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Review Article

APPLICATION OF *GURVADI GUNA* IN AYURVEDIC THERAPEUTICS THROUGH THE PRINCIPLE OF *SAMANYA* AND *VISHESHA*: A CONCEPTUAL REVIEW WITH PHARMACODYNAMIC PERSPECTIVES

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ABSTRACT

Ayurveda is the science which deals with the knowledge of life. Ayurveda focuses on health, disease prevention, diagnosis and treatment through the principle of *Dosha* (functional principles), *Dhatu* (body tissue), *Mala* (excretory product) and *Agni* (digestive fire). Properties of *Dosha*, *Dhatu*, *Mala* are explained with the help of *Gurvadi Gunas* (fundamental qualitative attributes). Also, therapeutic properties of *Dravyas* (medicine) are based on their *Gunas* (properties). These *Gurvadi guna* are applied in Ayurveda therapeutics by using a fundamental law of *Samanya Vishesh Siddhanta* (principle of similarity and dissimilarity). Modern pharmacodynamics explores drug interaction with body which results in specific action. Exploring parallels between modern pharmacodynamics and Ayurveda *Siddhant* can signifies the relevance of Ayurveda *Siddhanta*. This article explores application of *Gurvadi guna* through *Samanya vishesha siddhant* and correlates it with principle of pharmacodynamics. **Method:** A conceptual and comparative review was conducted using classical ayurvedic text, modern pharmacological literature and information from databases such as PubMed, Scopus, Google Scholar. **Result:** *Samanya vishesh viddhant* is fundamental principle for selection of treatment plan based on *Gurvadi guna*. Pharmacodynamics principles such as synergism and antagonism also can be explained through opposite *gunas* like *Guru* (heavy), *Laghu* (light), *Ushna* (hot), *Sheeta* (cold) etc. **Conclusion**: Understanding application of *Samanya vishesh sidhhant* and *Gurvadi guna* in Ayurveda therapeutics through the lense of modern pharmacodynamics can contribute to the scientific validation of Ayurvedic principles and treatment plans.

INTRODUCTION

To establish the relevance of Ayurvedic principles and integrate ayurvedic therapeutics into evidence-based medicine, it is essential to elucidate the mode of action of Ayurvedic drugs. Pharmacological research has shown that nearly half of the phytochemicals derived from ayurvedic herbs interact with recognized protein targets, revealing their multi-targeted effects in neurological and metabolic pathways [1].

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Ayurveda's therapeutic approach is rooted in restoring balance among *Dosha* (functional principle), *Dhatu* (body tissues), *Mala* (excretory products), and *Agni* (digestive fire) through the application of *Gurvadi Guna* (twenty intrinsic qualities) based on the *Panchamahabhuta* Theory (five basic elements).[2] The *Samanya vishesh siddhant* (principle of similarity and dissimilarity) provides a foundational treatment principle: *Samanya* (similarity) enhances a physiological factor, while *Vishesh* (dissimilarity) reduces it[3]. This conceptual framework aligns closely with modern pharmacodynamic principles, wherein drugs produce effects through stimulation, depression, irritation, replacement, or cytotoxicity by acting on defined molecular pathways. Thus, this study seeks to demonstrate that ancient ayurvedic principles are time tested and can be coherently interpreted through the

lens of modern pharmacology. This study aims to connect ayurveda with modern pharmacology by clearly explaining *Gurvadi guna* and *Samanya vishesh siddhanta* in a simple scientific manner. By relating ayurvedic treatment principles to molecular and body level actions, the study helps to improve the scientific understanding and acceptance of Ayurveda in evidence-based medicine.

METHODOLOGY

The literature search for this conceptual review was conducted in accordance with PRISMA principles, adapted for a conceptual study design. Both classical ayurvedic literature and contemporary pharmacological sources were explored. Classical Ayurvedic texts such as *Charaka Samhita* and *Sushruta Samhita* were consulted to understand the concepts of *Gurvadi guna* and *Samanya vishesha siddhanta* in relation to therapeutic drug action. Contemporary pharmacological literature was retrieved from electronic databases including PubMed, Scopus, and Google Scholar. The search strategy employed keywords such as *Gurvadi guna*, *Samanya vishesha siddhanta*, Ayurvedic pharmacodynamics, drug action in ayurveda, qualitative attributes of drugs, and *Panchamahabhuta* theory, used individually and in various combinations with Boolean operators (AND, OR). Retrieved records were screened by title and abstract, and duplicate articles were removed. Full-text articles were then assessed for eligibility. inclusion criteria consisted of free full-length, peer-reviewed articles published in the English language that discussed Ayurvedic principles, *Gurvadi guna*, *Samanya Vishesha siddhanta*, or pharmacodynamic aspects of drug action. Exclusion criteria included non-peer-reviewed content, articles not available in full text, and studies unrelated to Ayurveda, *Gurvadi guna*, *Samanya vishesha siddhanta*, or drug pharmaco-dynamics. The eligible literature was finally included for qualitative and thematic synthesis to explore conceptual correlations between ayurvedic principles and modern pharmacological concepts, with emphasis on their therapeutic application.

RESULT AND DISCUSSION

Gurvadi Guna and *Samanya Vishesha Siddhanta as* a core principle of *Ayurveda*

Normal health status is outcome of harmonious balance among the *Doshas*, *Dhatus*, *Agni* and *Malas*. The normal characteristics and functions of *Dosha*, *Dhatu* and *Mala* are explained through the framework of *Gurvadi gunas*. Pathological state arises when there in deterioration or alteration in normal *Guna* (properties), *Karma* (function) of these entities[4]. *Chikitsa* (treatment) is planned to interrupt *Samprapti* pathology) and restore balance. For this purpose various *Dravyas* (medicines)are selected to correct specific condition.[5] The mechanism of action of these *Dravyas* is described in term of *Rasa* (taste), *Virya* (potency),*Vipak* (Post-digestive effect) and *Prabhav* (specific action)[6]. According to *Panchmahabhuta siddhanta* all substances are composed of *Panchmahabhuta* and exhibits *Gunas* according to the *Mahabhutadhikya* (predominant specific element).[7] The properties of *Mahabhutas* themselves are also interpreted though the *Gurvadi gunas*. Thus, the therapeutic action of *Dravyas* are direct consequences of the *Gurvadi gunas* they exhibit, making *Gurvadi guna* a fundamental principle in understanding pharmacodynamics within the Ayurvedic system (summarized in figure No. 1).[8] *Samanaya vishesh siddhanta* provides basic guidelines for selecting *Dravya*. According to this law, any entity increases if we use properties similar to that entity and decreases if we use properties opposite to that entity. This rise and reduced effect can be achieved in three ways, i.e. *Dravya*, *Guna* and *Karma*. Among these three, *Guna Samanya* and *Guna Vishesha* are broadly used. For example, *Ushna* (hot) *Tikshna* (intense) *Guna* increases *Pitta* and *Sheeta*(cold), *Manda* (mild) *Guna* decreases *Pitta Dosha*.[9] Based on this idea, *Vyadhis* (diseases) and *Chikitsa* (treatment) are categorized into two types, i.e., *Santarpanjanya Vyadhi* (over-nutrition–induced) and *Aptarpanjanya Vyadhi* (under-nutrition–induced). For *Santarpanjanya Vyadhi Langhna Chikitsa* (depletive therapy) is used, and for *Aptarpanjanya Vyadhi Bruhan Chikitsa* (nourishing therapy) is used.[10]

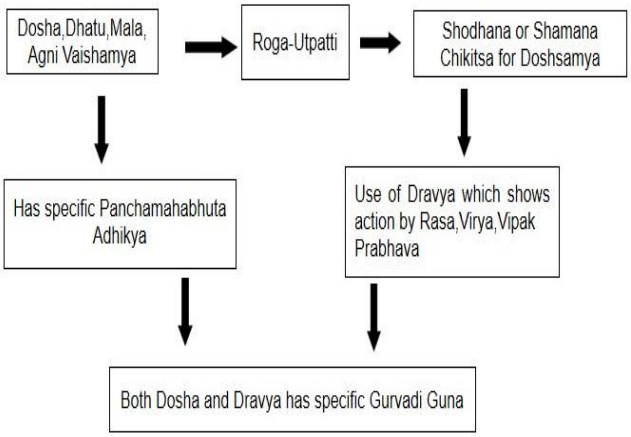

Figure 1: **Conceptual framework illustrating the role of *Gurvadi Guna* in disease causation and therapeutic intervention**

Pharmacodynamics: Insights though the lens of *Samanya-Vishesha Siddhant*

Pharmacodynamics deals with the study of the physiological and biochemical effects of drugs and their mechanisms of action at the organ system, cellular, subcellular, and macromolecular levels.[11] It explains how drugs modify normal or pathological functions of the body after administration. According to modern pharmacology, the basic types of drug action are broadly classified into five categories,

namely stimulation, depression, irritation, replacement, and cytotoxic action. Stimulation refers to the selective enhancement of activity of specialized cells or tissues, whereas depression denotes the selective diminution or suppression of such activity. Irritation involves local or reflex stimulation of tissues, often leading to therapeutic effects such as elimination or regeneration. Replacement therapy refers to the administration of endogenous substances such as hormones, metabolites, vitamins, or minerals in conditions of deficiency. Cytotoxic action involves the selective destruction or attenuation of invading parasites or abnormal cells, such as cancer cells, without causing significant harm to host tissues, thereby aiding in cure or palliation. [11] These five fundamental principles of drug action can be conceptually explained through the ayurvedic principle of *Samanya vishesha siddhant. Samanya* represents similarity leading to enhancement or increase of physiological activity, whereas *Vishesha* denotes dissimilarity resulting in reduction, inhibition, or elimination. Among the five principles of drug action, stimulation, irritation, and replacement predominantly operate through the principle of *Samanya*, as they promote or augment physiological functions. In contrast, depression and cytotoxic actions reflect the principle of *Vishesha*, as they reduce excessive activity or eliminate pathological factors. The relationship between principles of drug action and *Samanya-vishesha siddhant* is summarized in Table No.1. Furthermore, the modern pharmacological concepts of synergism and antagonism closely resemble the Ayurvedic principles of *Samanya* and *Vishesha*. When the action of one drug is facilitated or enhanced by another, the interaction is termed synergism, corresponding to *Samanya*. Conversely, when one drug decreases or abolishes the action of another, the interaction is termed antagonism, which parallels the principle of *Vishesha*. Based on similarity in pharmacological action, drugs are classified into various therapeutic groups such as antibiotics, antihypertensives, diuretics, and anti-inflammatory agents.[12] Acharya *Charaka* classified medicinal substances into fifty *Mahakashaya* (major drug groups) based on their predominant therapeutic actions.[13] This classical classification reflects a systematic, action-oriented approach to pharmacology, comparable to modern pharmacodynamics grouping of drugs.

Table 1: Relation of Principle action of drug and Samanya Vishesh Siddhant

S.No.	Principles of Drug Action	Principle of Samanya Vishesha	Modern example	Ayurveda Example
1.	Stimulation	*Samanya*	Adrenaline stimulates heart rate	*Yakrituttejaka* (Hepatostimulant) action of *Kutki (Picrorhiza kurroa)*[14]
2.	Depression	*Vishesha*	Barbiturates depresses CNS	*Nidrajanan* (hypnotic) action of *Ashwagandha (Withania somnifera)* [15] and *Jatamansi (Nardostachys jatamansi)* [16]
3.	Irritation	*Samanya*	Trichloroacetic acid use in chemical peeling of skin.	Use of *Bakuchi* (*Psoralea corylifolia*)[17] in vitiligo
4.	Replacement	*Samanya*	Insulin in DM, iron and vitamin supplement in deficiency, hormonal replacement therapy.	*Dhatri loha* in *Pandu* (anaemia)[18]
5.	Cytotoxic Action	*Vishesha*	Antibiotics, anthelminthic drugs	*Krimighna* (anti-helminthic) action of *Vidang* (*Embelia ribes*)[19]

Gurvadi Guna and Pharmacological Action of Drugs

According to modern pharmacology, a drug is an exogenously administered chemical substance that interacts with a living system to produce a biological response. [20] Most drugs exert their effects by binding to a specific target molecule, which is generally a protein. These target proteins are broadly classified into four functional categories: enzymes, transporters, ion channels, and receptors. At the molecular level, drugs act by interacting with specific biomolecules to enhance, inhibit, or modify their functional activity.[21] The molecular and physicochemical characteristics of drugs can be conceptually understood through the principle of *Mahabhuta* predominance. Structural features such as stable cyclic or aromatic rings indicate the dominance of *Prithvi mahabhuta*. Flexible or mobile aliphatic chains reflect *Vayu mahabhuta*. Hydrophilic functional groups such as hydroxyl and amine groups correspond to *Jala mahabhuta* due to their affinity for aqueous environments. Electronegative functional groups, including aldehydes and acidic moieties, signify *Teja mahabhuta* because of their role in increasing molecular reactivity. Molecular

voids or steric spaces within a drug structure represent *Akasha mahabhuta*, facilitating interaction with protein targets or receptor sites. From these *Mahabhautik* attributes, the characteristic *Guruvadi guna* of a drug naturally emerge, as summarized in Table No. 2. [22] These inherent qualities such as whether the drug has *Ushna* or *Shita* properties, whether it acts as *Tikshna* or *Manda*, and whether it produces *Ruksha* (dry) or *Snigdha* (unctuous) effects represent the drug's potential energetic signature or informational influence on the biological system. Understanding these paired qualities is essential for predicting how the drug may interact with similar or opposite qualities present within the body. [23]

Table 2: Comparison of *Panchamahabhuta* and *Gurvadi guna* at atomic or molecular level

S.No	*Mahabhut*	Related *Gurvadi Guna*	Molecular/Structural Features	Modern pharmacology match
1.	*Prithvi*	*Guru* (heavy), *Manda* (slow), *Sthira* (stable), *Sandra* (dense), *Kathina* (hard)	Stable cyclic structures, aromatic rings, metal ions	Structural foundation and stability
2.	*Jala*	*Snigdha* (unctuous), *Mrudu* (soft), *Slakshna* (smooth), *Drava* (liquid), *Guru* (heavy)	Hydrophilic groups such as hydroxyls and amines	Enhanced solubility, absorption, and distribution
3.	*Teja*	*Ushna* (hot), *Tikshna* (sharp), *Laghu* (light), *Ruksha* (dry), *Sukshma* (subtle)	Electronegative atoms, aldehydes, acids	Chemical reactivity and metabolic engagement
4.	*Vayu*	*Laghu* (light), *Ruksha* (dry), *Khara* (rough), *Vishada* (clear), *Sukshma* (minute), *Chala* (mobile)	Flexible chains, mobile molecular structures	Dynamic interaction and adaptability
5	*Akash*	*Sukshma* (subtle), *Vishada* (clear), *Laghu* (light)	Molecular voids, steric gaps, crystalline spaces	Ability to fit into receptors or protein pockets

CONCLUSION

The *Siddhanta* explained in Ayurveda are time tested framework which provides diagnostic and therapeutic guidelines for centuries and can be effectively interpreted through the lens of modern science. This review demonstrates how correlating *Gurvadi gunas* and *Samanya vishesh siddhant* with pharmacodynamics mechanism enhances our understanding of drug action in both traditional and contemporary context. Each substance possesses a specific molecular structure and exhibits characteristic properties based on that structure. In Ayurveda, these inherent properties are described in terms of *Gurvadi guna* and the predominance of *Panchamahabhuta*. The principle of *Samanya vishesha siddhanta* guides the therapeutic application of these properties by emphasizing the use of similarity and dissimilarity in treatment. Further scientific exploration into active ingredients of *Dravyas* and their specific mechanism of action holds potential to unlock the Ayurveda *Siddhanta*, thereby strengthening Ayurveda's role in evidence-based medicine and promoting its integration into global healthcare system.

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