspired personalized nutrition from inception to evidence. *J Tradit Complement Med.* 2015;5(4):228-233. Published 2015 Mar 24. doi:10.1016/j.jtcme.2014.12.009
- Padma VV, Baskaran R, Divya S, Priya LB, Saranya S. Modulatory effect of *Tinospora cordifolia* extract on Cd-induced oxidative stress in Wistar rats. *Integr Med Res.* 2016;5(1):48-55. doi:10.1016/j.imr.2015.12.005
- Zarantonello D, Brunori G. The Role of Plant-Based Diets in Preventing and Mitigating Chronic Kidney Disease: More Light than Shadows. *Journal of Clinical Medicine.* 2023; 12(19):6137. https://doi.org/10.3390/jcm12196137
- Suryavanshi SV, Garud MS, Barve K, Addepalli V, Utpat SV, Kulkarni YA. Triphala Ameliorates Nephropathy via Inhibition of TGFβ1 and Oxidative Stress in Diabetic Rats. *Pharmacology.* 2020;105(11-12):681-691. doi:10.1159/000508238
- Hankey A. Ayurveda and the battle against chronic disease: An opportunity for Ayurveda to go mainstream?. *J Ayurveda Integr Med* 2010;1(1):9-12. doi:10.4103/0975-9476.59819
- Tienda-Vázquez MA, Morreeuw ZP, Sosa-Hernández JE, Cardador-Martínez A, Sabath E, Melchor-Martínez EM, Iqbal HMN, Parra-Saldívar R. Nephroprotective Plants: A Review on the Use in Pre-Renal and Post-Renal Diseases. *Plants.* 2022; 11(6):818. https://doi.org/10.3390/plants11060818