

**CONTEMPORARY PERSPECTIVES ON AYURVEDA & CHANGING PARADIGMS****Sathya N. Dornala^{1*}, R. Govind Reddy², Shekhar Annambhotla³**¹Panchakarma Specialist, SVN Ayurvedic Panchakarma Hospital, Dilshad Garden, Delhi, India.²In-charge, Ayurveda Cancer Research Institute, Mumbai, Maharashtra, India.³Founding Director, Association of Ayurvedic Professional of North America (AAPNA), USA.**INTRODUCTION**

Medical science is advancing by leaps and bounds, exploring the intricacies and unravelling the mysteries of human life. Ever since the dawn of his turbulent history, man has evolved several ways of coping with illness. Every country has developed a medical system presenting a unique configuration designed to be compatible with its future, meeting the needs of its population. Thus the 'traditional medicine', which is full of experiences, astute observations and fancy formulae reflecting a combination of inspiration, intuition, information, facts and results, has incarnated.

Ayurveda, literally meaning "the science of lifespan", is the traditional medicine system of India. Its natural healing modality has been in existence for about 5000 years. *Ayurveda* is widely acknowledged to be the world's oldest system of healthcare. WHO regards it as "the world's most ancient, scientific, holistic, complete, natural system of healthcare and is the forerunner of all other great systems practiced today."^[1]

***Ayurveda* – Knowledge or Wisdom or Science**

The word "*Ayurveda*", derived from the ancient Indian language Sanskrit means "Knowledge of Life". *Ayurveda*'s basic principle is the concept that you are capable of taking charge of your own life and healing.

Knowledge is a familiarity with someone or something, which can include information, facts and descriptions. In this way, *Ayurveda* is repository of knowledge. If the knowledge gained through experience is 'wisdom', there are many practices and formulations in *Ayurveda* recorded over the years through their expertise and experience. This implies that *Ayurveda* is wisdom of life and living. This wisdom of knowledge has been repeatedly subjected to systemic classification by different scholars, turning *Ayurveda* into a science. The process of development of traditional practices into knowledge, then wisdom, and finally science fulfils the quotes on science: "Science is organized knowledge. Wisdom is organized life." (Immanuel Kant, *Critique of Pure Reason*); "Science is the systematic classification of experience." (George Henry Lewes)

***Ayurveda* is discipline of Science?**

An article published online in Express Pharma (1-15 July 2007) titled 'De-mythifying ayurveda', the comment of a senior consultant of a prestigious hospital in New Delhi, discloses the incomprehension of what *Ayurveda* truly is, as perceived by the so-called modern scientist. The opinion which goes in his terms - "*Ayurveda may not be termed a science in modern scientific context, as it did not develop in a test tube or a laboratory. Nor do its concepts change frequently, as it happens in modern scientific allopathic medicine.*"^[2]

If one looks at the description of scientific method in medical practice in *Ayurveda*, it is absolutely analogous with the description that is made in contemporary times. There are four steps to analyze. They are the first being a careful observation (*Pratyaksha*), followed by development of hypothesis (*Anumana*), quoting bibliographical references (*Aphthopadesha*) and concluding with deductive reasoning (*Yukti*). *Ayurveda* is a fully developed medicinal science with all its branches well placed. Subjects like basic sciences (anatomy, physiology), diagnostics (*Nidana Panchaka*), therapeutics (internal medicine, toxicology, pediatrics, rejuvenation therapy, aphrodisiacs), surgical sciences (surgery, ENT and ophthalmology), are properly arranged in eight branches as *Ashtanga Ayurveda*.^{[3][4]}

***Ayurveda* – Science or Philosophy or Science of Philosophy**

Ayurveda is a science in the sense that it is a complete system. It is a qualitative, holistic science of health and longevity, a philosophy and system of healing the whole person, body and mind. This system evolved at a time when philosophy and medicine were not separated; hence philosophical views have strongly influenced the *Ayurvedic* way of thinking.

"Science is what you know, philosophy is what you don't know" (Bertrand Russell) implies that there are concepts in *Ayurveda* which are beyond the understanding of so called modern sciences. For them, it may take decades to explore those concepts. That way, *Ayurveda* is both science and philosophy.

It is said that ‘the spirit must lean on science as a guide in the world of reality and that science must turn to the spirit for the meaning of life’, and there exists an indigenous system which deals and co-exists with life, ‘Ayurveda’, construed as ‘conventional wisdom of life attuning with nature’.

Ayurveda – Science or Art

“Science may be described as the art of systematic oversimplification.” (Karl Popper) *Ayurveda* is not simply the science of life, but in details, it is “the science of holistic living and art of natural living”.

Ayurveda – Science of Sciences

Ayurveda encompasses the total sweep of life sciences and pursues the quest for understanding life in all its ramifications. *Ayurveda* is one of the earliest systems of health care. It is not a mere compendium of therapeutic recipes. Instead, it is one of the earliest frameworks with systematized knowledge. This framework is not only self-consistent but also uses cause and effect arguments to correlate manifestations of sickness, its causes and treatments.^[5]

Ayurveda, in the literal sense, is the knowledge of life. P. C. Ray characterized the long phase of India’s cultural history from 600 BC to 800 AD as the ‘Ayurvedic period’ because he credited *Ayurveda* with the origins of not only medical sciences, but also chemistry and, if one may add, plant and animal sciences.^[6] To say *Ayurveda* is the science of the sum of all the knowledge related to life from the origin of the universe to *Pralaya* (dissolution) of *Srishti* (nature). And it is not at all exclamatory to say *Ayurveda* is the mother of all the medical and health care sciences in the world.

Scientific appraisal of Ayurvedic concepts

Homoeostasis in Ayurveda

The term for health in *Ayurveda* is ‘*Swasthya*’. This word means, to be established (*Sthya*) in oneself (*Swa*). *Ayurvedic* texts elaborate on the meaning of *Swasthya*:

// Sama Dosha Samagnischa Samadhatu Malakriya /
// Prassannathmendriya Manah Swasthya iti
abhidheeyatein // (Su.Su.15)

This means one whose physiological biodynamic factors (*Dosha*), metabolism (*Agni*), bodily tissues (*Dhatu*) and excretory functions (*Mala*) are in a state of dynamic equilibrium with cheerful mind (*Manas*), clarity of intellect and contented senses (*Indriya*) is said to be established in oneself (*Swastha*). *Prasannata* denotes happiness and equipoise. Health or *Swasthya* is therefore defined by *Ayurveda* as a state of dynamic equilibrium of body and mind. It is state of equilibrium of normal anatomical, biological, physiological, mental and spiritual well being. Hence, *Sama* (balanced) state of *Dhatu*, *Dosha*, *Agni*, and *Mala* is the reflection of homeostasis in *Ayurveda*.^[7]

The following Venn diagram reflects the wholeness of *Ayurveda* concepts, i.e. *Prakriti purusha* relation based on *Panchamahabhuta*, *Tridosha*, *Triguna*, *Saptadhatu* and *Trimala*.

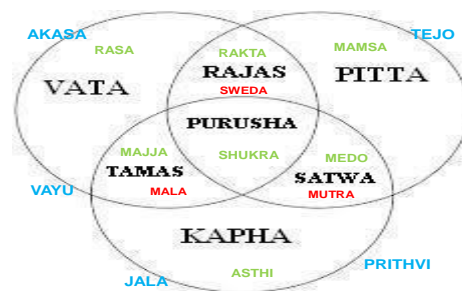


Figure 1: Wholeness of Ayurveda

Nidana trayam (Causation triad)

Ayurveda classifies all the causative factors under three categories. The same understanding is also in uniformity with other sciences; as shown below.

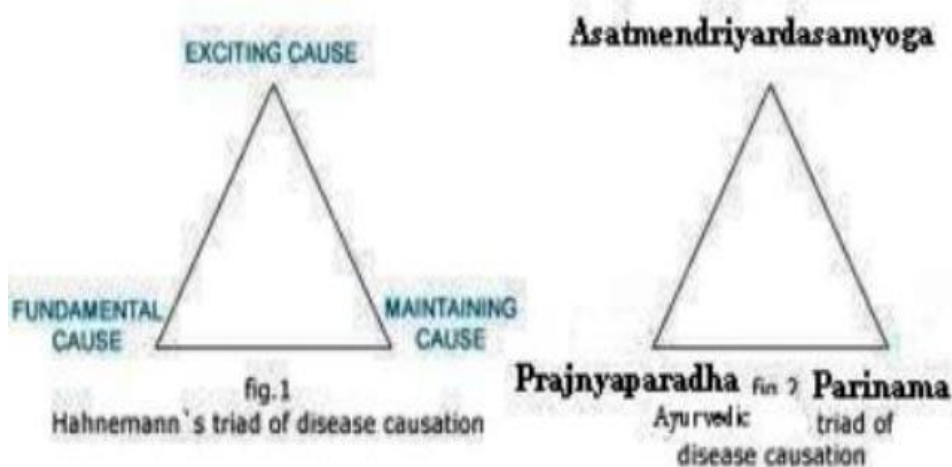


Figure 2: Comparative outlook of Causation triad – Ayurveda & Homoeopathy

Ayurvedic Pathophysiology

Ayurveda explains 6 stages of the disease process: accumulation (*Sanchaya*), aggravation (*Prakopa*), dissemination (*Prasara*), localization (*Sthana samsraya*), Manifestation (*Vyakthavastha*) and disruption (*Bhedavastha*). *Ayurveda* effectively treats the first 4 stages of the disease where the symptoms are very vague and occasional, such as stomach acidity, headaches, etc., and modern medicine treats these with over the counter (OTC) medicines. During these stages if the patient visits an MD, he or she would not find any serious clinical signs or symptoms of the disease, lab tests will be perfectly normal, and the patient will be sent back home. This window of courtship of imbalance of health lasts many years before the tests show any abnormality. Modern medicine starts to recognize symptoms of any disease in the 5th stage and starts to treat the 6th stage of disease. So 80 to 90 percent of ill health is waiting to mature to be treated as heart attacks, total knee replacements, open heart surgeries, etc. Thus, one can argue that *Ayurveda* is a preventive medicine treating a healthy population, while modern medicine is for totally sick patients. *Ayurvedic* clinical methods are sensitive enough to pick up subtle

imbalance in the mind and body functioning, and so we treat very early, before localization of the disease. According to *Ayurveda*, the standard of health is very high, and perfect health is not the mere absence of disease.

Likewise, *Ayurveda* is a repository of everlasting concepts which can be explained in a scientific manner.^[7]

Ayurveda – Holistic & Wholistic

Though both the terms holistic and wholistic seem to be synonymous, there is a fine difference between them in relation to *Ayurveda* -- holism meaning targeted to the whole person - mind, body, and spirit. Holistic medicine considers not only physical health but also the emotional, spiritual, social, and mental well-being of the person; whereas, the wholistic approach considers environmental influences on health in addition to the above. *Ayurveda* has emphasized an ecological approach in terms of *Ritucharya* (seasonal regime). The following image shows the multidimensional approach of Ayurvedic wholism.

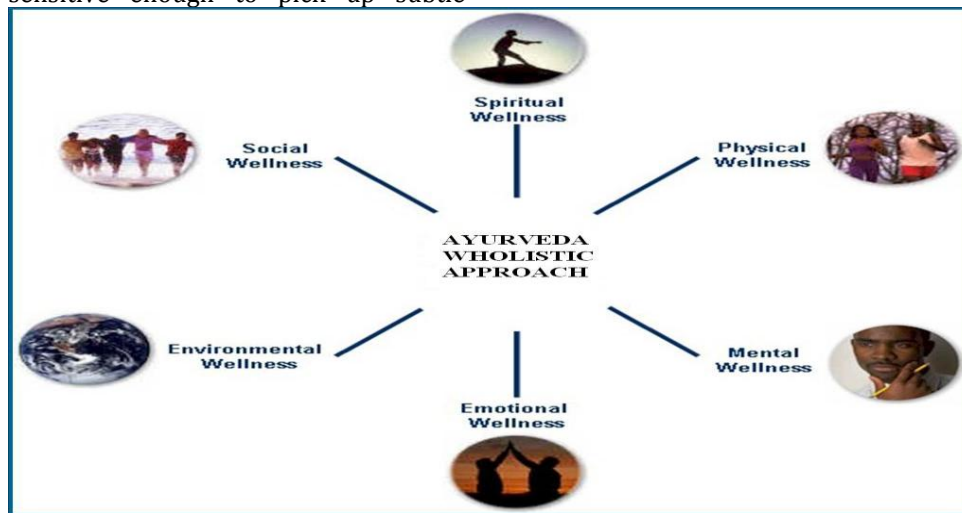


Figure 3: Ayurvedic multidimensional approach of wellness

Contemporary fields of Ayurveda

The development of the following contemporary fields of science reflects the influences of *Ayurveda* on its related concepts in other disciplines.^[8]

Table 1: Contemporary fields of Ayurveda

Modern fields	Ayurveda fields
Biology	Ayurvedic Biology
Systems Biology	Systems Ayurveda
Pharmacology	Reverse Pharmacology
Pharmacogenomics	Ayurgenomics
Pharmacoepidemiology	Ayurvedic Pharmacoepidemiology
Pharmaceutical sciences	Ayurvedic Pharmaceutical sciences
Neutraceuticals/Cosmoceuticals	Ayurceuticals
Dietetics/Nutrition	Ayurvedic Dietetics and Therapeutic nutrition (<i>Pathyapthya</i>)
Systems Therapeutics	Ayurveda Systems Therapeutics (<i>Chikitsa siddhanta</i>)
Software	Ayusoft
Pharmacognosy	Reverse Pharmacognosy

Biotechnology	Spiritual biotechnology (<i>Shirodhara</i>)
Gastroenterology	Neurogastroenterology (Broad spectrum Vasti)
Biostatistics	<i>Ayurvedic Statistics (Pramana mana)</i>

Ayurveda & Modern Concordance

A certain amount of synergy already exists between two systems biomedicine and Ayurveda. Modern medicine has many examples of plant products used successfully in their natural form or synthetic form. Here are a few examples:

- Aspirin or acetyl salicylic acid was originally discovered in the bark of the white willow tree (*Salix alba*). The chemical was later synthesized.
- The chemicals digoxin and digitoxin are extracted from the plant digitalis. This is used in the treatment of arrhythmia.
- Alkaloids like reserpine from the plant *Rauwolfia serpentina* are used in hypertensive drugs.^[9]

There need not be any contradiction between Ayurveda and modern medicine. The two systems may truly and effectively complement each other, when structural knowledge is judiciously integrated and interpreted in the *Ayurveda* paradigm of 'whole person' functional performance. Contrary to common perception, through the ages, the seers of *Ayurveda* recognized the need to ensure that *Ayurveda* was relevant to contemporary needs and developments. *Vagbhata*, the latest of the *Acharyas*, says in his text that he is trying to make the system up-to-date and suitable for the times (*Yuganuroopa*).

Changing Paradigms of Ayurveda

Alloveda/Neo-Ayurveda

Alloveda is a combination therapy incorporating concepts of modern medicine and *Ayurveda*. This term 'Alloveda' was introduced by a licensee firm in conjunction with Guglip, a commercial preparation containing the ethyl acetate soluble fraction of gum *Guggulu* from *Commiphora mukul*, used to reduce blood cholesterol levels. It is an approach to re-write the *Ayurvedic* pharmacology of contemporary drugs. *Ayurvedic* pharmacology of allopathic drugs is a new dimension of healthcare science. It will give a new lease of life to *Ayurveda*; it is Neo – *Ayurveda* or may be called Alloveda.^{[10][11]}

Ayurpathy

The concept of Ayurpathy was introduced by the eminent scientist, C.K. Katiyar. Ayurpathy represents modern *Ayurveda*, which includes the application of modern scientific analytical tools for standardization, modern pharmacological tools for safety and efficacy evaluation, and application of biotechnology to elicit the mechanism of action as far as possible.^[12]

Contemporary Ayurveda

It's a new paradigm for a reconstructed view of healthcare with synergy between *Ayurveda* and modern science. Contemporary *Ayurveda* does not want to exclude the advantages of modern medicine, but extend its diagnostic and therapeutic scale. Together with the great knowledge of modern medicine, this can bring the dawn of a new era in which we come back to the basic task of medicine: to create perfect health in the individual and a disease-free society. The complementing approach of *Ayurveda* together with modern medicine could bring a completely new situation for the health care system. ^[13-15]

Evidence-Based Ayurveda

Evidence-Based *Ayurveda* suggests that a holistic gestalt and reductionist mechanisms are mutually complementary. It comprises best research evidence, clinical experience, and patients' preferences. ^[16-19]

Integrative Ayurveda

Integrative *Ayurveda* is the incorporation of modern medical technology into *Ayurvedic* research and practice, in the interest of a better patient outcome. The core idea of integrative medicine is that anything and everything potentially useful for human health should be explored, and, if proved useful through evidence-based approaches, considered for inclusion in mainstream. This approach embodies the ethos of "therapeutic utility."

Ayurveda – Traditional and Translational

Tradition means the handing down of statements, beliefs, legends, customs, etc., from generation to generation, especially by word of mouth or by practice. The concept includes a number of interrelated ideas; the unifying one is that tradition refers to beliefs, objects or customs performed or believed in the past, originating in it, transmitted through time by being taught by one generation to the next, and performed or believed in the present. The word 'translational' in medicine is used to "translate" findings in basic research quickly into medical practice and meaningful health outcomes. The science of *Ayurveda* seems to be both traditional and translational, because traditional implies subjecting experiential knowledge to experimentation, and translational means adopting experimental findings to strengthen experiential knowledge.

Discussion & Conclusion

'*Ayurveda* is not only evolving, it is also changing. At the same time there are a lot of challenges being faced within *Ayurveda*.' Anyone who is working

in the area of *Ayurveda* knows it is a science of the 21st century and beyond, and is not at all an ancient system because the science is universal, and it has got a great outlook which comprises all time to come. It is written in such a way that it is applicable to any given time and any given geography.^[20]

It is well known fact that, with the rising popularity of *Ayurveda*, there is an increase in consumer interest in the preventive, promotive and curative aspects of this medicinal system. But we need to remind ourselves of a profound statement that Mahatma Gandhi once made. He said, 'I do not want my house to be walled in on sides and my windows to be stuffed. I want the cultures of all the lands to be blown about my house as freely as possible'. Gandhiji implied that our minds should be open and uninhibited. They should be open to new ideas and new thinking. There should be no artificial boundaries, walls or borders between different domains of knowledge or the practitioners of these knowledge systems. Then there will be further expansion of *Ayurveda* across all the sciences, disciplines and cultures to further strengthen *Ayurveda* as a rising star.

"Centuries hold *Ayurveda* is centuries ahead"

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