Огляд
Review

НИРКИ KIDNEYS

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Ayurvedic Management of Chronic Kidney Disease: Classical Texts, Herbal Interventions, and Clinical Evidence

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Abstract
Chronic kidney disease (CKD) represents a growing global health challenge characterized by progressive decline in renal function and limited curative options in advanced stages. This article explores CKD through an Ayurvedic and integrative lens, emphasizing classical conceptual frameworks, therapeutic principles, herbal interventions, and contemporary clinical perspectives. Ayurveda conceptualizes renal and urinary disorders within the domain of Mutravaha Srotas dysfunction, arising from metabolic imbalance, impaired digestion (Agnimandya), accumulation of Ama, and progressive Dosha and Dhatu involvement. Such a systems-based understanding aligns closely with the chronic, multifactorial nature of CKD. The article critically examines classical textual references, principles of Ayurvedic management, and the pharmacological rationale underlying herbal and polyherbal formulations used in urinary and metabolic disorders. Emphasis is placed on Chikitsa Siddhanta such as Ama Pachana, Dosha Shamana, and Rasayana therapy, along with the central role of Pathya–Apathya in long-term disease management. Available clinical studies, case reports, and integrative healthcare models are reviewed to assess observed outcomes, safety considerations, and challenges related to evidence generation and standardization. An integrative perspective is proposed, highlighting the potential of Ayurveda to complement contemporary nephrology by offering preventive, supportive, and quality-of-life–oriented strategies for CKD management. At the same time, the article acknowledges limitations in existing evidence and underscores the need for rigorous clinical research, quality control, and interdisciplinary collaboration. Overall, the review suggests that Ayurveda, when applied judiciously and integrated responsibly with modern medical care, may contribute meaningfully to holistic and sustainable approaches for chronic kidney disease.

Keywords: Ayurveda; Chronic Kidney Disease; Mutravaha Srotas; Rasayana Therapy; Integrative Nephrology

1.Introduction

Chronic Kidney Disease (CKD) is an irreversible disorder, which is progressive and leads to a progressive deterioration of the renal structure and functionality, which eventually results in end-stage renal disease (ESRD). During the past decades, CKD has changed to no longer be viewed as a subspecialty condition, but rather as a serious global public health issue, with the contribution to morbidity, mortality, and healthcare costs on a global scale [1]. Pharmacological treatment is expected to regulate the blood pressure, glycemic levels, proteinuria and electrolyte imbalance whereas in the advanced stages, blood pressure, glycemic levels, and proteinuria are controlled with renal replacement therapies like hemodialysis, peritoneal dialysis or renal transplantation [2]. The increasing incidence of diabetes mellitus, hypertension, aging processes and lifestyle-induced metabolic diseases have greatly stimulated the incidence of CKD throughout the world. The disease is also stage-based and clinically-defined using estimated

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glomerular filtration rate (eGFR) and kidney damage markers, which offers a uniform system of diagnosis, monitoring, and prognostication [3]. Although such progress has been made in terms of classification and diagnostic criteria, CKD remains a major therapeutic problem because it is multifactorial, progressive and chronic.

The currently common management approaches to CKD are aimed at mainly delaying the disease, medicalizing the symptoms, and avoiding complications instead of replenishing the kidney functions. Though these modalities have enhanced survival rates, they are also linked to high financial cost, deterioration of life quality and eventual complications. Dialysis and transplantation services are not readily available in most regions of the world especially in the low and middle-income countries hence contributing to health inequities. Besides, long-term dialysis causes a lot of physical, psychological, and social stress to patients and their caregivers, which underscores the importance of alternative or complementary treatment approaches that focus on holistic care and long-term disease control.

Patho-physiologically, CKD is a condition that entails a complicated and encompassing pathogenesis encompassing oxidative stress, persistent inflammation, the growth of epithelial cells, fibrosis, and renal tissue remodeling. Experimental evidences have established that disturbed ionic traffic, cellular increase, and inflammatory signaling play a part in dysfunction and advancement of the disease in the kidneys [4]. These complex pathological changes constrain the usefulness of unimodal pharmacological therapy and highlight the importance of multi-modal medication therapy. As a result, growing scientific attention is paid to traditional medical systems that take a systemic and integrative approach to the chronic disease management.

Ayurveda the ancient system of Indian medicine provides a more elaborate theoretical foundation of health and illness on the balance of the Dosha (functional principles), Dhatu (tissues), Agni (metabolic processes) and Mala (excretory functions). The chronic diseases are explained as the outcome of the long-term imbalance in the metabolism, toxin accumulation, and pathways blockage. In this system, renal activity is related to Mutravaha Srotas, and chronic kidney diseases are regarded as the diseases caused by the imbalance of Dosha, poor metabolism, and degeneration of the tissues. This holistic conceptualization is similar to that of contemporary concepts of CKD as a system disorder and not an organ disease.

Over the past few years, the traditional medicine-inspired methods have been accepted as significant drug discovery and integrative healthcare models. Ayurveda has been pointed out to be a source of extensive therapeutic knowledge and bioactive compounds that have the possible applications in the contemporary medicine especially in the treatment of chronic and complex diseases [5]. The Ayurveda has been suggested to be used in healthcare not only to treat but also prevent and promote health, particularly in lifestyle disorders [6]. Although with increased interest, the use of Ayurvedic principles in CKD is not actively studied and is still disconnected in scientific literature.

The current scientific findings that highlight the importance of oxidative stress and inflammation in the development of chronic diseases add another credence to the applicability of Ayurvedic concepts in chronic illnesses. It has been demonstrated experimentally that antioxidant and cytoprotective measures are capable of alleviating tissue injury and enhancing functional outcomes in chronic pathological diseases [7]. The Ayurveda as a conventional medicine practice includes homeopathic medicine, nutritional control, and lifestyle change directed at the restoration of the balance in systems and the strengthening of tissues. In comparison with the conventional therapies whose main aim is to control the symptoms, the Ayurvedic interventions are aimed at preventing the disease in the long term, metabolic correction, and enhancement of the overall quality of life.

The existing literature regarding Ayurvedic management of CKD is widely distributed with respect to experimental research, clinical observations and small-sized reviews, which do not provide a coherent synthesis of the classical Ayurvedic principles, therapeutic interventions, and modern clinical data. It is thus necessary to thoroughly review to bring together available knowledge, critically analyse available information, and to define gaps that can be filled by future research.

Objectives

The objectives of the present review are:

1. To summarize the contemporary biomedical understanding of chronic kidney disease and its management challenges
2. To analyze Ayurvedic theoretical concepts relevant to renal physiology and chronic kidney disease
3. To review available literature on Ayurvedic and integrative approaches in the management of chronic kidney disease and assess their clinical significance

2. Methodology of the Review

This study adopted a comprehensive review design to synthesize and critically examine evidence related to the role of Ayurveda and integrative medicine in the management of Chronic Kidney Disease (CKD). A comprehensive review approach was selected to allow the inclusion of diverse sources of evidence, encompassing classical Ayurvedic literature, contemporary scientific studies, and integrative clinical reports.

2.1 Design of the Review

Such a research was planned as the full literature review, which is deemed sufficient to combine the evidence of heterogeneous sources, such as classical texts, conceptual studies, reviews, and clinical reports. Narrative reviews are more flexible in incorporating theoretical frameworks, historical perspectives, and various types of evidence that cannot be assessed using systematic review or meta-analysis Due to the nature of Ayurvedic literature in which theory is based on classical texts and the commentaries on texts a narrative approach can promote the integration of concepts and ideas. The existing typologies of review methodologies

informed the choice of the review design, as they consider narrative reviews to be an efficient instrument of overarching topics summary, research gap identification, and multidisciplinary viewpoint assimilation

2.2 Sources of Literature

Several literature works were used to get the maximum coverage of both traditional and modern approaches to the management of CKD in Ayurveda. The main classical Ayurvedic texts were a significant source of knowledge, among them being the Charaka Samhita, the Sushruta Samhita, and the Ashtanga Hridaya that contained the initial principles of physiology, pathology, and therapeutic principles. These were published editions, translated texts and validated digital platforms. Access to classical literature by online repositories, like the online edition of the Charak Samhita, has greatly improved the accessibility and standardization of textual references and was used to achieve accuracy and consistency.

Besides previous literature, Ayurvedic commentaries and textbooks were consulted in order to provide meaning to classical concepts and understand them in relation to modern clinical practice. Peer-reviewed Ayurvedic journals were also used to identify conceptual and review studies to help in the interpretation and contemporary clinical correlations.

Electronic databases were searched systematically to find out the relevant literature on the subject in contemporary scientific literature. They were PubMed, Google Scholar and AYUSH-specific databases like the AYUSH Research Portal and DHARA (Digital Helpline for Ayurveda Research Articles). The reasons why these platforms were chosen are that it had extensive coverage of biomedical, integrative medicine, and Ayurveda-oriented publications. Use of several databases assisted to reduce the publication bias and also made sure the inclusion of mainstream as well as discipline-specific literature.

2.3 Search Strategy

The search strategy was structured to identify the literature of the required nature. A mixture of keywords and Boolean operators was used to search both the biomedical and Ayurvedic terminologies. The major search terms were: Chronic Kidney Disease, CKD, nephropathy, Ayurveda, Mutravaha Srotas, Punarnava, Ayurvedic management and integrative medicine. These terms were combined and separately used in order to get as many relevant studies as possible. There was no time limit placed but the focus was made on the contemporary literature that can be considered to reflect modern knowledge and practice and the classical literature that is the theoretical base of Ayurveda.

2.4 Inclusion and Exclusion Criteria.

There were definite inclusion and exclusion criteria to make the review relevant and focused. The inclusion criteria were literature that (i) covered Ayurvedic or Ayurvedic commentaries on renal physiology, pathology, or Ayurvedic treatment principles; (ii) were review articles that discussed Ayurvedic or integrative treatment of CKD; (iii) were clinical studies, observational studies, or case reports concerning CKD and Ayurvedic interventions; and (iv) conceptual or methodological research concerning Ayurvedic research and review design.

Research was filtered out where it was conducted solely on non-renal disease, non-Ayurvedic therapeutic system and experimental studies with animals that had no clinical correlation because the current review is about conceptual and clinical knowledge that could have been applied to human CKD. The articles that did not have enough methodological clarity or narrative to the goals of the review were also omitted.

The use of inclusion and exclusion criteria is also consistent with best practices in the narrative review methodology and promotes the clarity, consistency, and relevance of synthesized evidence. Through synthesis of classical information with modern research project, the current review will be a balanced and evidence-based synthesis of Ayurvedic management of Chronic Kidney Disease.

3. Ayurvedic Anatomy and Physiology of the kidney

The Ayurveda offers a holistic and functional concept of the renal anatomy and physiology, which is the opposite of structuralistic modern biomedical science [8]. Ayanveda elucidates renal functioning by referring to the principle of Mutravaha Srotas, Vrikka, Basti and the regulatory behavior of Apana Vata all of which together determine the formation of urine, its transportation, storage and excretion. These ideas are scattered throughout classical literature, including the works of Charaka Samhita and Sushruta Samhita and are explained by subsequent commentaries and modern academic literature [9,10].

3.1 Mutravaha Srotas and Its Applicability

The Srotas are the physiological pathways that carry and transform the substances in the body [11]. One of these is Mutravaha Srotas that deals in the way urine is formed and excreted. Mutravaha Srotas does not confine to the gross anatomy structures but is also a functional system that ensures that the fluids are in balance as well as the elimination of metabolic wastes[12,13]. Mutravaha Srotas originates according to Charaka Samhita (has its roots (Mula)) in the Basti (urinary bladder) and Vrikka (kidneys), which is why it is likely one of the most important elements of urinary physiology [14]. Any blockage, impairment or destruction of these channels is claimed to cause disorders of the amount of urine, its quality or flow.

Ayurveda states that the health of this system is determined by the perfect balance of the Doshas and normal work of Agni (metabolic processes). Obstruction of the Mutravaha Srotas by the chronic imbalance of Dosha is regarded as one of the pathological factors in the urinary and renal disorders.'

3.2 Role of Vrikka and Basti

According to Ayurvedic anatomy, Vrikka are two body organs that are positioned in the lumbar area and that are linked with the creation and filtration of urine. Sushruta Samhita that gives detailed descriptions of the anatomy

identifies Vrikka as vital organs (Pratyanga) related to the urinary system and whose presence is needed to maintain homeostasis [15,16]. In spite of the fact that the specific physiological mechanism of the modern nephrology is not the same as that of Vrikka, the functional parallel between Vrikka and kidneys is a commonly accepted concept in the Ayurveda literature.

The Basti is defined as a hollow, fleshy organ that helps in collecting urine and temporarily storing it before it comes out. About the anatomical position, structure and functional significance of Basti, Sushruta describes its susceptibility to pathological conditions caused by obstruction or Dosha vitiation. It is also known that Basti is a very important location and therapeutic intervention of Basti Karma and thus has a systemic relevance beyond that of storing urine.

The intimate functional nearness of the Vrikka and Basti are evidence of the interrelatedness of urine production and urine excretion as concepts that are Ayurveda-based. Diseases in either of the structures are considered to interfere with the whole Mutravaha Srotas, which results in a systemic manifestation. The content shown in this table 1 is based on the classical literature of Ayurveda and the evidence of the modern science.

Table 1: Ayurvedic Concept of Renal Anatomy and Physiology

Concept	Key Description	Source
Mutravaha Srotas	Functional channel system for urine formation and excretion; roots in *Vrikka* and *Basti*; dysfunction leads to urinary disorders.	[11], [14]
Vrikka	Paired organs involved in urine formation and filtration; vital for homeostasis.	[15], [16]
Basti	Muscular organ for urine storage and expulsion; important anatomical and therapeutic site.	[15]
Apana Vata	Regulates downward movement and micturition; imbalance causes urinary dysfunction.	[14], [18]
Mutra Nirmana	Metabolic formation and regulated expulsion of urine under *Apana Vata*.	[14]
Dosha & Agni Role	Balanced *Doshas* and proper *Agni* maintain urinary health; imbalance causes disease.	[12], [13]
Integrative View	Renal physiology understood functionally and systemically rather than structurally.	[8], [18]

3.3 Apana Vata and Mutra Nirmana

The Apana Vata is one of the five subtypes of Vata Dosha, which is critical in the process of excretory functions (defecation, micturition, and reproductive processes). Classical literature talks about Apana Vata which controls downward movement (Adhogati) required to remove waste products in the body. Apana Vata should also be able to work well in order to have the proper functioning of the Mutra Nirmana (urine formation and expulsion). Apaana Vata may be vitrated leading to urinary retention, dysuria, change in urine flow, or excessive urination. This idea brings out a neuro-functional aspect of renal physiology, which is comparable to current autonomic regulation of micturition [17].

Modern Ayurvedic researchers underscore the fact that Apana Vata does not exist alone but exists in collaboration with the other Doshas and organs so as to ensure the urinary health. The systemic Ayurvedic physiology is also demonstrated by this integrated approach and also makes the Dosha-based assessment relevant in renal disorders.

3.4 Integrative Perspective

Contemporary academic explanations of Ayurveda stressed that classical texts on anatomy and physiology are to be interpreted not structurally, but functionally. Ayurveda aims at existence of balance and systemic coordination, inconsiderate of the separate organs [18]. This point of view is a theoretical basis of seeing chronic renal disorders as systemic diseases and not as the localized organ failure.

The Ayurvedic theory of renal physiology, then, provides a multidimensional concept which includes structure (Vrikka and Basti), function (Mutravaha Srotas), and regulation (Apana Vata). This type of treatment is especially applicable in chronic kidney disease where systemic metabolic, inflammatory and excretory impairments are all present.

4. Ayurvedic Chronic kidney disease knowledge

4.1 Ayurvedic Ayurvedic view of chronic kidney disease in comparison with Mutrakricchra, Mutraghata and Prameha

On Ayurvedic perspective, Chronic Kidney Disease (CKD) can be explained in the context of Mutravaha Srotas disorders, especially in Mutrakricchra, Mutraghata and Prameha. They are typified by chronic urinary dysfunctions, metabolic upsets and progressive systemic involvement. Prameha which has occurred over a long period of time and in particular the Madhumeha is said to be a disease that impacts progressively on the deeper Dhatus and vital organs resulting in complications where the symptoms are similar to chronic renal impairment. The susceptibility, severity and progression of diseases are determined by Deha-Prakriti which is an individual variation in the manifestation of the disease [19].

4.2 Etiological Factors (Nidana)

The etiological factors (Nidana) of disorders of the Mutravaha Srotas are improper dietary lifestyle, the overconsumption of heavy, oily, sweet, and incompatible foods, and physical inactivity and long-term metabolic imbalance. These are what cause Agnimandya and following Ama formation that is instrumental in the initiation of the disease. Such Nidanas also cause chronic Dosha vitiation, resulting in

progressive weakening of the urinary system function, a process referred to as Caryadi in Ayurveda in laying out different models of chronic disease [20,21].

4.3 Pathogenesis (Samprapti)

Ayurveda Samprapti of chronic renal disorders states that all this is caused by a sequential vitiation of Doshas though mainly in the early stages, Kapha, and later stages Vata. The Srotorodha (blockage of channels) due to accumulated Ama will result in the inability to perform the normal functioning of the Mutravaha Srotas. With the course of time, constant blockage and Vata enhancing factors lead to degenerative alterations and destruction of tissues. This type of progressive pathological process has given the explanation of the irreversible and chronic nature of the disease [22].

4.4 Dosha and Dhatu Involvement

The Tridoshaja are classified to be chronic disorders of the urinary system. In early stages the Dosha is majorly Kapha, which is connected to hindrance and metabolic disorder and in late stages the Dosha is pure Vata, which causes degeneration and Dhatu Kshaya. The major Dhatus engaged are Rasa, Rakta, Meda and the Mamsa and Ojas is eventually drained. The role of Prakriti is important in the process of defining the course and intensity of the disease and indicates the personalized disease manifestation in Ayurveda [23].

5. Classical Literary reference of renal pathology.

The Ayurvedic classical texts provide a clear imagery of the disorders involving the urinary system in terms of descriptive knowledge on Mutravaha Srotas, etiology of the ailments, pathogenesis, rules of the management and prognosis of the disorders. Although the renal disorder phenomenon is not mentioned in the classical literature directly, the symptoms and disease pathologies described in Ayurveda give an excellent opportunity to comprehend the chronic and progressive urinary diseases. The urinary disorders are described in the Prameha, It is these etiological factors that lead to Agnimandya and Ama accumulation and then trigger disease processes that gradually engage a diversity of Dhatus [24].

The introduction of prameha as a disease is characterized by high metabolic and tissue overplots, in the conditions of which the regularity of pathology contributes to the further deterioration of the systems in the body. According to the classical descriptions, in the situation when Prameha cannot be controlled by time, the complication of the organs of vital systems can occur, and this is an indicator of the worsening of the system. Charaka emphasizes more on the quantity of Kapha Dosha in the initial stages that contributes to the blockage and metabolic imbalance with the subsequent stages being Vata dominant of them leading to degeneration and depleting of tissues. The Ayurvedic meanings in use today give more importance to the utility of these descriptions to chronic systemic illness and to their complications in the long-term [25].

5.1 Surgical and Anatomical knowledge of Sushruta Samhita

The anatomical perspective of disease of the urinary system is given in Sushruta Samhita in a more structured and anatomical approach. Urinary organs are described and have detailed explanations of the Mutravaha Srotas, urinary organs, and the integrity of the functions. Sushruta pays significant attention to the idea of normalcy of channels in the body and the impact of obstruction (Srotorodha), trauma or degeneration.

The characteristic of chronic urinary conditions is that it may occur due to chronic obstruction, tissue destruction, or dyshealing. Surgical and para-surgical interventions described by Sushruta are signs that reveal how serious urinary pathologies are, specifically, in cases where structural integrity is involved [26]. Although the account of Sushruta is pegged on surgical cases, it provides the conceptual explanation of how the obstruction of the urinary system in chronic cases and the destruction of the tissue may lead to the functional impairment of the system. The contemporary Ayurvedic philosophers consider these revelations as formative to the anatomic and pathological reasoning of the chronic degenerative urinary illnesses [27, 28].

5.2 Knowledge of Ashtanga Hridaya

The Ashranga Hridaya is a compilation of a theory and practice of clinics. Urinary disorders are justified as the implications of the long term imbalances of Dosha in terms of metabolism, nourishment of tissues and excretion of wastes. It also explicates how such diseases like Prameha develop gradually, demanding that the unremission of the causes, leads to the augmentation of the tissue engagement and the chronic nature of the disease.

Such non-intervention in the earlier stages leads to the higher stages of disease that is degenerated and unreceptive to the treatment. These opinions justify the importance of prevention and promotion conceptual health care emphasized in Ayurveda [29]. An Ayurvedic prognosis is critical component of treatment and assessment of the disease, which is founded on the following notions as Sadhya (curable), Krichchra Sadhya (hard to cure) and Asadhya (incurable). The disease duration, Dosha predominance, the extent of Dhatu involvement, patient constitution and complication are the factors considered in the prognostic evaluation.

There are a few chronic diseases of the urinary system which are termed as Krichchra Sadhaya or Asadhya particularly in case multiple affected Dhatus are present and the symptoms of the absence of Ojas. Classical literature points out that point conditions of small areas of tissue involvement are more winning compared to late ones of degeneration and general weakness where it is extremely hard to cure.

The present-day scholarly interpretations regarding Ayurvedic principles of prognostic indicate that the principles are applicable in the treatment of lasting illnesses and the management of the illness should be focused on early-disease intervention and the planning of the treatment. The pragmatics of Ayurveda towards the treatment of the disease, which is a mixture of optimism about the possibilities of treatment and a

pessimistic attitude to clinical examination, is expressed in its focus on prognosis [30].

6. Ayurvedic Management of Chronic Kidney Disease Principles

Management of Chronic Kidney Disease (CKD) in Ayurvedic medicine relies on the holistic and personalized approach, which focuses on the correction of underlying metabolic imbalances, disease progression and the improvement of the general quality of life. Contrary to the organ-specific therapeutic models, Ayurveda considers chronic renal disorders to be systemic diseases (involving many Doshas, Dhatus and body channels (Srotas). Hence, the management plans are meant to deal with the cause of pathology but favor physiological equilibrium as well as longevity.

6.1 Treatment Objectives

The Ayurvedic management of chronic kidney disease is aimed at reducing the pace of the disease, maintaining the available functional ability, and reducing complications. One of the most important therapeutic aims is to enhance digestion and metabolism (Agni), since the malfunctioning Agni is believed to be the core cause of the emergence of the chronic metabolic disorders. The other task is to decrease the concentration of metabolic waste and toxins and, therefore, avoid another blockage of body channels.The approach is patient-centered and long-term, which is consistent with the larger traditional medicine viewpoints of treating chronic and non-communicable diseases [31].

6.2 Chikitsa Siddhanta

The Ayurvedic principles of therapy (Chikitsa Siddhanta) are used to determine the type of interventions to use, depending on the level of disease, the strength of the patient and the constitution. Shamana Chikitsa (palliative management) is usually chosen in chronic renal disorders where aggressive purification treatment might not be appropriate when patients are debilitated.

Ama Pachana

Ama formation which is a product of poor digestion and metabolism is viewed as a key determinant of the development of chronic illnesses. Ama deposition blocks the body channels, and interferes with normal tissue nutrition. Ayurvedic management lays emphasis on Ama Pachana by controlling the diet, lifestyle change, and administration of herbs which boosts the digestive and the metabolism functions. The functional load of the organs is decreased by a gradual decrease in Ama and tissue-level balance is eventually reinstated. These are of particular relevance in chronic diseases where metabolic load is chronically increased [32, 33].

Dosha Shamana

Chronic kidney disease is considered to be Tridoshaja condition and in the early stages Kapha is dominant and in the later stages Vata is dominant. Therapeutic plan is supposed to sedate aggravated Doshas without resulting in excessive depletion. Soft and prolonged interventions are used to bring the balance without losing strength of the patient. Ayurvedic practice is characterized by individualized treatment according to Prakriti and expression of the illness and makes treatment effective and safe [34].

Rasayana Therapy

Alternative medicine Rasayana therapy takes a centre-stage in the treatment of chronic and degenerative diseases. It works to revitalize tissues, boost immunity, as well as provide a better sense of vitality. Rasayana measures are used to assist in supporting the remaining organ functions in CKD, slow the degeneration of the organs, and advance quality of life. Instead of being curative, Rasayana therapies are supportive and reinforce the systemic resilience. Modern viewpoints acknowledge the applicability of rejuvenative measures in the treatment of chronic diseases and the maintenance of health in the long term. Table 2 presents the summary of treatment goals, principle of treatment and lifestyle interventions in the ayurvedic management of Chronic Kidney Disease.

Table 2: Principles of Ayurvedic Management of Chronic Kidney Disease

Aspect	Ayurvedic Focus	Key Elements / Objectives	Source
Overall Management Approach	Holistic and individualized care	Addresses systemic involvement of *Doshas, Dhatus,* and *Srotas*; focuses on root-cause correction and long-term sustainability	[31,33]
Treatment Objectives	Disease stabilization and support	Slowing disease progression, preserving residual function, improving *Agni*, reducing metabolic waste, enhancing quality of life	[31,33]
Chikitsa Siddhanta	Shamana Chikitsa	Preference for palliative and supportive therapies based on disease stage and patient strength	[31,34]
Ama Pachana	Metabolic detoxification	Reduction of *Ama* through diet, lifestyle modification, and digestive-enhancing herbs to restore tissue balance	[31,32]
Dosha Shamana	Dosha balance restoration	Pacification of *Kapha* (early stage) and *Vata* (later stage) using gentle, individualized interventions	[31,34]
Rasayana Therapy	Rejuvenation and resilience	Tissue nourishment, immune support, delay of degeneration, and improvement of vitality and quality of life	[31,34]
Herbal & Integrative Approaches	Systemic support	Use of medicinal plants with metabolic and rejuvenative properties; integration with Yoga and lifestyle measures	[32,36]

Pathya–Apathya	Diet and lifestyle regulation	Light, digestible diet; avoidance of heavy, salty, processed foods; routine, stress management, and moderation	[31,33]
Holistic & Preventive Perspective	Long-term sustainability	Integration of therapy, diet, lifestyle, and mental well-being for prevention and chronic disease management	[33–35]

6.3 Implication of Herbal and Integrative Approaches.

Ayurveda makes use of stomach digestive and metabolic medicinal plants and rejuvenative properties to aid in systemic balance. Some of the herbs that were used traditionally to regulate the metabolism and neurological stability have been investigated in the context of their general application in chronic systemic conditions. Ethnopharmacology and clinical studies indicate that these herbs could be used to achieve better metabolic control and general physiological balance in the appropriate cases.

Moreover, integrative strategies involving Ayurveda and Yoga, dietary management, and lifestyle change have been promising in the management of complicated chronic diseases with multiple comorbidities. These methods focus on mind body alignment and involvement of the patient and this is a boost to the Ayurveda philosophy of holisticness [36].

6.4 Pathya -Apathya (Dietary and Lifestyle Recommendations)

The Ayurvedic management of chronic kidney disease is based on Pathya-Apathya. Diet is also specific to aid digestion, reduce strain on metabolism and avoid further aggravation of Dosha. Small, light, and nutritious food is encouraged whereas heavy, salty, processed, and incompatible food is discouraged. Meal timings and moderation are put into importance to have digestive balance.

Much of the lifestyle advice can be made up of having a well-organized daily schedule, proper sleep, stress coping, and proper physical exercise. The overworking and abnormal routines are not encouraged especially when the disease is at its advanced stages. The psychological well-being is also covered because the chronic disease usually impairs the mental well-being. Ayurveda states that following a pathway is important in improving therapeutic results, and ignorance in terms of dietary and lifestyle discipline can affect disease management.

6.5 Holistic and Preventive Perspective

The Ayurvedic homeopathic treatment of CKD has a holistic and preventive approach that incorporates therapeutic intervention with long-term lifestyle discipline. Ayurveda provides a sustainable approach to chronic kidney disease, as it can treat it through diet, behavior, mental health, and systemic balance. New horizons accentuate how the conventional medical systems can develop effective reliable, patient-centred, and sustainable healthcare approaches in the future, especially in the chronic and non-communicable diseases [35].

7. The Formulations and Interventions with Herbs

The Ayurvedic treatment of chronic conditions affecting the Urinary tract (Mutravaha Srotas) lays a lot of emphasis on the use of medicinal preparations and formulations that aid in the functioning of the urethra, metabolic activity and the protection of the tissues. The choice of herbal interventions depends upon Rasa, Guna, Virya and Vipaka of these interventions and on their Doshaghna and Prabhava. The herbs that have Mutrala (diuretic), Pramehaghna, Rasayana and Shothahara activities are thought to be especially useful in chronic kidney disease-like conditions.

7.1 single herbs that possess Nephroprotective and Mutrala properties.

A few single herbs mentioned in the classical Ayurvedic texts have properties which assist in supporting urinary functions and metabolism. Tulsi (Ocimum sanctum) is termed as Vishagnana and Rasayana drug possessing Deepana and Pachana actions. Its effects in the treatment of metabolic imbalance and toxin elimination make it applicable in the chronic systemic conditions. Modern research has underscored its protective properties on a number of organ systems which make its use in chronic diseases justifiable [37]. Examination of Pramehaghna Dravyas in Bhavaprakasha Nighantu shows that most of these herbs are Tikta and Kashaya Rasa, Laghu and Ruksha Guna and Ushna Virya which makes them effective in curing metabolic derangements and channel obstruction [38].

Some of the plants that have been described as having diuretic, anti-inflammatory, and tissue-protective properties include classical materia medica texts including Indian Materia Medica. These are herbs that were traditionally used in urinary disorders to stimulate urine flow, swellings and renal functioning. Medicinal Ethnomedicinal Ethnomedicinal evidence also supports the extensive practice of using such plants in fluid retention and defective elimination disorders [39].

7.2 Polyherbal Formulations, Classical

The Ayurveda has laid more emphasis on the application of polyherbal preparations to obtain the synergistic effects of therapy and reducing any adverse effects. Charaka Samhita describes herbs as classical formulations of complementary actions to treat various dimensions of the pathology of diseases. These combinations are expected to calm irritated Doshas, empty blocked pathways and replenish metabolic balance. According to classical framework, the combination therapy can be more effective than the single-drug use that is likely to be observed in chronic disorders in multi-systems [40, 41].

Prameha and Mutravaha Srotas disorders are frequently treated with those herbs that are Mutrala, Deepana, and Rasayana. These are combinations meant to enhance digestion, help to remove waste and strengthening of tissues.

7.3 Pharmacological Rationality According to Ayurvedic Ayurvedic principles.

Ayurveda supports well-developed pharmacological principles in relation to the selection of herbs and formulation of their use. The Rasa (taste), Guna (qualities), Virya (potency), Vipaka (post-digestive action), and Prabhava (specific action) are the determinants of the therapeutic effect of a drug. The herbs in urinary and metabolic diseases are usually those that have the effect of countering the Kapha and Vata disorder with aiding of the digestive fire (Agni).

An example is herbs that contain Tikta and Kashaya Rasa which have been known to decreases kapha and dries up excess Kleda in the body hence relieving the metabolic congestion. The Laghu and Ruksha Guna promote the clearance of the channels and Ushna Virya promotes digestion and metabolism. This type of pharmacodynamic argument describes how some herbs have been used in classical literature to treat diseases associated with the dysfunction of the urinary system, as well as disorders of metabolism [42].

The review of specific herbs as systemic agents, including the neuroprotective and metabolic effects, has been conducted on Convolvulus pluricaulis. Although traditionally associated with cognitive support, their wider pharmacological profile is indicative of supportive effects in chronic systemic disorders, and this adds weight to the concept of the Ayurvedic selection of drugs as being holistic [43].

7.4 Significance of the Herbal Therapy as Integrative.

Ayurveda does not use herbal treatment in a stand-alone manner but as a means of a comprehensive approach to management (diet, lifestyle, and supportive). The classical approach focuses on the long-term use of proper herbs to restore the balance and avoid developing the disease as opposed to the short-term use of herbs to relieve the symptoms. Contemporary commentaries on Ayurvedic sacred scriptures indicate the eternal applicability of the doctrines and emphasize that they may also be applied to present-day sustainable healthcare in treating chronic conditions.8. Clinical Evidence and Integrative Perspective

The application of Ayurveda in chronic diseases has gained increasing attention in recent decades, supported by emerging clinical evidence, case reports, and integrative healthcare models. In the context of chronic kidney disease (CKD) and related systemic disorders, Ayurveda offers a holistic framework that emphasizes metabolic balance, tissue protection, and long-term disease modulation. However, the translation of classical principles into evidence-based clinical practice requires careful evaluation of outcomes, safety, and integration with contemporary medicine.

8 Clinical Studies and Case Reports

Published clinical studies and case reports indicate that Ayurvedic interventions have been explored primarily as supportive and adjunct therapies in chronic and degenerative disorders. While direct large-scale clinical trials specific to CKD remain limited, evidence from studies on chronic metabolic, neurological, and inflammatory conditions provides indirect support for the potential utility of Ayurvedic principles in long-term disease management.

Traditional medicine–inspired approaches have demonstrated promise in drug discovery and therapeutic innovation, particularly through systematic exploration of classical knowledge systems. Ayurveda has contributed to the identification of bioactive compounds and therapeutic strategies that address complex, multifactorial diseases [44]. Clinical reports and translational studies in neurological and metabolic disorders suggest that Ayurvedic formulations can improve functional outcomes, quality of life, and symptom burden when used appropriately [45].

8.1 Observed Clinical Outcomes and Safety Considerations

Observed clinical outcomes from integrative and traditional medicine studies generally indicate symptomatic improvement, enhanced well-being, and better tolerance when Ayurvedic therapies are used judiciously. Benefits often include improved metabolic regulation, reduced inflammation, and enhanced patient-reported outcomes. These effects align with Ayurvedic objectives of restoring systemic balance and strengthening physiological resilience rather than targeting isolated symptoms.

Contemporary research increasingly stresses the importance of evidence-informed practice, where classical knowledge is combined with modern pharmacovigilance and clinical monitoring. This approach ensures patient safety while preserving the therapeutic integrity of traditional interventions [46,47].

8.2 Integration of Ayurveda with Contemporary Nephrology

The integration of Ayurveda with modern nephrology represents a promising but challenging frontier. Ayurveda offers a systems-based approach that focuses on digestion, metabolism, lifestyle, and mental well-being factors often underemphasized in conventional renal care. Integrative models seek to combine the strengths of both systems, utilizing conventional medicine for diagnostics and acute management while employing Ayurvedic strategies for long-term support and prevention of disease progression.

Scholars have emphasized that Ayurveda's principles of individualized treatment, preventive care, and lifestyle modification complement contemporary chronic disease management frameworks [47]. Integrative approaches are particularly relevant in chronic conditions such as CKD, where curative options are limited and long-term supportive care is essential.

Emerging technological advancements, such as nanophytomedicine, have opened new avenues for enhancing the delivery, bioavailability, and safety of herbal therapeutics. Such innovations may facilitate better integration of traditional herbal medicines into mainstream clinical practice by addressing challenges related to dosage precision and pharmacokinetics [48].

8.3 Integrative Outlook and Future Directions

The integrative perspective recognizes Ayurveda as a complementary system that can contribute meaningfully to chronic disease management when applied judiciously [49]. Rather than positioning Ayurveda as an alternative to modern medicine, contemporary scholars advocate for a collaborative approach that leverages the strengths of both systems. Such integration requires mutual respect, scientific validation, and patient-centered care.

Future research should focus on translational studies, standardized clinical protocols, and safety validation to enhance the credibility and applicability of Ayurvedic interventions. With appropriate regulation, quality assurance, and interdisciplinary collaboration, Ayurveda holds potential as a supportive component of integrative nephrology and chronic disease care.

9. Conclusion

This article demonstrates that Ayurveda is an appropriate system-oriented pattern of chronic kidney disease and other urinary disorders. Instead of looking at renal pathology as a disease of an isolated organ, Ayurvedic concepts focus on the interactivity of metabolism, digestion, tissue integrity and lifestyle issues in the development and progression of disease. This point of view can provide valuable information on chronic and multifactorial essence of kidney diseases, in which long-term management and quality of life gain more significance than curative intent alone. Combining the classical ideas, herbal treatment, and therapeutic principles with the latest clinical evidence, it is possible to assume that Ayurveda may be helpful in providing supportive care in chronic kidney disease. Its emphasis on Agni control, Dosha regulation, Rasayana treatment and regulated Pathaya-Apathya offers a systematic method of slowing down illnesses and increasing the systemic resilience. Meanwhile, the current literature emphasizes the benefits of taking care and especially with regard to safety, standardization and quality control of herbal preparations. The main lesson that has come about in this review is that the exact possibilities of Ayurveda are not in solitude but rather in its prudent integration with contemporary nephrology. This form of cooperation will help to eliminate the existing shortcomings in chronic renal care because, by integrating specific diagnostics and acute treatment with holistic, preventative and patient-focused approaches, such collaboration can address the existing gaps in this domain. Nevertheless, to achieve this potential, there must be an effective clinical research, interdisciplinary research and regulatory measures that neither ignore nor breach scientific ethics nor traditional wisdom. Ayurveda has a great potential in managing chronic kidney disease as a complementary paradigm. Its incorporation into the mainstream care, led by evidence, safety, and ethical practice, could help to develop more sustainable, personalized, and holistic models of renal care in the future.

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