

Comprehensive Ayurvedic Therapeutics: Current relevance of multi-modal interventions

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ABSTRACT

The European Union Directive on ban of herbal drugs with an unproven track record of safety and efficacy by contemporary standards demonstrates an apparent interest to safeguard the people from potential adverse events and drug interactions. However, by classifying Ayurveda as a herbal medicine the long safety record of its practice and its dominant non herbal modalities are missed. The multi modal interventions of Ayurvedic therapeutics based on its fundamental principles. The example of a distinct taxonomic entity, *jwara*, illustrates this. We propose a novel perspective to the hierarchy of safety in Ayurvedic therapeutics base on the levels of usage of Ayurvedic drugs. The efficacy and activity studies for Ayurvedic drugs of herbal, animal and mineral origin are outlined with brief illustrations. The pluralistic healthcare system of India is a cultural strength that need not be denied to the population of the European Union. We hope that the authorities in EU realize that Ayurveda is not merely herbal drugs but a health care system with robust fundamentals and modalities of management which are holistic in the scope.

INTRODUCTION

There is a rising global demand for complementary and alternative systems of health namely Ayurveda, Traditional Chinese Medicine (TCM) and herbal medicine of diverse geographic origins. The legislative and regulatory bodies of the West tend to lump together major ancient systems of health with other herbal folklore traditions. As a consequence, the theoretical foundations of the major systems are not cognized and the therapeutics is often equated with herbal therapy. While looking for active molecules from medicinal plants of these systems, with a bias against them, their multi-dimensional nature of health care is dismally missed.^{1,2} It is essential to evolve clarity on the diverse mechanisms of pathogenesis in these systems so as to understand its reversal by the different therapeutic measures targeted to these mechanisms. Such an approach provides the foundation of preventive, promotive health and patient management in Ayurveda and TCM.³ The non-herbal modalities and life-styles prescribed in Ayurveda play a major role in maintenance of health.

In the present communication we have tried to cover the ‘whys’ and the ‘hows’ of the Ayurvedic rationale of non drug measures and drugs of plant, mineral and animal origin in Ayurveda. This hopefully would clarify that Ayurveda is not merely a herbal system of medicine.⁴

LOGICAL FOUNDATION OF AYURVEDIC THERAPEUTICS

Ayurveda is a way of life based on the six perspectives of the Hindu philosophy; the major influence being the Sankhya and Vaisheshika. The similarities in the constitutional makeup of the human microcosm (*purusha*) and the universal macrocosm (*loka*) formed the foundation of Ayurvedic approach.⁵ In this world-view, a dynamic harmony of the mental triguna - sattva rajas tamas and the physiological triad of the dosha – dhatu -mala denoted health, whereas disease is signified by their disharmony. This relationship of cosmogenesis to disease and health has been recently illustrated by

Patwardhan and Mashelkar.⁶ Ayurvedic pathogenesis and diagnosis are primarily focused on identifying the nature and degree of dosha-dhatu-mala expressing at different levels of biological organization. The therapeutic strategy was to reverse the steps leading to disharmony by targeted individualized modalities of management. These manifested out of three basic approaches to disease management which were – Daivavyapashraya, Sattvavajaya and Yuktivyapashraya.

(1) Daivavyapashraya Chikitsa: considers the karmic causes of diseases and their mitigation through several measures like upasana, japa, yagna, shantikarma, prayaschitta, etc. There are extensive procedures and rituals described for these in samhitas and puranas.⁷ Mantras have also been described for pregnancy, child-birth, pre-surgical procedures and other events to prevent any inadvertent complications.

(2) Sattvavajaya:⁸ Mind plays a major role in successful therapeutic outcome through the reversal of several psychosomatic mechanisms. Hence an understanding of the cognitive and affect status of the patient's mind is a pre-requisite for planning an effective management of the disorder. In the West, a term – 'minor psychotherapy' is often used as a component of overall patient management.. In Ayurveda, the antah karana chatushtaya of mana, buddhi, ahankar and atma and the triguna of the mind provide a robust substratum for individualized sattvavajaya which cannot be neglected while planning therapeutic strategy. Diverse types of yogic practices like upasana suited to the personality are deployed to promote mental control and strengthen the will. Enhancement of the capacity to manage stress is an essential component of the necessary mental attitudes and behavior. The adaptive skills can be developed by a broader understanding of loka-purusha structure, daily reinforcement of positive thinking and avoidance of negative emotions.

(3) Yuktivyapashraya⁹ – This involves the use of measures for restoration of the imbalanced dosha-dhatu-mala through shodhan or shaman. The use of medicines based on herbs was only one of the components of Yuktivyapashraya. The other components included specific diet, lifestyle modifications, seasonal health precautions and practices. The substances used as drugs are of mineral, animal and plant origin. The choice of individual components or combinations is based on the panchabhautik theory and dravyagunas vis-à-vis the condition to be treated.

AN ILLUSTRATION OF MANAGEMENT OF JWARA

It is interesting to understand that *jwara* in Ayurveda is a distinct taxonomic disease entity unlike fever in allopathy which primarily implies pyrexia viz. rise in body temperature. The Ayurvedic understanding of *jwara* is quite subtle and necessitates titrating the diverse modalities of management as per the *doshika* dominance, stage of the *jwara* (*apakwa*, *pachyamana*, *pakwa*), sequential involvement of dhatu affected, the organ involved, the *prakruti* and *bala* of the patient. The major modalities of the three categories have been briefly illustrated in Table 1. It can be seen that the herbal component is a fraction of the total regime.

TABLE 1

Multiple modalities for *jwara* treatment ¹⁰

Categories	Modality	Indication	Contra-Indications
Daivavyapashraya	Thousand names of Lord Vishnu	Intermittent fever	Altered sensorium
Sattvavajaya	Inducing joy	Depression in fever	Euphoria
Yuktivyapashraya	Fasting and fluids	Early treatment of acute fever	Exhaustion, trauma, weakness, old age
	Diet (Soups of pulses and grains)	On return of appetite	Summer time
	Medicated water	Polydipsia	Adipsia
	Panchakarma procedures	Emesis for acute fevers	Chronicity of fever
		Laxation for chronic fevers	Acute fever
	Medicinal plants Nyctanthes arbor-tristis Picrorrhiza kurroa	Intermittent fever ¹² Acute viral hepatitis ^{14,15}	Hypertension ¹³ Cardiac arrhythmias ¹⁶
	Plants with low therapeutic ratio: Tribhuvan-kirti Rasa ¹⁷ (with <i>Aconitum ferox</i>)	Acute fever, Influenza	cardiac sensitivity
Herbo-metallic compounds: Jwarankusha rasa ¹⁸	Delirious fever	Fever with predominant pitta derangement, excessive burning	
	Animal Products: Mrigashringa bhasma ¹⁹	Fever of respiratory infections (Pneumonia, Lung abscess)	Hypersensitivity Reduced Appetite Early in acute fever ²⁰
	Medicated Ghee Cow's Milk	Long-standing fever Low grade chronic fever Relapses of intermittent fever ²¹	

Several traditions and expertise based on the aforesaid categories have evolved over centuries. The growing demands of contemporary society are being addressed by a certain specialities like jyotisha and yoga which relatively diluted the use of daivavyapashraya and sattvavajaya in Ayurvedic general practice. However several traditional experts still insist and utilize these.²¹

The pluralistic nature of Ayurveda as interventional medicine and not just healthcare has been described in Sri Lanka.²² This is also very true for the Indian subcontinent as the philosophy of Ayurveda is quite inter-woven into the culture of South Asia and its people. As a consequence,

Ayurveda is not perceived as only a herbal medicine but as a way of life, involving all the categories of management above.

GRADES OF AYURVEDIC THERAPEUTICS AND LEVELS OF SAFETY

Almost 70% of Indian population use Ayurvedic modalities for promotion of health and prevention and treatment of diseases. The spectrum of this usage extends from the household remedies and recipes with spices and familiar plants to sophisticated use by expert vaidyas of potent and unique herbo-mineral formulations. Allowing the entire range of practice of Ayurveda in the absence of trained experts can be hazardous to the population. In Table 2, we represent a novel hierarchy of the grades of Ayurvedic interventions.

Table 2.

Heirarchy of Ayurvedic therapeutics

Ayurvedic Interventions	Proponents	Interventional Tools	Safety
Swasthavritta	Individual	Diet, Daily and Seasonal Regime, Achar Rasayana Pragna Anusheelan	Almost no hazards
Parivarvritta	Family elders, community socio-religious services	Lifestyle, socio-cultural, emotional and spiritual rooting in the family structure	Least of hazards
Parisarvritta	Social health and hygiene workers	Air, Water, food, land, hygiene	Occasional hazards
Vaidyacharya	Vaidya	Diet, exercise, Ayurvedic Pharmacopoeial drugs	Common side-effects
Speciality area of Ashtang Ayurveda eg. Kayachikitsa (Internal Medicine), Shalya (General Surgery)	Chikitsak	In addition to above: Panchakarma, sophisticated, potent medicines requiring caution, Sattvavajaya	Adverse drug events
Superspeciality (with Integrative Medicine)	Chikitsottam	Same as above with state of the art current therapeutics	Adverse drug reactions and interactions
Aaptacharya	Dhanwantari	Yogayurveda	Maximal benefit : risk ratio

CURRENT RENAISSANCE IN AYURVEDIC THERAPEUTIC RESEARCH

Medicinal plants have served as a major resource of new drug research in the history of pharmacology. The mechanisms of action of plant, animal and mineral molecules led to the burgeoning field of medicinal chemistry during the nineteenth and twentieth century. Ayurvedic remedies were used in Europe since Graeco-Roman era. In sixteenth century, Garcia da Orta wrote the monumental work on drugs of India, which was translated in seven European languages.²³ He did emphasize the fundamentals of Ayurveda, prakruti and non-herbal modalities in therapy. Later for two centuries, Indian vaidyas and pharmacologists carried out pioneering work in documenting the medicinal properties of remedies of plant, animal and mineral origin. One great contribution was from Gananath Sen and Karthik Bose viz. anti-hypertensive property of *Rauwolfia serpentina*.²⁴ This led to a watershed in new drug research for therapeutics in cardiology and neuropsychiatry. Several leads like *Rauwolfia* are being currently explored by national research programmes. This path of Reverse Pharmacology for new drug development has resulted into some remarkable new hits, targeted leads and drug candidates.²⁵ This novel path of drug discovery in India have been recently reviewed in high impact journals.^{6,26,27}

The research emphasis on medicinal plants in Ayurveda is also being followed up for minerals, and products of animal origin. For example, cow's urine has been used for the detoxification of *aconitum ferox* which is used in a formulation for *jwara* (vide supra). The detoxification induced a change in the structure of aconitine making it less cardio-toxic.²⁸ In another review on spontaneous regression of cancer, retine-like molecules in human urine were proposed for the induction of apoptosis of malignant cells.²⁹ Recently, cow's ghee unlike butter has been shown increase bile secretion and reduce serum and intestinal mucosal cholesterol levels.³⁰ *Shilajita*, a rock exudate from Himalaya is used as an adaptogen for Diabetes mellitus has been reported to reduce symptoms and signs of peripheral neuropathy.³¹ It has been shown to modulate oxidative status in patients and in-vitro and in vivo models of this disease.^{32,33} Innumerable thesis and dissertations are available on work done under non-herbal categories, as to their efficacy and safety.³⁴ The aforesaid examples compel us to consider Ayurvedic therapeutics in a broader context and not restrict it to the herbal domain as legislated by the European Union.³⁵

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GLOSSARY

Antah karana chatusthaya: quadruplet components of non-physical determinants of individual's composite health viz. psychology-intellect – self-identity -spirituality

Anhankar – self identity

Bala – physical strength

Buddhi – intellect

Dosha – conglomeration of specific property-activity principles/substances

Guna – qualities

Shaman – modulation of doshas through non – expulsive interventions of drug, diet, lifestyle etc.

Shodhan – cellular detoxification and purification of doshas through expulsive techniques, viz. Panchakarma

Mana – roughly equates the Mind

Prakruti – physical, physiological and psychological constitution of an individual

Triguna – mental states of sattva, rajas, tamas

Vaidya – Ayurvedic Doctor

Chikitsak – Specialized Ayurvedic physician

Chikitsottam – Specialized Ayurvedic clinician