



**INTERNATIONAL JOURNAL  
OF MEDICAL SCIENCE**

journal homepage: <https://www.ijmsci.org/>

## CONCEPT OF HOMEOSTASIS IN AYURVEDA AND MODERN PHYSIOLOGY

**Dr. Prachi Pandey Ojha<sup>1</sup> & Dr. Hemant Ojha<sup>2</sup>**

<sup>1</sup>Associate Professor, Department of Kriya Sharir, Government Ayurvedic College Patiala Punjab,  
Guru Ravidas Ayurvedic University, Hoshiarpur, Punjab.

<sup>2</sup>Sr Consultant, General and Laproscopic Surgery, Park Hospital Patiala Punjab.

**How to Cite the Article:** *Prachi Pandey Ojha & Hemant Ojha (2025). Concept Of Homeostasis in Ayurveda and Modern Physiology. International Journal of Medical Science. 5(1), 2025, 85-96.*

**DOI:** <https://doi.org/10.56815/IJMSCI.V5I1.2025/85-96>

<b>Keywords</b>	<b>Abstract</b>
<p><i>Prakriti, Dosha, Dhatu, Mala, Dhatusamya, Samyavastha, Homeostasis, Equilibrium. Ayurveda, Swasthya, Prakriti, Agni, Physiological Balance.</i></p>	<p>The concept of homeostasis, the ability of the body to stay the same despite changes that occur both inside and outside, is used in contemporary biomedical research. In the ancient Indian medical system, Ayurveda, the concept of homeostasis becomes more comprehensive as metabolic, psychological, spiritual and physiological elements are included. According to Ayurveda norm, a person is healthy, when the Doshas, Dhatus, Malas and Agni are in a balanced state. This balance is critical to maintaining overall health (homeostasis). All type of disagreement is a medical emergency. Ayurveda, the ancient medical system, contains a wealth of insights into life, through its description of the qualities and actions that promote health, pleasure, and longevity. Living a long and healthy life depends on maintaining a steady state of the body, also known as homeostasis.</p>

### 1. INTRODUCTION

Homeostasis is the ability of a biological system to maintain a steady state in response to external factors. It is very important to maintain a balance within the body to survive and function effectively. These complex feedback systems help maintain optimal health and are important for regulating temperature, pH balance, enzymatic activity, metabolic activities, and neuroendocrine balance. Homeostasis is a fundamental physiological process of self-regulatory constant, which maintains internal balance. It is a dynamic system which adapts to its internal



and external environment in order to maintain the life process. Systemic dysregulation, impaired cellular communication and metabolic dysfunction caused by alterations in homeostasis have been linked to the development and progression of inflammatory diseases, metabolic dysfunction, chronic and degenerative diseases. Organ failure and death may ensue from an imbalance that cannot be restored to homeostasis. The role of homeostatic integrity in preventative and therapeutic approaches to health care is highlighted by the fact that it is essential to good physiological function, disease resistance and overall health. For modern medicine, the most basic definition of homeostasis refers to regulation of an organism's systems and organs so that they function optimally at all times. Ayurveda, an ancient and extensive system of medicine, goes one step further and claims that the physical, mental, emotional and spiritual well-being are all interconnected.

## 2. METHODOLOGY

The purpose of this narrative review is to investigate how Ayurvedic ideas on homeostasis relate to current physiological understandings. This study brings together modern knowledge of regulatory systems, feedback loops, and physiological homeostasis with traditional *Ayurvedic* ideas such as *Agni*, *Prakriti*, *Samyavastha*, and *Tridosha* balance.

**Search Strategy:** Electronic databases including *PubMed*, *Google Scholar*, *Scopus*, *AYUSH Research Portal*, *DHARA*, and *Web of Science* were used to do a thorough literature search. The following Ayurvedic classics and their commentary were examined in detail: *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, and others. Use of the following keywords and Boolean combinations was made possible: "Homeostasis in Ayurveda," "*Samyavastha*," "*Tridosha balance*," "*Dhatu samya*," "*Agni and homeostasis*," "*Panchakarma and regulation*," "*Ayurveda and physiological balance*," "Feedback mechanisms in *Ayurveda*," and so on.

**Review Methodology:** The primary focus was on literature written between 2000 and 2025, while classical Ayurvedic works were considered regardless of when they were published. We found and evaluated full-text publications, review papers, and genuine commentary. Modern homeostatic processes and Ayurvedic principles of balance were compared with a focus on their conceptual, structural, and functional similarities. To combine ancient Ayurvedic knowledge with modern scientific findings, a narrative synthesis method was used. Since this review is more theoretical and exploratory in character, no meta-analysis was conducted.

**Data Synthesis:** The retrieved data was categorised according to the following main themes: Ayurvedic view on homeostasis, Ayurvedic history of medicine, basic principles (*Tridosha*, *Panchakarma*, *Samshodhana* and *Samshamana*), feedback mechanisms (*Samanya-Vishesha*), real-life applications of homeostatic regulation, and integration with contemporary physiology. Connections between the *Dosha-Dhatu-Mala* balance and contemporary regulatory frameworks were the focus of particular investigation.

**Ethical Consideration:** Ethical clearance was unnecessary for this study since it is a survey of existing material and classic works. Proper citation of all sources has been ensured to maintain academic integrity.



**INCLUSION AND EXCLUSION CRITERIA**

**Inclusion Criteria:** To be considered for inclusion in this review, literature has to fulfil certain requirements:

- The *Samyavastha*, *Tridosha equilibrium*, *Dhatusamya*, *Agni*, *Panchakarma*, *Samshodhana*, *Samshamana*, and related principles of balance are described in classical *Ayurvedic* literature and commentaries.
- Academic works and reviews pertaining to contemporary physiology's homeostasis, feedback mechanisms in the body, regulatory systems, and internal balance.
- Research or articles that look at how *Ayurvedic* ideas of equilibrium relate to contemporary medical practices.
- Books, scholarly papers, and genuine *Ayurvedic* texts published in English that have undergone peer review.
- Classical *Ayurvedic* works written between 2000 and 2025 are included, regardless of publication date.

**Exclusion Criteria:** Things that weren't considered during the evaluation were:

- Pieces that gloss over homeostasis and other balancing processes in favour of other *Ayurvedic* ideas.
- Physiological control and internal homeostasis are not the focus of these studies.
- Opinion pieces, editorials, conference abstracts, and non-peer-reviewed works that do not include major references to classical or scientific literature.
- Research that fails to address the importance of grasping concepts by focusing only on people with diseases or animal models.
- Publications that do not use the English language.
- Publications that are too similar to one another or that lack enough theoretical or methodological rigour.

**3. HISTORICAL DEVELOPMENT**

Wisdom regarding health and healing was written in the ancient Indian sacred scriptures called the Vedas, by the wise men and women of the Vedic era. How the root of Ayurveda may lie. Many diseases, their symptoms and remedies are elaborately described in these books, particularly in the Atharva Veda [1]. It is because of the efforts of the great thinker, Charaka and Sushruta, that Ayurveda has developed and grown over the years. Sushruta Samhita and Charaka Samhita have been regarded as classics in alternative medicine due to the vast knowledge they have about the identification of the disease, its treatment and its prevention [2]. Ayurveda or the "science of life" in Sanskrit is an ancient medical practice that takes a holistic approach. In Ayurveda, the balance of the body, mind and spirit is emphasized, and the



prevention of illness and promotion of health is achieved through natural remedies, diet and lifestyle changes. A comprehensive chronology of Ayurveda's evolution in India is shown here:

### **Period of the early Vedas (1500-1000 BCE)**

The *ayurvedic* principles are based upon the ancient Vedic literature including *Yajurveda*, *Rigveda* and *Atharvaveda*. The books cover healthy lifestyle recommendations, surgical techniques, therapeutic plants, etc. The *Ayurvedic* healing rituals were conducted by priests and healers in temples, highlighting the deep religious and spiritual connections of the practice.

### **Ancient Greece (1000–500 BCE)**

The time saw significant advances in Ayurveda, including the compilation of a number of important texts. Of these, the three most important works are *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*. These books discussed the topics such as anatomy, physiology, pathology, diagnosis, and therapy, which enabled the students to have a comprehensive base in *Ayurvedic* medicine. Particularly well-respected for its surgical contributions, the *Sushruta Samhita* details more than 120 different tools and techniques used in surgery [3–4].

### **The period prior to classical antiquity (500-300 BCE)**

During this period, various schools of Ayurveda developed, all with unique methods of diagnosis and treatment. The *Charaka School*, the *Sushruta School* and the *Vagbhata School* were the most renowned. Despite the differences, all of these schools highlighted the importance of a healthy lifestyle, including the use of herbal medicine and behaviors changes, and a healthy diet [5].

### **Ayurvedic Golden Age (300–1000 CE)**

During this period the renowned physicians and scholars came to the peak of their powers, and it was a turning point for the development of Ayurveda. Some of the prominent personalities of the time were *Sushruta*, *Nagarjuna* and *Charaka*. The *Ayurvedic* system of medicine was also well-known and highly esteemed; and the scriptures were translated into other languages such as Persian and Arabic. Medical institutions like hospitals, clinics and medical schools were also established by the *Ayurvedic* practitioners [6].

### **In the period 1000-1500 CE, Ayurveda went into a decline.**

Unfortunately, allopathic treatment and foreign invasion were a setback to the popularity of ayurveda. Allopathic medicine was preferred by the educated elite because it was based on scientific testing and modern drugs. The belief that Ayurveda is pseudo-science and out of date is the reason for a drastic decline in Ayurveda practice [7].

### **Ayurvedic Rites of Redemption (1500s-today)**

Indian academics and nationalists in the nineteenth century started a renaissance in Ayurveda. Swami Vivekananda, as well as Mahatma Gandhi, advocated for the revival of traditional Indian medicines. In the 1900s, a number of Ayurvedic universities were established and the administration gave encouragement to Ayurvedic research and education. Today, Ayurveda is deemed to be a legitimate system of medicine in India and is commonly employed with



allopathic medicine. The rich and convoluted history of Ayurveda goes back many millennia. In spite of setbacks and difficulties, Ayurveda is still very much alive and well in modern-day India. Its holistic approach and emphasis on natural medicines have made it a popular choice for those seeking alternative or complementary healthcare options.

#### 4. AYURVEDIC PERSPECTIVE ON HOMEOSTASIS

Ayurveda, the ancient science of life, is deeply rooted in the principle of,

“यत् पिण्डे तत् ब्रह्मण्डे” | “यत् ब्रह्मण्डे तत् पिण्डे”

##### “Yat Pinde Tad Brahmande”

Cited in the Vedanta Darshan article. It means "Whatever is present inside the body is also found in the universe" which means "Your body is a miniature universe." According to Versha and Sawhney [8], human physiology reflects the natural world, and this idea shows that there is a basic connection between the microcosm (the human body) and the macrocosm (the cosmos). Pancha Mahabhuta, which means "Earth," "Water," "Fire," "Air," and "Ether," are the building blocks of both the outside (Loka) and interior (Purusha) environments. We are all interdependent on one another, according to the Ayurvedic precept "Sarva Dravyam Paanchabhautikam" (all substances are formed up of the five everlasting elements). Keeping the body in a state of samyavastha (homeostasis) is dependent on the dynamic interplay of various surroundings [8].

Pancha Mahabhuta, which means "Earth," "Water," "Fire," "Air," and "Ether," are the building blocks of both the outside (Loka) and interior (Purusha) environments. We are all interdependent on one another, according to the Ayurvedic precept "Sarva Dravyam Paanchabhautikam" (all substances are formed up of the five everlasting elements). Keeping the body in a state of samyavastha (homeostasis) is dependent on the dynamic interplay of various surroundings [8].

According to Ayurveda, a state of homeostasis is reached when the internal (Purusha) and exterior (Loka) environments are balanced. The capacity of the body to adjust and harmonise with outside influences, such changes in the seasons, food, lifestyle, and mental moods, defines its state of health. The body is at its most healthy and balanced condition, known as samyavastha, when this adaptation goes off without a hitch. The inverse is also true: as was thavastha, an imbalance or illness, results from refusing to adapt to outside forces [9].

#### 5. FUNDAMENTAL PRINCIPLES

- **Panchakarma**

Panchakarma is an integral component of Ayurveda that involves cleansing the body and soul. Panchakarma is a method of whole-body medicine, which purifies and reorganizes the entire human body. Its foundation is the ayurvedic principles which state that every human being is a unique manifestation of one of the 5 elements – Earth, Air, Fire, Water and Ether. The tridosha consists of three components: pitta, kapha and vata, each individual's particular constitution is different. When this delicate equilibrium is upset, disorder and illness ensue. Since it depends



on the individual constitution and illness of the person, it is very important to supervise and monitor an individual during panchakarma therapy. After pre-purification (Snehan and Svedana) it adds washing treatments (Shodanas).

- **Tridosha theory**

Tridosha Hypothesis is an essential concept in Ayurveda, and it provides a concise and thorough understanding of health. It says that all the physiological processes are regulated by the three fundamental energies (doshas) namely Pitta, Kapha and Vata. Each person has different amounts of each dosha which make him/her unique in appearance, personality and health risks. In Ayurveda, there are several methods for achieving dosha balance, such as using herbs, dietary changes, lifestyle adjustments, and Panchakarma.

- **Therapeutic modalities**

- The basis of Ayurvedic medicine is herbs, spices and plant extracts. A wide range of formulations, such as decoctions, infusions, tablets, powders, and oils, are made from these herbal treatments. The following herbs are used frequently in Ayurveda: ashwagandha, holy basil, neem, ginger and turmeric [10].
- The tenet of Ahara (correct nutrition) is the foundation of Ayurvedic food recommendations. For optimum health, a well-balanced diet is necessary. Suggestions for diet are given according to the individual's specific dosha constitution and medical condition. In Ayurvedic massage (Abhyanga), the aromatic oils used have medicinal properties [11]. It aids relaxation and relieves tension in muscles and aids improved circulation. In addition, a special form of massage called shirodhara is used to treat some ailments, in which oil is poured over the forehead. Yoga and meditation are important tenets of Ayurveda which is a health oriented system with the motive of improving health from within. Yoga postures, breathing exercises and meditation techniques are helpful to achieve balance of the three doshas, to increase mental clarity and to reduce stress [12]. In Ayurveda, it is strongly recommended to live harmoniously with the natural cycles. Regular exercise, adequate rest and stress management are part of ayurvedic health care. The holistic approach towards health and wellness has turned Ayurveda into a worldwide phenomenon. It offers a comprehensive approach to uncover imbalances and not just solve them [13].

## 6. UNDERSTANDING FEEDBACK MECHANISMS OF HOMEOSTASIS IN AYURVEDA

Similar to a positive feedback mechanism in which the output amplifies the stimulus leading to an increase in the process, the Samanya Vishesh Siddhantha (theory of similarity and dissimilarity) explains that similarity enhances the quality and intensity of a physiological function [14]. This is shown in blood coagulation, where the conversion of prothrombin to thrombin initiates the formation of more thrombin molecules, which in turn activates factor V, which aids in the conversion of prothrombin to thrombin. [15] Regarding the regulation of TSH secretion, wherein an increase in thyroxine inhibits secretion and a decrease in thyroxine stimulates it, Vishesh explains that dissimilarity reduces the intensity and quality of a physiological function, similar to a negative feedback mechanism. The imbalance is restored



when the Pravrutti of Samanya and Vishesha causes the Dosha, Dhatu, and Mala to rise or fall from their natural levels.

### ***Examples of Homeostasis in Ayurveda***

1. Chaya – The state when vitiated Dosha builds up in its own location is known as Dosha Chaya. In this state, the body actively works against its own advancement by craving foods and engaging in activities that go against the [17] aspects of the Dosha that has gone through Chaya. In an effort to restore balance, the body is responding in this way to Chaya.
2. Dosha Kshaya –Attaining homeostasis and balance is possible after a decrease in any dosha since the urge to eat and engage in activities that boost that dosha returns.
3. Vata Vriddi – The frigid attribute, Sheetha Guna, is bestowed onto Vata Dosha. To keep Vata Dosha from becoming more imbalanced and disrupting homeostasis, the body starts seeking things with Ushna Guna (hot property) when Vata Vriddhi is present [19].
4. Raktha Kshaya—Raktha Dhatu's quantitative and qualitative reduction is Raktha Kshaya. [20] One characteristic will be a desire for cold and sour foods. Due to their role in iron absorption, sour citrus fruits contribute to an improvement in Raktha Dhatu quality. In order to maintain a steady internal environment, the body responds to a decrease in the amount of Raktha Dhatu by expressing a desire for cold food, or Sheetha Dravya. This action increases the quantity of Raktha Dhatu, or Drava Guna.

## **7. MECHANISMS OF MAINTAINING HOMEOSTASIS IN AYURVEDA**

To keep or return Agni, Doshas, Dhatus, and Malas in harmony, Ayurveda offers a number of approaches. Two major methodologies may be used to categorise these strategies.

1. Samshodhana: Eliminating built-up poisons (Ama) from the body is the goal of purification therapies like Samshodhana.

There are five main forms of Panchakarma, or cleansing treatments, and they are,

- Vamana (Therapeutic Emesis): Methods for eliminating excess Kapha via inducing vomiting. [22]
  - Virechana (Therapeutic Purgation): Therapeutic purgation, or varechana, involves using laxatives to rid the body of pollutants associated with Pitta. [23]
  - Basti (Medicated Enema): This method is mostly used to treat Vata diseases. It aids in colon cleansing and restores the balance of Doshas. [24]
  - Nasya (Nasal Administration): Nasya, also known as nasal administration, is a method of cleansing the scalp and neck. [25] The
  - Rakta Mokshan (Bloodletting): Rakta Mokshan, also known as bleeding, is a method for purging the blood of toxins, and it is most often used for Pitta Dosha disorders. [26] By removing pollutants and strengthening Agni's activity, these treatments hope to cleanse the body's channels (Srotas) and restore balance. [27]
2. Samshamana: In Palliative Therapies Samshamana, the goal is to balance the doshas by changes to one's food, herbal medicines, physical activity, and way of life. Its goal is to bring harmony back without purging anything. [28]



- Nutrition and Diet (Ahara): Stresses the need of a personalised diet according to one's Prakriti, the time of year, and current health status. Each food is classified according to its rasa (taste), virya (potency), vipaka (effect after digestion), and prakha (unique effect), all of which contribute to the balance of the individual doshas. [29]
- To keep the doshas in harmony, one may turn to herbal remedies such as ghee for Pitta, honey for Kapha, and medicated oils for Vata. [30]
- Dinacharya and Ritucharya are books on lifestyle and routine that provide advice on how to adjust one's habits on a daily and seasonal basis so that one may stay in harmony with nature. [31] in
- Rejuvenation treatments like Rasayana may help with illness prevention and management by boosting energy, immunity, and general health. [32]

## 8. THE CONFLICT BETWEEN THE TRADITIONAL WAY OF AYURVEDA AND THE MODERN MEDICAL PRACTICE

In a few significant ways, modern medicine differs from the ancient Ayurvedic approach: Ayurvedic medicines may be less effective than those made with pharmaceuticals, since they can be composed of a variety of natural substances, and there's not a set protocol for their use. This is quite opposite to the modern approach of pharmaceuticals, which is to chemically synthesize them in a controlled laboratory. The emphasis in Ayurvedic practice is on individuality, rather than SOPs, which are common in modern medicine. This makes them disagree strongly with each other [30]. Due to the lack of strong scientific studies and scientific evidence for most ayurvedic treatments, it is difficult to integrate ayurveda in conventional medicine. Issues in Integration: Some problems related to integration of Ayurveda with modern medicines are the lack of trust, technology incompatibility problem, operational coordination problem and regulatory issues. While the holistic approach of patient care is the hallmark of Ayurveda, contemporary medicine has reductionist view. The need to be careful not to simplify Ayurveda and the need for the bridge between traditional medicine and modern medicine. Some think that the Ayurvedic medicines are harmless and thus self-medicate or injure themselves due to misconceptions about the safety of these medicines. Addressing these challenges through standardisation, evidence-based research, and collaborative efforts will be essential in successfully integrating Ayurveda and modern medicine to provide safe and efficient healthcare for patients [31].

### Validation and scientific study

There are increasing numbers of studies that demonstrate that Ayurvedic medicine, treatments and formulations are effective. However, in clinical trials, Ayurveda has been demonstrated to be helpful in the treatment of various diseases such as anxiety, diabetes, hypertension, and arthritis [32].

### Complementary and integrative medicine

With the growing popularity of its use as an adjunct and complementary medicine, Ayurveda has been increasingly used to enhance health and therapeutic results when combined with



western medicine [33]. The conventional treatments might have adverse effects which can be reduced and healing process can be accelerated using Ayurvedic medicines.

### **Way of life and health**

These health and life style fads have incorporated Ayurvedic knowledge into their activities today, like sattvic eating, yoga, meditation and other such disciplines. These techniques are used and praised by many people due to their positive impacts on their health, happiness and quality of life [34].

### **Holistic health resorts and Ayurvedic spas**

The demand for relaxation, rejuvenation and healing has been growing and people are increasingly seeking out Ayurvedic spas and health retreats. These retreats combine a range of Ayurvedic treatments, therapies and lifestyle changes to enhance psychological, emotional and physiological wellbeing [35].

## **9. CONCLUSION**

The ancient Indian medical system of Ayurveda has a long and complicated history, dating back several centuries. Balance and harmony between the mental, physical, and spiritual are key to its tenets and practices. Besides promoting healing and wellness with natural remedies, Ayurveda emphasizes on prevention and personalized treatment. Though Ayurveda has a long history and contributed to healthcare system significantly, but it has experienced collapse in several times particularly during the colonial times. But Ayurveda has had a renaissance in the last few decades, on a worldwide and Indian scale. The goal of the Ayurvedic practitioner is to achieve or restore whole balance. With a comprehensive understanding of these key concepts and appropriate preventive and therapeutic measures, Ayurveda offers a comprehensive approach for achieving and maintaining overall wellness.

## **10. AUTHOR(S) CONTRIBUTION**

Dr. Zealous Mary comprehended and conducted the study, as well as evaluated and interpreted the results. Dr. Vathana wrote and updated the main manuscript. All authors read and approved the final version of the manuscript.

## **11. LIMITATIONS**

The size of the sample was very small. The study was completely conducted on senior citizens.

## **12. RECOMMENDATIONS**

Needs to conduct in Tai-chi exercise to assess the physical problems in old age people. Comparison research may be done to discover changes in adults and old age Recommend to do this study as qualitative research.



**13. ACKNOWLEDGEMENT**

Individuals / resources participated in the work are acknowledged properly.

**14. SOURCES OF FUNDING**

The authors received no financial aid to support the study.

**15. PLAGIARISM POLICY**

The authors declare that any kind of violation of plagiarism, copyright, and ethical matters will be handled by all authors. Journalists and editors are not liable for the aforesaid matters.

**16. CONFLICT OF INTEREST**

The authors declared that no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

**17. PROTECTION OF RESEARCH PARTICIPANTS**

This study do not involve any such criteria or condition.

**18. REFERENCES**

- [1]. Sharma, S. K., Singh, D., Pandey, H., Jatav, R. B., Singh, V., & Pandey, D. (2022). An overview of roles of enzymatic and nonenzymatic antioxidants in plant. In T. Aftab & K. R. Hakeem (Eds.), *Antioxidant defense in plants*. Singapore: Springer. [https://doi.org/10.1007/978-981-16-7981-0\\_1](https://doi.org/10.1007/978-981-16-7981-0_1)
- [2]. Singh, D., et al. (2022). Secondary metabolite engineering for plant immunity against various pathogens. In T. Aftab & K. R. Hakeem (Eds.), *Metabolic engineering in plants*. Singapore: Springer. [https://doi.org/10.1007/978-981-16-7262-0\\_5](https://doi.org/10.1007/978-981-16-7262-0_5)
- [3]. Pandey, M. M., Rastogi, S., & Rawat, A. K. S. (2013). Indian traditional Ayurvedic system of medicine and nutritional supplementation. *Evidence-Based Complementary and Alternative Medicine*, 2013, 376327. <https://doi.org/10.1155/2013/376327>
- [4]. Shi, Y., Zhang, C., & Li, X. (2021). Traditional medicine in India. *Journal of Traditional Chinese Medical Sciences*, 8, S51–S55. <https://doi.org/10.1016/j.jtcms.2020.06.007>
- [5]. Jaiswal, Y. S., & Williams, L. L. (2016). A glimpse of Ayurveda: The forgotten history and principles of Indian traditional medicine. *Journal of Traditional and Complementary Medicine*, 7(1), 50–53. <https://doi.org/10.1016/j.jtcme.2016.02.002>
- [6]. Honwad, S. (2017). *Origin & development of Ayurveda*.
- [7]. Li, X. L., Wu, L., & Wang, Z. (2022). A brief introduction of Ayurvedic medical classics. *Zhonghua Yi Shi Za Zhi*, 52(1), 33–40. <https://doi.org/10.3760/cma.j.cn112155-20210423-00059>
- [8]. Versha, P., & Sawhney, S. (2018). A review on homeostasis in Ayurveda. *World Journal of Pharmaceutical Research*, 7(14), 239–246. <https://doi.org/10.20959/wjpr201814-12754>



- [9]. Kumar, M., Panda, S. K., & Nehra, N. (2023). Doctrine in Tridosha Samyata vis-à-vis homeostasis. *World Journal of Pharmaceutical Research*, 12(9), 995–1005. <https://doi.org/10.20959/wjpr20239-28278>
- [10]. Wu, L., Chen, W., & Wang, Z. (2021). Traditional Indian medicine in China: The status quo of recognition, development and research. *Journal of Ethnopharmacology*, 279, 114317. <https://doi.org/10.1016/j.jep.2021.114317>
- [11]. Al Mahmud, A., Siddiqui, S. A., Karim, M. R., Al-Mamun, M. R., Akhter, S., Sohel, M., Hasan, M., Bellah, S. F., & Amin, M. N. (2023). Clinically proven natural products, vitamins and mineral in boosting up immunity: A comprehensive review. *Heliyon*, 9(4), e15292. <https://doi.org/10.1016/j.heliyon.2023.e15292>
- [12]. Kakodkar, P., Sharma, R., & Dubewar, A. P. (2021). Classical vs commercial: Is the “efficacy” of chyawanprash lost when tradition is replaced by modernization? *Journal of Ayurveda and Integrative Medicine*, 12(4), 751–752. <https://doi.org/10.1016/j.jaim.2021.08.014>
- [13]. Verma, S. K., Pandey, M., Khare, R., & Singh, D. (2024). A review on non-small cell lung cancer. *Vacunas*. <https://doi.org/10.1016/j.vacun.2023.12.003>
- [14]. Vaidya Jadavaji Trikamji Acharya. (2017). *Charaka Samhita of Agnivesha with Chakrapani Datta's Ayurveda Deepika commentary* (Sutrasthana 1/44, Reprint ed., p. 9). Varanasi: Chaukambha Sanskrit Sansthan.
- [15]. Sembulingam, K. (2012). *Essentials of medical physiology* (6th ed., p. 130). New Delhi: Jaypee Publications.
- [16]. Sembulingam, K. (2012). *Essentials of medical physiology* (6th ed., p. 41). New Delhi: Jaypee Publications.
- [17]. Krishna Ramchandra Shastri Navre. (2018). *Ashtangahrdayam of Vagbhata with Arunadatta's Sarvangasundara and Hemadri's Ayurvedarasayana commentary* (Sutrasthana 12/22, Reprint ed., p. 195). Varanasi: Chaukambha Surabharati Prakashan.
- [18]. Vaidyjadavji Trikamjiacharya. (2002). *Sushruta Samhitha of Sushruta with Dalhana's Nibandhasangraha commentary* (Sutrasthana 15/29, 7th ed., p. 73). Varanasi: Chaukambha Orientalia.
- [19]. Krishna Ramchandra Shastri Navre. (2018). *Ashtangahrdayam of Vagbhata with Arunadatta's Sarvangasundara and Hemadri's Ayurvedarasayana commentary* (Sutrasthana 11/6, Reprint ed., p. 183). Varanasi: Chaukambha Surabharati Prakashan.
- [20]. Krishna Ramchandra Shastri Navre. (2018). *Ashtangahrdayam of Vagbhata with Arunadatta's Sarvangasundara and Hemadri's Ayurvedarasayana commentary* (Sutrasthana 11/17, Reprint ed., p. 185). Varanasi: Chaukambha Surabharati Prakashan.
- [21]. Ballot, D., Baynes, R. D., Bothwell, T. H., Gillooly, M., Macfarlane, J., Macphail, A. P., et al. (1987). The effects of fruit juices and fruits on the absorption of iron from a rice meal. *British Journal of Nutrition*, 57(3), 331–343.
- [22]. Tripathi, I. (2006). *Ashtanga Hridaya (Vamana Chapter)* (p. 235). Varanasi: Chaukambha Sanskrit Pratishthan.
- [23]. Acharya, Y. T. (1999). *Susruta Samhita (Virechana Chapter)* (p. 308). Varanasi: Chaukambha Orientalia.
- [24]. Dash, B. (1983). *Panchakarma therapy in Ayurveda* (p. 146). Varanasi: Chaukambha Sanskrit Series Office.



- [25]. Mishra, B. (1998). *Bhavaprakasha Nighantu (Nasya Chapter)* (p. 59). Chaukhambha Bharati Academy.
- [26]. Bhishagratna, K. (1991). *Sushruta Samhita (Rakta Moksha Chapter)* (p. 98). Kalyani Publishers.
- [27]. Murthy, K. R. S. (2005). *Astanga Sangraha* (p. 45). Varanasi: Chaukhambha Orientalia.
- [28]. Chopra, A., & Doiphode, V. V. (2002). Ayurvedic medicine. *Medical Clinics of North America*, 75.
- [29]. Frawley, D. (2004). *Ayurveda and the mind: The healing of consciousness* (p. 98). Lotus Press.
- [30]. Singh, D., Verma, S. K., Wani, K. I., & Aftab, T. (2024). An overview of metal and metalloid toxicity and signaling in plants. In T. Aftab (Ed.), *Metals and metalloids in plant signaling* (pp. 1–17). Cham: Springer. [https://doi.org/10.1007/978-3-031-59024-5\\_1](https://doi.org/10.1007/978-3-031-59024-5_1)
- [31]. Chopra, A., & Phode, V. V. (2002). Ayurvedic medicine: Core concept, therapeutic principles, and current relevance. *Medical Clinics of North America*, 86(1), 75–89. [https://doi.org/10.1016/S0025-7125\(03\)00073-7](https://doi.org/10.1016/S0025-7125(03)00073-7)
- [32]. Gupta, R. (2024). Integrating Ayurveda with modern medicine for enhanced patient care: Analysis of realities. *The Physician*, 9, 1–6. <https://doi.org/10.38192/1.9.1.3>
- [33]. Olbara, G., Parigger, J., Njuguna, F., Skiles, J., Sitaresmi, M. N., Gordijn, S., van de Ven, P., Kaspers, G., & Mostert, S. (2018). Health-care providers' perspectives on traditional and complementary alternative medicine of childhood cancer in Kenya. *Pediatric Blood & Cancer*, 65(12), e27309. <https://doi.org/10.1002/pbc.27309>
- [34]. Palileo-Villanueva, L. M., Palafox, B., Amit, A. M. L., Pepito, V. C. F., Ab-Majid, F., Ariffin, F., Balabanova, D., Isa, M.-R., Mat-Nasir, N., My, M., Renedo, A., Seguin, M. L., Yusoff, K., Dans, A. L., & McKee, M. (2022). Prevalence, determinants and outcomes of traditional, complementary and alternative medicine use for hypertension among low-income households in Malaysia and the Philippines. *BMC Complementary Medicine and Therapies*, 22(1), 252. <https://doi.org/10.1186/s12906-022-03730-x>
- [35]. Peltzer, K., & Pengpid, S. (2019). A survey of the training of traditional, complementary, and alternative medicine in universities in Thailand. *Journal of Multidisciplinary Healthcare*, 12, 119–124. <https://doi.org/10.2147/JMDH.S189644>

