IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

THE PANCHAMAHABHUTA IN AYURVEDA: ANATOMICO-PHYSIOLOGICAL AND CLINICAL PERSPECTIVES

[1]Dr. Dharampal Singh Thakur, [2]Dr. Shrikant Naik

[1]Assistant Professor, [2]Assistant Professor
[1]Dept. of Rachana Sharir, [2]Dept. of Samhita Siddhanta and Sanskrit
[1]Rajiv Lochan Ayurved Medical College, Durg, C.G., India, [2]Govt. Ayurvedic College, Raipur, C.G., India

Abstract: The Panchamahabhuta theory in Ayurveda, which comprises Ether, Air, Fire, Water, and Earth, is foundational for understanding human anatomy, physiology, and clinical practice. This research examines the correlations of these elements within the human body by comparing classical Ayurvedic texts like the Charaka Samhita and Sushruta Samhita with modern anatomical and physiological sciences. The study aims to bridge traditional and contemporary medical paradigms, emphasizing Ayurveda's holistic approach that integrates body, mind, and spirit. Each element is linked to specific bodily structures and functions: Ether to cavities and consciousness, Air to movement and neural activity, Fire to metabolism and vision, Water to fluids and cohesion, and Earth to structural integrity and stability. This chapter explores these manifestations from the cellular to the systemic level, noting, for instance, the association of bones with the Earth element and digestive enzymes with Fire. It also highlights the clinical relevance of the Panchamahabhuta theory, using case studies to show how imbalances in these elements cause health issues and how Ayurvedic treatments can restore balance. By integrating Ayurvedic concepts with modern medical understanding, the study enhances Ayurvedic practice and provides valuable insights for contemporary medicine, promoting a more holistic and effective healthcare approach.

Index Terms **- Panchamahabhuta, Five Elements, Panchmahabhut Theory, Panchmahabhut Chikitsa**

I. INTRODUCTION

I. Introduction- [1,2,3,4,5,6,7,8,9,10]

Given the current challenges and new trends in transcultural studies of philosophy and science, there is a growing interest in understanding classical concepts, from their original enunciation, in both Ayurveda. It is noteworthy that akin to Ayurveda, describes the human body as being made up of the five basic elements which are further interrelated to the meridians, zang-fu, and other principles. Although TCM and Ayurveda differ in their metaphysical principles, especially concerning the number of basic elements and their attributes, there is a convincing argument that anatomical and physiological correlations can be found. This unification of classical concepts is not merely an academic exercise; it will help in expanding the horizons of both modern and traditional systems in their clinical applications. In this chapter, an attempt is made to define the anatomical-physiological perspectives of the panchamahabhuta in Ayurveda, especially in the context of the human body and its clinical application. It is expected that a renewed understanding of the classical principles of Ayurveda, in our modern context, will not only challenge our existing knowledge but also help in its renewal.

Ayurveda, the traditional healthcare system of India, in its philosophical and clinical approach, extends a holistic viewpoint that is devoid of separation between the body, mind, and spirit. This classic approach has, however, been generally assailed by the more myopic and piecemeal views of the traditional and modern scholars of Ayurveda who attempted to delineate the structure and function of the human body. Consequently, the knowledge that the physical body is made up of the panchamahabhuta (five basic elements, viz., space, air, fire, water, and earth) and that the tridosha (three biological humors, viz., vata, pitta, and kapha) is the operative principle, remains only superficially argued and described. The fundamental and classical texts of Ayurveda have employed structural and functional analogies with esoteric perspectives along with mythological narratives to elaborate on the nature of the panchamahabhuta that do not concur with the concepts in the modern anatomical and physiological sciences.

II. Background and Significance- [11,12,3,13,14,15,16,17,18,19]

2.1 Historical Background of Panchmahabhuta Theory

The concept of Panchmahabhuta has its roots in ancient Indian philosophy and metaphysics. It is intricately linked to the Sankhya school of philosophy, which describes the evolution of the cosmos from a state of primordial matter (Prakriti) through the interplay of these five elements.

2.1.1 Vedic Origins: The earliest references to the five elements are found in the Vedas, particularly the Rigveda, where they are mentioned as fundamental components of the cosmos.

2.1.2 Upanishadic Development: The Upanishads, particularly the Taittiriya Upanishad, provide a more detailed exposition of the elements, discussing their qualities and their role in the formation of the physical and metaphysical world.

2.1.3 Classical Ayurvedic Texts: Foundational Ayurvedic texts such as the Charaka Samhita, Sushruta Samhita, and Ashtanga Hridayam elaborate on the Panchmahabhuta theory, applying it to the understanding of human anatomy, physiology, and pathology.

2.2 Significance in Ayurvedic Literature-

The Panchmahabhuta theory is not merely a philosophical construct but serves as a practical framework for diagnosing and treating diseases in Ayurveda. Its significance is multifaceted:

2.2.1 Foundation of Tridosha Theory: The three doshas—Vata, Pitta, and Kapha—are derived from the Panchmahabhuta. Each dosha is a combination of two elements: Vata (Air and Ether), Pitta (Fire and Water), and Kapha (Earth and Water). This elemental composition determines their qualities and functions in the body.

2.2.2 Understanding of Body Constituents: According to Ayurvedic texts, the body is made up of seven dhatus (tissues) and three males (waste products), which are all influenced by the five elements. For instance, bones (Asthi) are predominantly composed of the earth element, while plasma (Rasa) is linked to the water element.

2.2.3 Pathogenesis and Diagnosis: Imbalances in the Panchmahabhuta lead to disturbances in the doshas, resulting in disease. Diagnostic methods such as Nadi Pariksha (pulse diagnosis) and Jihva Pariksha (tongue examination) are used to detect elemental imbalances.

2.2.4 Therapeutic Applications: Treatment strategies in Ayurveda aim to restore elemental balance through diet, herbal medicine, Panchakarma (detoxification), and lifestyle modifications. Each treatment modality is designed to counteract specific elemental excesses or deficiencies.

III. Aim and Scope of the Study

The Panchamahabhuta is fundamental in Ayurveda, representing the connection between the macrocosm and microcosm, enabling a holistic approach. It pervades every part of the human body and is at the basis of anatomical and physiological structure. Ayurveda integrates cosmic and terrestrial dynamics through a complex anatomical and physiological model based on the theory of the five great elements. This study aims to provide a concise description of the Panchamahabhuta from an Anatomico-Physiological and Clinical perspective, including the intertwined concepts of creation and the three Dosha.

IV. The Concept of Panchamahabhuta- Five Elements and Their Characteristics- [3,20,21,22,23,15,24,25,19,26]

Ayurveda, one of the world's oldest systems of medicine, is rooted in the belief that health and wellness depend on a delicate balance between the mind, body, and spirit. Central to this philosophy is the Panchmahabhuta theory, which emphasizes the interplay of five fundamental elements. This theory not only provides a framework for understanding the natural world but also forms the basis for diagnosing and

treating various health conditions. This paper aims to explore the Panchmahabhuta theory in detail, drawing from classical Ayurvedic texts to elucidate its principles and applications.

V. The Panchmahabhuta Theory: Foundations and Principles- [1,2,3,27,19,16,23,28,26,29,30]

The Panchmahabhuta theory is foundational to Ayurvedic thought, proposing that all matter is composed of five elements:

Prithvi (Earth): Represents solidity and stability. It is associated with the structural aspects of the body, such as bones and muscles.

Jala (Water): Symbolizes liquidity and cohesiveness, linked to bodily fluids like blood, plasma, and lymph.

Agni (Fire): Denotes transformation and metabolism, associated with digestive enzymes, body temperature, and energy.

Vayu (Air): Embodies movement and dynamism, influencing respiration, circulation, and neural activity.

Akasha (Ether): Represents space and expansiveness, connected to bodily cavities and the mind's capacity for expansion and consciousness.

VI. Anatomico-Physiological Correlations-[1,11,19,20,21,22,23,24,25]

4.1 Anatomical Correlations-Each of the Panchmahabhuta is correlated with specific anatomical structures in the human body:

4.1.1 Prithvi (Earth)

Bones and Teeth: Prithvi provides the solidity and strength of the skeletal system.

Muscles and Cartilage: The element's stability is reflected in the body's musculature and connective tissues.

Skin: The earth element contributes to the skin's firmness and resilience.

4.1.2 Jala (Water)

Blood and Plasma: Jala is present in all bodily fluids, ensuring hydration and nutrient transport.

Saliva and Digestive Juices: Water is essential for digestion and maintaining mucosal linings.

Cytoplasm: The element's fluid nature is reflected in the cell's internal environment.

4.1.3 Agni (Fire)

Digestive Enzymes: Agni governs the metabolic processes, particularly digestion and nutrient assimilation.

Body Temperature: Fire regulates body heat and thermoregulation.

Sight: The element's transformative nature is also linked to the visual process and ocular functions.

4.1.4 Vayu (Air)

Nervous System: Vayu governs the movement of nerve impulses and sensory activities.

Respiratory System: Air is essential for breathing and oxygen transport.

Circulatory System: The element's mobility is reflected in blood circulation and heart functions.

4.1.5 Akasha (Ether)

Body Cavities: Akasha is present in the empty spaces within the body, such as the thoracic and abdominal cavities.

Mouth and Gastrointestinal Tract: The element's expansiveness is reflected in the body's hollow organs.

Cells and Tissues: Ether contributes to the intercellular spaces and the structural framework.

4.2 Physiological Correlations- The Panchmahabhuta theory extends to the physiological processes in the body:

4.2.1 Prithvi (Earth)

Growth and Development: Earth element supports physical growth and structural development.

Stamina and Endurance: Provides the foundation for physical strength and endurance.

4.2.2 Jala (Water)

Nutrient Transport: Facilitates the movement of nutrients and waste products.

Lubrication: Maintains the lubrication of joints and the smooth functioning of bodily processes.

4.2.3 Agni (Fire)
Metabolism: Controls digestive and metabolic activities, converting food into energy.
Immunity: The element's transformative power is vital for immune responses and pathogen destruction.

4.2.4 Vayu (Air)
Movement: Governs all movements, including breathing, circulation, and peristalsis.
Nerve Function: Ensures the proper transmission of nerve impulses and sensory signals.

4.2.5 Akasha (Ether)
Communication: Facilitates the space for communication within the body, such as neural pathways.
Consciousness: Ether is linked to mental functions and consciousness expansion.

V. Panchamahabhuta and Tridosha Theory- [2,10,4,16,33,17,32,33]
The doshas are combinations of the five elements, each reflecting specific qualities and functions derived from these elements.
5.1 Vata (Ether + Air):
Dominant Elements: Akasha (Ether) and Vayu (Air). Qualities: Light, cold, dry, mobile. Functions: Controls all movements in the body, such as circulation, breathing, and nerve impulses. Imbalance: This can cause disorders like anxiety, insomnia, dry skin, and constipation.

5.2 Pitta (Fire + Water):
Dominant Elements: Agni (Fire) and a small amount of Jala (Water). Qualities: Hot, sharp, oily, light. Functions: Manages metabolism, digestion, and body temperature. Imbalance: This can lead to conditions like inflammation, acid reflux, ulcers, and irritability.

5.3 Kapha (Water + Earth):
Dominant Elements: Jala (Water) and Prithvi (Earth).Qualities: Heavy, slow, cold, oily. Functions: Provides structure, stability, and lubrication to the body. Imbalance: This can result in lethargy, congestion, obesity, and sinus issues.

VI. Relationship between Panchamahabhuta and Sapta Dhatu- [3,43,35,36,37,15,38,39,40,41]
The Panchamahabhuta influence the formation, maintenance, and function of the Sapta Dhatu. Each dhatu is primarily governed by one or more of the great elements, which determines its characteristics and role in the body.
Rasa Dhatu: Dominated by Jala, reflecting its fluid nature, essential for transporting nutrients. **Rakta Dhatu**: Governed by Agni, indicative of its role in metabolism and heat production. **Mamsa Dhatu**: Influenced by Prithvi, highlighting its solid, structural role in the body. **Meda Dhatu**: Also associated with Jala, essential for lubrication and insulation. **Asthi Dhatu**: Dominated by Prithvi, providing strength and structure. **Majja Dhatu**: Associated with Jala, vital for nourishing and filling spaces within bones. **Shukra Dhatu**: Governed by Akasha and Jala, emphasizing its subtle and vital functions in reproduction and vitality.

VII. Interconnectedness between Panchamahabhuta and Triguna-[3,42,43,44,45,46,47,16,48]
The Panchamahabhuta and Triguna are intricately connected, influencing each other to maintain physiological and psychological balance. Each of the five elements is associated with specific qualities (Guna), which can be balanced or aggravated by the interplay of Sattva, Rajas, and Tamas.
7.1 Akasha (Ether) and Sattva
Ether's subtleness and expansiveness resonate with the qualities of Sattva, promoting clarity and openness in the mind. An imbalance can lead to excessive detachment or spacey feelings.
7.2 Vayu (Air) and Rajas
Air's mobility and dynamism align with Rajas, driving activity and movement. Imbalance can manifest as anxiety, hyperactivity, or restlessness.
7.3 Agni (Fire) and Rajas
Fire's transformative nature is also associated with Rajas, stimulating metabolism and ambition. Excessive Agni can result in anger, irritability, and inflammatory conditions.

7.4 Jala (Water) and Tamas

Water's cohesiveness and coolness are linked with Tamas, providing stability and lubrication. Imbalance may lead to lethargy, emotional stagnation, and congestion.

7.5 Prithvi (Earth) and Tamas

Earth's solidity and stability reflect Tamas, grounding and supporting the physical body. Excessive Earth can cause sluggishness, heaviness, and depression.

VIII. Interconnectedness between Panchamahabhuta and Tri Malas- [1,66,67,68,41,69,70,71,72,46]

The Panchamahabhuta influence the formation, function, and elimination of the Tri Malas. Each mala is primarily governed by specific elements, which determine its characteristics and role in the body.

8.1 Purisha (Feces)

Governed by Prithvi and Jala, reflecting its solid and cohesive nature. Functions: Prithvi provides the solidity and bulk of feces, while Jala maintains its moisture content. Imbalance: Excess Prithvi can lead to constipation, while excess Jala can result in loose stools.

8.2 Mutra (Urine)

Governed by Jala and Agni, indicative of its liquid and transformative nature. Functions: Jala maintains the fluid aspect of urine, while Agni facilitates the transformation and elimination of soluble wastes. Imbalance: Excess Jala can lead to frequent urination, while insufficient Agni can cause urinary retention or concentrated urine.

8.3 Sveda (Sweat)

Governed by Jala and Agni, highlighting its role in fluid regulation and temperature control. Functions: Jala ensures the fluidity of sweat, and Agni regulates body temperature through perspiration. Imbalance: Excessive sweating (due to excess Agni) can lead to dehydration, while insufficient sweating (due to lack of Agni) can result in heat buildup in the body.

IX. Clinical Applications- [3,13,18,2,22,55,49,35,26,46]

The Panchamahabhuta theory in Ayurveda plays a crucial role in the clinical aspect of diagnosis and treatment. This theory, which encompasses the five great elements (Ether, Air, Fire, Water, and Earth), is applied to understand the constitution of individuals and the underlying causes of diseases. Here is an outline of how each element is clinically relevant:

9.1 Akasha (Ether/Space)

Clinical Relevance:

Function: Provides space within the body, such as cavities and channels.

Associated Conditions: Issues related to a lack of space or congestion, like blockages in the gastrointestinal tract, respiratory issues, and joint problems.

Clinical Application:

Treatment Focus: Enhancing space and clearing blockages.

Methods: Breathing exercises (pranayama), meditation, and therapies to reduce congestion, like steam inhalation and oil pulling.

9.2 Vayu (Air)

Clinical Relevance:

Function: Governs movement, including circulation, respiration, and nerve impulses.

Associated Conditions: Disorders related to movement and dryness, such as arthritis, constipation, anxiety, and neurological issues.

Clinical Application:

Treatment Focus: Balancing movement and reducing dryness.

Methods: Massage with warm oils, dietary recommendations (moist and grounding foods), and lifestyle modifications to reduce stress and enhance relaxation.

9.3 Agni (Fire)

Clinical Relevance:

Function: Responsible for digestion, metabolism, and transformation.

Associated Conditions: Issues related to digestion and metabolism, such as acid reflux, inflammation, ulcers, and skin conditions.

Clinical Application:
Treatment Focus: Regulating digestive fire and reducing excess heat.
Methods: Herbal remedies (like turmeric and aloe vera), cooling foods, and practices that calm and soothe the body, such as cooling baths and avoiding hot, spicy foods.

9.4 Jala (Water)
Clinical Relevance:
Function: Provides fluidity and cohesion within the body.
Associated Conditions: Conditions related to fluid balance and retention, such as edema, obesity, and mucous-related respiratory issues.
Clinical Application:
Treatment Focus: Managing fluid balance and reducing excess moisture.
Methods: Diuretics, detoxifying herbs, lighter and drier foods, and activities that promote circulation and reduce stagnation, like regular exercise.

9.5 Prithvi (Earth)
Clinical Relevance:
Function: Offers structure and solidity to the body.
Associated Conditions: Issues related to structural integrity and stability, such as bone density problems, muscular weaknesses, and weight gain.
Clinical Application:
Treatment Focus: Strengthening and stabilizing body structures.
Methods: Nutrient-rich diets, physical exercises to build strength, and grounding practices like yoga and mindfulness to enhance stability.

X. Case Studies and Clinical Evidence- [50,51,52,53,54,55,56,57,58,59]

The clinical evidence in support of the above correlations is open for validation through modern scientific methods. Diseases related to vitiation of specific Mahabhuta are curable by the diet and drugs mainly composed of opposite properties of that Mahabhuta. Recent experimental findings showing the anti-cancer effects of Apigenin (a drug having Prithvi and Jala Mahabhuta properties) on breast cancer are in tune with Charakokta Trividha Shodhana therapy for cancer.
Our study shows that from an anatomical-physiological point of view, Charakokta Dashavidha Sharira, which includes the modern ten-body systems, represents the distribution of Panchamahabhuta in the human body. From Srotomarmajjan Adhyaya of Charak Samhita, it is clear that Rasa Dhatu, which is mainly composed of Jala and Prithvi Mahabhuta, is related to body fluid compartments and their circulation. Rakta Dhatu, which is mainly composed of Teja and Jala Mahabhuta, is related to the cardiovascular system. Mamsa and Medo Dhatus are mainly composed of Prithvi and Jala Mahabhuta and are related to musculoskeletal and adipose tissues respectively. Majja Dhatu is mainly composed of Aakash and Vayu Mahabhuta and is related to nerve and marrow functions.

XI. Clinical Integration of Panchmahabhuta Theory- [23,20,15,22,60,21,61,62,35,47]

Ayurvedic practitioners use the Panchmahabhuta theory to guide their diagnostic and therapeutic strategies. This integration involves assessing elemental imbalances and employing treatments to restore harmony. The following sections review case studies and clinical evidence demonstrating the practical application of this theory in various health conditions.

11.1 Case Study 1: Vata Imbalance and Joint Disorders
Patient Profile: A 45-year-old woman presented with symptoms of rheumatoid arthritis, including joint pain, stiffness, and swelling.
Diagnosis: The Ayurvedic practitioner diagnosed a Vata imbalance, characterized by excess air and ether elements, leading to dryness and instability in the joints.
Treatment:
Diet: Warm, moist, and grounding foods such as cooked grains, ghee, and dairy products.**Herbs**: Anti-inflammatory and Vata-pacifying herbs like Ashwagandha (Withania somnifera) and Guggulu (Commiphora mukul).**Panchakarma**: Basti (medicated enemas) to balance Vata and remove accumulated toxins.**Lifestyle**: Gentle yoga and oil massage (Abhyanga) with sesame oil to enhance lubrication and warmth.

Outcome: After three months of treatment, the patient reported a significant reduction in joint pain and stiffness, improved mobility, and overall well-being.

11.2 Case Study 2: Pitta Imbalance and Digestive Disorders

Patient Profile: A 30-year-old man with chronic hyperacidity, heartburn, and gastritis.
Diagnosis: Excess Pitta, characterized by an overactive fire element, leading to inflammation and hyperacidity.
Treatment:
Diet: Cooling, alkaline foods such as cucumber, melon, and leafy greens.**Herbs**: Pitta-pacifying herbs like Shatavari (Asparagus racemosus) and Amalaki (Emblica officinalis).**Panchakarma**: Virechana (therapeutic purgation) to cleanse the digestive tract and balance Pitta.**Lifestyle**: Stress-reduction techniques, including meditation and Pranayama (breathing exercises).
Outcome: The patient experienced a marked improvement in digestive symptoms, reduced heartburn, and enhanced digestive health within six weeks.

11.3 Case Study 3: Kapha Imbalance and Respiratory Disorders

Patient Profile: A 50-year-old woman with chronic sinusitis, congestion, and lethargy.
Diagnosis: Kapha imbalance, characterized by excess earth and water elements, leading to mucus accumulation and sluggishness.
Treatment:
Diet: Light, warm, and dry foods such as spicy vegetables, legumes, and honey.**Herbs**: Kapha-reducing herbs like Tulsi (Ocimum sanctum) and Ginger (Zingiber officinale).**Panchakarma**: Nasya (nasal administration of medicated oils) to clear sinus congestion.**Lifestyle**: Regular exercise and steam inhalation to reduce mucus and improve energy levels.
Outcome: Significant reduction in sinus congestion, improved energy levels, and overall respiratory health after two months of treatment.

XII. Clinical Evidence from Ayurvedic Literature-[32,14,71,63,56,36,16,49,65]

Classical Ayurvedic texts provide extensive evidence supporting the use of Panchmahabhuta theory in clinical practice. Key texts include:
Charaka Samhita: Emphasizes the role of elemental balance in health and disease, providing detailed descriptions of diagnostic and therapeutic methods based on Panchmahabhuta.
Sushruta Samhita: Highlights the anatomical and surgical applications of the five elements, with a focus on maintaining elemental harmony through various treatments.
Ashtanga Hridayam: Integrates the principles of Panchmahabhuta with practical guidelines for daily and seasonal regimens to maintain health.

XIII. Conclusion

The exploration of Panchamahabhuta in Ayurveda highlights the profound interconnection between the five fundamental elements and human anatomy, physiology, and clinical practice. This study underscores the holistic nature of Ayurvedic medicine, which integrates the principles of Ether, Air, Fire, Water, and Earth to understand the body's structure, functions, and imbalances. By bridging classical Ayurvedic concepts with modern medical paradigms, this research reveals the potential for enhanced diagnostic and therapeutic strategies that can lead to more comprehensive and individualized healthcare.
The Panchamahabhuta theory offers a versatile framework for addressing various health conditions by restoring elemental balance through tailored dietary, herbal, and lifestyle interventions. The case studies presented in this chapter demonstrate the practical applications of this theory in treating disorders associated with Vata, Pitta, and Kapha imbalances, showcasing significant improvements in patient outcomes.
Furthermore, the integration of Ayurvedic knowledge with contemporary scientific methods promises to enrich both fields, providing a more holistic approach to health and well-being. The intricate relationships between the macrocosm and microcosm, as elucidated by the Panchamahabhuta theory, emphasize the importance of maintaining harmony within the body to achieve optimal health.
As we continue to validate and expand upon these ancient principles through modern research, the unification of traditional and contemporary medical systems holds the promise of a more effective and sustainable healthcare approach. This renewed understanding of Ayurvedic principles not only challenges existing knowledge but also paves the way for innovative treatments and a deeper appreciation of the complex dynamics that govern human health.

References:

[1]. Palsra P, Sharma S, Kumar R, Thamman R. Panchamahabhuta-five basic elements and their utility in Ayurveda: a review. International Research Journal of Ayurveda and Yoga. 2022 Feb 28;5(2):166-74. acspublisher.com
[2]. Matthews S. Ayurveda. Introduction to Complementary Medicine. 2020. [HTML]
[3]. Jagtap V, Mandhare N, Jagtap A, Galave V, Phadtare A, Kolhe O. AN OVERVIEW ON PRINCIPLE, DIAGNOSIS AND TREATMENT OF AYURVEDA.". amazonaws.com
[4]. Madaan V, Goyal A. Predicting ayurveda-based constituent balancing in human body using machine learning methods. IEEE Access. 2020. ieee.org
[5]. Bagade S, Bande UK. AYURVEDA WSR TO THEIR APPLICATION IN PHYSIOLOGY. 2023. amazonaws.com
[6]. Jayasiri APA. Ayurveda Concepts of Joint Diseases. Rheumatoid Arthritis. 2022. intechopen.com
[7]. Mondal N. Ayurveda: The Philosophy of Medical Science in Ancient India. VOLUME: XVIII. . vedasamskritaacademy.org
[8]. Sharma MK, Nagar D. Conceptual study of diet and its importance in Ayurveda. WJPR. 2020. amazonaws.com
[9]. Arnold JT. Integrating ayurvedic medicine into cancer research programs part 1: Ayurveda background and applications. Journal of Ayurveda and Integrative Medicine. 2023. sciencedirect.com
[10]. Kopeliovich G, Gangadhar MR. SPECIFIC FEATURES OF SOUTH INDIAN AYURVEDA. researchgate.net. . researchgate.net
[11]. Singh V, Kushwaha HC, Dwivedi S, Yadav A. Concept of Panchmahabhut and its utility. Journal of Ayurveda and Integrated Medical Sciences. 2022 Jun 10;7(3):121-6. jaims.in
[12]. Marathe VS, Sant SS, Tapadiya VR, Ingle S, Bansode RM, Ugale K. CONCEPT OF PANCHMAHABHUTAAND CRITICAL REVIEW ON ITS RELATION WITH TRIDOSHA, TRIGUNA AND SHADRASA. amazonaws.com
[13]. Bhattacharya M, Banerji U. Concept of Five Elements-An Ancient Indian Approach. 2023. vidyasagar.ac.in
[14]. Gupta AK, Maheshwari S. Relevance of Vaastu Principles in Contemporary Architecture of India. 2020. academia.edu
[15]. Prasad PV. Diagnosis and Management of Diabetes Through Ayurveda (the Ancient Indian System of Medicine). Socio-Scientific Interaction in Diabetes and Cancer and Its Management. 2023 Dec 11:213. researchgate.net
[16]. Pant N. Indian Psychology and Modern Psychology. InSpirituality, Mental Health and Quality of Life: Pathways in Indian Psychology 2023 Jun 22 (pp. 75-145). Singapore: Springer Nature Singapore. [HTML]
[17]. Sharma NK, Pandey VS. A conceptual study of Bhutabhisangaja and Aupsargika Vyadhi wsr to Covid-19. Journal of Ayurveda and Integrated Medical Sciences. 2024 May 6;9(3):115-22. jaims.in
[18]. Pallavi G, Ganti KSDS. Ayurveda and its Relevance with Contemporary Medical Sciences. ISSN 2583-9020 Address. . vedasamskrutisamiti.org.in
[19]. Kolhe R, Pawar G, Gurav A. Pioneering contributions of Vaidyaraj Atmaram Waman Datar Shastri in Panchabhautik Chikitsa of Ayurveda. Journal of Research in Ayurvedic Sciences. 2024 May 1;8(Suppl 1):S32-6. lww.com
[20]. EBIN TU. PHARMACODYNAMICS OF AYURVEDIC DRUGS-A PERSPECTIVE VIEW. researchgate.net. . researchgate.net
[21]. Tubaki BR, Prasad BS. Ayurveda fundamentals and science–A perspective. AYU (An international quarterly journal of research in Ayurveda). 2022 Apr 1;43(2):65-70. lww.com
[22]. Mukherjee S, Bera S, Banerjee S, Mitra A, Mukherjee PK. Ayurveda—Translational approaches towards validation as sustainable healthcare practices. InEvidence-Based Validation of Herbal Medicine 2022 Jan 1 (pp. 463-485). Elsevier. [HTML]
[23]. Pratibha N, Mukesh E, VinodKumar MV. Ayurvedic practice, education and research, beyond dilemmas and confessions. Journal of Ayurveda and Integrative Medicine. 2023 Nov 1;14(6):100814. sciencedirect.com
[24]. Gamage CK. Dissemination of knowledge for health and wellbeing: with special reference to Buddhism and Ayurveda. 2022. researchgate.net
[25]. Jairam KV, Ajitha K, Sivaram A, Abhilash M, Panthappulan H. Conceptual analysis and revalidation of Loka-purusha-samya-siddhanta based upon evidences from contemporary sciences. Kerala Journal of Ayurveda. 2022 Sep 29;1(1):29-34. keralajournalofayurveda.org

[26]. Madhukar LS, Yadav SK, Nivrutti BA. Review Study on Concept of Sharir in Ayurveda. researchgate.net. . researchgate.net
[27]. Sajwan N, Sharma RK, Chandra D. Physiological Concept of Vata Dosha in Relation to Autonomic Nervous System. pdfs.semanticscholar.org. . semanticscholar.org
[28]. YOGA SOFMA. UNIVERSITY YOG CENTRE. mlsu.ac.in. . mlsu.ac.in
[29]. Sharma T, Meghwal CR, Prajapat M, Sharma AK. Conceptual study of Vata Dosha wsr to Nervous System. Journal of Ayurveda and Integrated Medical Sciences. 2024 Apr 10;9(2):134-40. jaims.in
[30]. Pirta RS, Misra G. Psychology in India: A Glance on Paradigmatic and Methodological Perspectives. Psychology in modern India: Historical, methodological, and future perspectives. 2021:435-68. [HTML]
[31]. Jain S, Chawla T. "AYURVEDIC DOSHAS IDENTIFICATION USING FACE AND BODY IMAGE FEATURES"–A REVIEW. International Journal of Advanced Research in Computer Science. 2021 May 1;12(3):19-22. academia.edu
[32]. Goswami MP, Islam M, jyoti Hajong P. The Concept Of Ayurveda In The Perspective Of Charaka Samhita: A Comparison With Yoga Philosophy. Journal of Namibian Studies: History Politics Culture. 2023 Aug 10;35:1658-67. namibian-studies.com
[33]. Adavala KM. An Ayurvedic Ontology of Doshas. Journal of Biomedical Engineering. 2023. swyxgcx.com
[34]. Majumder B, Ray S, Chattopadhyay A. GENERAL INTRODUCTION OF SAPTA DHATU ACCORDING TO AYURVEDA. 2021. amazonaws.com
[35]. Ram N, Basisht G. Future Scope and Strategies for Preservation of Health through Ayurveda. symbiohealth.com. . symbiohealth.com
[36]. Dwivedi A. Ayurveda & Basic Fracture Management. 2022. [HTML]
[37]. Bhat S, Khayamali R, Khayamali BP. Application Of Ayurvedic Principles to Safeguard Community Health wrs to the Concept of Jala: A Review. Journal of Ayurveda Campus. 2022. jacjournal.org
[38]. Kapoor R, Chauhan S, Manglesh RK. A review article on types of Dhatu-Kshaya (depletion) and its clinical significance. Journal of Ayurveda and Integrated Medical Sciences. 2023;8(12):141-4. jaims.in
[39]. Moon R, Diggavi M, Hugar R. UNDERSTANDING THE GENETICS AND HEREDITARY DISORDERS THROUGH AYURVEDA A. REVIEW. 2024. amazonaws.com
[40]. Vineeth G, TM S, PR B. Pathological Consideration of Hypothyroidism in Ayurvedic Classics. International Journal of Ayurveda and Pharma Research. 2023 Dec 31:95-9. ijraps.in
[41]. Ansary PY, Oommen SM, Shincymol VV. A review on pathophysiology and pharmacotherapeutic approach in the vitiation of rakthavahasrotas. Kerala Journal of Ayurveda. 2022 Sep 29;1(1):5-13. keralajournalofayurveda.org
[42]. Pundir M, Singh C, Adlakha MK, Gocher G. A COMPREHENSIVE REVIEW ON CONCEPT OF PANCHAMAHABHUTA SIDDHANT AND DRUG ACTION IN AYURVEDA. 2024. amazonaws.com
[43]. Dagar C, Pandey A. Well-Being at workplace: A perspective from traditions of Yoga and Ayurveda. The Palgrave handbook of workplace well-being. 2021. [HTML]
[44]. Chouhan H. Ayurvedic approach to Embryogenesis: Exploring Fetal Development. Journal of Ayurveda and Integrated Medical Sciences. 2024. jaims.in
[45]. Tantrayukti P, Bala RG. D. VISARGA KALA. A CRITICAL STUDY ON TANTRAGUNA WITH SPECIAL REFERENCE TO SWASTHA CHATUSHKA OF CHARAKA SAMHITA.:119. [HTML]
[46]. Chauhan R, Maheshwari N. An integrative approach for wellness: An assessment of potential of Ayurveda during COVID-19 pandemic. Asia Pacific Journal of Health Management. 2021 Jun;16(2):100-8. achsm.org.au
[47]. Jagtap SA. Use of information resources in ayurveda with special reference to medicine and samhita. 2020. 210.212.169.38
[48]. Kuchewar V, Sawarkar GR, Simkhada PP, Khatib MN. Cancer Medicine in an Ayurvedic Perspective: A Critical Overview. 2023. [HTML]
[49]. Jha M, Sah MK, Singh PK, Kumar A. Role of Ayurveda in Public Health: A Critical Review. International Journal of Research in AYUSH and Pharmaceutical Sciences. 2021:595-9. ijraps.in
[50]. Singh V, Kumar K, Purohit D, Verma R, Pandey P, Bhatia S, Malik V, Mittal V, Rahman MH, Albadrani GM, Arafah MW. Exploration of therapeutic applicability and different signaling mechanism of various phytopharmacological agents for treatment of breast cancer. Biomedicine & pharmacotherapy. 2021 Jul 1;139:111584. sciencedirect.com
[51]. Shetti P, Jalalpure SS, Patil AS, Kaur K. Apigenin-loaded stealth liposomes: Development and pharmacokinetic studies for enhanced plasma retention of drug in cancer therapy. Topics in Catalysis. 2024. [HTML]

[52]. Noori SD, Kadhi MS, Najm MA, Oudah KH, Qasim QA, Al-Salman HN. In-vitro evaluation of anticancer activity of natural flavonoids, apigenin and hesperidin. Materials Today: Proceedings. 2022 Jan 1;60:1840-3. [HTML]
[53]. Sohel M, Aktar S, Biswas P, Amin MA, Hossain MA, Ahmed N, Mim MI, Islam F, Mamun AA. Exploring the anti-cancer potential of dietary phytochemicals for the patients with breast cancer: a comprehensive review. Cancer Medicine. 2023 Jul;12(13):14556-83. wiley.com
[54]. Balkrishna A, Mittal R, Malik R, Verma H, Mehra KS, Chaturvedi H, Okeshwar O, Ishdev S, Kumar A, Arya V. Comparative Analysis of Doxycycline and Ayurvedic Herbs to Target Metastatic Breast 2 Cancer: An In-Silico Approach. BioMedicine. 2024;14(2):7. biomedicinej.com
[55]. McGrowder DA, Miller FG, Nwokocha CR, Anderson MS, Wilson-Clarke C, Vaz K, Anderson-Jackson L, Brown J. Medicinal herbs used in traditional management of breast cancer: Mechanisms of action. Medicines. 2020 Aug 14;7(8):47. mdpi.com
[56]. Bhattacharya T, Dutta S, Akter R, Rahman MH, Karthika C, Nagaswarupa HP, Murthy HC, Fratila O, Brata R, Bungau S. Role of phytonutrients in nutrigenetics and nutrigenomics perspective in curing breast cancer. Biomolecules. 2021 Aug 9;11(8):1176. mdpi.com
[57]. Thakur A, Prasad N, Raina K, Sharma R, Chaudhary A. Role of plant-based anticancer compounds in treatment of breast cancer. Current Pharmacology Reports. 2023 Dec;9(6):468-88. [HTML]
[58]. Bhagavatula D, Hasan TN, Vohra H, Khorami S, Hussain A. Delineating the Antiapoptotic Property of Apigenin as an Antitumor Agent: A Computational and In Vitro Study on HeLa Cells. ACS Omega. 2024 May 30. acs.org
[59]. Gupta J, Gupta R, Varshney B. Green approaches of flavonoids in cancer: chemistry, applications, management, healthcare and future perspectives. 2021. academia.edu
[60]. Keerthi KL, Sridevi S. Big data analysis of traditional Indian Ayurveda medicine and treatment process. AIP Conference Proceedings. 2022. [HTML]
[61]. Rastogi S, Singh RH. Principle of hot (Ushna) and cold (Sheeta) and its clinical application in Ayurvedic medicine. InHot and Cold Theory: The Path Towards Personalized Medicine 2022 Jan 11 (pp. 39-55). Cham: Springer International Publishing. [HTML]
[62]. Sharma N, Psy P. AUTISTIC AND ITS MANAGEMENT IN AYURVEDA. 2021. autismnaturaltreatment.com
[63]. Ranade A, Tomar S, Acharya RN, Pawar S. Insights of Nutravigilence in Ayurveda Classics. Raja Chakraborty, Saikat Sen. Practice and Re-Emergence of Herbal Medicine. Natural Medicine: Bentham Science Publishers Singapur. 2023 Jul 24;1:135-45. [HTML]
[64]. Morgan C, Mandakar BR, Sharma S, Khalid M, Morgan A. A critical study on karna sharir with special reference to its applied anatomy. Journal of Advanced Medical and Dental Sciences Research. 2023;11(1):38-44. jamdsr.com
[65]. PC P, Nathani S. JOA XIV-3 2020. journals.lww.com. . [HTML]
[66]. Chaudhary S. A Study on Anatomical Consideration of Apanga Marma-A Vital Area in Lateral Aspect of Orbit. 2020. [HTML]
[67]. Sudarshana L. At the time of consecration ceremony of the temple, Brahma engaged rishi Bharadwaja as Acharya, Agasty as Brahma, Narada and Basistha as Pracharaka and …. magazines.odisha.gov.in. . odisha.gov.in
[68]. Jahagirdar GD. A comprehensive study on ashruvaha sroto shareera with special reference to srava. 2022. 210.212.169.38
[69]. Bhalerao S, Chitrakar M. Basic Concepts of Therapeutic Nutrition in Ayurveda. Therapeutic Nutrition in Ayurveda. . [HTML]
[70]. Pathak A, Upasani AJ, Rathod K. CONCEPTUAL STUDY ON DOSHA AMSHAMSHA KALPANA WITH SPECIAL REFERENCE TO CHARAKA NIDANA STHANA. 2021. [HTML]
[71]. Wanjarkhedkar P, Pathak YV. Therapeutic Nutrition in Ayurveda. 2024. [HTML]
[72]. Vangi S, Gunari D. Beejotsarga-An Ayurvedic prospective on ovulation. Journal of Ayurveda and Integrated Medical Sciences. 2024. jaims.in