RESEARCH PAPER

Therapeutic potential *of Naimmitik Rasayana Chikitsa* in the management of Chronic Kidney Disease in *Ayurveda*: A Narrative Review

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Abstract-
Chronic kidney disease (CKD) is a progressive disorder characterized by persistent impairment of renal function, inflammation, metabolic disturbances, and structural renal damage. Ayurveda may conceptualize CKD through disorders of *Mutravaha Srotas*, involving *Ama* (metabolic by-products), *Srotorodha* (obstruction of microchannels), and *Dhatu Kshaya* (tissue depletion). *Naimittika Rasayana Chikitsa*, a disease-specific rejuvenative approach, may provide a complementary therapeutic perspective in CKD management. A literature search was conducted in PubMed, Google Scholar, AYUSH Research Portal, and DHARA for relevant evidence available up to June 2024. Preclinical studies, clinical studies, case reports, and reviews evaluating Rasayana herbs and their potential renal effects were considered. Available evidence suggests that *Punarnava, Gokshura, Amalaki, Guduchi, Haridra, Shilajatu, Ashwagandha, Yashtimadhu*, and *Kapikacchu* possess nephroprotective, antioxidant, anti-inflammatory, and diuretic properties. Experimental and preliminary clinical findings indicate potential improvements in serum creatinine, blood urea nitrogen, proteinuria, and renal histopathological changes. Based on classical principles and contemporary evidence, a stage-wise framework for Rasayana use in CKD is proposed. However, evidence remains limited by methodological heterogeneity and insufficient high-quality clinical trials. Standardized formulations, multicentric randomized controlled trials, long-term safety assessment, and integration with conventional nephrology are warranted. Rasayana Chikitsa may represent a promising complementary approach for supporting renal function and overall health in CKD.

Keywords: *Ayurveda*, Chronic Kidney Disease, *Naimittika Rasayana*, Renal Function, Herbal Medicine

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Introduction

Chronic Kidney Disease (CKD) is a progressive disorder affecting millions worldwide, with an estimated prevalence of 11–13%, most commonly at stage 3.[1] Conventional therapies such as dialysis and renal transplantation are often associated with significant physical, psychological, and financial burden, prompting interest in complementary approaches.

Ayurveda interprets CKD as a disorder of *Mutravaha Srotodushti*, characterized by the accumulation of *Ama* (metabolic toxins), obstruction of microchannels (*Srotorodha*), and progressive tissue depletion (*Dhatu Kshaya*). *Naimittika Rasayana Chikitsa*, a disease-specific rejuvenative therapy, aims to enhance tissue strength, restore organ function, and support immune resilience.[2]

This review critically evaluates classical *Ayurvedic*

concepts and contemporary scientific evidence to assess the therapeutic potential of *Naimittika Rasayana* in CKD. It also proposes a stage-wise treatment framework integrating traditional principles with modern findings to guide future research and clinical application.

Pathophysiology of CKD according to *Ayurveda*

In *Ayurveda*, Chronic Kidney Disease (CKD) is understood through the interaction of *Dosha, Dushya, and Srotas*. Unwholesome diet, sedentary lifestyle, and stress disturb *doshic* balance, initially aggravating *Kapha and Pitta* through *Ama* (metabolic toxins) and obstruction in *Mutravaha Srotas*. As the disease advances, *Vata* predominates due to progressive tissue depletion (*Dhatu Kshaya*) and involvement of vital structures like *Basti Marma.*

Affected tissues include *Rasa, Rakta, Mamsa, Meda, Majja, and Ojas*, indicating systemic deterioration. Key channels involved are *Mutravaha*, along with *Rasavaha, Medovaha***,** *and Majjavaha Srotas*, influencing metabolism, fluid balance, and neuromuscular integrity. Pathogenesis progresses from *doshic* aggravation and channel obstruction to tissue damage, resulting in manifestations such as obstruction of urinary flow, polyuria, proteinuria, and vascular compromise.

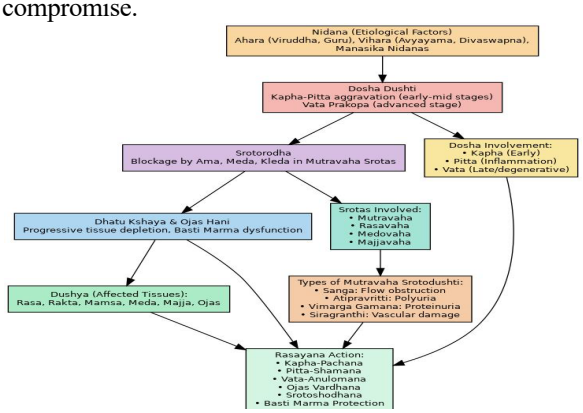

Figure 1- Mode of action of Rasayan on the kidney

Aims and Objectives

To review the efficacy of *Naimittika Rasayana drugs* in enhancing kidney function in Chronic Kidney Disease patients.

Material and Methods-

A comprehensive literature search was conducted from January 2000 to June 2024. Databases included PubMed, AYUSH Research Portal, DHARA, and Google Scholar. Search terms used were 'Chronic Kidney Disease', *'Rasayana* therapy', *'Ayurveda'*, *'Mutravaha Srotodushti'*, and 'herbal nephroprotection'.

Inclusion criteria:

Experimental studies, clinical trials, case series, and systematic reviews reporting nephroprotective or *Rasayana* interventions in CKD or related conditions.

Exclusion criteria:

Theoretical discussions without pharmacological or clinical validation. Data extraction focused on therapeutic herbs, pharmacological actions, clinical outcomes, and stage-wise applications

Result of literature search

Extensive *Ayurvedic* research has been conducted, grounded in classical principles, to evaluate the efficacy of herbs such as *Punarnava, Gokshura, Haridra, Guduchi, Ashwagandha, Shilajeet,* and *Kapikachu* in supporting kidney function.

A. Punarnava

Punarnava (*Boerhavia diffusa*) contains two key chemical components, *Punarnavine* and *saponin.* The name "*Punarnava,*" meaning "renewed" or "revived," symbolizes its believed capacity to restore normal physiological functions. Contemporary research supports these classical views. Various studies have identified flavonoids and alkaloids in *Punarnava*, which possess antioxidant and anti-inflammatory properties. These constituents help to reduce oxidative damage and inflammation—both critical factors in the progression of CKD. One study demonstrated that *Punarnava* helped lower serum creatinine and urea levels, suggesting improved kidney performance. [3] According to *Ayurvedic* classification, *Punarnava* is described as having *Katu* (~pungent) and *Kashaya* (~astringent) *rasa*, and is beneficial in conditions such as *Pandu* (~anemia) and *Shotha* (~edema)**.** It is also said to act against *Vata, Kapha, Vishas* (~toxins), and *Udar Roga (*~abdominal disorders). [4] [table -1]

B. Gokshura

In *Ayurvedic* texts, *Gokshura* (*Tribulus terrestris*) is classified as both a *Mutravirechana* (diuretic) and a *Rasayana* (~rejuvenative), making it valuable in the treatment of urinary disorders and in promoting general vitality. Its use in the context of Chronic Kidney Disease (CKD) is based on these properties, aiming to ease associated symptoms and aid in maintaining renal health. Scientific investigations have supported its traditional uses, with experimental studies revealing that aqueous extracts of *Gokshura* possess nephroprotective activity. Notably, research has shown its effectiveness in reducing gentamicin-induced kidney damage in animal studies, suggesting its potential to protect and preserve kidney function. [5] Table-1

C. Amalaki

In *Ayurvedic* medicine, *Amalaki* (*Emblica officinalis*) is esteemed as one of the most effective *Rasayana* herbs, known for its rejuvenating effects, antioxidant potential, and ability to nourish body tissues. From the perspective of *Srotas* (~bodily channels)**,** chronic kidney disease (CKD) is interpreted as a prolonged disorder involving blockages and dysfunctions within the *Mutravaha Srotas*, often accompanied by *Dhatu*

Kshaya (~tissue depletion), *Ama* accumulation (~metabolic toxins), and diminished *Ojas* (~vital essence). In such cases, *Amalaki* serves a dual purpose: it facilitates *Ama* digestion (~*Ama Pachana*) and performs *Rasayana* functions, revitalizing deeper tissues, particularly *Rasa* and *Medo Dhatus*, which are closely linked to kidney and metabolic health.

Amalaki is credited with multiple therapeutic actions, including *Rasayana*[6], *Chakshushya*, and *Vayasthapana.*[7] Its *Sheeta Veerya* (cool potency) and *Tridoshaghna* qualities help soothe inflammatory responses within the kidneys, reduce oxidative stress—particularly by balancing aggravated *Pitta*—and support nephron regeneration due to its tissue-rejuvenating nature. Additionally, it assists in *modulating Agni* (~digestive/metabolic fire) at the cellular level, thereby improving the transformation of nutrients (~*Ahar Rasa*) into vital tissues.

From a pharmacodynamic viewpoint, *Amalaki possesses Amla Rasa* (~sour taste), which helps in pacifying *Vata*. Its *Madhura Rasa* (~sweet taste) and *Sheeta Guna* contribute to calming *Pitta*, while its *Ruksha (~dry)* and *Kashaya* (~astringent) properties are beneficial in correcting *Kapha* imbalances. Together, these qualities establish its effectiveness in *Tridosha* pacification, which is essential in chronic systemic conditions like CKD. [8]

D. Guduchi-

Guduchi (*Tinospora cordifolia*), known as *Amrita* in *Ayurveda*, is regarded as a potent *Rasayana* and a strengthener of the *Mutravaha Srotas* (urinary system). It is classified as *Tridoshaghna*, with particular effectiveness in pacifying *Pitta* and *Kapha*, due to its antioxidant, anti-inflammatory, immunomodulatory, and nephroprotective properties. It possesses *Katu*, *Tikta*, and *Kashaya* Rasa, with *Madhura Vipaka* and *Ushna Virya*, and acts as a *Rasayana (~rejuvenation)* and *Sangrahi(~absorbent)*. It is beneficial in disorders such as *Prameha*, *Mutrakriccha(~Dysuria)*, and *Daha(~burning sensation)*.[9]

E. Haridra

Haridra, commonly known as turmeric, holds a significant place in *Ayurvedic* medicine due to its broad therapeutic applications. It is particularly valued for balancing *Kapha* and *Pitta* doshas and is known for its *Raktashodhaka* (~cleansing effect on the blood), *Krimighna* (~antimicrobial action), and *Lekhana* (reducing excess body tissues). This herb is frequently used in managing inflammatory and metabolic health conditions. *Haridra* contributes to metabolic balance by aiding in the digestion and elimination of toxins (*Ama Pachana*), supporting healthy blood flow and reducing swelling (*Raktaprasadana*), and rejuvenating body tissues while enhancing immunity (*Rasayana Karma*). It is characterized by its *Katu* (~pungent) and *Tikta* (~bitter) *Rasa*, *Ruksha* (~dry) quality, and *Ushna Virya* (~hot potency). Due to these attributes, it is effective in addressing disorders such as *Prameha* (~urinary/metabolic disorders), *Shotha* (~swelling), and also supports *Varna* (skin complexion). [10]

F. Shilajeet

Shilajit (*Asphaltum punjabianum*), a renowned *Rasayana* in *Ayurveda*, is indicated for urinary disorders (*Mutravaha Srotoroga*) and described as *Shilajatu sarvarogapaha* in *Bhavaprakasha Nighantu*, signifying its broad therapeutic utility. Its *Mutral* (~diuretic), *Shothahara* (~anti-inflammatory), and *Balya* (~strength-promoting) actions help reduce edema, clear urinary obstructions, and improve strength in CKD patients.[11]

G. Yastimadhu

Yashtimadhu (*Glycyrrhiza glabra*), containing the key constituent glycyrrhizin, is described in *Ayurveda* as having *Madhura rasa* (~sweet taste), *Sheeta veerya* (~cool potency), and *Snigdha guna* (~unctuous quality), with actions like *Balya* (~strength-promoting*)*, *Vrishya()*, *Rasayana(~ rejuvenation)*, *Mutrajana(~diuretic)*, *Shothahara(~anti-inflammatory)*, and *Varnaropaka*. Mentioned by *Acharya Sushruta* in *the Sarvopaghātashāmaka Dravyas, it possesses Snehana(~oleation) and Kapha-nissaraka properties, which* confer notable anti-inflammatory effects. Traditional uses include promoting tissue healing, enhancing strength, and supporting urinary health. Modern studies, however, highlight its antioxidant, immunomodulatory, and nephroprotective potential, making it relevant in managing inflammatory and degenerative conditions. [12]

H. Ashwagandha

Ashwagandha (*Withania somnifera*), a revered adaptogenic herb in *Ayurveda*, contains active constituents such as withanolides and hentriacontane that contribute to its broad-spectrum therapeutic actions. Classified as a potent *Rasayana* (~rejuvenative) and *Brimhana* (~nourishing) agent, it is valued for its *Madhura rasa* (~sweet taste) and *Balya* (~strength-promoting) qualities. [13]

In patients with Chronic Kidney Disease (CKD), *Ashwagandha* supports the regeneration and nourishment of deteriorated tissues, combats muscle wasting, and alleviates fatigue. By enhancing vitality, improving hemoglobin levels, and modulating the stress response, it aids in restoring systemic balance. Its antioxidant and immunomodulatory effects help reduce oxidative stress and inflammation—key contributors to CKD progression—thereby supporting renal function and improving overall quality of life**.**

I. Kapikachu

Kapikacchu (*Mucuna prurita*), a well-regarded medicinal plant in *Ayurveda*, is described by *Acharya Charaka* in *Purisha Virajaniya* and *Madhura Skandha*,

while *Acharya Sushruta* classifies it under *Vata-Samana Varga* for its ability to pacify aggravated *Vata dosha*. It possesses *Vatahara* (~Vata-alleviating), *Brimhana* (~nourishing), and *Balya* (~strength-promoting) properties, along with the ability to cleanse vitiated *Kapha*, *Vata*, and *Rakta* (~blood).[14] In the context of Chronic Kidney Disease (CKD), *Kapikacchu* helps counteract muscle wasting, weakness, and neuromuscular dysfunction often associated with the condition. Its nourishing and restorative effects support tissue health, improve vitality, and aid in maintaining neuromuscular coordination, while its *Dosha-shamaka* action helps restore systemic balance, thereby complementing renal care.

Discussion-

Based on the above criteria and extensive studies on various herbs for kidney function using different parameters, researchers have experimentally observed that *Punarnava, Gokshura, Amalaki, Haridra,* and others exhibit antioxidant, anti-inflammatory, nephroprotective, and diuretic effects on the kidneys, as illustrated in the graph. [figure-2]

Table 1- Selected studies for the review of the effectiveness of *Rasayan Herb on CKD*

Herb / Drug Name	Aim / Study Objective	Sample Size / Model	Group Details	Key Findings / Outcomes	Conclusion
Punarnava (*Boerhavia diffusa*)	To evaluate the effectiveness of *Punarnava* on gentamycin-induced renal failure in albino rats, and to estimate the extent of renal tissue damage and recovery.[15]	42 Wistar albino male rats (125–150g)	No. of group =5 1. Normal saline (control, 2. Punarnava 400 mg/kg only 3. Gentamycin 80 mg/kg 4. Gentamycin + *Punarnava* 400 mg/kg 5. Gentamycin + *Punarnava* 800 mg/kg	Group I: Normal saline - Group II: *Punarnava* 400 mg/kg b.w. for 10 days - Group III: Gentamycin 80 mg/kg b.w. for 10 days - Group IV: Gentamycin for 10 days followed by Punarnava 400 mg/kg b.w. for 9 weeks - Group V: Gentamycin for 10 days followed by *Punarnava* 800 mg/kg b.w. for 9	Gentamycin caused a significant elevation in urea, creatinine, uric acid, and electrolyte imbalance. - *Punarnava* (especially 800 mg/kg) significantly reversed biochemical and histopathological changes. - Histology showed regenerated renal architecture with *Punarnava* treatment.
	A Comparative Study on the Efficacy of *Boerhaavia diffusa* and *Tribulus terrestris* in the Management of Urolithiasis.[16]	30 patients	No. of group=2 Group details Group A: *Boerhaavia diffusa* root powder - Group	Group A received 3 g of *Boerhaavia diffusa* root powder twice daily with lukewarm water for 45 days.	Both drugs showed a reduction in pain, burning micturition, and passage of stone. Group A showed better improvement in symptoms.

			B: *Tribulus terrestris* powder		
	To evaluate the efficacy of *Boerhaavia diffusa* root extract in the management of ascites due to liver cirrhosis. [17]	30 patients	1 (Single group before-and-after study) Group details - All patients received Punarnava root extract	20 ml of *Punarnava* root extract twice daily for 60 days	Significant reduction in abdominal girth, body weight, ankle edema, and serum ascitic fluid. No adverse effects observed
Gokshura (Tribulus terrestris)	To clinically evaluate the antihypertensive and diuretic effect of *Goksh*	75 human patients	3	Group A: Whole plant extract; Group B: Fruit extract; Group C: Placebo	Significant reduction in BP, pulse rate, cholesterol, and increased urine output in Groups A and B. Group A (whole

	hura (*Tribulus terrestris Linn.)* in patients with mild to moderate essential hypertension.[18]			(Lactose)	plant) was slightly more effective. Statistically significant ($p<0.01$).
	To compare the diuretic activity of the root and fruit of *Gokshura* using biochemical markers in Wistar albino rats. [19]	24 albino rats	4	Group I: Control (CMC); Group II: Standard (Furosemide); Group III: Root decoction; Group IV: Fruit decoction	Both parts increased urine output; the root was more effective for Na^+, K^+, and Cl^- excretion. Roots are preferred for better ionic regulation.
	To evaluate the anti-diabetic effect of Patha	36 rats Patha + *Gokshura* root extract (1:1).	6	Groups: Normal Control, Disease Control,	All test doses significantly reduced blood glucose levels. Improvements

	- *Gokshura* Yog in streptozotocin-induced diabetic rats based on multiple metabolic parameters.[20]			Standard (Glibenclamide), Test-1 (5.4 ml/kg), Test-2 (7.2 ml/kg), Test-3 (9 ml/kg)	noted in metabolic functions; safe and effective. $p<0.001$ for most parameters.
	To assess the effectiveness of *Ayurvedic* formulation and diet in managing microalbuminuria in a patient with Stage-2 Diabetic Nephropathy.[21]	1 case report	1	A single patient was treated with a *Gokshura*-based polyherbal formulation and *pathya ahara* for 2 months.	UAE reduced from 135.8 to 23.1 mg/24hr, eGFR improved, and serum creatinine normalized. Effective without allopathic support..
Amalaki (*Emblica officinalis*)	Investigate anti-aging renal effects via oxidative stress pathways.[22]	Young & aged male rats (total not specified; two age-specific groups)	4	1. Young control; 2.Young+extract; 3. Aged control; 4. Aged + extract	Aged controls had ↑ serum creatinine, urea nitrogen, BP, oxidative markers, and inflammatory/proapoptotic proteins. Extract groups saw significant decreases across all markers.
	Polyphenolic compounds of amla prevent oxidative stress and fibrosis in the kidney and heart of 2K1C rats.[23]	28 (assumed: n = 7 per group as per abstract)	4	1. Control; 2. Control + Amla; 3. 2K1C; 4. 2K1C + Amla	2K1C rats had ↑ plasma creatinine, uric acid, oxidative markers, and tissue fibrosis. Amla normalized biochemical markers, reduced oxidative stress, and prevented inflammation and fibrosis.
	To evaluate the effect on oxidative stress	Not specific	Single group	Patients with uremia supplemented with Amla for 4	↓ 8-iso-prostaglandin; ↑ total antioxidant status; no change

	in uremic patients. [24]			months	in serum creatinine, BUN
Guduchi (Tinospora cordifolia)	Test if 400 mg/kg *T. cordifolia* mitigates arsenic-induced liver & kidney toxicity. [25]	24 rats *T. cordifolia* alcoholic extract + arsenic	4 groups (n=6 each)	1. Control 2. Arsenic only (8 mg/kg/90 d) 3. Arsenic + T. cordifolia 400 mg/kg/90 d 4. Sacrifice arsenic-only	*T. cordifolia* restored urea, uric acid, creatinine, albumin, MDA, and histology to near-normal
	Evaluate 400 mg/kg *T. cordifolia* nephroprotection against cyclophosphamide (CP). [26]	*T. cordifolia* ethanol extract + cyclophosphamide.	Control vs treatment groups	1. Normal control 2. CP-only 3. CP + T. cordifolia 400 mg/kg	A 400 mg/kg dose significantly reduced serum creatinine, urea, and BUN ($p<0.01$)
	Co-administer *T. cordifolia* with gentamicin to study nephroprotection. [27]	8 Wistar rats/group; total 48 [*T. cordifolia* ethanolic stem extract + gentamicin]	6 groups	1. Healthy control 2. Gentamicin (100 mg/kg/7 d) 3. Gentamicin + *T. cordifolia* 200 mg/kg ...others	*T. cordifolia* co-treatment improved BUN, creatinine, and histopathology vs gentamicin-only
	Assess both preventive and curative effects of 200 mg/kg *T. cordifolia* on gentamicin ARF. [28]	60 rats. *T. cordifolia* ethanolic extract (200 mg/kg) – preventive & curative + gentamicin.	6 groups (n=10 each)	1. Control 2. Gentamicin 80 mg/kg/7 d 3. Preventive 4. Curative, etc.	Pre- & post-treatment reduced serum creatinine & urea; lowered renal MDA; improved histology
	Test nano-TC in STZ-induced diabetic nephropathy rats. [29]	18 rats (3 × 6) *T. cordifolia* nanoencapsulated + diabetic nephropathy	3 groups	1. Healthy 2. Diabetic 3. Diabetic + TCPLA NPs 10 mg/kg	Treatment reduced urine protein, albumin, urea, and creatinine; improved functional markers
Curcuma longa)	Assess effects on renal function and oxidative stress in	24 rats (~6/group) *Curcumin* (15, 30 mg/kg p.o.)	4	1. Healthy control 2. Diabetic control 3. Diabet	Improved creatinine & urea clearance, reduced proteinuria and oxidative stress markers

	STZ-induced diabetic rats. [30]			ic + *curcumin* 15 mg/kg 4. Diabetic + curcumin 30 mg/kg	(MDA, ↑SOD, catalase, glutathione)
	Evaluate nephroprotection in cisplatin-induced nephrotoxicity in rats [31]	70 rats (10/group) *Curcumin* (500 mg/kg p.o.).	7	1. Normal control 2. Cisplatin only 3. Cisplatin + carvedilol 4. Cisplatin + aqueous extract 5. Cisplatin + methanolic extract 6–7. Vehicle controls	Reduced serum creatinine, BUN, uric acid, and renal tissue damage
	Nephroprotective effect in gentamicin-induced nephrotoxicity in rats. [32]	30 rats (10/group) *Curcumin* (dose unspecified).	3	1. Control 2. Gentamicin only 3. Gentamicin + curcumin	Lower creatinine, BUN, MDA, KIM1, cystatin-C; improved renal histology
	Evaluate turmeric/curcumin in human renal diseases. [33]	631 patients across 12 RCTs	12	Patients with CKD, diabetic nephropathy, lupus nephritis, and on hemodialysis	Lowered inflammatory markers and oxidative stress; limited effects on GFR, creatinine
	Evaluate albuminuria reduction in diabetic nephropathy patients. [34]	46 patients Curcumin (500 mg tid, 16 weeks).	2	1. Curcumin (500 mg × 3/day) 2. Placebo	Significant reduction in albuminuria; no change in creatinine or BUN
Shilajit (Asphaltum punjabianum)	To evaluate kidney markers with a chemotherapy regimen in osteosarcoma-induced rats. [35]	Rats (n=7 per subgroup)	4 groups	Control; OS model; OS + chemotherapy (CMF); OS + CMF + *Shilajit* (150 or 250 mg/kg).	Creatinine, urea, and uric acid were elevated in OS; *Shilajit* (250 mg/kg) further reduced these markers vs CMF alone.
	To explore the effect	35 men (healthy	3 groups	Placebo; 500 mg/day;	Both dose groups had

	s on biomarkers of collagen synthesis in humans. [36]	volunteers)		1000 mg/day for 8 weeks.	significant increases in serum proC1α1 vs placebo.
Yastimadhu (Glycyrrhiza glabra)	To examine the protective effect against methotrexate-induced hepatorenal damage. [37]	Rats (n not stated)	Several doses	Control: methotrexate; methotrexate + G. glabra at 100/200/400 mg/kg.	Reduced ALT, AST, BUN, creatinine; oxidative stress markers; pro-inflammatory cytokines; histology preserved.
Ashwagandha (Withania somnifera)	To assess protection against dehydration-induced oxidative renal injury. [38]	18 male rats	3 groups	Control: dehydration only; dehydration + *W. somnifera* (50 mg/100 g/day for 25 days).	Decreased serum urea and creatinine vs. the dehydration group; antioxidant enzyme activities restored.
Kapikachu (Mucuna pruriens)	To assess nephroprotective and hepatoprotective potential against CCl_4 and rifampicin toxicity. [39]	40 rats	8 groups	Control; toxin only; toxin + 50 mg/kg; toxin + 100 mg/kg; silymarin group.	Dose-dependent reversal of kidney & liver toxicity markers and histopathology
	To evaluate the effects on renal oxidative stress and transcription factor signaling in a high-fructose diet. [40]	28 rats	4 groups	Control; fructose only; M. pruriens only (200 mg/kg); fructose + M. pruriens.	Reduced triglycerides and renal malondialdehyde; modulated NFκB and Nrf2 signaling.

Abbreviations: CKD–Chronic Kidney Disease; BUN – Blood Urea Nitrogen; OS – Osteosarcoma; ALT – Alanine aminotransferase; AST – Aspartate aminotransferase; BP – Blood Pressure.

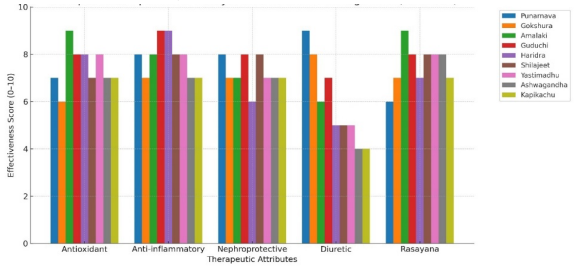

Figure 2- Result of *Rasayana* on Kidney function as per experiment

Stage-wise *Rasayana Protocol* in CKD Management

Select drugs for different stages of chronic kidney disease based on their specific therapeutic actions. In the early stages (Stage 1–2), herbs such as *Guduchi*, *Amalaki*, and *Gokshura* are prioritized for their ability to reduce systemic inflammation and enhance microcirculation, helping to preserve renal function. As the disease progresses to Stage 3–4, the focus shifts to managing fluid retention and preventing tissue fibrosis. *Punarnava* plays a crucial role at this stage due to its proven efficacy in addressing edema and promoting detoxification, while *Shilajatu* is introduced for its *Rasayana* (~rejuvenative) properties and ability to support healthy blood formation. At the advanced stage (Stage 5), the therapeutic approach focuses on rejuvenation and support of deeper tissues. Herbs like *Ashwagandha*, *Kapikacchu*, and *Yashtimadhu* are employed to nourish *Majja Dhatu* (~bone marrow and nervous tissue), alleviate anemia, and strengthen *Ojas*, thereby enhancing overall vitality and resilience. [Figure 3]

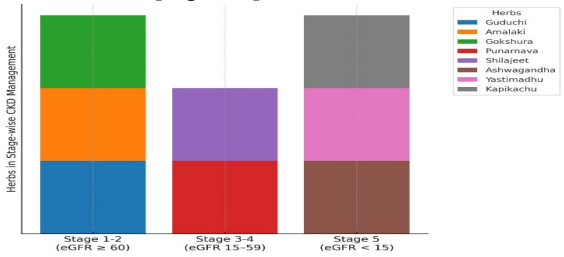

Figure 3: Stage-wise *Rasayana* Herb in CKD

Conclusion

Preclinical and clinical evidence suggest *Naimittik Rasayana's* potential to reduce renal inflammation, improve filtration parameters, and enhance patient well-being when used appropriately, depending on the disease stage. However, most available studies are limited by small sample sizes, short durations, and variable extract standardization.

Future research must prioritize large-scale, multicentric clinical trials with standardized herbal preparations to validate efficacy and safety profiles. Integrating stage-specific *Rasayana* protocols with conventional nephrology could not only slow CKD progression but also improve quality of life, resilience, and long-term health outcomes. By bridging classical wisdom with modern scientific validation, *Naimittika Rasayana* has the potential to become a valuable adjunct in holistic kidney care.

Limitations of the Study

This review is limited by the quality of available evidence, with most studies having small sample sizes, short durations, and variability in herbal preparation and standardization. Few randomized controlled trials exist, and long-term safety data are limited. Future research should focus on large-scale, multicentric trials with standardized formulations to validate efficacy and safety, facilitating integration of stage-specific *Rasayana* protocols into conventional nephrology.

Conclusion

Naimittika Rasayana Chikitsa holds promise as an integrative strategy for CKD management, potentially improving renal function, systemic vitality, and quality of life. Future studies must emphasize standardization, rigorous methodology, and long-term clinical validation.

Author Expertise Statement

The contributors have conducted clinical and research work in *Ayurvedic* management of renal disorders, *Rasayana* therapy, and integrative nephrology. Their work includes case reports, review articles, and protocol design for clinical studies in chronic kidney disease.

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Conflict of interest -nil

Reference

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