International Journal of Science, Strategic Management and Technology
Volume **02** Issue **07** July- **2026** | ISSN: **3108-1762 (Online)** | Impact Factor: 3.8
An International, Peer-Reviewed, Open Access Scholarly Journal Indexed in recognized academic databases

A Methodological Framework for Developing Ayurveda-Based Herbal Infusions: Bridging Classical Ayurvedic Principles and Modern Product Development

Dr. Devanshi Sharma[1], Prof. Sarvesh Kumar Agrawal[2]

[1]PG scholar, *Swasthvritta* and Yoga, National Institute of Ayurveda, Jaipur.

[2]Professor, *Swasthvritta* and Yoga, National Institute of Ayurveda, Jaipur.

https://doi.org/10.55041/ijsmt.v2i7.004

Cite this Article: Sharma, D. (2026). A Methodological Framework for Developing Ayurveda-Based Herbal Infusions: Bridging Classical Ayurvedic Principles and Modern Product Development. International Journal of Science, Strategic Management and Technology, *02*(7). https://doi.org/10.55041/ijsmt.v2i7.004

Abstract

Herbal infusions have emerged as an important category of functional beverages owing to their nutritional, therapeutic, and consumer appeal. Although Ayurveda provides a comprehensive pharmacodynamic framework for the rational selection and application of medicinal plants, these classical principles are seldom incorporated into the contemporary development of herbal infusions. Existing formulation approaches primarily emphasize phytochemical composition, pharmacological activity, and sensory attributes, with limited consideration of Ayurvedic concepts governing ingredient selection, processing, and therapeutic applicability. This conceptual methodology paper was developed through a narrative synthesis of classical Ayurvedic literature and contemporary scientific evidence. Authoritative Ayurvedic texts, including the *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, and relevant *Nighantus*, were reviewed alongside published literature on herbal infusions, functional beverages, sensory evaluation, and botanical product development. The evidence was critically synthesized to identify methodological gaps and formulate a structured framework for herbal infusion development. The literature demonstrated that classical Ayurvedic concepts, particularly *Dravya*, *Rasa*, *Guna*, *Virya*, *Vipaka*, *Prabhava*, *Anupana*, and *Kalpana*, provide a robust theoretical basis for formulation design. However, these principles remain inadequately integrated into current herbal beverage research. A comprehensive methodological framework was therefore proposed, encompassing sequential stages of defining the intended health objective, Ayurvedic herb selection, pharmacodynamic evaluation, formulation design, application of *Phanta Kalpana*, organoleptic optimization, physicochemical characterization, quality assessment, consumer acceptability, and future validation. The framework bridges traditional Ayurvedic pharmaceutics with contemporary product development practices and provides a reproducible approach for developing evidence-informed herbal infusions.

Keywords: Herbal Infusions, Functional Beverages, Product Development, Ayurveda.

1. INTRODUCTION

The global food and beverage industry has witnessed a remarkable shift from products intended solely for nutrition towards those offering additional health benefits. This transition has been driven by increasing consumer awareness regarding preventive healthcare, lifestyle-related disorders, and the demand for natural, plant-based products. Functional beverages, particularly herbal infusions and botanical teas, have emerged as one of the fastest-growing segments within the functional food market owing to their perceived health-promoting properties, ease of preparation, and consumer acceptance.[1] Unlike conventional beverages, herbal infusions are increasingly recognized not only as sources of bioactive phytochemicals but also as dietary interventions capable of supporting overall health and well-being through regular consumption.[2]

Parallel to this global trend, traditional systems of medicine have gained renewed scientific and commercial interest as valuable reservoirs of evidence-informed health practices. Among these, Ayurveda offers a comprehensive framework that integrates food, lifestyle, and medicinal interventions for the preservation of health and prevention of disease.[3] Rather than considering food merely as a source of nutrients, Ayurveda regards dietary substances as biologically active entities possessing distinct pharmacodynamic attributes that influence physiological homeostasis.[4] Classical Ayurvedic texts describe that the therapeutic potential of any substance depends upon the integrated action of *Rasa* (taste), *Guna* (qualities), *Virya* (potency), *Vipaka* (post-digestive effect), and *Prabhava* (specific action), collectively determining its interaction with the human body.[5] These principles provide a sophisticated scientific rationale for selecting, combining, and processing herbs according to the intended physiological response.

Among these pharmacodynamic parameters, *Virya* occupies a particularly significant position because it represents the immediate functional potency responsible for initiating biological activity following administration. Although multiple classifications of *Virya* have been described in classical literature, the concept of *Dvividha Virya*, categorizing substances into *Ushna* (hot potency) and *Sheeta* (cold potency), has gained widespread acceptance owing to its practical applicability in clinical therapeutics and dietetics.[5] The distinction between *Ushna* and *Sheeta Virya* influences digestion, metabolism, thermoregulation, tissue nourishment, and doshic balance, thereby guiding the selection of dietary and medicinal substances according to individual constitution, disease condition, season, and therapeutic objectives. Consequently, the concept extends beyond pharmacotherapy and holds considerable potential for developing evidence-informed functional foods and beverages rooted in Ayurvedic principles.

Herbal infusions provide a particularly suitable platform for translating these classical concepts into contemporary health products. Preparation through aqueous extraction resembles several traditional Ayurvedic pharmaceutical procedures and allows efficient extraction of water-soluble phytoconstituents while maintaining simplicity, consumer convenience, and cultural acceptability. Moreover, herbal infusions can accommodate single or multiple herbs selected according to their Ayurvedic properties, making them attractive candidates for developing personalized and preventive dietary interventions.[6] Despite these advantages, the majority of commercially available herbal teas and functional infusions are formulated primarily on the basis of phytochemical composition, antioxidant potential, flavor profile, or traditional ethnobotanical usage, with limited consideration of classical Ayurvedic pharmacodynamic principles.[7]

Similarly, existing scientific literature predominantly focuses on the pharmacological activities, phytochemistry, sensory attributes, or consumer preferences associated with herbal beverages. While these investigations have contributed substantially to understanding efficacy and market acceptance, they rarely describe a systematic methodology for integrating Ayurvedic principles into formulation design. Published studies often employ empirical herb selection without explicitly considering *Rasa*, *Guna*, *Virya*, compatibility among ingredients, processing methods, or the theoretical rationale governing formulation development. Furthermore, organoleptic optimization and consumer acceptability are generally evaluated as isolated outcomes rather than being incorporated into a comprehensive product development framework. This disconnect between classical Ayurvedic theory and modern product development limits reproducibility, standardization, and scientific interpretation of Ayurveda-based functional beverages.

The growing emphasis on evidence-based traditional medicine, interdisciplinary product development, and regulatory standardization highlights the need for a structured methodological approach capable of bridging these knowledge systems. Such an approach should facilitate rational selection of herbal ingredients based on Ayurvedic pharmacodynamic principles while simultaneously incorporating modern requirements for formulation optimization, sensory evaluation, physicochemical characterization, quality assurance, and consumer acceptability. A transparent framework would not only improve methodological consistency among researchers but also strengthen the scientific credibility and translational potential of Ayurveda-based functional beverages.

Therefore, the present paper proposes a conceptual methodological framework for the development of Ayurveda-based herbal infusions by integrating classical Ayurvedic principles with contemporary product development strategies. Rather than presenting another narrative review of Ayurvedic concepts or herbal beverages, this framework aims to provide a systematic roadmap encompassing ingredient selection, formulation design, processing, organoleptic evaluation, analytical characterization, and future validation. It is anticipated that this framework will support the development of scientifically robust, reproducible, and consumer-acceptable herbal infusions while preserving the theoretical integrity of Ayurveda and facilitating future research in functional beverage development.

AIM

To develop a comprehensive methodological framework for the rational design and development of Ayurveda-based herbal infusions by integrating classical Ayurvedic formulation principles with contemporary product development approaches.

OBJECTIVES

1. To review and synthesize classical Ayurvedic concepts relevant to the formulation of herbal infusions, including *Dravya*, *Rasa*, *Guna*, *Virya*, *Vipaka*, *Prabhava*, *Anupana*, and *Kalpana*.
2. To examine contemporary literature on herbal infusions, functional beverages, sensory evaluation, and product development strategies applicable to botanical formulations.
3. To identify methodological gaps in the current development of Ayurveda-based herbal infusions.

4. To propose a structured, stepwise methodological framework integrating Ayurvedic pharmacodynamic principles with modern formulation design, organoleptic evaluation, quality assessment, and consumer acceptability.
5. To discuss the potential applications of the proposed framework for future research, product standardization, and evidence-based development of Ayurveda-inspired functional beverages.

2. MATERIALS AND METHODS

Study Design

This study was designed as a **conceptual methodological paper** based on a narrative synthesis of classical Ayurvedic literature and contemporary scientific evidence. The objective was not to systematically evaluate intervention outcomes but to integrate multidisciplinary knowledge into a practical framework for the development of Ayurveda-based herbal infusions.

Data Sources

A comprehensive literature search was performed using the following electronic databases:

- PubMed / Medline
- Scopus
- Web of Science
- Google Scholar

Classical Ayurvedic texts were consulted through authoritative editions and digital repositories, including:

- *Charaka Samhita*
- *Sushruta Samhita*
- *Ashtanga Hridaya*
- *Ashtanga Sangraha*
- *Bhavaprakash Samhita*
- *Sharangdhar Samhita*

Conceptual Development Process

The proposed framework was developed through a sequential process consisting of:

1. Identification of Ayurvedic principles governing herbal selection and formulation.
2. Review of modern approaches to functional beverage development.
3. Comparative analysis to identify areas of convergence and methodological gaps.
4. Integration of classical Ayurvedic concepts with contemporary product development stages.

5. Organization of these components into a structured methodological framework representing the logical sequence for designing Ayurveda-based herbal infusions.

Scope of the Framework

The proposed framework is intended to provide methodological guidance for the development of herbal infusions intended for health promotion and wellness. It encompasses stages from conceptualization and ingredient selection through formulation design, processing, organoleptic optimization, quality evaluation, and recommendations for future validation. The framework is conceptual in nature and is designed to support future experimental, analytical, and clinical investigations rather than replace empirical validation.

Ethical Considerations

As this study is a review of published literature and classical texts, no ethical clearance was required. All sources have been appropriately cited to maintain academic integrity.

3. RESULTS

3.1 Classical Ayurvedic Principles Relevant to Herbal Infusion Development

The review of classical Ayurvedic literature demonstrated that the development of herbal infusions can be rationally guided through the integrated application of fundamental pharmacodynamic and pharmaceutical principles rather than empirical herb selection alone. The concepts of *Dravya, Rasa, Guna, Virya, Vipaka, Prabhava, Anupana***,** and *Kalpana* collectively provide a comprehensive scientific basis for formulation development.

Among these, *Dravya* constitutes the primary medicinal substance selected according to the intended therapeutic purpose. The pharmacological behaviour of each Dravya is subsequently determined by the collective influence of *Rasa, Guna, Virya, Vipaka, and Prabhava,* commonly described as the *Rasa Panchaka.* These parameters collectively determine the immediate and post-digestive actions of medicinal substances, their interaction with Doshas, and their therapeutic suitability under different physiological conditions.[8]

The concept of *Virya* is the principal determinant responsible for initiating drug action. Although multiple theories of Virya have been described, the *Dvividha Virya* classification (*Ushna* and *Sheeta*)[9,10] remains the most practical for dietary and pharmaceutical applications due to its direct influence on metabolic activity, digestive function, thermoregulation, and doshic balance.[11,12,13]

The review further highlighted the significance of *Kalpana*, particularly *Phanta Kalpana*, as the classical pharmaceutical procedure most closely corresponding to contemporary herbal infusion preparation.[14,15,16,17] Unlike prolonged decoction methods, *Phanta* preserves volatile and heat-sensitive constituents while producing a formulation that is light, palatable, and suitable for routine consumption.

Additionally, the concept of *Anupana* provides important considerations regarding the vehicle of administration and enhancement of therapeutic action, further supporting the development of evidence-informed functional beverages.[18]

Collectively, these findings demonstrate that Ayurveda possesses a well-defined theoretical foundation capable of guiding the rational design of herbal infusions.

3.2 Contemporary Approaches to Herbal Infusion Development

The review of contemporary literature revealed a rapidly expanding interest in herbal infusions as functional beverages owing to their phytochemical richness, health-promoting properties, and consumer preference for natural products. Existing research has predominantly focused on evaluating antioxidant activity, phytochemical composition, biological efficacy, organoleptic characteristics, physicochemical properties, and consumer acceptability.[19,20]

Product development strategies commonly involve ingredient selection based on published pharmacological evidence, optimization of formulation proportions, sensory evaluation using hedonic scales, physicochemical characterization, microbial quality assessment, and consumer acceptance testing.[21]

Although these approaches have significantly contributed to the development of commercially successful botanical beverages, they remain largely centered on phytochemical and nutritional perspectives. Ayurvedic pharmacodynamic principles are seldom incorporated during ingredient selection, formulation design, or interpretation of product functionality.

3.3 Methodological Gaps Identified

Comparison of classical Ayurvedic principles with current product development practices revealed several important methodological deficiencies.

First, herb selection is predominantly based on phytochemical composition or reported pharmacological activity rather than systematic consideration of *Rasa, Guna, Virya, Vipaka***,** and *Prabhava.*

Second, contemporary formulation studies rarely justify ingredient combinations according to Ayurvedic compatibility principles, resulting in limited theoretical transparency.

Third, classical pharmaceutical procedures such as *Phanta Kalpana* are infrequently acknowledged despite their close similarity to modern herbal infusion preparation techniques.

Fourth, organoleptic evaluation and consumer acceptability are generally treated as independent quality assessment tools rather than integrated components of a comprehensive formulation strategy.

Finally, no published methodology describing a structured workflow for developing Ayurveda-based herbal infusions—from concept generation and herb selection to formulation, quality assessment, and consumer evaluation—was identified.

These observations collectively indicate the absence of a standardized methodological framework capable of integrating classical Ayurvedic principles with modern product development practices.

3.4 Development of the Proposed Methodological Framework

Based on the identified evidence, a structured methodological framework was developed for the rational design of Ayurveda-based herbal infusions.

The framework comprises sequential stages beginning with identification of the intended health objective, followed by selection of appropriate medicinal herbs according to Ayurvedic pharmacodynamic principles, assessment of herb compatibility, classification based on *Virya*, selection of suitable pharmaceutical processing through *Phanta Kalpana*, optimization of formulation composition, organoleptic evaluation, physicochemical characterization, quality assurance, consumer acceptability assessment, and recommendations for future biological validation.

Unlike existing formulation approaches that primarily emphasize phytochemical evaluation after product development, the proposed framework incorporates Ayurvedic principles from the earliest stage of formulation planning. This enables scientific justification of ingredient selection while simultaneously addressing modern requirements for product quality, reproducibility, and consumer acceptance.

The framework therefore provides a logical progression from traditional theoretical concepts to practical product development.

3.5 Integration of Classical Ayurvedic Principles with Modern Product Development

One of the major outcomes of this study was the development of a conceptual alignment between Ayurvedic formulation principles and contemporary product development processes.

Table 3.1 Integration of Classical Ayurvedic Principles with Product Development

Modern Product Development Stage	**Corresponding Ayurvedic Principle**
Identification of health objective	Chikitsa Siddhanta / Prayojana
Selection of medicinal herbs	Dravya
Pharmacodynamic characterization	Rasa, Guna, Virya, Vipaka, Prabhava
Selection of extraction method	Kalpana (Phanta)
Formulation optimization	*Yoga and Samyoga*
Sensory optimization	Organoleptic attributes
Quality evaluation	Standardization
Consumer acceptability	Practical applicability
Future validation	Clinical evaluation

DISCUSSION

The present paper proposes a methodological framework for the systematic development of Ayurveda-based herbal infusions by integrating classical Ayurvedic formulation principles with contemporary product development strategies. While herbal infusions have gained considerable popularity as functional beverages owing to their nutritional and therapeutic potential, their development has largely been guided by phytochemical composition, pharmacological evidence, and consumer preference. The present framework addresses an important methodological gap by demonstrating that classical Ayurvedic principles can serve not merely as theoretical concepts but as practical tools for rational formulation design.

One of the most significant observations from the literature synthesis was the existence of two largely independent streams of knowledge. Contemporary research on herbal infusions predominantly focuses on identifying bioactive compounds, evaluating antioxidant and pharmacological activities, and assessing sensory acceptability. Although these investigations contribute substantially to understanding product efficacy and consumer preference, they often lack a structured rationale for selecting and combining herbal ingredients. Conversely, classical Ayurvedic literature provides an extensive pharmacodynamic framework based on *Dravya*, *Rasa*, *Guna*, *Virya*, *Vipaka*, and *Prabhava*, which governs the selection, processing, and therapeutic application of medicinal plants. However, these concepts are rarely translated into contemporary product development methodologies. Consequently, there remains a disconnect between traditional Ayurvedic wisdom and modern functional beverage research, limiting the reproducibility and scientific interpretation of Ayurveda-based formulations.

Among the classical concepts reviewed, *Virya* emerged as the most practically relevant parameter for herbal infusion development. Ayurveda considers Virya to be the immediate expression of a substance's therapeutic potency and the principal determinant responsible for initiating physiological action. Although various theories explaining Virya have been proposed throughout classical literature, the Dvividha Virya classification of *Ushna* and *Sheeta* offers a simple yet functionally meaningful approach for formulation design. Unlike phytochemical classification, which categorizes herbs according to their chemical constituents, Virya classifies substances according to their expected physiological influence on the body. Such a functional classification provides a logical basis for selecting herbs with similar or complementary therapeutic actions while avoiding combinations that may produce conflicting physiological effects. Therefore, within the proposed framework, Virya functions as an operational decision-making criterion rather than merely a descriptive pharmacodynamic attribute.

Another important contribution of this framework is the integration of *Ritucharya* into the formulation process. Seasonal variation is recognized in Ayurveda as an important determinant of physiological balance and disease susceptibility, yet contemporary functional beverage development rarely considers seasonal adaptability beyond consumer preference. Classical recommendations advocate the use of *Ushna Virya* substances during *Hemanta, Shishira, Vasanta, and Varsha*, whereas *Sheeta Virya* formulations are preferred during *Grishma* and *Sharad* to counteract seasonal doshic changes. Incorporating these principles into herbal infusion development enables the design of season-specific beverages that align with Ayurvedic preventive healthcare while also responding to increasing consumer interest in personalized and lifestyle-oriented nutrition. Such an approach expands the application of herbal infusions beyond general wellness products towards evidence-informed dietary interventions.

The review also reaffirmed the pharmaceutical relevance of *Phanta Kalpana* as the classical basis for modern herbal infusion preparation. Although hot-water infusion is routinely employed in the preparation of herbal teas worldwide, its close resemblance to *Phanta Kalpana* has received limited attention within scientific literature. Classical texts describe Phanta as a mild extraction technique particularly suitable for aromatic, delicate, and heat-sensitive herbs, thereby preserving volatile constituents while producing a light and easily digestible preparation. These characteristics correspond closely with contemporary principles of herbal infusion processing. Integrating *Phanta Kalpana* within a modern product development framework not only strengthens the Ayurvedic authenticity of herbal infusions but also provides a scientifically justified rationale for selecting extraction methods according to the physicochemical nature of herbal ingredients.

An additional strength of the proposed framework is its emphasis on organoleptic evaluation and consumer acceptability as integral components of formulation development rather than as isolated quality assessment procedures. Consumer acceptance ultimately determines the practical success of any functional beverage irrespective of its pharmacological efficacy. Modern sensory science provides validated methods for assessing colour, aroma, taste, mouthfeel, appearance, and overall acceptability, whereas Ayurveda has historically recognized sensory perception as an important determinant of food selection and dietary compliance. Integrating these complementary perspectives facilitates the development of formulations that are not only therapeutically appropriate but also acceptable for regular consumption, thereby improving the translational potential of Ayurveda-based functional beverages.

The proposed framework further promotes standardization in an area where considerable methodological variability currently exists. Existing studies frequently differ in herb selection criteria, processing techniques, formulation proportions, sensory evaluation methods, and analytical parameters, making comparison across studies challenging. By presenting a sequential workflow beginning with identification of the intended health objective and extending through ingredient selection, pharmaceutical processing, formulation optimization, organoleptic assessment, physicochemical characterization, and consumer evaluation, the framework provides a reproducible roadmap for future investigations. Such standardization may facilitate greater consistency in research methodology, improve transparency in formulation design, and strengthen the scientific credibility of Ayurveda-inspired functional products.

Despite these strengths, the framework should be interpreted within the context of its conceptual nature. It is intended to guide future research rather than establish definitive formulation protocols. The practical effectiveness of the framework requires validation through experimental product development, sensory evaluation, physicochemical characterization, stability assessment, and clinical investigations. Furthermore, while the framework primarily emphasizes *Dvividha Virya* owing to its practical applicability, future adaptations may incorporate additional Ayurvedic concepts such as *Prakriti*-based personalization, disease-specific formulations, and integration of *Ashtavidha Virya* where appropriate.

Overall, the proposed methodological framework represents an initial step towards bridging classical Ayurvedic pharmaceutics with modern functional beverage science. By systematically integrating pharmacodynamic principles, pharmaceutical processing, quality assessment, and consumer-centered evaluation within a single methodological pathway, it provides a structured foundation for future research and innovation in Ayurveda-based herbal infusions. Wider adoption and subsequent validation of this framework may contribute to the development of standardized, evidence-informed, and culturally

authentic herbal beverages capable of meeting contemporary expectations for safety, efficacy, quality, and consumer acceptability.

CONCLUSION

The increasing demand for functional beverages presents a valuable opportunity to integrate traditional systems of medicine with contemporary product development. While herbal infusions have gained widespread recognition for their nutritional and therapeutic benefits, their development has largely been guided by phytochemical composition and pharmacological evidence, with limited incorporation of the systematic principles described in Ayurveda. This disconnect highlights the need for a structured methodology that preserves the theoretical integrity of Ayurveda while meeting modern expectations for product quality, standardization, and consumer acceptability.

The present paper addresses this gap by proposing a comprehensive methodological framework for the development of Ayurveda-based herbal infusions. By integrating classical concepts such as *Dravya*, *Rasa*, *Guna*, *Virya*, *Vipaka*, *Prabhava*, *Anupana*, and *Kalpana* with contemporary principles of formulation design, organoleptic evaluation, physicochemical characterization, and consumer acceptability, the framework provides a logical and reproducible pathway for product development. Rather than viewing Ayurvedic principles as isolated theoretical constructs, the proposed approach demonstrates their practical applicability as scientific determinants guiding ingredient selection, formulation strategy, processing methods, and quality assessment.

The framework also highlights the translational potential of Ayurveda in the rapidly expanding field of functional foods and beverages. Its interdisciplinary nature bridges Ayurvedic pharmaceutics, food science, sensory evaluation, and product development, thereby offering a common platform for researchers, academicians, and the herbal beverage industry. By promoting methodological transparency and standardization, the framework may facilitate more reproducible research, encourage evidence-informed innovation, and strengthen the scientific credibility of Ayurveda-based formulations.

Although conceptual in nature, this framework establishes a foundation for future experimental validation and refinement. Subsequent studies should evaluate its applicability through formulation development, analytical characterization, stability assessment, sensory optimization, and clinical investigations across diverse populations and health conditions. As Ayurveda continues to gain global recognition, the adoption of structured, scientifically grounded methodologies such as the one proposed in this paper will be essential for translating classical knowledge into safe, effective, and consumer-acceptable functional products. Ultimately, this framework represents a step towards harmonizing traditional Ayurvedic wisdom with contemporary scientific practices, supporting the development of standardized and evidence-based herbal infusions for preventive healthcare and wellness.

REFERENCES

1. Granato D, Barba FJ, Kovačević DB, Lorenzo JM, Cruz AG, Putnik P. Functional Foods: Product Development, Technological Trends, Efficacy Testing, and Safety. *Annu Rev Food Sci Technol.* 2020;11:93–118.
2. Corbo MR, Bevilacqua A, Petruzzi L, Casanova FP, Sinigaglia M. Functional Beverages: The Emerging Side of Functional Foods. *Compr Rev Food Sci Food Saf.* 2014;13(6):1192–1206.
3. Charaka. *Charaka Samhita*, Sutra Sthana 26/65. In: Acharya YT, editor. Varanasi: Chaukhamba Surbharati Prakashan; reprint edition.
4. Sushruta. *Sushruta Samhita*, Sutra Sthana 40/3. In: Acharya YT, editor. Varanasi: Chaukhamba Surbharati Prakashan; reprint edition.
5. Arundatta. Commentary on *Ashtanga Hridaya*, Sutra Sthana 1/17. In: Kaviraj Atrideva Gupta, editor. Varanasi: Chaukhamba Krishnadas Academy; reprint edition.
6. Jeszka-Skowron M, Zgoła-Grześkowiak A, Frankowski R. Analytical methods applied for the characterization of herbal infusions and teas: A review. *Trends Food Sci Technol.* 2022;122:48–63.
7. Chacko SM, Thambi PT, Kuttan R, Nishigaki I. Beneficial effects of green tea: A literature review. *Chin Med.* 2010;5:13.
8. Chakrapani. Commentary on *Charaka Samhita*, Sutra Sthana 26/64–65. In: Acharya YT, editor. Varanasi: Chaukhamba Surbharati Prakashan; reprint edition.
9. Charaka. *Charaka Samhita*, Sutra Sthana 26. In: Acharya YT, editor. Varanasi: Chaukhamba Surbharati Prakashan; reprint edition.
10. Sharma PV. *Dravyaguna Vijnana*. Vol I. Varanasi: Chaukhambha Bharati Academy; 2013. p. 263–278.
11. Charaka. *Charaka Samhita*, Sutra Sthana 26/64. In: Acharya YT, editor. Varanasi: Chaukhamba Surbharati Prakashan; reprint edition.
12. Sushruta. *Sushruta Samhita*, Sutra Sthana 40/5. In: Acharya YT, editor. Varanasi: Chaukhamba Surbharati Prakashan; reprint edition.
13. M. K. Bhojani, Aishwarya Joglekar, Sumedh Joshi, "Veerya" in Charak Samhita New Edition, ed.by Y.S. Deole, page 256, (Jamnagar:CSRTSDC,2020), https://www.carakasamhitaonline.com/index.php?title=Veerya&oldid=42245 (accessed July 30, 2025).
14. *Agnivesha*. *Caraka Samhita*, *Sutrasthan*a 4/7. In: Sharma PV, editor. Varanasi: Chaukhamba Orientalia; 2014.
15. Sushruta. Sushruta Samhita. Sutrasthana 38/25–27. In: Murthy KRS, editor. Varanasi: Chaukhamba Orientalia; 2013.
16. Kashyapa Kashyapa Samhita *(Vriddhajivika Tantra)*, Khila Sthana 3/37. In: Tewari PV, editor. Varanasi: Chaukhamba Visvabharati; p. 454.
17. *Sharangdhar Sharangdhar Samhita Madhyama Khanda Ch. 3* In: Srikanthamurthy KR, editor. Varanasi: Chaukhamba Orientalia; 2012.
18. *Agnivesha. Charaka Samhita*, revised by *Charaka* and *Dridhabala*, with Ayurveda Dipika commentary by Chakrapanidatta. Su. Sthana, Ch. 6, v.13. Jadavaji Trikamji Acharya, editor. Varanasi: Chaukhambha Surbharati Prakashan; 2017.
19. Sridhar, Kandi & Charles, Albert Linton. (2019). Development of functional herbal teas: An integrated valorization towards functional beverages.

https://www.researchgate.net/publication/336485191_Development_of_functional_herbal_teas_An_integrated_valorization_towards_functional_beverages

20. Kinki, Abdela. (2021). A Review on the Production and Uses of Herbal Teas Nutrition and Food Processing
21. Adejoh, Johnson & Patel, Parth & Madu, Chijioke & Ehoche, Elijah. (2021). Formulation, Organoleptic Evaluation, and Acceptability of Various Teas from Underutilized Nutritious Herbs Compared with Marketed Chinese and Yellow Lipton Tea.